CURRICULUM & SYLLABUS – B.Sc BIOTECHNOLOGY
(Applicable to the batches admitted from July 2018)

I SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA101	Tamil-I	5	3	0	0	3
		U18HSHI101	Hindi-I	5				
		U18HSFR101	French-I	5				
2.	HS	U18HSEN102	English-I	5	3	0	0	3
3.	MC	U18MCBS101	Core I: Cell Biology	5	3	1	0	4
4.	MC	U18MCBS102	Core II: Genetics	5	3	1	0	4
5.	NC	U18NCBS103	Bioinstrumentation	5	3	1	0	4
	PRACTICAL							
6.	MC	U18MCBS1L1	Core III: Cell Biology Lab	4	0	0	4	2
Total				30	15	3	4	20

II SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA201	Tamil-II	4	3	0	0	3
		U18HSHI201	Hindi-II	4				
		U18HSFR201	French-II	4				
2.	HS	U18HSEN202	English-II	4	3	0	0	3
3.	MC	U18MCBS201	Core IV: Principles of Biochemistry	5	3	1	0	4
4.	MC	U18MCBS202	Core V: Industrial Biotechnology	5	3	1	0	4
5.	NC	U18NCBS203	Bioinformatics	4	3	1	0	4
6.	HS	U18HSCH201	Environmental Studies	2	2	0	0	2
7.	HS	U18HSBC202	Value Education	2	2	0	0	2

PRACTICAL								
8.	MC	U18MCBS2L1	Core VI: Biochemistry Lab	4	0	0	4	2
Total				30	19	3	4	24

III SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA301	Tamil-III	5	3	0	0	3
		U18HSHI301	Hindi-III	5				
		U18HSFR301	French-III	5				
2.	HS	U18HSEN302	English-III	5	3	0	0	3
3.	MC	U18MCBS301	Core VII: Microbiology	5	3	1	0	4
4.	MC	U18MCBS302	Core VIII: Enzymology	5	3	1	0	4
`5.	NC	U18NCBS303	Molecular Biology	4	3	1	0	4
6.	NME	U18NETA301	Basic Tamil – I, for those who studied other language under Part I	2	2	0	0	2
	NME	U18NETA302	Special Tamil – I, for those who studied Tamil under Part I	2	2	0	0	2
	PRACTICAL							
7.	MC	U18MCBS3L1	Core IX: Microbiology Lab	4	0	0	4	2
Total				30	19	3	4	24

IV SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA401	Tamil-IV	4	3	0	0	3
		U18HSHI401	Hindi-IV	4				
		U18HSFR401	French-IV	4				
2.	HS	U18HSEN402	English-IV	4	3	0	0	3
3.	MC	U18MCBS401	Core X: Stem Cell and Tissue Engineering	5	3	1	0	4
4.	MC	U18MCBS402	Core XI: Bioprocessing Technology	5	3	1	0	4
`5.	MC	U18NCBS403	Genetic Engineering	4	3	1	0	4
6.	NME	U18NETA401	Basic Tamil – II, for those who studied other language under Part I	2	2	0	0	2
	NME	U18NETA402	Special Tamil – II, for those who studied Tamil under Part I	2	2	0	0	2
7.	SE		Skill Based Elective – I	2	2	0	0	2
	PRACTICAL							
7.	MC	U18MCBS4L1	Core XII: Molecular Biology and Genetic Engineering Lab	4	0	0	4	2
Total				30	21	3	4	24

V SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	MC	U18MCBS501	Core XIII: Immunology	5	3	1	0	4
2.	MC	U18MCBS502	Core XIV: Molecular Genetics	5	3	1	0	4
3.	MC	U18NCBS503	Plant and Animal Biotechnology	4	3	1	0	4
4.	ME		Major Elective – I	4	4	0	0	4
5.	SE		Skill Based Elective-II	2	2	0	0	2
6.	SE		Skill Based Elective-III	2	2	0	0	2
PRACTICAL								
7.	MC	U18MCBS5L1	Core XV: Immunology Lab	4	0	0	4	2
8.	MC	U18MCBS5L2	Core XVI: Bioprocess Lab	4	0	0	4	2
Total				30	17	3	8	24

VI SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	MC	U18MCBS601	Core XVII: Environmental Biotechnology	4	3	1	0	4
2.	MC	U18MCBS602	Core XVIII: Nano Biotechnology	4	3	1	0	4
3	ME		Major Elective - II	4	4	0	0	4
PRACTICAL								
4.	MC	U18MCBS6L1	Core XIX: Plant and Animal Biotechnology Lab	6	0	0	6	3
5.	EEC	U18EEBS6P1	Project	10	0	0	20	10

6.	HS	U18HSBS6L1	Extension Activities	2	0	0	2	1
Total				30	10	2	28	26

LIST OF MAJOR ELECTIVE – I
CHOOSE ANY ONE IN SEMESTER V

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18MEBS011	Major Elective -I: Biostatistics	4	4	0	0	4
2	U18MEBS012	Major Elective -I: Microbial biotechnology	4	4	0	0	4
3	U18MEBS013	Major Elective -I: Human physiology	4	4	0	0	4
Total			4	4	0	0	4

LIST OF MAJOR ELECTIVE – II
CHOOSE ANY ONE IN SEMESTER VI

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18MEBS021	Major Elective -II: Medical Biotechnology	4	4	0	0	4
2	U18MEBS022	Major Elective -II: Molecular diagnostic techniques	4	4	0	0	4
3	U18MEBS023	Major Elective -II: Biosafety, Bioethics and IPR	4	4	0	0	4
Total			4	4	0	0	4

LIST OF SKILL BASED ELECTIVES
CHOOSE ANY THREE COURSES – ONE IN SEMESTER IV & TWO IN SEMESTER V

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18SEBC001	Business Process Outsourcing – Management	2	2	0	0	2
2	U18SEBC002	Customer Relationship Management	2	2	0	0	2
3	U18SEBC003	Entrepreneurial Development	2	2	0	0	2
4	U18SEBC004	Human Resource Management	2	2	0	0	2
5	U18SEBC005	Marketing Management	2	2	0	0	2
6	U18SEBC006	Office Management	2	2	0	0	2
7	U18SEBC007	Retail Marketing	2	2	0	0	2
8	U18SEBC008	Salesmanship and Advertising	2	2	0	0	2
9	U18SEEN001	Soft Skills	2	2	0	0	2
10	U18SESC001	Computer Application	2	2	0	0	2
11	U18SESC002	Multimedia	2	2	0	0	2
12	U18SESC003	Advanced Excel	2	2	0	0	2
13	U18SESC004	Web Designing	2	2	0	0	2
14	U18SESC005	Photoshop	2	2	0	0	2
15	U18SESC006	Flash	2	2	0	0	2
16	U18SESC007	Computer Hardware and Networking	2	2	0	0	2
17	U18SESC008	Computer Programming	2	2	0	0	2
18	U18SESC009	Office Automation Tools	2	2	0	0	2
19	U18SEMA001	Quantitative and Aptitude Reasoning -I	2	2	0	0	2
20	U18SEMA002	Quantitative and Aptitude Reasoning-II	2	2	0	0	2
21	U18SEMA003	Regression Analysis with SPSS	2	2	0	0	2

FIRST SEMESTER

U18HSTA101	□□□□□ **- I**	**L**	**T**	**P**	**C**
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COURSE OUTCOMES (COs)

CO1	□□□□□□□□□, □□□□□□□□□□, □□□□□□ □□□□□□□□□ □□□□□□□□□□□□□□ □□□□□□
CO2	□□□□□□□□□, □□□□□□□□□□□□□□□, □□.□□□□□□□□□□□□□□□ □□□□□□□□□ □□□□□□□□□□□□□□ □□□□□□
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Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	1	3	1	3		
	CO2	3	3	3	2	3	1	3		
	CO3	3	2	2	2	3	1	2		
	CO4	3	3	3	1	3	1	3		
	CO5	3	2	2	2	3	1	2		
	CO6	3	2	3	2	3	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								

4	Approval	47 □□□ □□□□□ □□□□□□□□□ □□□□□□□

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Course Coordinator **HOD**

U18HSHI101	**HINDI-I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite – Higher Secondary Education				
	Course Coordinator Name & Department:- Mrs Rani Selvan & Department of Hindi				

COURSE OBJECTIVES:-

To understand , read, write and speak Hindi language with grammar

COURSE OUTCOMES (COs)

CO1	Remember the behavior
CO2	Understand the importance of money by story
CO3	Apply the concept of Hindi grammar
CO4	Analyze the usage of translation from English to Hindi
CO5	Evaluate the unseen passage to answer the questions
CO6	Create the knowledge in Hindi Language

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	3	1	1	1	3		
	CO2	3	3	2	2	2	2	3		
	CO3	3	3	2	1	2	1	3		
	CO4	3	3	2	1	1	2	3		
	CO5	3	2	2	1	1	1	3		
	CO6	2	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences	Engg Sciences	Professional Core	Core Elective	Non-Major Elective	Open Elective	Any other	Project/Term Paper/ Seminar/ Internship
		✓								
4	Approval	47th Academic Council Meeting								

UNIT I **9**

Naveen Gadya Chayanika – 2 - Bholaram ka jeev - Mehamaan se Bhagavaan bachaaye - Numberovali Thijori – Kaffan - Gunda

UNIT II **9**

Non Detailed Text: Kahani Kunj - Stories: 6 – 10 only

UNIT III **9**

Grammar: Shabda Vichar only - Noun, Pronoun, Adjective, Verb, Tense, Case Endings - Theoretical & Applied

UNIT IV **9**

Translation - English – Hindi only - Anuvadh Abhyas – III - 1 – 15 Lessons Only

UNIT V **9**

Comprehension - 1 Passage from Anuvadh AbhyAS – III (16 – 30)

TEXT BOOKS:

UNIT-1 Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017

UNIT - II Govind Prakashan, Sadhar Bagaar, Mathura, Uttar Pradesh – 281001 - Editor: Dr V.P. Amithab

UNIT III - Vyakaran Pradeep by Ramdev - Hindi Bhavan, 36, Tagor Town, Allahabad – 211002.

UNIT IV - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017.

UNIT V - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017

Course Coordinator **HOD**

U18HSFR101	**FRENCH-I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	**3**	**0**	**0**	**3**
	Prerequisite – +2				
	Course Coordinator Name & Department: Ms. Tushita Naidu K / Département De Française				
COURSE OBJECTIVES:- To introduce students to basic principles and practice of oral and written communication.					

COURSE OUTCOMES (COs)	
CO1	To understand the basics of the language
CO2	To analyze the sentence patterns and form the grammar
CO3	To learn the basics of grammar along with its principles
CO4	To remember the anatomy of conjugations
CO5	To create dialogs and conversation on their own within the language & to practice oral and written skills.
CO6	To remember the necessary rules of the language

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	2	1	1	1	3		
	CO2	3	3	3	1	2	1	3		
	CO3	3	3	3	1	3	1	3		
	CO4	3	3	3	1	1	1	3		
	CO5	3	3	3	3	1	1	3		
	CO6	3	3	3	2	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47th Academic Council Meeting								

UNIT I - Vous comprenez **9**

Alphabets - French Accents - Les Nombres – Pronunciations.

UNIT II Au travail! **9**

Masculine Singular and Feminine singular - Conjugaison des verbes (present tense) -

Les articles définis.

UNIT III En se detend? 9

Conjugaison (faire-aller-venir-Vouloir-Pouvoir-Devoir)

UNIT IV Racontez-moi 9

La date et l'heure – les saisons – les couleurs

UNIT V Bon voyage! 9

Adjectifs demonstratives - Adjectifs possessives - Les Voyages / les transport-Bon appétit!- Article partitif - Emploi des articles - Interrogation (Forme avec inversion) - Les repas - La fête

TEXTBOOK:

1. A1 Echo- J. Girardet, J. Pecheurb Cle Publication.

Course Coordinator HOD

U18HSEN102	**ENGLISH-I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	**3**	**0**	**0**	**3**
	Prerequisite course – Higher Secondary level English				
	Course Coordinator : Mrs.M.Sheeba & Department of English				
COURSE OBJECTIVES:- To understand the power of knowledge about LRSW(i.e.) listening, reading speaking and writing, and various forms of literature					

COURSE OUTCOMES (COs)	
CO1	Remember the authors of the prescribed literature
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarizes the prescribed literature
CO6	Create critical essays by evaluating the literary techniques and devices used

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	3	3	3	3	2	2		
	CO2	2	2	3	3	3	3	2		
	CO3	3	2	2	2	2	2	2		
	CO4	3	3	3	3	3	3	3		
	CO5	2	2	2	2	2	2	2		
	CO6	2	2	3	2	2	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47th Academic Council Meeting								

UNIT-I POETRY **9**

Lucy Gray -William Wordsworth – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; Ulysses -Alfred Lord Tennyson - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; The Road Not Taken – Robert Frost - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis.

UNIT-II – ONE ACT PLAYS **9**

The Boy Comes Home - A.A.Milne – Author Biography - Plot – Theme - Character sketch –

	CELL BIOLOGY	L	T	P	C

Summary – Critical analysis; The Referee - W.H.Andrews and Geoffrey Dearmer - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT -III SHORT STORIES **9**

The Unicorn in the Garden – James Thurber - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; The Avenger – Anton Chekov - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT IV PROSE **9**

Six Thinking Hats - Edward de Bono – Author Biography - Self analysis technique, Summary; My Early Days - Abdul Kalam - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; I Have a Dream (Speech) - Martin Luther King - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT V **9**

Introduction to Basics of Communication – Definitions – Types – Listening, Speaking, Reading & Writing.

TEXT BOOKS:

1. Six Thinking Hats by Edward de Bono, Little Brown and Company, 1985
2. My Early Days by Abdul Kalam, October 7, 2013

REFERENCE BOOKS:

1. Strings of Gold (Part- II) Edited by Prof. Jasbir Jain (MacMillan), 2007
2. Basic Communication Skills for Technology by Rutherfoord (Dorlig Kindersly), 2007
3. English for Professionals A Practice Book of Communication Skills in English by Dr.Miglani (Vayu Education of India), 2010.

Course Coordinator **HOD**

	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr.V.Padmapriya & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with the basics of Cells and cellular components. Learners will understand the structure, function, types and its culture.

COURSE OUTCOMES (COs)

CO1	Recall the history and fundamental principles of cellular biology
CO2	Recognize the cellular components, their structure and functions
CO3	Apply the role of cell organelles in physiology
CO4	Analyze the cell cycles and growth of cells
CO5	Evaluate molecular and sub-cellular components of a cell to a framework of heredity and evolution.
CO6	Create the familiarity to cancer and cell death

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PS O2
2	CO1	3	2	1	1	3	2	3		
	CO2	3	2	1	1	3	2	3		
	CO3	3	2	2	2	2	3	3		
	CO4	3	2	1	2	2	3	3		
	CO5	3	2	2	3	3	2	3		
	CO6	3	3	3	3	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

U18MCBS102	GENETICS	L	T	P	C

An Overview of cells – Origin and evolution of cells. Cell theory, Classification of cells – Prokaryotic cells and Eukaryotic cells. Comparison of prokaryotic and eukaryotic cells. Cell cycle – components in cell cycle control – cyclic- CDKs – check points in cell cycle - abnormalities in cell cycle.

UNIT II **12**

Cell Membrane – Fluid mosaic model of membrane structure. Membrane proteins and their properties. Membrane carbohydrates and their role. Transport across membranes – Diffusion - active and passive diffusion.

UNIT III **12**

Endoplasmic reticulum – Types, structure and function. Golgi apparatus – Structure and function. Lysosome– Structure and functions. Morphology and functions of peroxisomes and glyoxisomes. Ribosomes – Types structure and function.

UNIT IV **12**

Nucleus: Structure and function. Chromosomes, chromatin structure. Mitochondria Structure and functions. Cytoskeleton: Types of filaments and their functions. Microtubules – Chemistry and functions – Cilia and flagella- Cell –cell interactions.

UNIT V **12**

Introduction to Necrosis, Senescence, Apoptosis – Programmed cell death. Mechanism of Apoptosis. Oncogenes – Types of cancer.

TEXT BOOKS:

1. Harvey Lodish, Arnold Berk, Chris A. Kaiser and Monty Krieger. Molecular Cell Biology, 4th ed., WH Freeman and Co, New York, 1999.
2. Cooper, Geoffrey M, Sunderland. The Cell - A Molecular Approach, Sinauer Associates, 2nd ed., Inc, 2000.

REFERENCE BOOKS:

1. Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts, and Peter Walter. Molecular Biology of the Cell, Garland Science publisher, USA, 4th ed, 2002.
2. Gerald Karp. Cell and Molecular Biology: Concepts and Experiments, 4th ed., NCBI mart, 2004.

Course Coordinator **HOD**

Total Contact Hours – 60	3	1	0	4
Prerequisite course – Biology at Higher Secondary Education				
Course Coordinator Name & Department:- Dr.V.Padmapriya & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with the fundamental knowledge on genetics, its laws, genes and chromosomes, inheritance, heredity. Learners will understand the causes of genetic disorders and the methods of gene transfer.

COURSE OUTCOMES (COs)

CO1	Recall the basics about genes and genetics
CO2	Recognize the structure and organization of genetic materials
CO3	Apply the different laws of genetics
CO4	Analyze the role of genetic materials in cells
CO5	Evaluate the mechanism of gene transfer
CO6	Create the familiarity about genetic materials and diseases

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	2	3		
	CO2	3	1	1	1	2	2	3		
	CO3	3	2	2	1	3	2	3		
	CO4	3	1	1	2	3	1	3		
	CO5	3	1	2	2	2	1	3		
	CO6	3	2	2	3	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Classical gentics, Mendelian Laws- Mendel's experiment-monohybrid cross-pheotype, genotype, Dihybrid inheritance, Interaction of genes, Fine structure of Genes.

UNIT II **12**

Chromosome structure and organization in prokaryotes and eukaryotes, Unsusal chromosomes- chromosome banding, chromosome abnormalities- genetic disorders.

UNIT III **12**

Classical concepts of allelomorphism, Multiple alleles, ABO blood groups, Rh factor, sex linkage in Drosophila, linkage in human beings, mechanism of sex determination, XX-XY mechanisms of sex determination, sex determination in Drosophila, environmental factors and sex determination, sex differentiation.

UNIT IV **12**

Coupling and Repulsion-Hypothesis, Test cross in maize and crossing over, theory of crossing over, molecular mechanism of crossing over, sex chromosomes and sex linked inherited disorders, colour blindness, hemophilia, Muscular dystrophy.

UNIT V **12**

Transformation, Tansduction, Conjugation, Plasmids and Episomes.

TEXT BOOKS:

1. GardenerEJ, Simmons MJ and Snustad DP. Principles of Genetics, J.Wiley and Sons Pubs., 1998.

2. Obe G and Natarajan AT. Chromosomal Abberrations: Basic and Applied aspects, Springer Verlag, Berlin, 1990.

REFERENCE BOOKS:

1. Winter PC, Hickey GI, and FletcherHL. Instant notes in Genetics, Viva Books Pvt.Ltd. 2003.

2. Sinha U, Sunita Sinha, and Vikas. Cytogenetics, Plant Breeding and evolution, Publishing House Private, Limited, 1998.

Course Coordinator **HOD**

	BIOINSTRUMENTATION	**L**	**T**	**P**	**C**

U18NCBS103	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr.V.Padmapriya & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with basic instruments used in the field of biochemistry, microbiology and biotechnology. Learners will understand the theory and application of chromatography, electrophoresis, spectroscopy and radioisotope techniques.

COURSE OUTCOMES (COs)

CO1	Recall some basic concepts in instrumentation
CO2	Recognize the principle, working and applications of various instruments.
CO3	Apply knowledge in working of devices
CO4	Analyze the data from devices and interpret the results
CO5	Evaluate the basic parameters of the equipment
CO6	Create the applications, operations and techniques of different instruments

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	1	2	1	2	3	3		
	CO2	3	2	1	2	2	2	3		
	CO3	3	2	2	1	2	2	3		
	CO4	3	1	2	2	1	3	3		
	CO5	3	2	2	2	1	2	3		
	CO6	3	1	1	2	2	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Sedimentation Principle, Types of rotors, Preparative and Analytical Centrifuges, Density Gradient Centrifugation, Differential centrifugation.

UNIT II **12**

Theory and Application of Paper Chromatography, TLC, Gel Filtration Chromatography, Ion Exchange Chromatography, Affinity Chromatography, GLC and HPLC.

UNIT III

Theory and Application of PAGE, Agarose Gel Electrophoresis 2DE, Iso-electric Focusing, Immuno diffusion, Immuno Electrophoresis, ELISA, RIA, Southern, Northern and Western Blotting.

UNIT IV **12**

Theory and Application of UV and Visible Spectroscopy, Fluorescence Spectroscopy, MS, NMR, ESR, Atomic Absorption Spectroscopy.

UNIT V **12**

Introduction to Radioisotopes and their Biological Applications, Radioactive Decay – Types and Measurement, Principles and Applications of GM Counter, Solid and Liquid Scintillation Counter, Autoradiography, RIA.

TEXT BOOK:

1. Skoog and West, Principle of Instrumental Analysis, Saunders college publications, 1998.
2. Veerakumari L,Bioinstrumentation,MJP publishers,Chennai.2015.

REFERENCE BOOKS:

1. John G. Webster, Bioinstrumentation, Wiley, 1st ed, 2003.
2. Walker J.and Wilson, Principle & Technique – Practical Biochemistry, 5th Ed 2000.

Course Coordinator **HOD**

	CELL BIOLOGY LAB	L	T	P	C
	Total Contact Hours – 30	0	0	4	2
U18MCBS1L1	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr.V.Padmapriya & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with basic cell biology experiments Learners will understand the microscopical observation of cells

COURSE OUTCOMES (COs)

CO1	Differentiate the structure of prokaryotes and eukaryotes
CO2	Grasp the microscopic observation of chromosomes in cells.
CO3	Manipulate the estimation of Hb, WBC and RBC levels.
CO4	Perform the differential staining and measure osmotic potential.
CO5	Sketch the difference between mitosis and meiotic division

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	1	2	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	1	1	3	3	3		
	CO4	2	2	2	2	1	2	3		
	CO5	3	2	2	1	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

I QUALITATIVE ANALYSIS

1. Cell Division: Mitosis – onion root tip: Meiosis – Transdescantia
2. Polytene chromosomes – chironomous larvae
3. Microscopic observation of prokaryotic and eukaryotic cell (differential staining)
4. Screening of leaf pigments – paper chromatography
5. Haemoglobin estimation
6. WBC and RBC count – Haemocytometer
7. Osmotic potential – (sucrose / salt solution)

II PERMANENT SLIDE OBSERVATION

8. Meiosis
9. Plant cell
10. Mitochondria
11. Chloroplast

TEXT BOOKS:

1. Smith and Wood, Cell Biology, Chapman and Halls, 1996.
2. Bruce Alberts and other, Molecular Biology of the Cell, Garland Publishing, 3rd ed., 1994.

REFERENCE BOOKS:

1. Julio E. Celis, Cell Biology: A Laboratory Handbook, Academic Press, 3rd ed, 2005.
2. Gerald Karp, Cell and Molecular Biology", John Wiley and Sons Inc. New York, 1996.

Course Coordinator **HOD**

SECOND SEMESTER

U18HSTA201	□□□□□ - **II**	**L**	**T**	**P**	**C**
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COURSE OUTCOMES (COs)

CO1	தூது,பள்ளு,குறவஞ்சி என்ற சிற்றிலக்கியங்கள் பற்றி அறிவர்
CO2	சைவ இலக்கியமான தேவாரம், திருவாசகம், அற்புதத்திருவந்தாதிப் பற்றி அறிவர்
CO3	வைணவ இலக்கியமான நாலாயிர திவ்யப் பிரபந்தம் பற்றி அறிவர்
CO4	பௌத்த, இசுலாம், கிறித்துவ சமய இலக்கியங்களைப் பற்றி அறிவர்
CO5	□□□□□□□□□□□□□□□ □□□□□□□ □□□ □□□□□□□ □□□□□□ □□□□□ □□□□□□
CO6	□□□□□□□□□□□□□□□ , □□□ □□□□□□□□□ □□□□□□ □□□□□□□ □□□□□□□ □□□□□□□

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	3	2	3	1	2		
	CO2	3	2	3	2	3	1	2		
	CO3	3	2	3	2	3	1	2		
	CO4	3	2	3	2	3	1	3		
	CO5	3	2	3	2	3	1	2		
	CO6	3	2	3	2	3	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								

4	Approval	47 □□□ □□□□□ □□□□□□□□□ □□□□□□□

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இயேசு காவியம் - பாடுகளின் பாதை - கண்ணதாசன்

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1. கதிர் முருகு, "அழகர் கிள்ளைவிடு தூது", சாரதா பதிப்பகம், 2011
2. கதிர் முருகு, "முக்கூடற் பள்ளு மூலமும் உரையும்", சாரதா பதிப்பகம், 2017
3. புலியூர்க் கேசிகன், "திருக்குற்றாலக் குறவஞ்சி", செண்பகா பதிப்பகம், 2010
4. தமிழமுதன், "அற்புதத்திருவந்தாதி", பாரி நிலையம், 2011
5. சோ.கந்தசாமி "பன்னிரு திருமுறை", உலகத் தமிழாராய்ச்சி நிறுவனம், 2008
6. த.கோவேந்தன், "நாலாயிரத் திவ்யப் பிரபந்தம் மூலமும் எளிய உரையும்", சாரதா பதிப்பகம், 2015
7. கமலா முருகன், "ஆசிய ஜோதி மூலமும் உரையும்", சாரதா பதிப்பகம், 2012
8. கமலா முருகன், "பராபரக்கண்ணி மூலமும் உரையும்", சாரதா பதிப்பகம், 2013
9. கண்ணதாசன், "இயேசு காவியம்", கண்ணதாசன் பதிப்பகம், 2014
10. சு.ஆனந்தன், “தமிழ் இலக்கிய வரலாறு", பாரி நிலையம், 2018

Course Coordinator **HOD**

U18HSHI201	HINDI-II	L	T	P	C

Total Contact Hours – 45	3	0	0	3
Prerequisite – +2				
Course Coordinator Name & Department:– Mrs. Rani Selvan & Department of Hindi				

COURSE OBJECTIVES:-

To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)

CO1	Remember of Ramayana in Sabari part
CO2	Understand the historical stories
CO3	Apply the concept of translation
CO4	Analyze and develop the letter writing skills
CO5	Evaluate and develop the speaking skills
CO6	Create knowledge in letter writing and speaking skills

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	2	2	1	3		
	CO4	3	3	2	1	1	2	3		
	CO5	2	3	2	1	1	1	3		
	CO6	3	3	3	2	3	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	47th Academic Council Meeting								

UNIT I **9**

Modern Poetry - Shabari

UNIT II **9**

One Act Play - Ekanki Sankalam

UNIT III **9**

Translation - Hindi – English Only

UNIT IV **9**

Letter Writing - Leave letter - Job Application - Ordering books - Letter to Publisher - Personal letter

UNIT V **9**

Conversation - Doctor & Patient - Teacher & Student - Storekeeper & Buyer - Two Friends - Booking clerk & Passenger at Railway station – Auto rickshaw driver and passenger.

TEXT BOOKS:

1. Naresh Mehtha,Veerendra Kumar Mishra

REFERENCE BOOKS:

1. UNIT 1 – Publisheres - Lokbharathi Prakashan ,1 Floor, Duebari Building,Mahathma Gandhi Marg, Allahabad – 1.
2. UNIT II – Publishers – Vani Prakasam, New Delhi-110002
3. UNIT III – Publishers – Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

Course Coordinator **HOD**

U18HSFR201	FRENCH-II	L	T	P	C

	Total Contact Hours – 45	**3**	**0**	**0**	**3**
	Prerequisite – +2				
	Course Coordinator Name & Department: Ms. Tushita Naidu K / Départements De Française				

COURSE OBJECTIVES:-

To introduce students to the complexity of the grammar and how to overcome it with simple rules.

COURSE OUTCOMES (COs)

CO1	To being able to interpret the language.
CO2	To familiarize with methodological approaches in the study of literary and cultural texts, such as close reading, socio-historical contextualization, and literary and cultural theory.
CO3	To obtain advanced proficiency in spoken and written French.
CO4	To encourage the development of skills in linguistics, translation, and comparative studies.
CO5	To remember the anatomy of conjugations in past tense.
CO6	To evaluate the given text critically and enhance communication skills.

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PS O2
2	CO1	1	3	2	1	1	1	3		
	CO2	3	3	3	1	2	1	3		
	CO3	3	3	3	1	2	1	3		
	CO4	3	3	3	1	1	2	3		
	CO5	3	3	3	3	1	1	3		
	CO6	3	3	2	3	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	47th Academic Council Meeting								

UNIT I -Quelle journee! **9**

La Conjugaison pronominale -L'imperatif -L'expression de la quantite (peu-in peu de-quelque – etc.)

UNIT II - Qu'on est bien ici ! 9

Prepositions et adverbs de lieu - Verbs experimant un deplacement (employ des prepositions) Le lodgement/la localisation/ l'orientation/l'etat physique/le temps qu'il fait

UNIT III -En se detend? 9

L'imparfait-Emplois du passé compose et de l'imparfait-Expression de la duree-L'enchainement des idees (alors, donc, mais) /Le sens reciproque

UNIT IV- On s'appelle? 9

Les pronoms complements direct -Les pronoms compliments indirects de personne -c'est/ il est-Imperatif des verbs avec pronoms-La fornation des mots

UNIT V Un bon conseil ! 9

Expression du deroulement de l'action--passe recent--Present progressif-future proche-Les phrases rappotrees- La place de l'adjectif- La proposition relative finale avec -qui

TEXT BOOKS:

A1 Echo- J. Girardet, J. Pecheurb Cle Publication.

Course Coordinator HOD

	ENGLISH-II	L	T	P	C

U18HSEN202	Total Contact Hours – 45	**3**	**0**	**0**	**3**
	Prerequisite course – Higher Secondary level English				
	Course Coordinator : Mrs.M.Kumaresan & Department of English				

COURSE OBJECTIVES:-

To know the themes of literary texts and understand the language skills and how to implement it in day to day life activity

COURSE OUTCOMES (COs)

CO1	Remember the authors of the prescribed literature
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarizes the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	3	2	3	2	2	3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	2	2	2	3	3	3		
	CO4	2	2	2	2	3	3	3		
	CO5	2	2	2	2	2	2	2		
	CO6	3	3	3	2	2	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47th Academic Council Meeting								

UNIT 1: PROSE 9

The Refugee – K.A. Abbas – Author Biography – Plot – Theme - Summary - Critical analysis; The Lion and the Lamb – Leonard Clark – Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2: POETRY 9

The Solitary Reaper – William Wordsworth – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; Gift – Alice Walker- Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT 3: SHORT STORIES 9

The Fortune -Teller – Karel Capek – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; The Postmaster – Rabindranath Tagore – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 4: ONE-ACT PLAYS **9**

The Death Trap – Saki (H.H. Munro) – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; The Dear Departed: A Comedy in One-Act – Stanley Houghton- Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 5: GRAMMAR **9**

Communicative Grammar - Seeking and giving information – statements and questions
Being informal – phrasal verbs, Expressing ability, possibility, etc – Modals and other devices

TEXT BOOKS:

1. The Death Trap by Saki, The Novels and Plays of Saki, 2001
2. Pooja Khanna, “English Communication”, S.CHAND Publishing, 2016
3. Rabindranath Tagore, “The Postmaster”, Penguin India, 2000

REFERENCE BOOKS:

1. K.A.Abbas Suresh Kohli, “An Evening in Calcutta”, HarperCollins, 2015
2. Stanley Houghton, “Five one act plays”, Alpha Edition, 2019
3. Edited Prof. Jasbir Jain, “Strings of Gold (Part- II)”, MacMillan, 2016

Course Coordinator **HOD**

	PRINCIPLES OF BIOCHEMISTRY	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
U18MCBS201	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr.V.Padmapriya & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with basic principles of biochemistry. Learners will understand the bioenergetics and biomolecular structures.

COURSE OUTCOMES (COs)

CO1	Recall the basic properties of water, acids, bases and their functions
CO2	Recognize the structures of Carbohydrates, proteins, amino acids and lipids.
CO3	Apply knowledge in the law of thermodynamics
CO4	Analyze the enzyme activity, mechanisms and kinetics
CO5	Evaluate the basic parameters of the equipment
CO6	Create the applications of secondary metabolites, operations and techniques of different instruments

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	3	3		
	CO2	3	1	1	2	2	2	3		
	CO3	3	1	2	3	3	2	3		
	CO4	2	2	1	2	2	3	3		
	CO5	3	2	2	2	3	2	3		
	CO6	3	2	2	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **10**

Aqueous solutions - properties of water - hydrogen ion concentration - acids, bases and their concept - buffers and electrolytes and their functions - acidity, alkalinity and pH determination.

UNIT II **12**

Bioenergetics - energy and its forms - free energy - laws of thermodynamics - enthalpy and entropy - redox potential - redox coupling and ATP bioenergetics.

UNIT III **14**

A brief account on the biochemistry of Carbohydrates (sugars, starch, cellulose), Lipids (triglycerides, fats), Proteins (structural, catalytic) - primary, secondary, tertiary and quaternary structure and characteristics of proteins and amino acids.

UNIT IV **12**

Enzymes: classification and nomenclature of enzymes - physico chemical nature of enzymes - enzyme kinetics - mechanism of enzyme action - factors affecting enzyme activity.

UNIT V **12**

A brief account on the biochemistry of the secondary plant products:
Alkaloids, flavonoids, anthocyanins, terpenes - Elementary treatment of fractionation of biological materials by chromatography (PC,TLC), electrophoresis (principle and types), centrifugation (principle and types).

TEXT BOOKS:

1. Lehninger, Biochemistry, CBS Publication, New Delhi. 1982.
2. Stryer, L, Biochemistry, Freeman Company, New York, 4th Edition, 1999.

REFERENCE BOOKS:

1. Murray R.K,Granner D.K., Mayes P.A and Rodwell, V.W, Harper's Biochemistry, McGraw Hill, 2000.
2. Satynarayana T. Biochemistry, Books and Allied Pvt. Ltd. 2005

Course Coordinator **HOD**

	INDUSTRIAL BIOTECHNOLOGY	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
U18MCBS202	Prerequisite course - Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr.V.Padmapriya & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with major commercial products production using microbes. Learners will understand the different types of bioreactors and microbial culture process

COURSE OUTCOMES (COs)

CO1	Recall the different microorganisms involved in production of commercial products.
CO2	Recognize methods of the strain improvement.
CO3	Apply the stoichiometry of bioprocess.
CO4	Analyze the growth kinetics of microorganisms.
CO5	Evaluate the downstream processing techniques.
CO6	Create the applications of industrial products and nanoparticles.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	3	3		
	CO2	2	1	2	2	2	2	3		
	CO3	3	1	2	2	3	2	3		
	CO4	3	2	1	2	2	2	3		
	CO5	3	2	2	2	2	2	3		
	CO6	3	2	2	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **10**

Introduction to biotechnology and products. Major classes of commercial products using micro organisms-enzymes, amino acids, vitamins, antibiotics, organic solvents, organic acids, food and beverages.

UNIT II **12**

Industrially important microorganisms: screening techniques - detection & assay of fermentation products-strain improvements - mutations, protoplast fusion and rDNA techniques for strain development.

UNIT III **12**

Bioreactors / Fermentor: Types, features, operation: sterilization (Batch and Continuous), inoculation and sampling. Control of bioprocess parameters. Microbial growth and media formulation. Microbial culture - batch, fed batch, semi-continuous, continuous. Growth kinetics of microorganisms.

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UNIT IV **12**

Downstream processing: Solid-liquid separation, flotation, flocculation, filtration, centrifugation, cell disruption, concentration, evaporation, liquid-liquid extraction, membrane filtration, precipitation, adsorption. Product purification by chromatography.

UNIT V **12**

Industrial process of beverages - enzymes - amino acid - organic acids - organic solvents – antibiotics-Introduction to nanotechnology - history and recent developments - sources of nanoparticles - microbial production of nanoparticles - advantages of microbial nanoparticles - applications.

TEXT BOOKS:

1.Reed. C, Prescott and Dann's, Microbiology,Macmillan publishers. 1982.
2.Prave. P, Faust, V and Sitih. W, Fundamentals of Biotechnology, ASM press. 1987.

REFERENCE BOOKS:

1. Demain A.L, Manual of industrial microbiology and Biotechnology, ASM press. 1986.
2. Satyanarayana, U, Biotechnology, Books and Allied (P) Ltd, 2006.

Course Coordinator **HOD**

U18NCBS203	BIOINFORMATICS	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department :Dr.V.Padmapriya & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with basics of bioinformatics in Bioscience field. Learners will understand the applications of sequence analysis and phylogenetic tree construction.

COURSE OUTCOMES (COs)

CO1	Recall the basic principle and applications of biological databases
CO2	Recognize the sequence alignment tools and its use.
CO3	Apply the basic concepts of bioinformatic matrices.
CO4	Analyze the various biological datas & bioinformatic tools
CO5	Evaluate the application of bioinformatics with the biological data
CO6	Create and construct phylogenetic tree and evolutionary analysis.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	2	3		
	CO2	2	2	1	2	2	2	3		
	CO3	3	2	2	1	3	3	3		
	CO4	3	2	2	2	2	2	3		
	CO5	3	2	1	1	2	3	3		
	CO6	3	2	2	3	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **10**

Introduction to bioinformatics, Biological data formats. Application of bioinformatics in various fields.

UNIT II **12**

Biological databases – Nucleotide databases – Genbank, EMBL, DDBJ; Protein Sequence Databases – Swiss Prot, Trembl, PIR, UNIPROT, Various Data retrieval formats in biological databases – ENTREZ, SRS

UNIT III **14**

Sequence Analysis: sequence similarity, identity and homology - Definitions of homologues, orthologues and paralogues. Pairwise Sequence Alignment: Dot matrix, Dynamic programming alignment, BLAST and FASTA. Scoring matrices: PAM and BLOSUM.

.

UNIT IV **12**

Multiple Sequence Alignments (MSA): various approaches for MSA - Progressive, Hierarchical and Iterative – Clustal W, clustal X , T-COFFEE and their application for sequence analysis

UNIT V **12**

Evolutionary analysis: distances - clustering methods - rooted and un-rooted tree representation - Bootstraping strategies – phylogenetic trees – PHYLIP, PAUP

TEXT BOOKS:

1. Teresa Attwood and David Parry-Smith, Introduction to Bioinformatics. 2001.
2. Andreas D, Baxevanis B. F and Francis Ouellette, Bioinformatics: A Practical Guide to the Analysis of Genes and Proteins, 2002.

REFERENCE BOOKS:

1. David W. Mount, Bioinformatics: Sequence and Genome Analysis, 2nd Edition. 2004.
2. Gretchen Kenney, Bioinformatics: Principles and Analysis; Syrawood Publishing House USA. 2016.

Course Coordinator **HOD**

	ENVIRONMENTAL STUDIES	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
U18HSCH201	Prerequisite course – Higher Secondary Education				
	Course Coordinator Name & Department:- – Mrs. S. Vinitha / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the science from the basic and understood all theoretical background with all concepts thoroughly to protect the habitat of biotic and abiotic ecosystem.

COURSE OUTCOMES (COs)

CO1	Gain the knowledge about the environmental impact and importance of natural Resources
CO2	Understand about the Ecosystem, Biodiversity and its conservation
CO3	Apply its properties and uses of Hydrocarbons and Alkynes
CO4	Analyze the impact of population and Urbanization to affect the system of habitat loss
CO5	Evaluate the Social issues by our conservation act
CO6	Create the organic environmental approach to protect our habitat for the next generation.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	3	3	3	1	1	3		
	CO2	3	3	1	2	2	3	3		
	CO3	3	2	2	2	3	2	3		
	CO4	3	2	3	1	1	3	3		
	CO5	2	3	3	2	3	1	3		
	CO6	3	3	2	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47th Academic Council Meeting								

UNIT I **6**

Introduction to Environmental Sciences: Natural Resources: Environmental sciences – relevance – significance – public awareness – forest resources – water resources – mineral resources – food resources – conflicts over resource sharing – exploitation – land use pattern – environmental impact – fertilizer – pesticide Problems - case studies.

UNIT II **6**

Exosystem, Biodiversity and its conservation: Ecosystem – concept – structure and function – producers, consumers and decomposers –food chain – food web – ecological pyramids – energy flow – forest, grassland, desert and aquatic ecosystem – definition – genetic, species and ecosystem diversity – biodiversity – definition – genetic, species and ecosystem diversity – values and uses of biodiversity – biodiversity at global, national (india) and local levels – hotspots, threats to biodiversity –conservation of biodiversity – insitu and ex-situ.

UNIT III **6**

Environmental Pollution and Management- Environmental pollution – causes – effects and control measures of air, water , marine, soil, solid waste. Thermal, nuclear pollution and disaster management – floods, earth quake, cyclone and land slides, role of individuals in prevention of pollution – pollution case studies.

UNIT IV **6**

Social issues – Human population: Urban issues – energy – water conservation – environmental ethics – global warming – resettlement and rehabilitation issues – environmental legislations – environmental production act. 1986 – air, water, wildlife and forest B.C.A.: syllabus (CBCS) conservation act - population growth and explosion – human rights and value education – environmental health – HIV/AIDS – role of it in environment and human health – women and child welfare – public awareness – case studies.

UNIT V **6**

Field Work: Visit to a local area / local polluted site / local simple ecosystem – report submission.

TEXT BOOKS:

1. K. Kumarasamy, A. Alagappa Moses and M. Vesanthy, 2004, Environmental Studies, Bharathidasan University Pub, 1, Trichy.

REFERENCE BOOKS:

1. Rajamannar, 2004, Environmental Studies, EVR College Pub, Trichy.
2. S. Kalavathy, (ED.) 2004, Environmental Studies, Bishop Heber College Pub., Trichy.

Course Coordinator **HOD**

U18HSBC202	VALUE EDUCATION	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Education				
	Course Coordinator Name & Department:- Ms. G. Vinothini, Commerce				

COURSE OBJECTIVES:-

Enable the students to understand the Social values, provide knowledge on the features for life, Human rights, Environment and Ecological balance. To educate the knowledge on Social evils.

COURSE OUTCOMES (COs)

CO1	List out the Formation and Essential Elements of Contract.
CO2	Determine the Self esteem, duties and responsibilities of individuals, Social values
CO3	Apply to create peace and non violence and Dr. APJ Abdul Kalam's ten points for Enlightened citizenship
CO4	Determine the Environment and Ecological balance
CO5	Measure the Knowledge on Environmental conservations and enrichment
CO6	Formulate the awareness on Corruption, crime, terrorism, Alcoholism, Drug addiction, Dowry

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	1	2	3	2		
	CO2	3	2	3	2	1	3	3		
	CO3	3	1	2	2	3	3	1		
	CO4	2	3	3	3	3	1	3		
	CO5	3	2	3	2	2	1	3		
	CO6	2	2	3	3	3	3	1		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I **6**

Value education: Definition- relevance to present day – concept of human values – self introspection – Self esteem- duties and responsibilities of individuals- Social values- role of media in value building.

UNIT II **6**

Salient features for life: Truth, commitment,, honesty and integrity, forgiveness and love, empathy and ability to sacrifice, care, unity and inclusiveness, Team work- positive creative thinking.

UNIT III **6**

Human rights: Universal declaration of Human rights- human rights violation – National integration – peace and non violence – Dr. APJ Abdul Kalam's ten points for enlightened citizenship

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UNIT IV **6**

Environment and Ecological balance: Interdependent of all being – living and non living – the binding of man and nature – Environmental conservations and enrichment.

UNIT V **6**

Social evils : Corruption – cyber crime, terrorism, Alcoholism, Drug addiction, Dowry – Domestic violence – untouchability – female infanticide – atrocities against women – How to tackle them.

TEXT BOOK

1. N. Arumugam, S. Mohana, Lr. Palkani- value based education- Saras Publication, 2009
2. DN Ghose, Value Education- dominant publishers, 2005
3. M.G. Chitakra, Education and Human values, A.P.H Publishing Corporation. New Delhi

REFERENCE BOOKS

1) For Life, for the future: Reserves and Remains – UNESCO Publications.
2) Values, A Vedanta kesari presentations, Sri Ramakrishna Math, Chennai

Course Coordinator **HOD**

U18MCBS2L1	BIOCHEMISTRY LAB	L	T	P	C
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr.V.Padmapriya / Microbiology & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with various biochemical experiments .Learners will understand the principle and determination of biomolecucles by each experiment.

COURSE OUTCOMES (COs)

CO1	Grasp the basics behind the classification of sugars (carbohydratres)
CO2	Differentiate the analysis of sugar and amino acids.
CO3	Perform the various analyses for lipids.
CO4	Manipulates the determination of saponification, acid and iodine number.
CO5	Operates the aminoacids separation by TLC.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	1	1	3		
	CO2	3	2	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	1	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

I Analysis of Sugars

1. Monosaccharide-Glucose, Fructose, Galactose, Mannose, Pentose.
2. Disaccharides-Sucrose, Maltose and Lactose.
3. Polysaccharides-Starch and Dextrin.

II. Analysis of Amino Acids

1. Histidine
2. Tyrosine
3. Tryptophan
4. Methionine
5. Cysteine
6. Arginine

III Lipid Analysis [Group Experiments]

1. Determination of Saponification number.
2. Determination of Acid number.
3. Determination of Iodine number.

IV Demonstration Experiments

1. Separation of amino acids by TLC.

TEXT BOOKS:

1. Wilson. V and J. Walker, "Principles and Techniques of Practical Biochemistry", Cambridge University Press, 1994.
2. Edward Staunton West, Wilbert R. Todd, Howard S. Mason, John T. V. Bruggen. Textbook of Biochemistry, 4 th edition , Oxford & IBH publising Co.Pvt.Ltd., 1996.

REFERENCE BOOKS:

1. Gyanendra awasthi,Santhosh kumar,Ashwani sanghi and Shiv sharan singh "Biochemistry laboratory manual", Dolphin Institute of Biomedical &Natural Sciences,Dehradun,International E- publications,2013.
2. Donald Viet and Judith G.Voet., "Biochemistry". 3rd Edition. John Wiley, New York. 2004**.**

Course Coordinator **HOD**

THIRD SEMESTER

U18HSTA301	□□□□□ – **III**	**L**	**T**	**P**	**C**
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COURSE OUTCOMES (COs)

CO1	ஐம்பெரும் காப்பியங்களில் சிலப்பதிகாரம், மணிமேகலை, சீவக சிந்தாமணி பற்றி அறிவர்
CO2	பிற்கால காப்பியங்களில் கம்பராமாயணம், தேம்பாவணி, சீறாப்புராணம் பற்றி அறிவர்
CO3	முக்கால நீதி இலக்கியங்களில் திருக்குறள், நாலடியார், இனியவை நாற்பது பற்றி அறிவர்
CO4	பிற்கால நீதி இலக்கியங்களில் மூதுரை, நன்னெறி, ஆத்தி சூடி பற்றி அறிவர்
CO5	காப்பியம் மற்றும் நீதி இலக்கிய வரலாற்றைப் பற்றி அறிவர்
CO6	□□□□□□□□□□, □□□□□ □□□□□□□□□□ □□□□□□□ □□□□□□□□ □□□□□□□□ □□□□□□□□

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	1	2	3	3	1	3		
	CO2	3	1	1	3	3	1	3		
	CO3	3	1	1	3	3	1	3		
	CO4	3	1	2	3	3	1	3		
	CO5	3	1	2	3	3	1	3		
	CO6	3	1	1	3	3	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								

4	Approval	47 □□□ □□□□□ □□□□□□□□□ □□□□□□□

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1. சு.ஆனந்தன், "தமிழ் இலக்கிய வரலாறு", பாரி நிலையம், 2018
2. ந.மு.வேங்கடசாமி நாட்டார், "சிலப்பதிகாரம் மூலமும் உரையும்", ராமையா பதிப்பகம், 2010
3. புலியூர்க் கேசிகன், "மணிமேகலை மூலமும் உரையும்", சாரதா பதிப்பகம், 2017
4. ஆசிரியர் குழு, "சீவக சிந்தாமணி மூலமும் உரையும்", சாரதா பதிப்பகம், 2015
5 அ.ச.ஞானசம்பந்தன், "கம்ப ராமாயணம் மூலமும் உரையும்", நியூ செஞ்சுரி புக் ஹவுஸ், 2010
6. வீரமாமுனிவர், "தேம்பாவணி மூலமும் உரையும்", சாரதா பதிப்பகம், 2014
7. செய்குத் தம்பி பாவலர், "சீறாப்புராணம் மூலமும் உரையும்", யுனிவர்சல் பப்ளிஷர்ஸ், 2010
8. கலைஞர் மு.கருணாநிதி, "திருக்குறள் கலைஞர் உரை", திருமகள் நிலையம், 2010
9. பத்மதேவன், "நாலடியார் மூலமும் உரையும்", கற்பகம் புத்தகாலயம், 2010
10. தமிழ்ப்பிரியன், "இனியவை நாற்பது மூலமும்.உரையும்", கற்பகம் புத்தகாலயம், 2007
11. ந.மு.வேங்கடசாமி நாட்டார், "மூதுரை பதவுரையும் பொழிப்புரையும்", ராதா பதிப்பகம், 2010
12. கதிர் முருகு, "நன்னெறி மூலமும் உரையும்", சாரதா பதிப்பகம், 2016
13. அ.சீனிவாசன், "பாரதியின் புதிய ஆத்திச்சூடி: ஒரு விளக்கவுரை", 1999.

Course Coordinator **HOD**

U18HSHI301	**HINDI-III**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite – Higher Secondary Education				
	Course Coordinator Name & Department:– Mrs Rani Selvan & Department of Hindi				

COURSE OBJECTIVES:-

To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)

CO1	Remember of Ramayana in Panchavati part
CO2	Understand the history of Hindi literature
CO3	Apply the concept of Hindi grammatical speech
CO4	Analyze and develop the translation skills
CO5	Evaluate and develop the unseen passage skills
CO6	Create the skills in Hindi language

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	3	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	2	1	3	1	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47th Academic Council Meeting								

UNIT I **9**

Poetry - Panchavati

UNIT II **9**

History of Hindi Literature - Aadi Kaal and Bhakthi Kaal - general knowledge of the trends of the difference streams

UNIT III **9**

Alankar – Anupras – Yamak - Slesh - Vakrokthi Upama – Rupak – Drishtanth – Virodhabas

UNIT IV **9**

Translation - Hindi – English

UNIT V **9**

Comprehension

TEXT BOOKS:

1. Maithilisharan Gupt, Anuvadh Abhyas – III

REFERENCE BOOKS:

1. Publisheres - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

Course Coordinator **HOD**

U18HSFR301	**FRENCH-III**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3

	Prerequisite – Higher Secondary Education
	Course Coordinator Name & Department:– Ms. Tushita Naidu K / Départements De Française

COURSE OBJECTIVES:-

To develop the technical aspects of the language and varied grammatical nuances to interpret the subject matter.

COURSE OUTCOMES (COs)

CO1	To impart the various aspects that makeup the language.
CO2	To learn some facts, procedures, practice certain grammatical structures, and practice communicative strategies.
CO3	To learn the culture of the language natives.
CO4	To analyse the differences between the basic and advanced grammar.
CO5	To remember the interlink between the conjugations
CO6	To understand grammatical structures.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	2	1	1	1	3		
	CO2	3	3	3	3	2	1	3		
	CO3	3	3	3	1	3	1	3		
	CO4	2	3	3	1	1	1	3		
	CO5	3	3	3	1	1	2	3		
	CO6	3	3	3	2	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	47th Academic Council Meeting								

UNIT I Vivement demain! **9**

Le future- La comparaison des qualities, des quantities et des actions

UNIT II Le Tu as du boulot? 9

Le pronom (en)-Le pronom (Y)-Expression de la condition

UNIT III -Qu'en pensez - vous? 9

Le subjonctif (employ lie a quelques verbs)- Expression de la quantite (poids et mesure-evaluation-restriction)

UNIT IV - C'est tout un programme! 9

Les propositions relatives introduites par (qui, que, ou)-Les adverbs (place, formation des adverbs en-ment)-
La forme ((en + participle present))

UNIT V On se retrouve ! 9

Emploi et conjugaison des quatre temps de l'indicatif quatre temps de l'indicatif:--passe recent--Present -Passe compose-Imparfait et future

TEXT BOOKS:

A2 Echo- J. Girardet, J. Pecheurb Cle Publication.

Course Coordinator **HOD**

	ENGLISH-III	L	T	P	C

Total Contact Hours – 45	**3**	**0**	**0**	**3**
Prerequisite course – Higher Secondary level English				
Course Coordinator Name & Department: Mrs.B.Janua Sherly & Department of English				

COURSE OBJECTIVES:-

To enable them to realize the value of language, communicate effectively and develop career skills.

COURSE OUTCOMES (COs)

CO1	Remember the value of LSRW skills.
CO2	Understand the language skills and know the accuracy of writing skill
CO3	Apply the significance and learn how to write resume, official letters and reports
CO4	Analyze their personality traits and develop interpersonal skills for a better career in life
CO5	Evaluate the knowledge and write resume official letters and reports
CO6	Create differentiate various official letters and reports and the language to be used in E-mails, Business letters etc.

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	3	3	3	3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	2	3	3	2	2	3		
	CO4	2	2	2	2	2	2	2		
	CO5	3	3	2	2	2	3	3		
	CO6	3	3	3	3	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47th Academic Council Meeting								

UNIT 1 - LISTENING SKILLS **9**

Types of Listening (Theory / Definition) - Tips for Effective Listening -Academic Listening (Lectures) - Listening to Radio and Television

UNIT 2 - TELEPHONE SKILLS **9**

Basics of Telephone communication -How to handle calls- telephone manners -Leaving a message -Making requests -Greeting and Leave Taking over phone (etiquette) - Handling the situations especially trouble shooting Teleconference - handling Tele interviews for Call Centers

UNIT 3 - WRITING SKILLS **9**

Standard Business letter - Report writing- Email drafting and Etiquettes - Preparing Agenda and writing minutes for meetings - Making notes on Business conversations

UNIT 4 - CAREER SKILLS **9**

Applying for job -Cover letters -Resume and Effective Profiling - Interviews - Group discussions

UNIT 5 – PERSONAL SKILLS **9**

Empathy (Understanding of someone else points of view) -Intrapersonal skills -Interpersonal skills- Problem solving

TEXT BOOKS:

1. Improve Your IELTS Listening and Speaking Skill by Barry Cusack, 2007

2. Roche Marc, “Advanced English Writing Skills: Masterclass for English Language, Roche Publishing ESL, 2019

REFERENCE BOOKS:

1. Frederick H. Wentz, “A Workbook to Develop Skills For Employment”, Create space Independent Pub,2012

2. S.P.Dhanavel, “English and Soft Skills”, Orient BlackSwan, First edition, 2010

Course Coordinator **HOD**

U18MCBS301	MICROBIOLOGY	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr.V.Padmapriya & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with basics of microbiology**.** Learners will understand the overall applications of microbiology in biotechnological field.

COURSE OUTCOMES (COs)

CO1	Recall the structure and function of prokaryotic and eukaryotic cell and the differences between them
CO2	Recognize the classification and morphology of microbes.
CO3	Apply the methods for microbial identification.
CO4	Analyze culture media and techniques for the growth of microbes.
CO5	Evaluate the various roles of microorganisms in medical field.
CO6	Create the idea on growth parameters.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	3	3		
	CO2	2	1	1	1	2	3	3		
	CO3	2	1	2	2	2	3	3		
	CO4	3	2	1	2	2	3	3		
	CO5	3	2	2	1	2	3	3		
	CO6	2	2	2	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Microbiology - definition, history and scope – Prokaryotes and eukaryotes – Microorganisms- bacterial cell – size, shape and arrangement - General structure – functions of microbial cellular compounds (viruses, bacteria, algae, fungi, protozoa) –Microscopy – Principles of Light, dark field and Phase contrast microcopy.

UNIT II **12**

Principles & classification of microbes – binomial nomenclature Whittaker five kingdom classification– sterilization and disinfection - Physical and chemical methods of sterilization – MIC: Disc Diffusion, Well Diffusion; Stain and staining methods – principles of staining - simple, differential, capsule, nuclear and spore staining methods.

UNIT III **12**

Microbial media – Types of Media, Reviving, culturing and sub culturing of microbes; Isolation and enumeration of microorganisms in soil, water and air – methods of obtaining Pure cultures – Inoculum preparation- methods for microbial identification. Microbial growth – Phases of growth curve, Factors influencing the growth of microbes-classification based on that. (Temperature, pH, Nutrition) and nutritional types of microorganisms.

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UNIT IV **12**

Food and Industrial Microbiology - Microbiology of fermented food and dairy products – cheese, yogurt, Alcoholic beverages-beer, wine etc. Food spoilage and Preservation processes. Microbes as source of food - single cell protein, Application of Microbes in industries production of antibiotics (penicillin, streptomycin), amino acids (Glutamic Acid) organic acids (citric acid and Lactic acid).

UNIT V **12**

Medical microbiology – pathogenesis, lab diagnosis, biological specimen diagnosis, prevention and control of important microbial diseases, Pathogenic bacteria diseases (E.coli, Leprosy, Tuberculosis, Salmonella typhi, Staphylococcus aureus, Vibrato cholera), Fungal diseases- Mycotoxicoses (Candida sp, Aspergillus, Cryptococcus), Viral Diseases (HIV,Rabies,Hepatitis and Polio Virus) and Protozoan diseases (Plasmodium, Trypanosoma).

TEXT BOOKS:

1. Pelczar Chan and Klieg Tate, Microbiology, McGraw Hill Publications, 1993.
2. Pelczar, M. J, Reid R. D and Chan E. C.Microbiology,5th ed. New York: McGraw-Hill. 1977.

REFERENCE BOOKS:

1. Jecquelyn G. and Black, Microbiology -Principles and Explorations, Wiley publications,2008.
2. Prescott, Harley and Klein, Microbiology, Fifth edition ,McGraw Hill publications, 2003.

Course Coordinator **HOD**

U18MCBS302	ENZYMOLOGY	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr.V.Padmapriya & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with classification of enzymes. Learners will understand their structure, kinetics, interactions and applications of enzymes.

COURSE OUTCOMES (COs)

CO1	Recall the basic concepts of enzymology.
CO2	Recognize the mechanism of action of enzymes
CO3	Apply kinetics for the enzymes catalysed reactions and enzyme inhibitory process
CO4	Analyze the factors affecting enzyme action.
CO5	Evaluate the immobilization of the enzyme
CO6	Create wide applications of enzymes and their future potentials

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	3	3		
	CO2	2	1	1	1	2	2	3		
	CO3	2	1	2	2	3	3	3		
	CO4	2	2	1	2	2	2	3		
	CO5	2	2	2	1	2	2	3		
	CO6	2	2	2	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Classification - IUB system, rationale, overview and specific examples. Characteristics of enzymes, enzyme substrate complex. Concept of active centre, binding sites, stereo specificity and ES complex formation. Effect of temperature, pH and substrate concentration on reaction rate. Activation energy. Transition state theory. Enzyme activity, international units, specific activity, turnover number.

UNIT II **12**

Classification - IUB system, rationale, overview and specific examples. Characteristics of enzymes, enzyme substrate complex. Concept of active centre, binding sites, stereo specificity and ES complex formation. Effect of temperature, pH and substrate concentration on reaction rate. Activation energy. Transition state theory. Enzyme activity, international units, specific activity, turnover number.

UNIT III **12**

Michaelis - Menten Equation - form and derivation, steady state enzyme kinetics. Significance of Vmax and Km. Bisubstrate reactions. Graphical procedures in enzymology - advantages and disadvantages of alternate plotting. Enzyme inhibition - types of inhibitors - competitive, noncompetitive and uncompetitive, their mode of action and experimental determination.

UNIT IV **12**

Protein ligand binding including measurements, analysis of binding isotherms, cooperativity and kinetics of allosteric enzymes. Enzyme regulation: Product inhibition, feedback control, enzyme induction and repression and covalent modification. Allosteric regulation.

UNIT V **12**

Relative practical and economic advantage for industrial use, effect of partition on kinetics and performance with particular emphasis on charge and hydrophobicity (pH, temperature and Km). Various methods of immobilization - ionic bonding, adsorption, covalent bonding (based on R groups of amino acids), microencapsulation and gel entrapment.

TEXT BOOKS:

1. Zubay GL, W M C, Biochemistry, 4th edition, Brown Publishers, 1988.
2. Nelson, David l and Cox, Principles of Biochemistry, Macmillan/worth, NY, 1999

REFERENCE BOOKS:

1. Berg JM, Tymoczko.JL, Stryer, L. Biochemistry. 6 th ed. Freeman, 2006.
2. Tripathi,G, Enzyme Biotechnology, ABD Publishers. 2009.

Course Coordinator **HOD**

U18NCBS303	MOLECULAR BIOLOGY	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr.V.Padmapriya & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with genetic material and their importance in living creatures. Learners will understand the genetic code, replication, transcription and translation of prokaryotes and eukaryotes.

COURSE OUTCOMES (COs)

CO1	Recall the basics of cell and molecular biology
CO2	Recognize the gene expression models
CO3	Apply molecular research concepts in rDNA technology and in therapeutics
CO4	Analyze and know the requirements of vectors and protein expression
CO5	Evaluate the experimental protocols involved in molecular analysis of nucleic acids
CO6	Create the knowledge about genetic materials and their future

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	2	3	2	3		
	CO2	3	1	2	1	2	3	3		
	CO3	3	2	1	2	3	3	3		
	CO4	3	1	1	2	2	2	3		
	CO5	2	2	2	2	2	3	3		
	CO6	3	2	2	1	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

DNA as genetic material-structure of DNA-forms of DNA-nucleic acid biosynthesis-experimental evidence: Griffith, McLeod, McCarty and Avery, Hershey–Chase experiments-Definition of gene-organization of genes and non coding DNA in prokaryotes- Eukaryotes–unique, moderately repetitive and highly repetitive DNA sequence-satellite DNA- Cot value-DNA binding proteins

UNIT II **12**

DNA replication in prokaryotes and eukaryotes- modes of replication-semi continuous and semi discontinuous replication- Okazaki fragments- RNA primers – enzymes of replication – DNA polymerases I, II, III, -DNA modifying enzymes: topoisomerases-helicases- binding proteins and ligases- replication in E.coli–replisomes-events at OriC (initiation), events on the replication fork (elongation) and termination- Fidelity of replication-Sigma or rolling circle mode of replication in Φ x 174-Inhibitors of replication.

UNIT III **12**

Repair of DNA–types of damages- repair by direct reversal of damage- excision repair-recombination repair- SOS repair-Mutation: definition-type of mutations (spontaneous and induced) point mutation-Gene mutation and chromosomal aberrations- Cause of mutations-chemical and physical agent

UNIT IV **12**

Transcription in prokaryotes and eukaryotes: RNA polymerases–enzyme structure- role of sigma factor- promoter-closed and open promoter complexes-Initiation-elongation and termination of RNA synthesis-Post transcriptional modification in prokaryotes and eukaryotes- transcription factors

UNIT V **12**

Genetic code–Basic features of genetic code-Deciphering of genetic code-Wobble hypothesis-Protein biosynthesis-activation of amino acids- initiation-elongation and termination of translation in prokaryotes and eukaryotes-Post translational modifications-Inhibitors of translation.-Regulation of gene expression in prokaryotes and eukaryotes-operon concept

TEXT BOOKS:

1. Freifelder D, Molecular Biology, Narosa Publishing House, New Delhi, 1985.
2. Harvey Lodish, Arnold Berk, S Lawrence Zipursky, Paul Matsudaira, David Baltimore, and James Darnell, Molecular Cell Biology,3rd Edition.,W.H. Freeman Publishers, 1995.

REFERENCE BOOKS:

1. McLennan A, Bates A, Turner P and White M. Bios Instant Notes Molecular Biology, 4th ed. Taylor and Francis, 2012.
2. Verma PS and Agarwal VK. Cell Biology (Cytology, Biomolecules, Molecular Biology), Paperback, S. Chand and Company Ltd., 2016

Course Coordinator **HOD**

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COURSE OUTCOMES (COs)

CO1	தமிழ் எழுத்துக்களில் உயிர் எழுத்துக்களை அறிவர்
CO2	தமிழ் எழுத்துக்களில் மெய் எழுத்துக்களை அறிவர்
CO3	தமிழில் எண்கள், நாட்கள் பற்றி அறிவர்
CO4	தமிழ் மாதங்கள் பற்றி அறிவர்
CO5	உறவு முறை பெயர்களைப் பற்றி அறிவர்
CO6	□□□□□□□□□□□□ □□□□□□□□□□□□□ □□□□□ □□□□ □□□□□□□□ □□□□□□□□ □□□□□□□

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	1	1	1	1	2		
	CO2	1	3	1	1	1	1	2		
	CO3	1	3	1	1	1	1	2		
	CO4	1	3	1	1	1	1	2		
	CO5	1	3	1	1	1	1	2		
	CO6	1	3	1	1	1	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
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Course Coordinator **HOD**

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COURSE OUTCOMES (COs)

CO1	பழங்கால தமிழரின் சமூக அமைப்பைப் பற்றி அறிவர்
CO2	பண்டைத் தமிழர் திருமணமுறை நல்லறம் - குடும்ப வாழ்வு பற்றி அறிவர்
CO3	பண்டைத் தமிழரின் கல்வி, வானியல் அறிவு பற்றி அறிவர்
CO4	தமிழரின் உணவு, உடை, உறையுள் - சங்க கால விழாக்கள் பற்றி அறிவர்
CO5	பண்டைத் தமிழரின் கல்வி, வானியல் அறிவு பற்றி அறிவர்
CO6	□□□□□□□ □□□□□□□□□ □□□□□□□□ □□□□□□ □□□□□□□

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	3	2	3	1	3		
	CO2	3	2	3	2	3	1	3		
	CO3	3	2	3	2	3	1	3		
	CO4	3	2	3	2	3	1	3		
	CO5	3	2	3	2	3	1	3		
	CO6	3	2	3	2	3	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
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Course Coordinator **HOD**

U18MCBS3L1	MICROBIOLOGY LAB	L	T	P	C
	Total Contact Hours – 30	0	0	4	2

	Prerequisite course – Biology at Higher Secondary Education
	Course Coordinator Name & Department:- Dr.V.Padmapriya & Biotechnology

COURSE OBJECTIVES:-

Learners will be familiar with sterilization and inoculation methods. Learners will understand the staining method and microbes identification.

COURSE OUTCOMES (COs)

CO1	Perform the basic microbiological tests
CO2	Handle different sterilization and staining techniques.
CO3	Grasp different inoculation techniques.
CO4	Manipulates various biochemical tests.
CO5	Operates microscope for microbes identification.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	3	3		
	CO2	3	1	1	1	2	2	3		
	CO3	3	1	2	1	3	2	3		
	CO4	2	2	2	2	3	2	3		
	CO5	3	2	2	1	2	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

1. Sterilization techniques
2. Demonstration of microbial culture

3. Simple staining - -differential staining –capsular staining – spore staining – hanging drop
4. Inoculation techniques – pour plate – spread plate
5. Dilution techniques
6. Biochemical tests for bacterial identification – catalase test –oxidase test – IMVIC test – TSI test
7. Starch degradation –carbohydrate fermentation – Gelatin liquefaction
8. Viable bacteria – haemocytometer
9. Morphological identification of fungi.

TEXT BOOKS:

1. General Microbiology - Stanier R.Y., 5th edition, Macmillan Publication, UK. 1987.
2. Nina Parker, Microbiology Manual, OpenStax CNX,2001.

REFERENCE BOOKS:

1. Pelzer, Chan and Kreig. Microbiology. 5th Edition. McGraw-Hill. 1986.
2. James Cappuccino. Microbiology: A Laboratory Manual, 10 ed., Pearson, 2013.

Course Coordinator **HOD**

FOURTH SEMESTER

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COURSE OUTCOMES (COs)

CO1	எட்டுத்தொகையில் நற்றிணை, குறுந்தொகை, கலித்தொகை இலக்கியங்களை அறிவர்
CO2	எட்டுத்தொகையில் புறநானூறு, பதிற்றுப்பத்து இலக்கியங்களை அறிவர்
CO3	பத்துப்பாட்டு இலக்கியத்தில் பொருநராற்றுப்படை, பெரும்பாணாற்றுப்படை பற்றி அறிவர்
CO4	பத்துப்பாட்டில் நெடுநல்வாடை, பட்டினப்பாலை, முல்லைப்பாட்டு பற்றி அறிவர்
CO5	எட்டுத்தொகை, பத்துப்பாட்டு இலக்கிய வரலாற்றை அறிவர்
CO6	□□□□ □□□□□□□□□□□□□□ □□□□□□□ □□□□□□ □□□□□□□□□□□□ □□□□□□□□

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	3	1	3		
	CO2	3	2	1	1	3	1	3		
	CO3	3	2	2	1	3	1	3		
	CO4	3	2	1	1	3	1	3		
	CO5	3	2	2	1	3	1	3		
	CO6	3	2	1	1	3	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
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Course Coordinator **HOD**

U18HSHI401	**HINDI-IV**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite – +2				
	Course Coordinator Name & Department:– Mrs. Rani Selvan & Department of Hindi				
COURSE OBJECTIVES:- To understand and improve the skills in the Language of Hindi					
COURSE OUTCOMES (COs)					
CO1	Remember the skills of the leadership				

CO2	Understand and develop the skills to overcome the mistake
CO3	Apply the concept of Hindi essay writing
CO4	Analyze and develop the translation skills
CO5	Evaluate the unseen passage skills
CO6	Create and develop the Hindi language skills

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	1	1	3		
	CO2	3	3	1	2	2	1	3		
	CO3	3	3	2	1	3	1	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	2	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47th Academic Council Meeting								

UNIT I **9**

Drama – Andher Nagari

UNIT II **9**

Novel - Gaban - Premchand

UNIT III **9**

General Essay

UNIT IV **9**

Translation - Hindi – English

UNIT V **9**

Comprehension

TEXT BOOKS:

1. Bharathendu Harischandra**,** Veerendra Kumar Mishra, Anuvadh Abhyas – III

REFERENCE BOOKS:

1. UNIT 1 - Publisher – Vani Prakashan, New Delhi – 110 002.
2. UNIT II – Publisher - Rajkamal Prakashan, New Delhi – 110 002
3. UNIT III – Aadarsh Nibnandh, Vinodh Pustak Mandir, Hospital Road, Agra - 282002
4. UNIT IV - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17
5. UNIT V - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

Course Coordinator **HOD**

U18HSFR401	**FRENCH-IV**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	**3**	**0**	**0**	**3**
	Prerequisite – +2				
	Course Coordinator Name & Department: Ms. Tushita Naidu K / Département De Française				
COURSE OBJECTIVES:- To introduce students to the advanced levels of the language.					
COURSE OUTCOMES (COs)					

CO1	To learn the culture of the language natives in advanced setup.
CO2	To understand the integral grammar structure in French.
CO3	To encourage the development of skills in linguistics
CO4	To evaluate the Oral and Written skill set
CO5	To remember the language construction
CO6	To enhance advanced fluency in language

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PS O2
2	CO1	1	3	3	1	1	1	3		
	CO2	3	3	3	1	2	2	3		
	CO3	3	3	3	1	3	1	3		
	CO4	3	3	3	1	1	1	3		
	CO5	3	3	3	2	1	2	3		
	CO6	3	3	3	1	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	47th Academic Council Meeting								

UNIT I Vous plaisantez! **9**

Le conditionnel present -expression de l'hypothese-demandes polies-suggestions et conseils

UNIT II On s'entend bien! **9**

Les constructions du discours rapport-Les constructions (faire + verbe)-et (laisser + verbe)

UNIT III A vos risqué et perils! **9**

Le subjonctif Present- La construction passive pour metre en valeur l'object direct de l' action

UNIT IV C'est tout un programme! **9**

Les pronom possessives -Les adjectifs et les pronoms indefinis-Les pronom demonstratifs: Les constructions --celui+de

UNIT V C'est la fete ! **9**

Les fornes de l'appreciation : trop/ pas assez –si-Les constructions verbe+verbes

TEXT BOOKS:

A2 Echo- J. Girardet, J. Pecheurb Cle Publication.

Course Coordinator **HOD**

U18HSEN402	**ENGLISH-IV**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	**3**	**0**	**0**	**3**
	Prerequisite course – Higher Secondary level English				
	Course Coordinator Name & Department:Ms.E.Rekha & Department of English				
COURSE OBJECTIVES:- To understand the literature, and there by improve their language and communication skills.					

COURSE OUTCOMES (COs)	
CO1	Remember the basic concepts of English literature
CO2	Understand the literature and beauty of language
CO3	Apply the themes and values by executing the comprehensive ability in Reading.
CO4	Analyse the grammar and the literary texts.
CO5	Evaluate the characters and the genre prescribed.
CO6	Create comprehensive essays efficiently.

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	2	2	2	3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	2	2	2	2	2	2		
	CO4	3	3	3	2	2	2	2		
	CO5	3	3	3	2	2	2	2		
	CO6	2	2	2	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47th Academic Council Meeting								

UNIT 1 - PROSE **9**

Lalajee – Jim Corbett – Author Biography – Plot – Theme - Summary - Critical analysis;
Face of Judas – Bonnie Chamberlin - Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2 - POETRY **9**

Laugh and Be Merry – John Masefield – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; Matilda - Hilaire Belloc- Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis.

UNIT 3: SHORT STORIES **9**

Hunchback Sundari – C.Raja Gopalachari – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; The Eyes Are Not There - Ruskin Bond- Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT 4: ONE-ACT PLAYS **9**

Macbeth Soliloquy – Out, Out, Brief Candle - Shakespeare – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; Julius Ceasar - Anthony's Funeral Speech – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT 5: FUNCTIONAL ENGLISH **9**

Wh – Questions - Pattern – Active and Passive voice – usage of passive voice – structure of passive verb; Modal verbs – Tenses.

TEXT BOOKS:

1. Corbett, "My India", Rupa Publications India Pvt. Ltd., 2018
2. Stories of Innocent by C.Rajagopalachari, Bharathiya Vidya Bhavan, 2009
3. Shakespeare, "Macbeth", Macmillan Publisher, 2014

REFERENCE BOOKS:

1. Shakespeare – The Complete Work; Wilco Publishing House, Mumbai, India. 2005
2. Hilaire Belloc, "Matilda", Random House UK, 1994

Course Coordinator **HOD**

U18MCBS401	**STEM CELL AND TISSUE ENGINEERING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr.V.Padmapriya & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with human stem cells. Learners will understand the culturing methods, types and tissue engineering methods.

COURSE OUTCOMES (COs)

CO1	Remember the stem cell and their based therapy
CO2	Understand the human embryonic stem cell growth and development
CO3	Apply various culture and subculture methods
CO4	Analyze the stem cell therapy in treatment of major diseases
CO5	Evaluate the tissue engineering techniques
CO6	Create stem cell therapy applications in tissue engineering.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	2	3	2	3		
	CO2	2	1	2	1	2	3	3		
	CO3	3	2	1	2	3	3	3		
	CO4	3	1	1	2	2	2	3		
	CO5	2	2	2	2	3	3	3		
	CO6	3	2	2	1	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **10**

Origin and characteristics of human stem cell, plasticity of human somatic stem cells research, Novel stem cell based therapies, Scientific and technical obstacles to overcome before realizing the potential clinical uses of novel human stem cell based therapy, Cord blood, Stem cell marker.

UNIT II **12**

Possible sources for human embryonic stem cell, growing human ESC in laboratoy, Current advantages and limitations of hESC and human somatic cells-Examining the need for new

hES cell lines, Developments regarding establishment of human stem cell banks and registries.

UNIT III **12**

Preparation of complete human neuroculture, Culturing and subculturing human neurospheres, Differentiation of cells from human, neurospheres into neurons, astrocytes and oligodendrocytes; Immunolabelling procedures.

UNIT IV **14**

Possibilities to overcome immuno-rejection responses in stem cell therapy, Haematopoietic stem cell transplantation - A new therapy for autoimmune disease, Prenatal diagnosis of genetic abnormalities using fetal CD34+ stem cells, Stem cells in treatment for major diseases and reparative medicine, ESC a promising tool for cell replacement therapy, germ line therapy.

UNIT V **12**

Basic principles and consideration - Cell type and source, Metabolic requirements of cells, Reconstruction of connective tissues, Reconstruction of epithelial or endothelial surfaces - cells embedded in extracellular matrix material, Culture on a single surface and sandwich configuration, Bioreactor design on tissue engineering - Hollow fiber systems, Microcarrier based systems-Tissue engineering of the liver.

TEXT BOOKS:

1. Dubey,RC,A Text book of Biotechnology 4th ed., S.Chand &comp pvt.ltd. 2006.
2. Sudha Gangal ,Principles and Practice of Animal tissue culture, 2nd ed, University press,2010.

REFERENCE BOOKS:

1. Ramadass P, Animal Biotechnology,MJP pub. 2008.
2. Song Li,Heureux L and Elisseeff J, Stem cell and Tissue Engineering, World Scientific publishing co.,2011.

Course Coordinator **HOD**

	BIOPROCESSING TECHNOLOGY	**L**	**T**	**P**	**C**
U18MCBS402	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr.V.Padmapriya & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with the types, parts, functions amd operation of fermentor. Learners will understand the strain improvement and downstream processing in industrial bioprocesses.

COURSE OUTCOMES (COs)

CO1	Remember some basic concepts of fermentation
CO2	Understand the microbial growth kinetics and role of computers
CO3	Apply knowledge in operation of fermentor
CO4	Analyse the different types of fermentor and diffusion phenomena of fermentation broth
CO5	Evaluate the control strategies for bioprocess operations
CO6	Create its applications in Bioprocessing technology.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	1	1	2	2	3	3		
	CO2	3	2	1	2	2	2	3		
	CO3	2	1	2	1	3	3	3		
	CO4	3	1	2	2	2	2	3		
	CO5	2	2	2	1	3	3	3		
	CO6	3	2	2	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					

4	Approval	Academic Council Meeting

UNIT I **12**

Introduction to Bioprocess Technology: History and Scope- Bioreactor: Design, parts and accessories, functions- Modes of Operation of fermenter- Batch, fed batch, Continuous, Semi continuous, Perfusion- Types of reactors CSTR, Tower, Jet loop, Airlift, Bubble column, Packed bed- Applications of Bioprocess Technology.

UNIT II **12**

Microbial growth kinetics: Batch and continuous reactors- Immobilized cell systems- Bioreactor instrumentation, control and monitoring variables such as Temperature, agitation,

pressure, pH - On line measurement. On/off control. PID control. Computers in bioprocess control systems. Transport phenomena in bioprocess – Mass transfer and Mass transfer coefficient for gases and liquids.

UNIT III **12**

Isolation and screening of microbes: primary and secondary metabolites, new metabolites- Preservation of microbes- Strain improvement: General, mutation and recombination- Media formulation and sterilization of gases and nutrient solutions- Inocula preparation – Immobilized cells- Enzyme co-immobilization

UNIT IV **12**

Downstream processing- Cell disruption: Mechanical and non-mechanical methods - Recovery and purification of products: Separation of insoluble products-filtration – Micro to Nano filtration, centrifugation, flocculation and coagulation-Separation of soluble products-liquid-liquid extraction, precipitation, adsorption, dialysis, reverse osmosis, chromatography-purification-crystallization and drying

UNIT V **12**

Industrial Bioprocesses: Anaerobic processes-ethanol, lactic acid production- Aerobic processes-Citric acid, yeast, penicillin- Organic acid (acetic acid)- antibiotics(Streptomycin)-malt beverages-enzymes (Amylase and protease), vitamins, biopolymers, biofertilizers, biopesticides, recombinant products-insulin and hepatitis B – Waste water management

TEXT BOOKS:

1. Shuler M. L. and Kargi, F,Bioprocess engineering: Basic concepts, 2nd ed,Prentice Hall Upper Saddle River, NJ,2002.
2. Okafor N, Modern Industrial Microbiology and Biotecchnology, Science Publishers,USA,2007.

REFERENCE BOOKS:

1. Mansi EMT,Bryce CFA,Dahhou B,Sanchez S,Demain AL and Allman AR,Fermentation Microbiology and Biotechnology,CRC press,Taylor & Francis group,New York,2012.
2. Stanbury PF,Whitaker A and Hall SJ,Principles of Fermentation technology, 3rded, Joe Hayton,Elseiver Ltd,2017.

Course Coordinator **HOD**

U18NCBS403	**GENETIC ENGINEERING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr.V.Padmapriya & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with basics of genetic engineering. Learners will understand the construction of cDNA libraries & applications of rDNA technology in plants, animals and industries

COURSE OUTCOMES (COs)

CO1	Recall the basic genetic engineering experiments
CO2	Recognize the tools and techniques of genetic engineering
CO3	Apply and acquire knowledge of advances in biotechnology healthcare, agriculture and environment cleanup
CO4	Analyze the recombinant products that are produced by microbes
CO5	Evaluate the applications of rDNA technology in plants, animals and industries
CO6	Create the new technologies in genetic engineering field

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	3	2	2	3	3		
	CO2	3	2	2	2	2	3	3		
	CO3	3	2	2	1	3	3	3		
	CO4	3	1	2	1	2	2	3		
	CO5	2	1	2	2	2	3	3		
	CO6	3	1	2	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Introduction to Genetic engineering; Role of genes within cells- method of creating recombinant DNA molecules.-Role of vectors plasmid, cosmid, BAC, YAC etc.-Restriction enzymes and mapping of DNA-Role of Transposons in genetic engineering-Safety guidelines of creating recombinant DNA research.

UNIT II **12**

Characterization of recombinant clones by Southern, Northern, Western and PCR analysis.

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Construction of genomic and cDNA libraries, methods of nucleic acid sequencing, factors involved in expression of cloned genes.

UNIT III **12**

Method of gene transfer to plants- agrobacterium mediated / chemical mediated, Biolistics. Transgenic plants- Ri and Ti plasmids, Screening of recombinants, Biopharmaceuticals, Single cell proteins.

UNIT IV **12**

Animal cloning, Ethical aspects of animal cloning,-Transgenic animals- sheep, goat, cattle, fish etc- Methods of gene transfer to animals-embryo transfer.

UNIT V **12**

Health care: Vaccines, hormones, antibiotics & pharmaceuticals- Industrial enzymes and agriculture.

TEXT BOOKS:

1. Brown TA,Gene cloning-and introduction,VNR (U.K) Co Ltd. 2000.
2. Slater A, Scott NW and Fowler MR, Plant Biotechnology: an Introduction to Genetic Engineering. Oxford: Oxford University Press, 2008.

REFERENCE BOOKS:

1. Setlow JK, Genetic engineering: Principles and methods, Springer. 2004.
2. Fridal R, Genetic engineering, Lerner publications. 2006.

Course Coordinator **HOD**

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COURSE OUTCOMES (COs)

CO1	எழுத்துக்கள் மூலம் சொற்கள் அமைப்பதைப் பற்றி அறிவர்
CO2	சொற்கள் மூலம் வாக்கியம் அமைப்பதைப் பற்றி அறிவர்
CO3	எழுத்துக்களை இணைத்தல், சரியான சொற்களால் வாக்கியம் அமைப்பதைப் பற்றி அறிவர்
CO4	வினாவுக்குரிய விடையளித்தல் பற்றி அறிவர்
CO5	தன் விவரப்பட்டியல் தயாரிப்பது பற்றி அறிவர்
CO6	□□□□□□□□□□□□ □□□□□□□□□□□□□ □□□□□ □□□□ □□□□□□□□ □□□□□□□□ □□□□□□□

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	1	1	1	1	2		
	CO2	1	3	1	1	1	1	2		
	CO3	1	3	1	1	1	1	2		
	CO4	1	3	1	1	1	1	2		
	CO5	1	3	1	1	1	1	2		
	CO6	1	3	1	1	1	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
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Course Coordinator **HOD**

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COURSE OUTCOMES (COs)	
CO1	நாட்டுப்புறப் பாடல்கள் பற்றி அறியச் செய்தல்
CO2	விடுகதைகள் பற்றி அறியச் செய்தல்
CO3	நம்பிக்கைகள் பற்றி அறியச் செய்தல்
CO4	சமய வழிபாடுகள் பற்றி அறியச் செய்தல்
CO5	பழமொழிகள் பற்றி அறியச் செய்தல்
CO6	□□□□□□□□□□□ □□□□□□□□□□ □□□□□ □□□□□□ □□□□□□□

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	2	3	1	3	1	2		
	CO2	1	2	3	1	3	1	2		
	CO3	1	2	3	1	2	1	2		
	CO4	1	2	3	1	3	1	2		
	CO5	1	2	3	1	2	1	2		
	CO6	1	2	3	1	2	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
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Course Coordinator **HOD**

U18MCBS4L1	**MOLECULAR BIOLOGY AND GENETIC ENGINEERING LAB**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr.V.Padmapriya & Biotechnology				
COURSE OBJECTIVES:- Learners will be familiar with molecular biology. Learners will understand the genetic engineering					

techniques.

COURSE OUTCOMES (COs)

CO1	Perform the isolation of DNA and plasmids on different electrophoresis
CO2	Handle and operate the transformation techniques
CO3	Fixes the staining procedure for DNA and proteins.
CO4	Manipulate data structures and algorithms
CO5	Sketches real time application using a suitable data structure

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	1	1	1	1	3	3		
	CO2	3	1	1	2	2	3	3		
	CO3	3	2	3	1	3	2	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	2	3		
	CO6	3	1	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

1. Isolation and visualization of plasmids on agarose gels
2. Restriction mapping
3. Ligation
4. Transformation, Screening for recombinants
5. Chemical and transposon mutagenesis
6. Selection of hyper producers of secondary metabolite

7. Characterization of medium components
8. Characterization of secondary metabolites by polyacrylamide gel electrophoresis, silver
9. Staining of protein on gels.
10. HPLC.

TEXT BOOKS:

1. Ansubel FM, Brent R, Kingston RE, Moore DD, Current Protocols I Molecular Biology,Greene Publishing Associates, NY, 1988.
2. Old RW, Primrose SB, Principles of Gene Manipulation, An Introduction To Genetic Engineering, Blackwell Science Publications, 1993.

REFERENCE BOOKS:

1. Friefelder, David and George M. Malacinski, Essentials of Molecular Biology, 2nd Edition, Panima Publishing, 1993.
2. Bailey, James E. and David F. Ollis,Biochemical Engineering Fundamentals, 2nd Edition. McGraw Hill, 1986.

Course Coordinator **HOD**

U18MCBS501	**IMMUNOLOGY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with human immune system. Learners will understand the types of immunity and immune cells, allergic reactions, transplantation, auto immunity and applications of diagnostic tests.

COURSE OUTCOMES (COs)

CO1	Recall the different types of immunity.
CO2	Recognize the immunoglobulin structures and diversity of antibodies, morphology and functions.
CO3	Apply antigen antibody reaction and tests for diagnosing the diseases.
CO4	Analyze the role of B Lymphocytes and T Lymphocytes in humans.
CO5	Evaluate the importance of graft rejection process.
CO6	Create a real time application of drugs in targeting tumour antigens.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PS O2
2	CO1	3	3	2	1	2	1	3		
	CO2	3	2	2	1	2	2	3		
	CO3	3	2	1	2	3	1	3		
	CO4	3	1	1	2	2	2	3		
	CO5	3	1	1	2	3	2	3		
	CO6	3	1	2	2	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					

4	Approval	Academic Council Meeting

UNIT I **12**

Introduction, Immunity, antigens &their classification, complement and their biological functions, types of immune responses, anatomy of immune response.

UNIT II **12**

B-lymphocytes and their maturation, activation &differentiation, structure and function of immunoglobulin, immunoglobulin classes, antibody production, mono-clonal antibodies and diagnosis major histocompatibility complex.

UNIT III **12**

T -Lymphocytes their classification, maturation, activation & differentiation, antigen presenting, cells (APC), macrophages, langerhans cells, their origin and function, mechanisms of phagocytosis, Cytokines and their role in immune response, immunosuppression, immune tolerance.

UNIT IV **12**

Principle and application: Precipitation- Immuno diffusion & Widal test, Agglutination reactions, Radio immune assay, ELISA, Complement fixation test, Immuno fluorescence technique, Immuno electrophoresis -Hypersensitivity reactions.

UNIT V **12**

Graft rejection, evidence and mechanisms of graft rejection, prevention of graft rejection-immunosuppressive drugs, mechanisms of immunity to tumour antigens. Auto antibodies in humans, pathogenic mechanisms -autoimmune diseases- treatment of auto immune disorders.

TEXT BOOKS:

1. Daniel P Stites, John D Stobo, Hugh H, Fudenberg and Vivian J. Wells Basic and Clinical Immunology: Edited, Lange Medical Publication, U.S.A., 1994.
2. Tizard. Introduction to Immunology, Saunders College Publication, 3rd ed., 1992.

REFERENCE BOOKS:

1. Ivan, Roit M, Jonathan, Brostof and David Male. Immunology 5th Edition., Churchil Livingstone Publishers, 1998.
2. Abbas. Basic Immunology, W.B. Saunders Company, 2nd ed., 2009.

Course Coordinator **HOD**

U18MCBS502	**MOLECULAR GENETICS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with genetics at molecular level. Learners will understand the types of gene transfer mechanisms, replication and synthesis process.

COURSE OUTCOMES (COs)

CO1	Recall about DNA structure, types and mutation.
CO2	Recognize the basic concept of Genomics and Proteomics.
CO3	Apply the analysis and characterization related technologies with omics.
CO4	Analyze the role of DNA and RNA as a genetic material.
CO5	Evaluate the importance of plasmids and their applications.
CO6	Create and design the artificial plasmids, its transfers and insertion sequences.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	2	3		
	CO2	2	2	2	2	3	1	3		
	CO3	3	2	2	1	3	2	3		
	CO4	3	2	2	1	3	2	3		
	CO5	3	2	1	1	2	1	3		
	CO6	3	1	1	2	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Gene as a unit of mutation and recombination - DNA as a genetic material - different types; RNA as a genetic material - different types-genetic code; Mutation - molecular nature - physical and chemical mutagens and its applications.

UNIT II **12**

DNA replication - prokaryotic and eukaryotic DNA replication - Mechanisms of DNA replication - Enzymes and accessory proteins involved in DNA replication - Bacterial genetic system - transformation, conjugation and transduction.

UNIT III **12**

DNA damage - mechanism of repair - excision repair, recombination repair, promoter, operator, terminator and attenuator - SOS, and adaptive responses and their regulation - Heat shock response.

UNIT IV **12**

Genomics and Proteomics: structural and functional genomics; proteomics -definition - analysis and characterization - related technologies, and interrelations with genomics.

UNIT V **12**

Discovery of types and structure of plasmids - artificial plasmid transfer and their applications - Insertion sequence in prokaryotes - Transposable elements - discovery and characterization.

TEXT BOOKS:

1. Watson JD. The Molecular Biology of the Gene, Benjamin Cummings, 1987.
2. Darnell J, Lodish H and Baltimore D. Molecular Cell Biology, 2nd Edition, Scientific American Books, New York, 1990.

REFERENCE BOOKS:

1. Kumar HDK. Molecular Biology, Vikas Publishing House Private Ltd, 1994.
2. Alberts Szent- Gyorgyi. Introduction to Sub Molecular Biology, Academic Press, 1960.

Course Coordinator **HOD**

U18NCBS503	**PLANT AND ANIMAL BIOTECHNOLOGY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with plant and animal genetic engineering. Learners will understand the plant tissue culture, genome organization, animal cell culture techniques and their applications in medicine.

COURSE OUTCOMES (COs)

CO1	Recall the genome organization in plants and animals.
CO2	Recognize the concept of tissue and cell culture techniques.
CO3	Apply the different gene transfer methods in plants and animals.
CO4	Analyze the role of molecular biology in plant and animal genetic engineering.
CO5	Evaluate the importance of stem cells and bioreactors.
CO6	Create and develop the techniques related to assisted reproduction.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	2	1	3		
	CO2	2	1	1	1	2	1	3		
	CO3	3	2	1	1	2	1	3		
	CO4	3	2	1	1	2	1	3		
	CO5	3	2	2	1	2	2	3		
	CO6	3	2	1	1	2	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Plant genomic organization – nuclear, organelle genomes – mitochondria and chloroplast – inheritance pattern. Arabidopsis thaliana – a model plant for genome analysis – Genomic studies in rice and maize.

UNIT II **12**

Plant tissue culture – basic of plant tissue culture, plant hormones – their role in development of plant – micropropagation - callus induction, organogenesis, embryogenesis, somatic

embryogenesis, somaclonal variation, artificial seeds and embryo rescue, plant cell suspension culture - secondary metabolites production and uses.

UNIT III **12**

Plant genetic engineering – gene transfer methods – plant cloning vectors, Agrobacterium technology, Nitrogen fixation – Molecular biology, Applications of plant biotechnology- Techniques in crop improvement, molecular breeding, commercialization of plant biotechnology, plant pharmaceuticals, Plant cell bioreactors – Bt cotton, Bt corn, Golden rice, Genetic Use Restriction Technology – terminator seeds.

UNIT IV **12**

Animal cell culture – basis, materials and methods - animal cell lines, biology of cultured cells – types of culture - Organ culture – Stem cells - basics of stem cells – ASC, ESC – applications – transplantation. Pharmaceuticals from animal systems – humanized pharmaceuticals. Animal cell bioreactors, Animal systems as bioreactors.

UNIT V **12**

Animal genomes – Animal breeding and molecular farming. Animal transgenesis - methods and applications. Assisted reproduction techniques – Artificial insemination, *in vitro* fertilization and embryo implantation, germplasm preservation, methods of cryopreservation. Animal cloning – case studies, Applications of animal biotechnology in medicine - Prenatal diagnosis and gene therapy.

TEXT BOOKS:

1. Ignacimuthu S. Plant Biotechnology, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi, 1996.
2. Nigel Jenkins. Animal cell Biotechnology: Methods and Protocols – (Ed), Humana Press, New Jersey, 1999.

REFERENCE BOOKS:

1. Grierson and Covey SN. Plant Molecular Biology, Blackie, 1988.
2. Ignacimuthu S. Applied Plant Biotechnology, Tata McGraw - Hill, 1996.

Course Coordinator **HOD**

U18MCBS5L1	**IMMUNOLOGY LAB**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with immunological techniques. Learners will understand the different diagnostic tests that are used in identifying the diseases.

COURSE OUTCOMES (COs)

CO1	Perform the complicated diagnostic tests.
CO2	Handle and operate the sophisticated instruments and equipments.
CO3	Calibrate the equipments according to the diagnostic test objectives.
CO4	Manipulate the obtained values with reference range values.
CO5	Sketches and write the interpretation and inferences.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	2	3	2	3		
	CO2	3	3	2	1	3	2	2		
	CO3	3	2	2	2	2	2	3		
	CO4	2	2	1	1	2	1	2		
	CO5	3	3	2	1	2	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

1. Immunodiffusion, Radial immunodiffusion, Immunoelectrophoresis.
2. Testing for typhoid antigens by Widal test.
3. Enzyme Linked Immuno Sorbent Assay (ELISA).
4. Isolation of peripheral blood mononuclear cells.
5. Separation of lymphocytes (lymphoprep/Ficol hypoprep).

6. T & B lymphocytes differentiation-Con- A induced proliferation of thymocytes (by MTT method).

7. Immunoglobulin preparation-Use of sephadex columns for separation of immunoglobulins- development of conjugates.

8. Lymphoid organs and their microscopic organization.

9. Purification of lgG from serum: Western-blotting-Cell hybridization.

10. Hybridoma technology and monoclonal antibody production, Western blotting.

TEXT BOOKS:

1. William Paul. Fundamentals of Immunology, (Lippincott Williams & Wilkins), 1999.

2. Ashim K Chakravarthy. Immunology, Tata Mc Graw - Hill, 1998.

REFERENCE BOOKS:

1. Kuby J. Immunology, WH Freeman and Co., 2000.

2. Roitt and Ivan. Essential Immunology, 9th ed., Blackwell Scientific, 1997.

Course Coordinator **HOD**

U18MCBS5L2	**BIOPROCESS LAB**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with various bioprocess techniques. Learners will understand the different methods used in the production of many beneficial fermented products.

COURSE OUTCOMES (COs)

CO1	Constructs the fermentor for downstream process in both small scale and large scale production.
CO2	Calibrates the machineries in order to obtain the beneficial products effectively.
CO3	Organizes and perform the production method sequentially.
CO4	Operates the fermentor and other related instruments professionally.
CO5	Fastens the skills in developing the fermented products.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	1	2	1	3		
	CO2	3	2	1	1	2	1	2		
	CO3	3	2	1	1	2	1	3		
	CO4	2	2	2	1	2	1	2		
	CO5	3	3	2	2	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

1. Growth kinetics
2. Effect of pH and temperature on enzyme kinetics
3. Media formulation for a industrial important microbe
4. Optimization of culture conditions for amylase production
5. Downstream process – purification of any one protein / enzyme from fermented broth using chromatography
6. Cell/Enzyme immobilization

7. Production of cheese/yoghurt
8. Bread making
9. Production of wine
10. Production of citric acid
11. Mushroom cultivation
12. Colourant production – *Serratia*
13. Flavorant production
14. Identification of food pathogens
15. Qualitative analysis of any one industrial effluent
16. Adsorption kinetic studies in any one metal removal process
17. Vermicomposting
18. Demonstration of any one pesticide degradation process

TEXT BOOKS:

1. Michael L Shuler and Fikret Kargi. Bioprocess Engineering Basic concepts, Prentice Hall, 1992.
2. Neway JO. Bioprocess Technology Fermentation Process Development of Industrial Organisms, T & F Publisher,1989.

REFERENCE BOOKS:

1. Jackson AT. Bioprocess Engineering in Biotechnology, Prentice Hall Engelwood Cliffs, 1991.
2. Shuler ML and Kargi F. Bioprocess Engineering: Basic concepts, 2nd Edition, Prentice Hall, Engelwood Cliffs, 2002.

Course Coordinator **HOD**

U18MCBS601	**ENVIRONMENTAL BIOTECHNOLOGY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				

	Course Coordinator Name & Department:- Dr. J. Senthil & Biotechnology

COURSE OBJECTIVES:-

Learners will be familiar with bioremediation systems. Learners will understand the methods of sewage treatment and biofuel production.

COURSE OUTCOMES (COs)

CO1	Recall the ecosystem, pollution, green house effect and ozone depletion.
CO2	Recognize the basic concept of bioremediation.
CO3	Apply different methods for treating sewage water.
CO4	Analyze the standards that to be followed in solid and liquid phase bioremediation.
CO5	Evaluate the importance of microbes in sewage treatment.
CO6	Create and develop the methods for biofuel production.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	1	2	2	3		
	CO2	3	3	2	2	3	2	3		
	CO3	3	2	1	1	2	3	2		
	CO4	3	2	1	1	2	3	3		
	CO5	3	3	2	2	3	3	3		
	CO6	3	2	2	3	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Limiting factors, energy transfer and biogeochemical cycling in ecological systems; Response of microbes, plant and animals to environmental stresses; Concept of ecosystems and ecosystem management, Environmental problems- ozone depletion, green house effect, water, air and soil pollution, land degradation.

UNIT II **12**

Introduction, constraints and priorities of Bioremediation, Biostimulation of Naturally occurring microbial activities, Bioaugmentation, in situ, ex situ, intrinsic & engineered bioremediation.

UNIT III **12**

Solid phase bioremediation - land farming, prepared beds, soil piles, Phytoremediation. Composting, Bioventing & Biosparging; Liquid phase bioremediation - suspended bioreactors, fixed biofilm reactors. Biological method of sewage treatment, WHO standards.

UNIT IV **12**

Mining–heavy metals, Microbial transformation, accumulation and concentration of metals, metal leaching, extraction and future prospects.

UNIT V **12**

Microorganisms and energy requirements of mankind; Production of nonconventional fuels - Methane (Biogas), Hydrogen, Alcohols and algal hydrocarbons, Use of microorganisms in augmentation of petroleum recovery.

TEXT BOOKS:

1. Agarwal SK. Environmental Biotechnology, APH Publishing Corporation, 2001.
2. Martin Alexander. Biodegradation & Bioremediation, Academic Press, 1999.

REFERENCE BOOKS:

1. Stanier RY, Ingram JL, Wheelis ML and Painter RR. General Microbiology, McMillan Publications, 1989.
2. Karrely D, Chakrabarty K and Omen GS. Biotechnology and Biodegradation, Advances in Applied Biotechnology Series, Gulf Publications Co. London, Volume 4, 1989.

Course Coordinator **HOD**

	NANOBIOTECHNOLOGY	**L**	**T**	**P**	**C**
U18MCBS602	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				

	Course Coordinator Name & Department:- Dr. J. Senthil & Biotechnology

COURSE OBJECTIVES:-

Learners will be familiar with biocompatible nanomaterials and biopolymers. Learners will understand the various applications of nanoparticles in bioscience field.

COURSE OUTCOMES (COs)

CO1	Recall the definition, development, cytotoxic studies related to nanomaterials and carbon nanotube.
CO2	Recognize the concept of targeted drug delivery system.
CO3	Apply polymer controlled drug delivery for treatment of cancer and other diseases.
CO4	Analyze the nucleic acid based nanomaterials and biopolymers.
CO5	Evaluate the importance and applications of biomaterials.
CO6	Create, develop and design the biooptical nanoparticles for tumor diagnosis and treatment.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	1	2	1	3		
	CO2	3	3	2	2	3	2	3		
	CO3	2	2	2	1	3	2	3		
	CO4	3	2	2	1	2	1	2		
	CO5	2	2	1	1	2	1	2		
	CO6	3	3	2	2	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Nanotechnology – definition and scope, nanobiotechnology- recent development and applications, Biocompatability and cytotoxicity studies of Nanomaterials, carbon nanotubes, Bioconjugation mediated drug delivery. General medicine is changing into personalized nanomedicine.

UNIT II **12**

Biopolymer- polymer nanofibers - electrospinning method and their biomedical applications, polymer nanocomposite- bone and dental restorations, polymer controlled drug delivery for the treatment of cancer and other diseases. Biodegradable polymer derived from amino acid.

UNIT III **12**

Liposome - liposomes in sensor technology, polymeric Micelles – Production of Lipospheres for Bioactive compound delivery – Melt dispersion technique, Solvent evaporation technique and InVitro drug release - Polymeric biodegradable liposphere for vaccine delivery.

UNIT IV **12**

Nucleic acid engineered nanomateials and their applications. Protein patterning for applications in biomaterials. DNA lipoplexes – Lipofection efficiency In Vitro and In Vivo, Polymer controlled delivery of therapeutic nucleic acid.

UNIT V **12**

PLA and PLGA Based nanoparticulate delivery system. Metal Microbes interaction, Biological metal nanoparticle synthesis and biomedical application – Dendrimers, quantum dots, Biodegradable optical nanoparticles for tumor diagnosis and treatment.

TEXT BOOKS:

1. Niemeyer CM and Mirking CA (Eds.). Nano biotechnology Concepts, Applications and Perspectives, Wiley- VCH, Weinheim, 2004.
2. Edelstein AS and Cammearata RC. Nanomaterials: Synthesis, Properties and Applications, Institute of Physics Publishing, Bristol and Philadelphia, 1996.
3. Jain KK. Nanobiotechnology in Molecular Diagnostics: Current Techniques and Application, Horizon Biosciences, 2006.

REFERENCE BOOKS:

1. Goodsell, D S. 2004. Bionanotechnology: Lessons from Nature, Hoboken, NJ: John Wiley & Sons Inc. Publication.

Course Coordinator **HOD**

	PLANT AND ANIMAL BIOTECHNOLOGY LAB	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	0	0	6	3

U18MCBS6L1	Prerequisite course – Biology at Higher Secondary Education
	Course Coordinator Name & Department:- Dr. J. Senthil & Biotechnology

COURSE OBJECTIVES:-

Learners will be familiar with plant tissue culture methods. Learners will understand the applications of genetic engineering in plant and animal biotechnology.

COURSE OUTCOMES (COs)

CO1	Performs the plant tissue culture techniques skillfully.
CO2	Handle the sterilization unit and other sophisticated instruments professionally.
CO3	Organizes and perform the genetic engineering technique sequentially.
CO4	Measures the efficiency of Evan's blue staining in determining the protoplast viability.
CO5	Fastens the skills in developing the protoplast, micropropagation and somatic embryos.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	2	1	3		
	CO2	2	2	1	1	1	2	2		
	CO3	3	3	2	2	3	2	3		
	CO4	3	3	2	1	2	1	2		
	CO5	3	3	2	2	2	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

1. Plant tissue culture: Tissue culture and Sterilization techniques.
2. Callus induction in *Daucus carota*.
3. Micropropagation in Rose.

4. Nodal bud culture in *Hibiscus rosasinensis.*

5. Rooting and hardening of regenerated shoots.

6. Preparation of synthetic seeds using shoot meristems.

7. Isolation and purification of protoplasts from Asparagus leaf mesophyll cells.

8. Determination of protoplast viability using Evan's blue staining.

9. Protoplast culture and regeneration -protoplast fusion using PEG

10. Isolation of plant genomic DNA from cauliflower.

TEXT BOOKS:

1. Butler M. Animal cell culture and technology: The basics, II Edition, Bios Scientific Publishers, 2004.
2. Reinert J and Bajaj YPS. Applied and Fundamental Aspects of Plant Cell, Tissue and Organ culture, Narosa Publishing House, 1997.

REFERENCE BOOKS:

1. Slater A, Scott NW and Fowler MR. Plant Biotechnology: The Genetic Manipulation of Plants, Oxford University Press, 2008.
2. Watson JD, Myers RM, Caudy A and Witkowski JK. Recombinant DNA genes and genomes - A short course, III Edition, Freeman and Co, NY, USA, 2007.

Course Coordinator **HOD**

U18EEBS6P1	**PROJECT (DISSERTATION AND VIVA-VOCE)**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	0	0	20	10
	Prerequisite course – Biology at Higher Secondary Education				

	Course Coordinator Name & Department:- Dr. T.Kalaiyarasu & Biotechnology

COURSE OBJECTIVES:-

To facilitate the students to understand the current scenario in computing technology and present the research report on their findings as per the acceptable format.

COURSE OUTCOMES (COs)

CO1	List out the concept and objectives, nature, types and methods of project.
CO2	Choose the process and steps involved in preparation of project work, research gap
CO3	Practice the research design, and methodology , sampling techniques & sampling design
CO4	Calculate the statistical tools in the project for data analysis
CO5	Measure the major findings, suggestions and conclusion
CO6	Design the model for project report.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	2	3	3	2		
	CO2	2	3	1	3	2	2	3		
	CO3	3	3	3	2	3	3	1		
	CO4	3	2	3	3	1	2	2		
	CO5	3	1	3	1	2	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
										✓
4	Approval	Academic Council Meeting								

MAJOR ELECTIVES

	MAJOR ELECTIVE-I: BIOSTATISTICS	L	T	P	C
	Total Contact Hours – 60	4	0	0	4

U18MEBS011	Prerequisite course – Biology at Higher Secondary Education
	Course Coordinator Name & Department:- Dr. J. Senthil & Biotechnology

COURSE OBJECTIVES:-

Learners will be familiar with statistical methods that are used in the research field. Learners will understand the different statistical tools, data collection methods and hypothesis.

COURSE OUTCOMES (COs)

CO1	Recall the measures of central tendency (Mean, Median and Mode).
CO2	Recognize the concept of data collection and its types.
CO3	Apply different statistical tools, interference and hypothesis.
CO4	Analyze the correlation and regression analysis.
CO5	Evaluate the importance of student 't' test and chi square test.
CO6	Create an overall understanding of biostatistics in bioscience research.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PS O2
2	CO1	2	2	2	1	2	1	3		
	CO2	3	2	1	1	1	2	3		
	CO3	3	3	2	2	3	2	3		
	CO4	3	3	1	1	2	1	3		
	CO5	3	3	2	2	3	1	2		
	CO6	3	2	1	1	2	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Biostatistics-definition –statistical methods-basic principles, kinds of biological data, functions of statistics and limitations of statistics.

UNIT II **12**

Collection of data primary and secondary-types and methods of data collection procedures-merits and demerits. Classification –tabulations and presentations of data-sampling methods, graphic-bar diagrams, pie diagrams and curves.

UNIT III **12**

Measures of central tendency-mean, median, mode, geometric mean-merits and demerits. Measures of dispersion-range, standard deviation, mean deviation, quartile deviation-merits and demerits-Coefficient of variations.

UNIT IV **12**

Correlation –types and methods of correlation, regression, simple regression equation, fitting prediction, similarities and dissimilarities of correlation and regression.

UNIT V **12**

Statistical Interference-hypothesis-simple hypothesis - students 't' test - chi square test.

TEXT BOOKS:

1. Edmondson A and Druce D. Advanced Biology Statistics, Oxford University Press, 1996.
2. B Rosner. Fundamentals of Biostatistics, 5th Ed., Duxbury Thomson Learning, 2000.

REFERENCE BOOKS:

1. Danniel WW. Biostatistics, New York, John Wiley Sons, 1987.
2. Sunderrao PSS and Richards J. An Introduction to Biostatistics, 3rd edition, Christian Medical College, Vellore, 2003.

Course Coordinator **HOD**

U18MEBS012	**MAJOR ELECTIVE-I: MICROBIAL BIOTECHNOLOGY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	4	0	0	4

	Prerequisite course – Biology at Higher Secondary Education
	Course Coordinator Name & Department:- Dr. J. Senthil & Biotechnology

COURSE OBJECTIVES:-

Learners will be familiar with role and application of microbes in the biotechnology field. Learners will understand the microbial production of different products.

COURSE OUTCOMES (COs)

CO1	Recall the microbial collection/isolation methods.
CO2	Recognize the concept of different methods of microbial cultivation.
CO3	Apply different methods to preserve and maintain microbial culture.
CO4	Analyze the potentiality of algae, microalgae and bacteria.
CO5	Evaluate the importance of genetically engineered microbial products.
CO6	Create and design the formulation for the microbial production of dye, antibiotics, enzymes, insecticides and transgenic plants and transgenic animals.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	1	3	2	3		
	CO2	2	2	1	1	2	1	2		
	CO3	3	2	2	1	2	1	3		
	CO4	3	3	1	2	2	1	3		
	CO5	3	2	1	1	2	1	3		
	CO6	3	3	1	1	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Definition-concept- History of microbial biotechnology potentials of microbes as factories for the production of novel compounds and their overproduction - Isolation and selection of industrially important microorganism, Preservation and maintenance of microbial culture.

UNIT II **12**

History of biotechnology-potential of microalgae - food-feed-colorant and pharmaceutical valuable compounds, cultivation methods of algae with reference to phormidium, dunaliella and valderiamum, production of microbial biotechnology VAM.

UNIT III **12**

Microbial production of dye, Antibiotics, synthetic novel antibiotics, Biopolymers, Restriction endonuclease, Xantangum, lactic acid, lipase, riboflavin and PHA. production of alcohol, Streptomycin.

UNIT IV **12**

Production of plant growth promoting bacteria (PRPR)-Genetic engineering of nitrogenase gene, cluster, hydrogenase and nodulation, biocontrol of pathogens, siderophores, antibiotics and enzymes-Ice nucleation and anti freeze proteins, microbial herbicides.

UNIT V **12**

Microbial insecticides (Pseudomonas and Bacillus thuringiensis) genetic engineering BT strain - BT cotton- viral insecticides - endopathogenic - Ti plasmid derived vector systems - Development of insect, virus and herbicide resistant plant, Transgenic animals.

TEXT BOOKS:

1. Balasubramanian D, Bryce CFA and Dharmalingam K. Concept of Biotechnology, University Press, India, 1996.
2. Glazer AN and Nikaido H. Microbial Biotechnology - Fundamentals of Applied Microbiology, WH freeman and Company, New York, 1994.

REFERENCE BOOKS:

1. Alan T Bull. Microbial diversity and Bioprocessing, ASM, Washington DC, 2004.
2. Old RW and Primose SB. Principles of gene manipulation - Introduction to Genetic Engineering, 5th edition, Blackwell Scientific Publication, London, 2001.

Course Coordinator **HOD**

	MAJOR ELECTIVE-I: HUMAN PHYSIOLOGY	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	4	0	0	4

U18MEBS013	Prerequisite course – Biology at Higher Secondary Education
	Course Coordinator Name & Department:- Dr. J. Senthil & Biotechnology

COURSE OBJECTIVES:-

Learners will be familiar with overall organ systems of human body. Learners will understand the complex mechanisms behind these systems.

COURSE OUTCOMES (COs)

CO1	Recall the basic knowledge on the overall systems in human body.
CO2	Recognize the principle and mechanisms of each system.
CO3	Apply different diagnostic tests to study the disease and its occurrence.
CO4	Analyze the structure and functions of different organ systems.
CO5	Evaluate the importance of fluid regulation and acid base balance.
CO6	Create, develop and design the diagnostic tests and kits to identify the abnormalities.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	2	1	3		
	CO2	3	3	2	1	2	1	3		
	CO3	3	2	2	1	2	3	3		
	CO4	3	2	1	1	2	2	3		
	CO5	3	2	1	2	2	1	3		
	CO6	3	3	2	1	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Introduction to sensory organs: Functions of eye, ear, nose, tongue and skin. Part and functions of skin. Muscle-types and mechanism of contraction.

UNIT II **12**

Composition and functions of blood, lymph and CSF. Development and functions of red and white blood cells and platelets. Blood coagulation, structure and functions of heart. Cardiac cycle, ECG, blood pressure, cardiac output, spleen and lymphoid cells. Structure and functions of lungs and mechanism of respirations.

UNIT III **12**

Structure and functions of digestive system: Stomach, Liver, Pancreas, gall bladder and intestine. Digestion, Absorption and excretion.

UNIT IV **12**

Structure and functions of central nervous system, brain, spinal cord, nerves and neurons. Transmission of nerve impulses and neurotransmitters. Introduction to endocrine system.

UNIT V **12**

Structure and function of reproductive system. Physiology of pregnancy, parturition and lactation. Structure and functions of excretory system-kidney. Formation and composition of urine, GFR. Renal regulation of fluid and acid base balance.

TEXT BOOKS:

1. Clenister T and Jean Rosy. Anatomy and Physiology for Nurses, 2nd Edition, William Hernmarni Medical BK. Ltd., 1974.
2. Singh HD, Kutty KM and Subrahamanyam S. A Textbook of Human Physiology, S Chand Publishing, 1985.

REFERENCE BOOKS:

1. Robert Carola, John P Harley and Charles R Noback. Human Anatomy and Physiology, McGraw-Hill Education (ISE Editions), New Ed edition, 1990.
2. Gerard J Tortora. Principles Anatomy and Physiology, Addison-Wesley Educational Publishers, 6th edition, 1990.

Course Coordinator **HOD**

	MAJOR ELECTIVE-II: MEDICAL BIOTECHNOLOGY	**L**	**T**	**P**	**C**

U18MEBS021	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with diagnostic methods and pathogenic mutations. Learners will understand the various applications of biotechnology in medical field.

COURSE OUTCOMES (COs)

CO1	Recall the animal cell culture methods, cell lines and organ culture.
CO2	Recognize the concept of apoptosis and cloning.
CO3	Apply the diagnostic methods using protein and enzyme markers.
CO4	Analyze the role of different types of vaccines.
CO5	Evaluate the importance of hybridoma technology and gene therapy.
CO6	Create and design the nanomedicines which play a major role in modern medicine.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	2	3		
	CO2	2	2	1	1	2	1	2		
	CO3	3	2	2	2	2	1	2		
	CO4	3	2	1	1	3	2	3		
	CO5	3	3	2	2	3	3	3		
	CO6	3	3	3	3	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Manipulation of assisted reproductive technology- artificial insemination and storage-isolation and in vitro maturation of Oocytes- IVF- Embryo transfer technique- Pregnancy

diagnosis - Animal cell culture-media, maintenance and culture of primary, secondary and continuous cell lines- organ culture- applications- cancer cell lines- apoptosis.

UNIT II **12**

Chromosomal disorders – Gene controlled diseases –Identification of disease genes- Functional cloning (Haemophilia) – Positional cloning (DMD) – Candidate gene approach (Alzheimer's) – Molecular basis of human diseases: Pathogenic mutations (Gain of function mutations: Oncogenes-Loss of function - Tumour Suppressor Genes- Immunopathology: Hepatitis, Autoimmune Disorders).

UNIT III **12**

Prenatal diagnosis - Invasive techniques and Non-invasive techniques – Diagnosis of pathogenic microbes: Classical and modern methods- Diagnosis using protein and enzyme markers, monoclonal antibodies.DNA/RNA based diagnosis- Molecular markers- Microarray technology- genomic and cDNA arrays.

UNIT IV **12**

Vaccines-conventional, recombinant, synthetic peptide, anti-idiotype, DNA vaccines- Deletion mutant and vaccinia vector vaccine- Prophylaxis - Antibiotics-mode of action- antibacterial, antifungal, antiviral, antitumor antibiotics- synthetic chemotherapeutic agents- development of microbial resistance to antibiotics.

UNIT V **12**

Hybridoma technique for Monoclonal Ab production and applications- Gene therapy: Exvivo, Invivo, Insitu- Cell and tissue engineering- Stem cell therapy- Nanomedicines- Gene products in medicine – Humulin, Erythropoietin, Growth Hormone/Somatostatin, tPA, Interferon.

TEXT BOOKS:

1. Jogdand SN. Medical Biotechnology, Himalaya Publishing House, Mumbai, 2000.
2. Nallari P and Rao VV. Medical Biotechnology, Oxford University Press, 2003.

REFERENCE BOOKS:

1. Click BR and Pasternak. Molecular Biotechnology: Principle and applications of recombinant DNA, ASM Press, 2002.
2. Ramasamy P. Trends in Biotechnology, University of Madras, Pearl Press, 2002.

Course Coordinator **HOD**

	MAJOR ELECTIVE-II: MOLECULAR AND DIAGNOSTIC TECHNIQUES	**L**	**T**	**P**	**C**

U18MEBS022	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with molecular techniques for diagnosis. Learners will understand the various diagnostic tools and biochemical tests related to medical field.

COURSE OUTCOMES (COs)

CO1	Recall the inherited diseases and types of infectious diseases.
CO2	Recognize the sample collection methods.
CO3	Apply the molecular techniques for diagnosis.
CO4	Analyze the role of biochemical tests for detection of sugars, urea, protein and vitamin.
CO5	Evaluate the importance of Polymerase Chain Reaction and Immunoassays.
CO6	Create and design the primers for PCR tests and clear understanding on hybridization technique.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PS O2
2	CO1	3	2	1	1	2	1	3		
	CO2	3	2	2	2	3	2	3		
	CO3	3	3	2	2	3	3	3		
	CO4	2	2	1	1	2	2	2		
	CO5	3	3	2	2	3	2	3		
	CO6	3	3	2	3	2	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Introduction and History of diagnostics, Genetic basis of diseases, Inherited diseases. Infections - mode of transmission in infections, Types of infectious diseases - bacterial, viral, fungal, protozoan and other parasites. Sample collection - method of collection, transport and processing of samples, interpretation of results.

UNIT II **12**

Traditional disease diagnosis methods and tools - Diagnosis of infectious diseases caused by bacteria (Streptococcus, Vibrio), fungal (Dermatophytosis), viruses (Pox, Adenoviruses, Hepatitis viruses), protozoa (Amoebiasis, Malaria) and Helminthes (Filariasis, Ascaris lumbricoides).

UNIT III **12**

Molecular Techniques for diagnosis - PCR, RFLP, ELISA. Disease identification and Genetic tests of disorders (Thalassemia, Sickle cell anaemia, Alzheimer's disease), Cardio vascular disorder and Male infertility, Ultrasonography, Foetal Blood Sampling (FBS).

UNIT IV **12**

Biochemical tests for detection and quantification of sugar, albumin, urea, protein, globulin and vitamin. Endocrine disorders related to Thyroid and Reproduction (TSH, T3, T4, Estradiol, testosterone, LH, FSH).

UNIT V **12**

Methods and types of PCR and its applications, RT PCR, Real time PCR, Inverse, Multiplex and Nested PCR. Southern and Northern Hybridization and Western Blot. Immunoassays Types [RIA, ELISA] and specific applications; Immunohistochemistry – principle and techniques. Different Levels of Biosafety, Containment.

TEXT BOOKS:

1. Wegner RD. Diagnostic Cytogenetics, Springer Science & Business Media, 2003.
2. Carl A Burtis, Edward R Ashwood and David E Bruns (eds). Tietz Textbook of Clinical Chemistry and Molecular Diagnosis (5th edition), Elsevier, 2007.

REFERENCE BOOKS:

1. McPherson RA and Pincus MR. Henry's Clinical Diagnosis and Management by Laboratory Methods E-Book, Elsevier Health Sciences, 2007.
2. Coleman WB and Tsongalis GJ (Eds.). Molecular diagnostics: for the clinical laboratorian, Springer Science & Business Media, 2006.

Course Coordinator **HOD**

	MAJOR ELECTIVE-II: BIOSAFETY, BIOETHICS	**L**	**T**	**P**	**C**

	AND IPR				
U18MEBS023	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Biotechnology				

COURSE OBJECTIVES:-

Learners will be familiar with biosafety measures. Learners will understand the bioethics, methods and applications of patents.

COURSE OUTCOMES (COs)

CO1	Recall the biosafety measures that are followed in biological field.
CO2	Recognize the biosafety levels of infectious agents and infected animals.
CO3	Apply the government implemented biosafety guidelines in bioresearch field.
CO4	Analyze the bioethical concerns and decision making.
CO5	Evaluate the importance of patents and its legal implications.
CO6	Create an understanding of patent law legal development.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	2	1	1	2	1	2		
	CO2	3	3	2	2	3	2	3		
	CO3	2	2	1	2	2	2	3		
	CO4	3	3	2	2	3	2	2		
	CO5	3	3	3	3	3	3	3		
	CO6	3	3	2	2	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Introduction and historical back ground- Introduction to biological safety cabinets-Primary containment for bio hazards.

UNIT II **12**

Bio safety levels of specific microorganisms-Recommended bio safety levels of specific infectious agents and infected animals-Bio safety guidelines by Govt. of India.

UNIT III **12**

Definition of Bioethics-The Legal and social economic impacts of bio technology-Public education of the process of bio technology-Decision making-Ethical concerns of bio tech research and innovation.

UNIT IV **12**

IPR-TRIP-GATT-International conventions patents and methods of application of patents-Legal implications-Bio diversity and farmer rights.

UNIT V **12**

Objective of the patent system-Basic principles and general requirements of patent law-Bio technological inventions and patent law legal development-Patentable subjects and protection in Bio tech-The Patenting living organisms.

TEXT BOOKS:

1. Horne LC. Medical need, Equality and Uncertainty, Bioethics, 2016.
2. Lee K. An overview of graduate educational bioethics programs in the United States, 2016.

REFERENCE BOOKS:

1. Sree Krishna V. Bioethics and Biosafety in Biotechnology, New age international publishers, 2007.
2. Sateesh MK. Bioethics and Biosafety, IK International Pvt. Ltd., 2010.

Course Coordinator **HOD**

SKILL BASED ELECTIVES

U18SEBC001	BUSINESS PROCESS OUTSOURCING - MANAGEMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. J. Saranya & Commerce				

COURSE OBJECTIVES:-

Learners will be familiar with the basic fundamentals of BPO, to impart knowledge on types of BPO and call centers, to enable the students on the concept Health care BPO & Transaction BPO and to peep into the concept of Human Resource BPO and the career opportunities in BPO.

COURSE OUTCOMES (COs)

CO1	Underline the with the basic fundamentals of BPO .
CO2	Discuss the Can develop awareness about Types of BPOs and Call centres.
CO3	Initiate to be aware of the concept of Health care BPOs.
CO4	Identify the aware of the concept of Transaction BPOs.
CO5	Evaluate Develop confidence in Human Resource BPO and career opportunities in BPOs.
CO6	Formulate the Types of Transaction Processing BPO in India.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	1	2	3	1		
	CO2	2	1	3	2	3	3	3		
	CO3	1	3	1	3	3	3	1		
	CO4	3	3	3	1	3	1	3		
	CO5	3	3	3	2	2	1	2		
	CO6	2	1	3	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Business Process Outsourcing – Basics – Benefits of BPO – BPO companies in India.

UNIT II **6**

BPO Industry – Employment Opportunities – types of BPO – Call centers – Types of Call Centers – Issues and Problems.

UNIT III **6**

Health Care - BPO - Structure of foreign Health Care sector – Future Trends and Threats.

UNIT IV **6**

Transaction Processing BPO – Elements of Back Office services – Types of Transaction Processing BPO in India.

UNIT V **6**

Human Resource BPO - Reasons for outsourcing HR – Activities involved in HR BPO – HR outsourcing Trends – Carrier in HR BPO.

TEXT BOOKS:

1. John K Holvey, Borboro Murphy Melby. Business Process Outsourcing, Wiley Publishers, 2007.
2. Sarika Kulkarni. Business Process Outsourcing, Jaico Publishing house, 2005.
3. Rick L Click, Thomas N Duening. Business Process Outsourcing, John Willey & sons, Publisher, 2004.

REFERENCE BOOKS:

1. Deepak Shikapur, BPO DIGEST, Ameya (Inspiring books), 2004.
2. Clifton. System analysis for business data processing, Prentice hall Publications.

Course Coordinator **HOD**

	CUSTOMER RELATIONSHIP MANAGEMENT	**L**	**T**	**P**	**C**

U18SEBC002	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. R. Priya & Commerce				

COURSE OBJECTIVES:-

Learners will be familiar with the basic fundamentals of CRM, to impart knowledge about process and importance of CRM, to enable the students on the concept of technological solutions to CRM and to expose the student on Trends and challenges in CRM.

COURSE OUTCOMES (COs)

CO1	Recognise and familiarize with the basic fundamentals of CRM.
CO2	Demonstrate and develop awareness about process and importance of customer retention.
CO3	Practice to be aware of the concept of technological applications in CRM.
CO4	Correlate to respond to the concept of CRM software solutions for B2C and B2B markets.
CO5	Validate the develop confidence on trends and challenges.
CO6	Design the Customer Databases and Information Systems.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	2	3	3	2	2	2		
	CO2	1	3	3	2	2	2	3		
	CO3	3	2	2	3	3	3	1		
	CO4	3	2	3	2	1	2	3		
	CO5	3	2	2	1	2	1	3		
	CO6	3	3	3	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Customer Relationship Management Introduction - Meaning and Definition - Importance - Benefits and difficulties of CRM.

UNIT II **6**

CRM Process and Implementation Introduction - customer Retention - Customer satisfaction - Importance of customer retention - CRM process for B2B markets.

UNIT III **6**

Technological Support in CRM Introduction - Types of Technological Applications in CRM.

UNIT IV **6**

Customer Databases and Information Systems - CRM Software Solutions for B2C and B2B Markets.

UNIT V **6**

E-CRM – Emerging Trend in CRM Introduction - Challenges involved in formulating and implementing e-CRM strategies.

TEXT BOOKS:

1. Balasubramaniyan K. Essence of customers relationship management, learn tech press.
2. Jagdish N Sheth, Atul Parvatiyar, Shainesh G. Customers relationship management, McGraw Hill Publisher, 2000.
3. Roger J Baran and Robert J Galka. Customers relationship management, Routledge publisher, 2013.

REFERENCE BOOKS:

1. Peeru Mohamed M. Customer relationship management, Vikas publications.
2. Kaushik Mukerjee. Customer relationship management PHI .

Course Coordinator **HOD**

U18SEBC003	ENTREPRENEURIAL DEVELOPMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. S. Jayanthy & Commerce				

COURSE OBJECTIVES:-

Learners will be familiar with the basic fundamentals of Entrepreneurship, to impart knowledge on Project identification, selection and formulation, to enable the students on the concept of types of organization, to peep into the concept of commercial banks and to enable the students on the concept of women entrepreneurs.

COURSE OUTCOMES (COs)

CO1	Underline the Meaning Of Entrepreneur – Entrepreneur and Intrapreneur
CO2	Explain the Identification – Selection of the Project
CO3	Apply Selection of Types of Organization – Sole Proprietorship- Partnership Joint Stock Company
CO4	Appraise to Institutional finance to entrepreneurs
CO5	Estimate the Factors Influencing The Choice Of Organization
CO6	Develop the Role and Problems of Women Entrepreneurs

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	1	2	3	1		
	CO2	2	1	3	2	3	3	3		
	CO3	1	3	1	3	3	3	1		
	CO4	3	3	3	1	3	1	3		
	CO5	3	3	3	2	2	1	2		
	CO6	2	1	3	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Meaning Of Entrepreneur – Entrepreneur and Intrapreneur – Qualities Of Entrepreneur – Characteristics Of Entrepreneur – Types Of Entrepreneur – Function Of An Entrepreneur.

UNIT II **6**

Project Identification – Selection of the Project – Project Formulation –Preparation Of Project Report.

UNIT III **6**

Selection of Types Of Organization – Sole Proprietorship- Partnership Joint Stock Company – Factors Influencing The Choice Of Organization.

UNIT IV **6**

Institutional finance to entrepreneurs - commercial banks –IDBI, IFCI, ICICI, IRBI, SFC, DICs, SIDC, SIDBI And EXIM Bank

UNIT V **6**

Women Entrepreneurs – Role – Problems of Women Entrepreneurs – Suggestions For Development Of Women Entrepreneurs.

TEXT BOOKS:

1. Gupta CB. Entrepreneurship Development in India, Sultan Chand.
2. Khanka SS. Entrepreneurship Development, S Chand & Co., New Delhi.
3. Gupta CB and Srinivasan NP. Entrepreneurship Development, Sultan Chand & Sons, New Delhi.

REFERENCE BOOKS:

1. Sarvanavel PE. Entrepreneurship Development, Ess Pee Kay Publishing House.
2. Jaswer Singh Saini. Entrepreneurship Development, Deep and Deep Publication, New Delhi.
3. Jayashree Suresh. Entrepreneurship Development, Margham Publication, Chennai.

Course Coordinator **HOD**

U18SEBC004	HUMAN RESOURCE MANAGEMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. R. Velankanni & Commerce				

COURSE OBJECTIVES:-

Learners will be familiar with the importance of HR, impart knowledge and important factors in HR and enable them on the needs and methods of training.

COURSE OUTCOMES (COs)

CO1	Identify the Importance of Human Resource and objectives.
CO2	Describe the Human Resource Planning.
CO3	Practice to Sources of Recruitment - Selection – Steps in Selection.
CO4	Analyze Needs of training – Methods of Training.
CO5	Evaluate the Process and Methods of Performance Appraisal.
CO6	Formulate the Qualities of Personnel Manager.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	3	1	3	1		
	CO2	2	2	1	3	3	1	3		
	CO3	2	2	3	2	3	3	2		
	CO4	3	1	3	1	1	2	3		
	CO5	1	3	2	2	2	3	3		
	CO6	3	2	2	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Definition – Importance of Human Resource – Objectives – Qualities of Personnel Manager.

UNIT II **6**

Human Resource Planning – Importance factors – Steps in HR Planning.

UNIT III **6**

Recruitment – Objectives – Sources of Recruitment - Selection – Steps in Selection.

UNIT IV **6**

Training – Definition – Needs of training – Methods of Training – On the job training – Off the job Training.

UNIT V **6**

Performance Appraisal - Objectives – Process – Methods of Performance Appraisal.

TEXT BOOKS:

1. Prasad LM. Human Resource Management, S Chand & Sons, 2013.
2. Mamoria CB and Gankar SV, Personnel Management, Himalaya Pub., 2012.
3. Sharma AM. Human Resource Management, Himalaya Publishing House, 2005.

REFERENCE BOOKS:

1. Khanka SS. Human Resource Management, S Chand Ltd., 2007.
2. Gary Dessler. Human Resource Management, Prentice Hall, 8th Edition, 2000.

Course Coordinator **HOD**

	MARKETING MANAGEMENT	L	T	P	C
U18SEBC005	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Dr. J. Anudevi & Commerce				

COURSE OBJECTIVES:-

Learners will be familiar with the fundamentals of marketing and its role, to examine the factors influencing buying behavior and enable them to promote advertising and its sales scope.

COURSE OUTCOMES (COs)

CO1	Underline the Fundamentals of Marketing – Role of Marketing .
CO2	Describe the Factors influencing buying behavior
CO3	Interpret the Marketing segmentation – Needs - Types of segmentation
CO4	Analyze to New product development process – Product life cycle
CO5	Revise the Awareness of consumer rights in the market place
CO6	Collect the Advertising – Scope of Advertising

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	3	2	3	1		
	CO2	2	3	3	2	3	3	3		
	CO3	1	3	1	3	2	3	3		
	CO4	3	2	3	1	3	1	2		
	CO5	3	3	2	3	2	1	2		
	CO6	2	1	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Marketing- Definition – Fundamentals of Marketing – Role of Marketing – Relationship of marketing with other functional areas – Marketing Mix.

UNIT II **6**

Buyer Behaviour – Buying motives – Factors influencing buying behavior - Marketing segmentation – Needs - Types of segmentation .

UNIT III **6**

The Product – Characteristics – Benefits – Classifications – New product development process – Product life cycle – Branding – Packaging.

UNIT IV **6**

Physical Distribution - Importance - Various kinds of Marketing Channels – Distribution Problems-Awareness of consumer rights in the market place.

UNIT V **6**

Advertising – Scope of Advertising – Personal selling – Direct selling and Sales Promotions.

TEXT BOOKS:

1. Berkoviz Kerin Hontley Rudelivs. MARKETING, New York, Mcgraw Hill Publications.
2. Gony Armstrong and Philip Kotler. Marketing an Introduction, Pearson Education Asia.
3. Philip Kotler. Marketing Management (Millennium ed.,), Prentice Hall of India (P) Ltd., New Delhi.

REFERENCE BOOKS:

1. Rajan Saxena. Marketing Management, 2nd edition, Tata Mcgraw Hill Publishing Co. Ltd., New Delhi.
2. Ramasamy VS and Namakumari S. Marketing Management, Planning, Implementation & control, Macmillan, New Delhi.

Course Coordinator **HOD**

U18SEBC006	OFFICE MANAGEMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Dr. M. Sankar & Commerce				

COURSE OBJECTIVES:-

Learners will be familiar with the concept and importance of office management, to impart knowledge on features and classification of Communication, to expose handling correspondence and market registers

COURSE OUTCOMES (COs)

CO1	Record the Concept and Importance of Office and Office Management.
CO2	Report the Arrangement and adjustment : Furniture, allotment of seats
CO3	Apply to Handling of correspondence and market registers
CO4	Experiment the preparation and play of manuals and charts
CO5	Select the Office staff – Selection- training - Supervision
CO6	Creates Office Accommodation and Environment

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	3	3	3	1	2	2		
	CO2	1	2	3	2	2	3	3		
	CO3	3	2	2	3	3	1	3		
	CO4	3	1	3	3	1	3	2		
	CO5	3	2	2	1	2	2	1		
	CO6	3	3	1	3	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Introduction – Concept and Importance of Office and Office Management - Office Accommodation and Environment -Reception : Importance, shape and size, control.

UNIT II **6**

Communication: Feature, classification, barriers - Arrangement and adjustment : Furniture, allotment of seats, chambers, cabins rooms etc.

UNIT III **6**

Handling of correspondence and market registers, filling forms and stationery. Office Machines - Kind of office machines.

UNIT IV **6**

Use of machines, installing, handling, maintenance –Manuals and charts- Advantages of office manuals charts - preparation and play of manuals and charts.

UNIT V **6**

Office staff – Selection- training - Supervision - span of supervision

TEXT BOOKS:

1. Ghosh and Agarwal. Office Management, S Chand & Company, New Delhi.
2. Pillai RSN and Bagavathi. Office Management, S Chand & Company, New Delhi, 2013.
3. Dr. Chopra RK and Priyanka Gauri. Office Management, Himalaya Publishing House, 2017.

REFERENCE BOOKS:

1. Sudha GS. General Management, Pustak Prakashan, New Delhi.
2. Rajendra Paul. Modern Communication & Techniques, S Chand & Company, New Delhi.

Course Coordinator **HOD**

	RETAIL MARKETING	L	T	P	C
U18SEBC007	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. J. Saranya & Commerce				

COURSE OBJECTIVES:-

Learners will be familiar with the functions and types of Retailing, to impart knowledge on Retail consumer behavior and its types and to expose the student on promoting sales, public relation and advertising.

COURSE OUTCOMES (COs)

CO1	Underline the Characteristics - Functions of retailing - Types of Retailing
CO2	Express the - Retail Consumer buying behavior and types
CO3	Schedule the Retail Organization Structure
CO4	Categorize to Factors affecting store lay out
CO5	Assess the Sales promotion - Advertising
CO6	Creates the Retail Marketing Mix

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	2	3	3	2	3	2		
	CO2	2	1	3	2	3	3	3		
	CO3	3	3	1	3	3	3	2		
	CO4	3	3	3	3	1	2	2		
	CO5	2	3	2	3	2	2	1		
	CO6	3	2	3	1	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Retailing – Definition – Importance – Characteristics - Functions of retailing - Types of Retailing.

UNIT II **6**

Retail Marketing Mix - Retail Consumer buying behavior and types – Segmentation - Types of segmentation.

UNIT III **6**

Retail Organization Structure-Major Functional Areas-Careers in Retailing.

UNIT IV **6**

Store layout-Types of lay out-Factors affecting store lay out.

UNIT V **6**

Sales promotion - Advertising - Public Relation - Personal selling.

TEXT BOOKS:

1. George E Belch and Michael A Belch. Advertising and Promotion, McGraw Hill Company.
2. Ronald, Karen Whitehill king and Thomas J Russell. Kleppner's Advertising Procedure, Pearson Education International, Prentice Hall.
3. Prashant Chaudhary. Retail Marketing in the Modern Age, First Edition, Saga Publication, 2019.

REFERENCE BOOKS:

1. Gupta. Advertising and Sales Promotion, EPH Publisher.
2. Sarangi. Advertising and Sales Promotion, Asian Books.

Course Coordinator **HOD**

U18SEBC008	SALESMANSHIP AND ADVERTISING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. G. Anandhi & Commerce				

COURSE OBJECTIVES:-

Learners will be familiar with the importance, role, objective of advertising, to impart knowledge on importance of salesmanship and to analyze the types of advertising and its benefits.

COURSE OUTCOMES (COs)

CO1	Repeat the Nature-Objectives and Scope of Advertising.
CO2	Explain the Types of Advertising-Commercial and Non-Commercial Advertising.
CO3	Interpret to Media selection-measuring advertising effectiveness .
CO4	Correlate the training and compensating sales men.
CO5	Judge the Qualities and Responsibilities of sales managers.
CO6	Design the types of sales organization - Sales management job.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PS O2
2	CO1	3	3	2	3	1	3	1		
	CO2	2	2	1	3	3	1	3		
	CO3	2	2	3	2	3	3	2		
	CO4	3	1	3	1	1	2	3		
	CO5	1	3	2	2	2	3	3		
	CO6	3	2	2	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Definition-Importance-Role of Advertising-Nature-Objectives and Scope of Advertising.

UNIT II **6**

Types of Advertising-Commercial and Non-Commercial Advertising-Primary demand and selective demand advertising.

UNIT III **6**

Advertising-benefits and criticism-Media selection-measuring advertising effectiveness.

UNIT IV **6**

Introduction to the salesmanship-Importance of salesmanship-training and compensating sales men

UNIT V **6**

Qualities and Responsibilities of sales managers -Types of sales organization - Sales management job.

TEXT BOOKS:

1. George E Belch and Michael A Belch. Advertsing and Promotion, McGraw Hill Company.
2. Ronald, Karen Whitehill king and Thomas Russell J, Kleppner's Advertising Procedure, Pearson Education International, Prentice Hall.
3. Saravanavel P and SumathiS. Advertising and salesmanshi, Margham publications.

REFERENCE BOOKS:

1. Gupta. Advertising and Sales Promotion, EPH Publisher.
2. Sarangi. Advertising and Sales Promotion, Asian Books.

Course Coordinator **HOD**

U18SEEN001	SOFT SKILLS	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. B. Caroline & English				

COURSE OBJECTIVES:-

Learners will be familiar with the efficient knowledge of important events in through soft skills**.**

COURSE OUTCOMES (COs)

CO1	Remember the personal as well as professionals goals of the students
CO2	Understand the manners during professional meetings
CO3	Apply the right reasons of stress
CO4	Analyze the importance of communication skills
CO5	Evaluate the excellence in both personal and professional life
CO6	Create the Growth & development of soft skills

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	3	3	3	3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	3	3	2	3	2	3		
	CO4	2	2	2	2	2	2	2		
	CO5	2	2	2	2	2	2	2		
	CO6	2	3	3	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Introduction to soft skills, Types of soft skills, Developing positive attitude, forming values and self confidence.

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UNIT II **6**

Developing interpersonal relationship, team building, table manners, organizing meetings, stress and time management.

UNIT III **6**

Types of communication - Art of listening, art of reading, art of writing and art of speaking.

UNIT IV **6**

Presentation skills, developing body language, practicing etiquette, and mannerism, dress for success.

UNIT V **6**

Personal interviews, writing resume/ CV- interviews skills career planning, public speak in motivation skills and personality.

TEXT BOOKS:

1. Danavel SP. English and Communication for Students of Science and Engineering.
2. Murali Krishna Moishra. Communication Skills for Engineers.

REFERENCE BOOKS:

1. John C. Maxwell. Developing the leader within you.
2. Meena K and Ayothi V. A Book on development of soft skills (soft skills: A road map to success), P.R. Publishers & Distributors, 2013. No. B-20 & 21,VMM Complex, Chatiram bus stand, Tiruchirappalli - 2.

Course Coordinator **HOD**

U18SESC001	COMPUTER APPLICATION	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms. N. Mathimagal & BCA				

COURSE OBJECTIVES:-

Learners will be familiar with basic of computer application. Learners will understand the applications of computer & able to know about the operating systems.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in fundamental computer applications
CO2	Understand the concept of input device functions
CO3	Indentify the suitable input devices for application
CO4	Analyze the input and output devices and its processes
CO5	Evaluate data and storage devices for application
CO6	Create an real time application using a system software and application software

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Brief History of Development of Computers, Computer System Concept, Computer System Characteristics, Capabilities and Limitations, Types of Computers-Personal Computer (PCs) - IBM PCs, Types of PCs- Desktop, Laptop, Notebook, Palmtop, etc. Basic Components of a Computer System - Control Unit, ALU, Input/ Output Unit- Memory, Storage Fundamentals - Primary Vs Secondary memory.

UNIT II **6**

Input Devices: Keyboard, Mouse, Joystick, Scanners, Digital Camera, MICR,OCR, OMR, Light pen, Touch Screen.

UNIT III **6**

Output Devices: Monitors - Characteristics and types of monitor, Size, Resolution, Refresh Rate, Dot Pitch, Video Standard - VGA, SVGA, XGA etc. Printers - Daisy wheel, Dot Matrix, Inkjet, Laser. Plotter, Sound Card and Speakers.

UNIT IV **6**

Various Storage Devices - Magnetic Disks, Hard Disk Drives, Floppy, Disks, Optical Disks

UNIT V **6**

Computer Software, Need, Types of Software - System software, Application software System Software - Operating System, Compiler, Assemblers, Interpreter.

TEXT BOOKS:

1. Basandra SK. Computers Today, Galgotia Publications.
2. Alexis Leon and Mathews Leon. Fundamentals of Information Technology, Vikas Publishing House, New Delhi.

REFERENCE BOOKS:

1. Rajeev Mathur. Dos Quick Reference, Galgotia Publications.

Course Coordinator **HOD**

U18SESC002	MULTIMEDIA	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Ms. N. Mathimagal & BCA				

COURSE OBJECTIVES: - To understand the basic multimedia concepts and designing concepts

COURSE OUTCOMES (COs)

CO1	Gain knowledge in basic concepts of multimedia
CO2	Analyze the multimedia application problems.
CO3	Understand the Video capturing, Sound capturing, editing concepts.
CO4	Identify the basic multimedia design principles.
CO5	Evaluate the multimedia system and Design Process.
CO6	Create a real time application using a multimedia concept.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Multimedia Fundamentals: Concept of multimedia, Fundamental criteria for the design of a multimedia presentation, Multimedia Application Goals & Objectives, opportunities in multimedia production.

UNIT II **6**

Role of multimedia-development of team members, avoiding problems in planning a multimedia application

UNIT III **6**

Multimedia Building Blocks: Text, Graphics, Video capturing, Sound capturing, editing

UNIT IV **6**

Basic design principle: proximity, visual hierarchy, Symmetry, Asymmetry, Repetition, unity, Contrast, dynamics, Emphasis, Multimedia Authoring tools.

UNIT V **6**

Design, Development and evaluation of multimedia a system, Development of user interface design, Design Process.

TEXT BOOKS:

1. John Villamil, Casanova and Louis Molina. An introduction to multimedia
2. Mohammad Dastbaz. Designing Interactive Multimedia Systems.

REFERENCE BOOKS:

1. Bohdan O. Szuprowicz. Multimedia Networking.
2. Stephen Mc Gloughlin. Multimedia on the web.

Course Coordinator **HOD**

U18SESC003	ADVANCED EXCEL	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Ms. V.Ramya & BCA				

COURSE OBJECTIVES: - To identify the various functions in Excel Sheet

COURSE OUTCOMES (COs)

CO1	Understand the advanced Excel formulas.
CO2	Evaluate IF conditions, AND, OR functions.
CO3	Analyze the advanced filter options.
CO4	Execute the multiple windows, splitting windows management.
CO5	Understand the pivot table methods.
CO6	Create a real time application by creating, modifying Excel sheet.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Uses of Advance Excel Formulas -VLOOKUP, HLOOKUP, SUMIF, SUMIFS, SUMPRODUCT, DSUM, COUNTIF, COUNTIFS, IF, IFERROR, ISERROR, ISNA, ISNUMBER, ISNONTEXT, OR, AND, SEARCH, INDEX, MATCH etc

UNIT II **6**

Various Methods and Uses of IF Conditions , Usage of "IF" Conditions? , Creation of Multiple IF Conditions in One Cell , Use the IF Conditions with the Other Advance Functions, How to use nested IF statements in Excel with AND, OR Functions Sorting, Data Forms, Adding Data Using the Data Form, Finding Records Using Criteria

UNIT III **6**

Filtering Data, AutoFilter, Totals and Subtotals, Row, Various Methods of Filter and Advance Filter options, Creating and Updating Sub totals, Various Method of Sorting Data, Creating, Formatting and Modifying Chart

UNIT IV **6**

Customizing the Quick Access Tool Bar, Managing Windows, Multiple Windows, Splitting Windows.

UNIT V **6**

Various Methods and Options of Pivot Table, Using the Pivot Table Wizard, Changing the Pivot Table Layout, Subtotal and Grand total Options, Formatting, and Grouping items

TEXT BOOKS:

1. Jordan Goldmeler. Advanced Excel Essentials, A Press, 2015.

REFERENCE BOOKS:

1. John Walkenbach. Microsoft Excel 2013 Bible, Wiley Publications, 2013.

Course Coordinator **HOD**

U18SESC004	WEB DESIGNING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Ms. V.Ramya & BCA				

COURSE OBJECTIVES: - To gain knowledge in basic web designing concepts.

COURSE OUTCOMES (COs)

CO1	Understand the web basics and server-side scripting.
CO2	Execute the HTML coding and linking process.
CO3	Analyze the hyperlinks and special characters.
CO4	Evaluate the Embedded Style Sheets & Linking External Style Sheets.
CO5	Create the backgrounds and user style sheets.
CO6	Create a real time application using web designing concept.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Introduction - The Internet in Industry and Research - Evolution of the Internet and World Wide Web - Web Basics – Client-Side Scripting versus Server-Side Scripting.

UNIT II **6**

Introduction – First HTML example – Headings – Linking - Images, alt Attribute, Void Elements.

UNIT III **6**

Using Images as Hyperlinks-Special Characters and Horizontal Rules – Lists – Tables.

UNIT IV **6**

Introduction - Inline Styles - Embedded Style Sheets - Linking External Style Sheets.

UNIT V **6**

Backgrounds - Element Dimensions - Box Model and Text Flow - Drop-Down Menus - User Style Sheets.

TEXT BOOKS:

1. Paul Deitel, Harvey Deitel, Abbey Deitel, "Internet & World Wide Web: How to Program", 5th Edition, Pearson Publication, 2012.

REFERENCE BOOKS:

1. Jennifer Niederst Robbins. Learning Web Design, Fourth Edition, O'Reilly Media, 2012.
2. Thomas Michaud. Foundations of Web Design, Introduction to HTML & CSS, Pearson Publication, 2014.
3. Bayross. Web Enable Commercial Application Development Using HTML, DHTML, JavaScript, Perl CGI, BPB Publications.
4. Powell TA. Complete Reference HTML (Third Edition), TMH, 2002.

Course Coordinator **HOD**

U18SESC005	PHOTOSHOP	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Ms. V.Brindha & BCA				

COURSE OBJECTIVES: - Learners can Apply methods to specific 3D Images and to identify various designs appropriate for Animation.

COURSE OUTCOMES (COs)

CO1	Gain knowledge to Create and save Images in fundamental computer applications
CO2	Understand the title bar, menu bar, option bar, image title bar in photo shop program.
CO3	Execute Zooming & Panning an Image while Working with Images.
CO4	Analyze Color manipulations & Working with Toolbox
CO5	Evaluate the Working with layers.
CO6	Create a real time application using 3D image and Animation.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Introduction to Adobe photoshop, Getting started with photoshop, creating and saving a document in photoshop, page layout and background.

UNIT II **6**

Photoshop program window-title bar, menu bar, option bar, image window, image title bar, status bar, ruler, palettes, toolbox, screen modes, saving files, reverting files, closing files.

UNIT III **6**

Images: working with images, image size and resolution, image editing, color modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids-Cropping & Straightening an Image, image backgrounds, making selections.

UNIT IV **6**

Working with toolbox: working with pen tool, save and load selection-working with erasers-working with text and brushes-Color manipulations: color modes- Levels – Curves - Seeing Color accurately - Patch tool.

UNIT V **6**

Layers: Working with layers- layer styles- opacity-adjustment layers.

TEXT BOOKS:

1. Reema Thareja. Fundamentals of Computers, Oxford University Press.

REFERENCE BOOKS:

1. Photoshop: Beginner's Guide for Photoshop - Digital Photography, Photo Editing, Color
2. Adobe Creative Team, “Adobe Photoshop Classroom in a Book”.

Course Coordinator **HOD**

U18SESC006	FLASH	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Ms. V.Brindha & BCA				

COURSE OBJECTIVES: - Learners can identify methods appropriate for Basic Animation. Apply methods to design with flash.

COURSE OUTCOMES (COs)

CO1	Understand Working with flash, drawing with flash using Animation tools and Mixer.
CO2	Execute working with multiple objects, importing color palettes
CO3	Analyze Basic animation and working in the timeline,
CO4	Create Frames, key frames, deleting, copying and reversing frames
CO5	Evaluate the Shape tweening and shape hinting in motion
CO6	Apply methods to design with flash

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Working with flash, drawing with flash, drawing with the pencil, modifying lines, drawing with the pen, the oval and rectangle tools, free transform tool, envelope modifier, the brush tool, using the mixer.

UNIT II **6**

Adding custom colors to color palette, importing color palettes, working with multiple objects, grouping objects.

UNIT III **6**

Basic animation and working in the timeline, the timeline, movie properties.

UNIT IV **6**

Frames vs. key frames, deleting, copying, and reversing frames, frame-by-frame vector animation, Animation on an image.

UNIT V **6**

Shape tweening, shape hinting, Shape tweening text, edit multiple frames, animating gradients, basic motion tweening.

TEXT BOOKS:

1. Nick Vandome. FLASH 5 in easy step, Dreamtech press, 2001.

REFERENCE BOOKS:

1. Vander Veer EA & Chris Graver. Flash CS3, Orelly Publications, 2009.

Course Coordinator **HOD**

U18SESC007	COMPUTER HARDWARE AND NETWORKING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Ms. K.HemaLakshmi & CS				

COURSE OBJECTIVES:

Learners familiar with the basic concepts of Micro-processor, Controller, Server and to demonstrate the traditional imperative design of CPUs, cards, PCs and BIOS.

COURSE OUTCOMES (COs)

CO1	Design the structure of Micro Processor and PCs and CPUs
CO2	Understand the structure of PC architecture and the study of various PCs
CO3	Understand the Basics of Processor
CO4	Study the CPU, Chips, Processor and Controllers
CO5	Working with Internal Components cards and Higher-Level Processor
CO6	Used to develop the Backups, Switches Routers, BIOS, Floppy Disk and zip Driver

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Microprocessor System - Introduction of System overview, Introduction to Processors, Memory Interfacing, Interfacing I/O Devices, Interfacing Data Converters, Display Interface, Serial I/O and Data Communication, Higher level Processors.

UNIT II **6**

Introduction to PC Architecture Study of PC-AT/ATX System, Pentium, Core, Core 2 Cord, Core 2 Duo, I3, I5, I7.

UNIT III **6**

Processor Basics of Processor and CPU Block Diagram of Computer and Computer Generation Motherboards, Chipset and Controllers, BIOS and the Boot Process, Computer Memory.

UNIT IV **6**

Internal Components IDE and SATA Devices: Hard Disk Drive and CD/DVDs Drives, SCSI Devices, Floppy Disk, Zip Drive, Backup Drive, Expansion Cards- LAN Card, IDE Card , VGA and SVGA Cards, Sound Card, Interface Cards, I/O cards, Video Cards, USB Card, Fire-Wire Cards, Internal Ports, Cables and Connector Types.

UNIT V **6**

Introduction of Network Cable like UTP, STP, Fiber Optics, Hub, Unmanageable Switch, Manageable Switch, Router, Modem, Wi-Fi, Access Point, PCI Wireless Card, USB Wireless Device, Print Server, USB Network Sharer, Backup Device, Server Hardware etc.

TEXT BOOKS:

1. Ramesh Gaonkar. Microprocessor Architecture Programming and Application with the 8085, Penram International Publication.

REFERENCE BOOKS:

1. Gupta ML. Electronics and Radio Engineering. Dhanpat rai & Sons, New Delhi.
2. Govinda rajalu B. PC AND CLONES Hardware, Troubleshooting and Maintenance, Tata Mc-graw-Hill Publication.
3. Stephen J Bigelow. PC Troubleshooting and Repair, Dream tech Press, New Delhi.

Course Coordinator **HOD**

U18SESC008	COMPUTER PROGRAMMING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Ms. K.HemaLakshmi & CS				

COURSE OBJECTIVES:

Learners will be familiar with the Programming language C, identify the steps, Write the Algorithm, Design the flowchart and Implement the Programs for various Operations Functions, Pointers and Strings.

COURSE OUTCOMES (COs)

CO1	Apply and Write the clear, structure and Looping of elementary C programs.
CO2	Understand algorithmic thinking and apply it to programming.
CO3	Understand problem-solving techniques.
CO4	Ability to use C with Various operators Expressions and Decision-making control.
CO5	Write Code using Arrays with single dimensions, Two dimensions and Multidimensional and Various Strings operations
CO6	create and develop programs using Functions, Pointers, Structures and Union

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Generation and Classification of Computers, Basic organization of a Computer, Number System, Binary, Decimal, Conversion, Problems.

UNIT II **6**

Algorithm, Pseudo code, Flow Chart, Problem formulation, Problem solving, Introduction to "C" programming, Fundamentals, Structure of C Program, compilation and linking processes, Constants, Variables, Data Types.

UNIT III **6**

Expressions using operators in C, managing input and output operations, Decision making and Branching, Looping Statements.

UNIT IV **6**

Arrays, Initialization, Declaration, One Dimensional and Two-Dimensional Arrays, String, String Operations, String Arrays.

UNIT V **6**

Function, Definition of Function, Declaration of Function, Recursion, pointers, pointer and arrays, Structure data type, Structure definition, Structure declaration, Structure within a structure, Union, Storage classes, Pre-processor directives.

TEXT BOOKS:

1. Anita Goel and Ajay Mittal, "Computer Fundamentals and programming in C", Dorling Kindersley (India) Pvt Ltd., Pearson Education in South Asia 2011.
2. PradipDey, ManasGhosh, "fundamentals of computing and programming in c", First edition, Oxford University Press, 2009.
3. Yashavant P. Kanethar, "Let Us C", BPB Publications, 2011.

REFERENCE BOOKS:

1. Byron S Gottfried. Programming with C, Schaum's Outlines, 2nd Edition, Tata McGraw-Hill, 2006.
2. Dromey RG. How to Solve it by Computer, Pearson Education, Fourth Reprint, 2007.
3. Kernighan BW and Ritchie DM. The C Programming Language, Second Edition, Pearson Education, 2006.

Course Coordinator **HOD**

U18SESC008	OFFICE AUTOMATION TOOLS	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Ms. K.HemaLakshmi & CS				

COURSE OBJECTIVES:

Learners will be familiar with the basic Office tools design that Work with Word,Excel, Power Point.

COURSE OUTCOMES (COs)

CO1	Learn the text manipulations for word documents.
CO2	Understand the templates and mail merge concepts.
CO3	Understand cell editing, formulae, built in functions used in the Excel Sheet.
CO4	Used the power point slide designs and backgrounds.
CO5	Used to Create the graphics and animations using wizards.
CO6	Used to Create the Inserting Clip arts frames, Working with the Graphs and Charts

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Text Manipulations- font size, style, color. Alignment- left, right and justify, paragraph alignment, Usage of Numbering, Bullets, Footer and Headers, Usage of Spell check, and Find & Replace, Text Formatting, Picture insertion and alignment.

UNIT II **6**

Insertion – Table, chart, clip art, shapes, borders. Creation of documents, saving of documents, using templates, Creation templates, Mail Merge Concepts, Copying Text & Pictures from Excel.

UNIT III **6**

Creating of Excel sheet, Cell Editing, Usage of Formulae and Built-in Functions, File Manipulations, Data Sorting, Worksheet Preparation, Drawing Graphs, Usage of Auto Formatting.

UNIT IV **6**

Start power point, create blank presentation, selecting slide layout, insert new slide, editing presentation, Designing and formatting presentation, change font, font color, size, style of text, Bullet and numbering, Slide design, layout, change background, preparing slide show presentation.

UNIT V **6**

Inserting Clip arts and Pictures, Frame movements, Insertion of new slides. Preparation of Organization Charts, Presentation using Wizards, Usage of design templates, working with tables, graphics and animation, working with graphs and organization charts.

TEXT BOOKS:

1. Joyce Cox, Joan Lambert and Curtis Fryc. Step by Step Microsoft Office Professional 2010, Microsoft press edition.

REFERENCE BOOKS:

1. Ralph T Reilly. The Handbook of Office Automation, iUniverse Publications, 2012.

Course Coordinator **HOD**

U18SEMA001	**QUANTITATIVE AND APTITUDE REASONING-I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES:

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically**.**

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Number Series with its applications.
CO2	Understand the concept of Data Interpretation
CO3	Apply suitable algorithms in Loss & Discount
CO4	Analyze the Rates, Time and Distance
CO5	Evaluate problems Simple Interest
CO6	Create a real time application compounds and mixtures

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	1	1	2		
	CO2	2	3	1	2	2	1	2		
	CO3	3	2	2	3	2	2	3		
	CO4	3	3	3	2	2	2	3		
	CO5	2	3	2	1	3	2	2		
	CO6	3	3	3	1	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Numbers, Number Series, Number Theory, Arithmetic & Geometric Ratio.

UNIT II **6**

Average, Ages, Data Interpretation.

UNIT III **6**

Percentage, Profit, Loss & Discount, Simple Interest, Compound Interest.

UNIT IV **6**

Rates, Time and Distance, Train Problems, Boats and Streams, Time and Work.

UNIT V **6**

Allegations of compounds and mixtures.

TEXT BOOKS:

1. Aggarwal RS. Quantitative Aptitude, S.Chand Publications, 2018.
2. Aggarwal RS. A modern approach to Logical approach, S.Chand Publications, 2018.

REFERENCE BOOKS:

1. Abhijit Guha. Quantitative Aptitude, Mc Graw Hills Publisher.
2. Aggarwal RS. A modern approach to Logical approach, S.Chand Publications, 2018.

Course Coordinator **HOD**

U18SEMA002	QUANTITATIVE AND APTITUDE REASONING-II	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES:

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically**.**

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Inverse, Compound equation.
CO2	Understand the circular arrangement.
CO3	Apply suitable direction of Permutations and combinations test.
CO4	Analyze the Heights and Distance
CO5	Evaluate problems on Simple Interest
CO6	Create a real time application of Date and time.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Simple equations –Variation-Direct, Inverse, Compound.

UNIT II **6**

Problems on Linear and circular arrangement.

UNIT III **6**

Coding and decoding – Direction Permutations and combinations test- Lateral Reasoning-Blood Relations-Paragraph based puzzles.

UNIT IV **6**

Heights and Distance.

UNIT V **6**

Interpretation of Date and time.

TEXT BOOKS:

1. Aggarwal RS. Quantitative Aptitude, S.Chand Publications, 2018.
2. Aggarwal RS. A modern approach to Logical approach, S.Chand Publications, 2018.

REFERENCE BOOKS:

1. Abhijit Guha. Quantitative Aptitude, Mc Graw Hills Publisher.
2. Aggarwal RS. A modern approach to Logical approach, S.Chand Publications, 2018.

Course Coordinator **HOD**

U18SEMA003	REGRESSION ANALYSIS WITH SPSS	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Ms.S.Kavitha / Mathematics				

COURSE OBJECTIVES:

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically**.**

COURSE OUTCOMES (COs)

CO1	Gain knowledge Qualitative Variable on Nominal Scale, Ranked.
CO2	Understand the Deleting and Rearranging Items from the Viewer
CO3	Apply suitable direction Permutations and combinations test.
CO4	Analyze the Pie Chart, Scatter Plot and Dot plots
CO5	Evaluate data questionnaire Analysis
CO6	Create a real time application and test of hypotheses

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Observations and Variables, Quantitative or Measurement Variable on Interval Scale, Qualitative Variable on Nominal Scale, Ranked Variable on Ordinal Scale.

UNIT II **6**

Opening a Data File in SPSS – Variable View, Data View, Entering Data into the Data Editor, Saving the Data File. Editing and Manipulating Data : Inserting a New Variable, Rearranging the Order of Variable in the Variable View, Deleting and Rearranging Items from the Viewer. Usage of Data, Transform, Analyse and Graphs menus – Editing and copying and printing SPSS output – Importing Data from Excel File.

UNIT III **6**

Charts and Graphs: Simple Bar charts, Pie Chart, Scatter Plot and Dot plots, Line graphs, Histogram.

UNIT IV **6**

Simple correlation (Karl Pearson's Method) - Rank correlation (Spearman's method) – Simple linear regression equation, Scatter plot and line of best fit – Questionnaire Analysis (Uni-variate and Bi- variate tables) – Chi square test with SPSS for independence of Attributes.

UNIT V **6**

Partial and multiple correlation coefficients. Simple linear regression model: Description of data model - Estimation and test of hypotheses.

TEXT BOOKS:

1. Ananthi Sheshasayee and Sheshasayee, G, Computer Applications in Business and Management, Margham Publications, Chennai, 2003.
2. Rajathi, A and Chandran P. SPSS for you, MJP Publishers, Chennai, 2010.
3. Chatterjee S and Price, B. Regression Analysis by Example, John Wiley and Sons, New York (Chapter 1,2,3 and relevant portions in chapters 4,5,6,7,8,9), 1977.
4. Kapoor V K and Gupta SC. Fundamentals of Mathematical Statistics, Sultan Chand and Sons, New Delhi, (Chapter 10 only), 2002.

REFERENCE BOOKS:

1. Singh VP and Singh M. MS-Excel, Megabyte Series, Asian Publishers, New Delhi, 1998.
2. Andy Field. Discovering Statistics Using SPSS, SAGE Publications, London, 2006.
3. Johnston J. Econometric Methods, McGraw-Hill Pvt. Ltd, New York, 1972.
4. Draper NR and Smith H. Applied Regression Analysis, 3rd edition, John Wiley and Sons, USA, 1998.

Course Coordinator **HOD**

CURRICULUM & SYLLABUS- B.Sc- Computer science
(Applicable to the batches admitted from July 2018)
I SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA101	Part -I :Tamil	5	3	0	0	3
		U18HSHI101	Part -I :Hindi	5				
		U18HSFR101	Part -I : French	5				
2.	HS	U18HSEN102	Part II : English	5	3	0	0	3
3.	MC	U18MCSC101	Programming in C	4	3	1	0	4
4.	MC	U18MCSC102	Digital Logic and Fundamentals	5	3	1	0	4
5.	NC	U18NCMA104	Mathematics I	5	3	1	0	4
	PRACTICAL							
6.	MC	U18MCSC1L1	LAB I : Programming in C Lab	4	0	0	4	2
Total				28	15	3	4	20

II SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA201	Part -II :Tamil	4	3	0	0	3
		U18HSHI201	Part -II :Hindi	4				
		U18HSFR201	Part -II : French	4				
2.	HS	U18HSEN202	Part-II: English	4	3	0	0	3
3.	MC	U18MCSC201	Data Structure	5	3	1	0	4
4.	MC	U18MCSC202	Programming in C++	4	3	1	0	4
5.	NC	U18NCMA204	Mathematics – II	5	3	1	0	4
6.	HS	U18HSCH201	Environmental Studies	2	2	0	0	2
7.	HS	U18HSBC202	Value Education	2	2	0	0	2
PRACTICAL								
8.	MC	U18MCSC2L1	LAB II: Programming in C++ Lab	4	0	0	4	2
Total				30	19	3	4	24

III SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA301	Part -III :Tamil	5	3	0	0	3
		U18HSHI301	Part -III :Hindi	5				
		U18HSFR301	Part -III : French	5				
2.	HS	U18HSEN302	Part III : English	5	3	0	0	3
3.	MC	U18MCSC301	Computer Architecture	4	3	1	0	4
4.	MC	U18MCSC302	Programming in J	4	3	1	0	4
`5.	NC	U18NCMA304	Statistical Methods	4	3	1	0	4
6.	NME	U18NETA301	Basic Tamil – I, for those who studied other language under Part I	2	2	0	0	2
	NME	U18NETA302	Special Tamil – I, for those who studied Tamil under Part I	2	2	0	0	2
	PRACTICAL							
7.	MC	U18MCSC3L1	Lab III : Programming in Java Lab	4	0	0	4	2
				30	19	3	4	24

IV SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA401	Part -IV :Tamil	4	3	0	0	3
		U18HSHI401	Part -IV :Hindi	4				
		U18HSFR401	Part -IV : French	4				
2.	HS	U18HSEN402	Part IV : English	4	3	0	0	3
3.	MC	U18MCSC401	Operating Systems	5	3	1	0	4
4.	MC	U18MCSC402	Web Technology	5	3	1	0	4
`5.	MC	U18MCSC403	Database Technology	4	3	1	0	4
6.	NME	U18NETA401	Basic Tamil – II, for those who studied other language under Part I	2	2	0	0	2
	NME	U18NETA402	Special Tamil – II, for those who studied Tamil under Part I	2	2	0	0	2
7.	SE		Skill Based Elective - I	2	1	0	2	2
	PRACTICAL							
7.	MC	U18MCSC4L1	Lab IV : Web Technology Lab	4	0	0	4	2
				30	20	3	6	24

V SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	MC	U18MCSC501	PHP	5	4	0	0	4
2.	MC	U18MCSC502	Software Engineering	5	4	0	0	4
3.	MC	U18MCSC503	Programming in ASP	4	3	1	0	4
4.	ME		Major Elective – I	4	4	0	0	4
5.	SE		Skill Based Elective-II	2	1	0	2	2
6.	SE		Skill Based Elective-III	2	1	0	2	2
PRACTICAL								
7.	MC	U18MCSC5L1	LAB VII : Programming in ASP .NET Lab	4	0	0	4	2
8.	MC	U18MCSC5L2	LAB VIII : PHP Lab	4	0	0	4	2
Total				30	17	1	12	24

VI SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	MC	U18MCSC601	Computer Networks	5	3	1	0	4
2.	MC	U18MCSC602	Software Testing	5	3	1	0	4
3	ME		Major Elective II	4	4	0	0	4
PRACTICAL								
4.	MC	U18MCSC6L1	LAB IX: Major Elective II Lab	4	0	0	4	2
5.	EEC	U18EESC6P1	Project	10	0	0	18	10
6.	HS	U18HSSC6L1	Extension Activities	2	0	0	2	1
Total				30	10	2	24	25

LIST OF MAJOR ELECTIVE – I
CHOOSE ANY ONE IN SEMESTER V

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18MESC011	Object Oriented Analysis and Design	4	4	0	0	4
2	U18MESC012	Cloud computing	4	4	0	0	4
3	U18MESC013	Data Mining and Data Warehousing	4	4	0	0	4
Total			4	4	0	0	4

LIST OF MAJOR ELECTIVE – II
CHOOSE ANY ONE IN SEMESTER VI

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18MESC021	Network Programming	4	4	0	0	4
2	U18MESC022	C#	4	4	0	0	4
3	U18MESC023	Python Programming	4	4	0	0	4
Total			4	4	0	0	4

LIST OF SKILL BASED ELECTIVES

CHOOSE ANY THREE COURSES – ONE IN SEMESTER IV & TWO IN SEMESTER V

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18SEBC001	Business Process Outsourcing – Management	2	2	0	0	2
2	U18SEBC002	Customer Relationship Management	2	2	0	0	2
3	U18SEBC003	Entrepreneurial Development	2	2	0	0	2
4	U18SEBC004	Human Resource Management	2	2	0	0	2
5	U18SEBC005	Marketing Management	2	2	0	0	2
6	U18SEBC006	Office Management	2	2	0	0	2
7	U18SEBC007	Retail Marketing	2	2	0	0	2
8	U18SEBC008	Salesmanship and Advertising	2	2	0	0	2
9	U18SEEN001	Soft Skills	2	2	0	0	2
10	U18SESC001	Computer Application	2	2	0	0	2
11	U18SESC002	Multimedia	2	2	0	0	2
12	U18SESC003	Advanced Excel	2	2	0	0	2
13	U18SESC004	Web Designing	2	2	0	0	2
14	U18SESC005	Photoshop	2	2	0	0	2
15	U18SESC006	Flash	2	2	0	0	2
16	U18SESC007	Computer Hardware and Networking	2	2	0	0	2
17	U18SESC008	Computer Programming	2	2	0	0	2
18	U18SESC009	Office Automation Tools	2	2	0	0	2
19	U18SEMA001	Quantitative and Aptitude Reasoning -I	2	2	0	0	2
20	U18SEMA002	Quantitative and Aptitude Reasoning-II	2	2	0	0	2
21	U18SEMA003	Regression Analysis with SPSS	2	2	0	0	2

U18HSHI101	Hindi	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Hindi as second language in Grade 12				
	Course Coordinator Name &Department:- Dr. K. MustakHusaain / Department of Hindi				

COURSE OBJECTIVES :-

To understand , read, write and speak Hindi language with grammatical.

COURSE OUTCOMES (COs)

CO1	Remember the behavior
CO2	Understand the importance of money by story
CO3	Apply the concept of Hindi grammar
CO4	Analyze the usage of translation from English to Hindi
CO5	Evaluatethe unseen passage to answer the questions
CO6	Create the knowledge in Hindi Language

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

UNIT I **9**

NAVEEN GADYA CHAYANIKA – 2 - Bholaram ka jeev - Mehamaan se Bhagavaanbachaaye - NumberovaliThijori – Kaffan - Gunda

UNIT II **9**

NON DETAILED TEXT: KAHANI KUNJ - Stories: 6 – 10 only

UNIT III **9**

GRAMMAR: SHABDA VICHAR ONLY - NOUN, PRONOUN, ADJECTIVE, VERB, TENSE, CASE ENDINGS - Theoretical & Applied

UNIT IV **9**

TRANSLATION - English – Hindi only - ANUVADH ABHYAS – III - 1 – 15 Lessons Only

UNIT V **9**

COMPREHENSION - 1 Passage from ANUVADH ABHYAS – III (16 – 30)

TEXT BOOKS:

UNIT 1 - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017
UNIT II - Govind Prakashan, SadharBagaar, Mathura, Uttar Pradesh – 281001 - Editor: Dr V.P. Amithab

UNIT III - Vyakaran Pradeep by Ramdev - Hindi Bhavan, 36, Tagor Town, Allahabad – 211002.

UNIT IV - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017.

UNIT V - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017

CourseCoordinator **HOD**

U18HSFR101	Française	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – French as second language in Grade 12				
	Course Coordinator Name & Department:- Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES :-

Initier les étudiants aux principes de base et à la pratique de la communication orale et écrite.

COURSE OUTCOMES (COs)

CO1	Comprendre les bases de la langue.
CO2	Analyser les modèles de phrases et former la grammaire.
CO3	Pour apprendre les bases de la grammaire ainsi que ses principes.
CO4	Se souvenir de l'anatomie des conjugaisons.
CO5	Créer des dialogues et des conversations par eux-mêmes dans la langue et pratiquer des compétences orales et écrites.
CO6	Se souvenir des règles nécessaires de la langue

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

UNIT I - Vous comprenez **9**

Alphabets - French Accents - Les Nombres – Pronunciations.

UNIT II Au travail! **9**

Masculine Singular and Feminine singular - Conjugaison des verbes (present tense) -

Les articles définis.

UNIT III En se detend? **9**

Conjugaison (faire-aller-venir-Vouloir-Pouvoir-Devoir)

UNIT IV Racontez-moi **9**

La date et l'heure – les saisons – les couleurs

UNIT V Bon voyage! **9**

Adjectifs demonstratives - Adjectifs possessives - Les Voyages / les transport-Bon appétit!-Article partitif - Emploi des articles - Interrogation (Forme avec inversion) - Les repas - La fête

TEXT BOOKS:

A1 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator **HOD**

U18HSEN102	ENGLISH I	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept: Mrs. SHEEBA - English				

COURSE OBJECTIVES:- :- To use English effectively for study purpose and enable the learner to communicate appropriately in real life situation.

	COURSE OUTCOMES (COs)
CO1	Remember and recall the words according to the given context.
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarizes the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O1	PSO 2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L								
	CO4	H	L						H		
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								

4	**Approval**	Academic Council Meeting

UNIT-I POETRY **9**

Lucy Gray -William Wordsworth – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Ulysses -Alfred Lord Tennyson** - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **The Road Not Taken** – **Robert Frost** - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT-II – ONE ACT PLAYS **9**

The Boy Comes Home - A.A.Milne – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Referee - W.H.Andrews and Geoffrey Dearmer** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT -III SHORT STORIES **9**

The Unicorn in the Garden – **James Thurber** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Avenger** – **Anton Chekov** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT IV PROSE **9**

Six Thinking Hats - Edward de Bono – Author Biography - Self analysis technique, Summary; **My Early Days - Abdul Kalam** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **I Have a Dream (Speech) - Martin Luther King** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT V **9**

Introduction to Basics of Communication – Definitions – Types – Listening, Speaking, Reading & Writing

TEXT BOOKS:

1. Six Thinking Hats by Edward de Bono, Little Brown and Company, 1985
2. My Early Days by Abdul Kalam, October 7, 2013

REFERENCE BOOKS:

1. Strings of Gold (Part- II) Edited by Prof. Jasbir Jain (MacMillan), 2007
2. Basic Communication Skills for Technology by Rutherfoord (Dorlig Kindersly), 2007
3. English for Professionals A Practice Book of Communication Skills in English by Dr.Miglani (Vayu Education of India), 2010.

Course Coordinator **HOD**

U18MCSC101	PROGRAMMING IN C	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Computer Science / Mathematics Studied in Higher Secondary Studies.				
	Course Coordinator Name &Department :- N.Mathimagal/BCA				

COURSE OBJECTIVES :-

Learners will be familiar with the basic programming in C concepts.

COURSE OUTCOMES (COs)

CO1	Remember the basic structures of Data type, operators and statements
CO2	List the Fundamentals of C programming.
CO3	Choose the suitable loop statements and decision making statements to solve the problem.
CO4	Use functions to apply for real time application
CO5	Analyze the C code using Array and Pointers
CO6	Examine an application using files

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	M	L								
	CO4	H	L								
	CO5	H	-								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval										

UNIT-I **12**

Fundamental character set – Identifier and keywords – data types – Constants – variables – Declarations – Expressions – Statements – Arithmetic, Unary, Relational and logical, Assignment and conditional Operators – Library Functions.

UNIT-II **12**

Data input output functions – Simple C programs – Flow of control – if, if-else, while, do-while, for loop, Nested control structures – Switch, Break and continue, go to statements – Comma operator.

UINT-III **12**

Functions – Definition – Proto-types – Passing arguments – Recursions – storage Classes – Automatic, External, Static, Register Variable – Multi-file programs.

UNIT-IV **12**

Arrays – defining and Processing – Passing arrays to functions – Multi-Dimensional Arrays – Arrays and String. Structures – User defined data types – Passing structures to functions – self- referential structures – Unions – Bit wise operations.

UNIT-V **12**

Pointers – Declarations – Passing pointers to functions – Operation in Pointers – Pointer and Arrays – Arrays and Pointers - Structures and Pointers – Files – Creating, Processing, Opening and Closing a data file.

TEXT BOOKS

1. E. Balaguruswamy, 1995, Programming in ANSI C, TMH publishing Company Ltd.
2. Reema Thareja, Programming in C, Oxford University Press, Second Edition, 2016.
3. Kernighan, B.W and Ritchie,D.M, The C Programming language, Second Edition, Pearson Education, 2006

REFERENCE BOOKS

1. H. Schildt, 2004, The Complete Reference, 4th Edition,TMH.
2. Gottfried, B.S, 1996, Programming with C, second edition,TMHPub.Co.Ltd.
3. Kanetkar Y, 1999, Let us C, BPB publications with ANSI &TurboC, First edition, Pearson Education, NewDelhi.
4. Paul Deitel and Harvey Deitel, C How to Program, Seventh edition, Pearson Publication.

Course Coordinator **HOD**

U18MCSC102	DIGITAL LOGIC AND FUNDAMENTALS	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Computer Science / Mathematics Studied in Higher Secondary Studies.				
	Course Coordinator Name &Department :- Ms.V.Ramya/ BCA				

COURSE OBJECTIVES :-

Learners will be familiar with the given fundamental principles of digital electronics, semiconductor memories, A/D and D/A converters

COURSE OUTCOMES (COs)

CO1	Apply the principles of Boolean algebra to manipulate and minimize logic Expressions.
CO2	Use K-maps to minimize and optimize two-level logic functions up to 5 variables.
CO3	Learning the operation of latches, flip-flops, counters, registers, and register transfers.
CO4	Analyze the operation of sequential circuits built with various flip-flops.
CO5	Define the concepts of micro-operations and building blocks of digital systems
CO6	Ability to apply the concepts of Master Slave flip flops ,counters and Registers for a real time application

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	L								
	CO2	H	L								
	CO3	H	L						H		
	CO4	H	-								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
					✓						
4	Approval	Academic Council Meeting									

UNIT-I **12**

NUMBER SYSTEMS & CODES: Number System - Base Conversion - Binary Codes - Code Conversion. Digital Logic: Logic Gates - Truth Tables - Universal Gates

UNIT-II **12**

BOOLEAN ALGEBRA: Laws &Theorems - SOP, POS Methods - Simplification of Boolean Functions – Using Theorems, K-Map, and Prime – Implicant Method – Implementation Using Universal Gates. Binary Arithmetic: Binary Addition - Subtraction – Various Representations of Binary Numbers - Arithmetic Building Blocks - Adders - Subtracters.

UNIT-III **12**

COMBINATIONALLOGIC: Multiplexers - Demultiplexers - Decoders - Encoders - Code Converters – Parity Generators &Checkers - PAL –PLA

UNIT-IV **12**

SEQUENTIAL LOGIC: RS, JK, D, and T Flip-Flops - Edge-Triggered - Master-Slave Flip- Flops. Registers: Shift Registers - Types of Shift Registers.

UNIT-V **12**

COUNTERS Asynchronous Counters Ripple, Mod, Up-Down Counters- Decoding Gates – Synchronous Counters - Ring, Decade, Pre settable, Shift Counters. Memory: Basic Terms &Ideas – Magnetic Memories - Memory Addressing - Types of ROMs - Types of RAMs

TEXT BOOKS

1. D. P. Leach& A. P. Malvino, Digital Principles and Applications, TMH - Fifth Edition, 20022.
2. M. Moris Mano, Digital Logic and Computer Design, PHI, 4 thEdition,2001.
3. T. C. Bartee, Digital Computer Fundamentals, Tata McGraw Hill, 6thEdition, 1991.

REFERENCE BOOKS

1. R.J.Tocci, Digital System Principles and Application, Pearson Education, 8thEdition2005.
2. Thomas L. Floyd, Digital Logic Fundamentals.
3. Mohammad A. Karim & Xinghao Chen, Digital Design: Basic Concepts and Principles.
4. M. Rafiquzzaman, Fundamentals of Digital Logic and Microcomputer Design, Fifth Edition.
5. Andrew Hilton, Basics of Logic Design: Boolean Algebra, Logic Gates

Course Coordinator **HOD**

U18NCMA104	MATHEMATICS –I	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Computer Science / Mathematics Studied in Higher Secondary				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

- Learners will be familiarized with certain concepts in Set theory, Matrices and Theory of Equations.
- To direct the students to develop problem solving skills based on the concepts ofTrigonometry and Differential Equations.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Newton's forward and backward.
CO2	Understand the concept of Cayley - Hamilton theorem.
CO3	Apply suitable Hyperbolic and inverse hyperbolic functions.
CO4	Analyze the algorithm for trigonometric series and using the theorems in real time applications.
CO5	Evaluate maxima and minima of functions of two variables.
CO6	Create a real time application reciprocal equation.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M	-	-	-	-	M	H		
	CO2	M	H	-	-	-	-	M			
	CO3	H	M	-	-	-	-	M			
	CO4	H	H	-	-	-	-	M			
	CO5	M	H	-	-	-	-	M			
	CO6	H	H	-	-	-	-	M			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT – I :ALGEBRA and NUMERICAL METHODS: **12**

Algebra: Summation of series - simple problems.

Numerical Methods: Operators E,Δ, ∇ difference tables; Newton-Raphson method; Newton's forward and backward interpolation formulae for equal intervals, Lagrange's interpolation formula.
Chapter 2, Section 2.1.3, 2.2, 2.2.1, 2.3, 2.3.3
Chapter 3, Section 3.4.1 and Chapter 5, Section 5.1 and 5.2.

UNIT- II: MATRICES **12**

Symmetric, Skew-Symmetric, Orthogonal, Hermetian, Skew-Hermetian and Unitary matrices. Eigen values and Eigen-vectors, Cayley-Hamilton theorem (without proof) – verification- Computation of inverse of matrix using Cayley - Hamilton theorem.
Chapter 4, Section 4.1.1 to 4.1.6, 4.5, 4.5.2, 4.5.3.

UNIT- III: THEORY OF EQUATIONS: **12**

Polynomial equations with real coefficients, irrational roots, complex roots, symmetric functions of roots, transformation of equation by increasing or decreasing roots by a constant, reciprocal equation. Newton's method to find a root approximately - simple problems.
Chapter 3, Section 3.1 to 3.4.1

UNIT IV: TRIGONOMETRY: **12**

Expansions of sin(nθ) and cos(nθ) in a series of powers of sinθ and cosθ - Expansions of$sin^n\theta$, $cos^n\theta$, $tan^n\theta$ in a series of sines, cosines and tangents of multiples of "θ" - Expansions of sinθ, cosθ and tanθ in a series of powers of "θ" – Hyperbolic and inverse hyperbolic functions - Logarithms of complex numbers. Chapter 6, Section 6.1 to 6.5

UNIT V: DIFFERENTIAL CALCULUS: **12**
Successive differentiation, n^{th}derivatives, Leibnitz theorem (without proof) and applications, Jacobians, Curvature and radius of curvature in Cartesian co-ordinates, maxima and minima of functions of two variables, Lagrange's multipliers - Simple problems

TEXT BOOK:
1.Chapter 1, Section 1.1 to 1.3.2 and 1.4.3 Content and treatment as in Allied Mathematics Volume I and II by P. Duraipandian and S. Udayabaskaran, S. Chand Publications

REFERENCES:
1. S. Narayanan and T.K. Manickavasagam Pillai – Ancillary Mathematics, S. Viswanathan Printers, 1986, Chennai.

2. Allied Mathematics by Dr. A. Singaravelu.

Course Coordinator **HOD**

U18MCSC1L1	PROGRAMMING IN C LAB	L	T	P	C
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course – Computer Applications / Mathematics Studied in Higher Secondary Studies.				
	Course Coordinator Name &Department :- Ms.N.Mathimagal/BCA				

COURSE OBJECTIVES :-

Learners will be familiar with the basic concepts of C programming. Practice the use of statements to implement the arrays, functions and pointers & Gain skills to handle strings and files.

COURSE OUTCOMES (COs)

CO1	Construct programs that demonstrate effective use of C statements.
CO2	To perform the matrix operations.
CO3	Develop programs using predefined and user defined functions.
CO4	Implement C features including arrays, structures, pointers and files.
CO5	Perform sorting and searching using C programs.
CO6	Implement the arrays, functions and pointers

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO2	PSO3
2	CO1	H	L							H	
	CO2	H	L								
	CO3	H	-								
	CO4	H	L								
	CO5	M	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
					✓						
4	Approval	Academic Council Meeting									

S.No.	SIMPLE PROGRAMS
1	Find the Grade for the Marks using Switch Case
2	Display Student Information using Structure
3	Sum of "N" Numbers using Pointer and Array
	MATRIX MANIPULATION
4	Addition & subtraction.
5	Multiplication.
6	Transpose and trace of a matrix.
	SUMMATION OF SERIES
7	Sin (x)
8	cos (x)
	STRING MANIPULATIONS
9.	Counting the no. of vowels, consonants , words, white spaces in a line of text and array of lines
10.	Reverse a string & check for palindrome.
11.	Substring detection, count and removal.
12.	Finding and replacing substring
	RECURSION
13.	nPr and nCr
14.	GCD of two numbers.
15.	Fibonacci series.
16.	Maximum and minimum..
17.	Tower of Hanoi.
	SORTING AND SEARCHING
18.	Insertion and Sort
19.	Bubble Sort.
20.	Linear Search
21.	Binary Search

Course Coordinator **HOD**

SEMESTER - II

U18HSTA201	**தமிழ்- II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department :முனைவர். த. கிறிஸ்டல் ரெஜி &தமிழ்த்துறை				

COURSE OBJECTIVES : சிற்றிலக்கியம்மற்றும்சமயஇலக்கியத்தை அறியச் செய்தல்

COURSE OUTCOMES (COs)

CO1	தூது,பள்ளு,குறவஞ்சிஎன்றசிற்றிலக்கியங்கள்பற்றிஅறிவர்
CO2	சைவஇலக்கியமானதேவாரம், திருவாசகம், அற்புதத்திருவந்தாதிப்பற்றிஅறிவர்
CO3	வைணவஇலக்கியமானநாலாயிரதிவ்யப்பிரபந்தம்பற்றிஅறிவர்
CO4	பௌத்த, இசுலாம், கிறித்துவசமயஇலக்கியங்களைப்பற்றிஅறிவர்
CO5	சிற்றிலக்கியம்மற்றும்சமயஇலக்கியவரலாறுபற்றிஅறிவர்
CO6	சிற்றிலக்கியம் , சமயஇலக்கியம்பற்றியதெளிவானஅறிவைப்பெறுவர்

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

அலகு1 **9**

அழகர்கிள்ளைவிடுதூது - 1 - 20

முக்கூடற்பள்ளு - நாட்டுவளம் - 21,22,25,26,35

திருக்குற்றாலக்குறவஞ்சி - குறத்திமலைவளம்கூறுதல் - 1 - 5

அலகு2 **9**

அற்புதத்திருவந்தாதி - 1 - 5

தேவாரம் - திருவெண்காட்டுப்பதிகம் - திருஞானசம்பந்தர் - 1 - 10

திருவாசகம் - திருச்சாழல் - மாணிக்கவாசகர் - 1 - 10

அலகு3 **9**

நாலாயிரதிவ்யப்பிரபந்தம் - முதல்திருமொழி - பெரியாழ்வார் - 1 - 10

நாலாயிரதிவ்யப்பிரபந்தம் - திருப்பாவை - ஆண்டாள் - 1 - 10

நாலாயிரதிவ்யப்பிரபந்தம் - திருமாலை - தொண்டரடிப்பொடிஆழ்வார் - 1 - 5

அலகு4 **9**

ஆசியஜோதி - கருணைக்கடல் - அறவுரைகூறுதல் - 1 - 10

பராபரக்கண்ணி - குணங்குடிமஸ்தான்சாகிபு - 1 - 20

இயேசுகாவியம் - பாடுகளின்பாதை - கண்ணதாசன்

அலகு5 **9**

சிற்றிலக்கியவரலாறு- சமயஇலக்கியவரலாறு

பாடநூல்கள்:

1. கதிர்முருகு, "அழகர்கிள்ளைவிடுதூது", சாரதாபதிப்பகம், 2011
2. கதிர்முருகு, "முக்கூடற்பள்ளுமூலமும்உரையும்", சாரதாபதிப்பகம், 2017
3. புலியூர்க்கேசிகன், "திருக்குற்றாலக்குறவஞ்சி", செண்பகாபதிப்பகம், 2010
4. தமிழமுதன், "அற்புதத்திருவந்தாதி", பாரிநிலையம், 2011
5. சோ.கந்தசாமி "பன்னிருதிருமுறை", உலகத்தமிழாராய்ச்சிநிறுவனம், 2008
6. த.கோவேந்தன்,"நாலாயிரத்திவ்யப்பிரபந்தம்எளியஉரையும்",சாரதாபதிப்பகம்,2015
7. கமலாமுருகன், "ஆசியஜோதிமூலமும்உரையும்", சாரதாபதிப்பகம், 2012
8. கமலாமுருகன், "பராபரக்கண்ணிமூலமும்உரையும்", சாரதாபதிப்பகம், 2013
9. கண்ணதாசன், "இயேசுகாவியம்", கண்ணதாசன்பதிப்பகம், 2014

பார்வைநூல்கள்:

1. சு.ஆனந்தன், “தமிழ்இலக்கியவரலாறு", பாரிநிலையம், 2018
2. மா.ராசமாணிக்கனார், சமயஇலக்கியவரலாறு, காவ்யாபதிப்பகம், 2012
3. மு.பொன்னுசாமி, தமிழ்சிற்றிலக்கியவரலாறு, பாரிநிலையம், 2008

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18HSHI201	Hindi	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Hindi as second language in Grade 12				
	Course Coordinator Name & Department:- Dr. K. MustakHusaain / Department of Hindi				

COURSE OBJECTIVES: -

To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)	
CO1	Remember of Ramayana In Sabari part
CO2	Understand the historical stories
CO3	Apply the concept of translation
CO4	Analyzeand develop the letter writing skills
CO5	Evaluateand develop the speaking skills
CO6	Create knowledge in letter writing and speaking skills

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

UNIT I **09**

MODERN POETRY - SHABARI

UNIT II **09**

ONE ACT PLAY - EKANKI SANKALAM

UNIT III **09**

TRANSLATION - HINDI – ENGLISH ONLY

UNIT IV **09**

LETTER WRITING - Leave letter - Job Application - Ordering books - Letter to Publisher - Personal letter

UNIT V **09**

CONVERSATION - Doctor & Patient - Teacher & Student - Storekeeper & Buyer - Two Friends - Booking clerk & Passenger at Railway station – Auto rickshaw driver and passenger.

Text Books:

By Naresh Mehtha,Veerendra Kumar Mishra

Reference Books:

UNIT 1 – Publisheres - LokbharathiPrakashan ,1 Floor, DuebariBuilding,Mahathma Gandhi Marg,
Allahabad – 1.
UNIT II – Publishers – Vani Prakasam, New Delhi-110002
UNIT III – Publishers – Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator **HOD**

U18HSFR201	Française	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – French as second language in Grade 12				
	Course Coordinator Name & Department:- Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES :-

Présenter aux élèves la complexité de la grammaire et comment la surmonter avec des règles simples.

COURSE OUTCOMES (COs)

CO1	Être capable d'interpréter la langue.
CO2	Se familiariser avec les approches méthodologiques de l'étude des textes littéraires et culturels, telles que la lecture attentive, la contextualisation socio-historique et la théorie littéraire et culturelle.
CO3	Acquérir une maîtrise avancée du français parlé et écrit.
CO4	Encourager le développement de compétences en linguistique, en traduction et en études comparatives.
CO5	Se souvenir de l'anatomie des conjugaisons au passé.
CO6	Pour évaluer le texte donné de manière critique et améliorer les compétences en communication.

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

UNIT I -Quelle journee! **9**

La Conjugaison pronominale -L'imperatif -L'expression de la quantite (peu-in peu de- quelque – etc.)

UNIT II - Qu'on est bien ici ! **9**

Prepositions et adverbs de lieu - Verbs experimant un deplacement (employ des prepositions)

Le lodgement/la localisation/ l'orientation/l'etat physique/le temps qu'il fait

UNIT III -En se detend? **9**

L'imparfait-Emplois du passé compose et de l'imparfait-Expression de la duree-L'enchainement des idees (alors, donc, mais) /Le sens reciproque

UNIT IV- On s'appelle? **9**

Les pronoms complements direct -Les pronoms compliments indirects de personne -c'est/ il est-Imperatif des verbs avec pronoms-La fornation des mots

UNIT V Un bon conseil ! **9**

Expression du deroulement de l'action--passe recent--Present progressif-future proche-Les phrases rappotrees- La place de l'adjectif- La proposition relative finale avec -qui

TEXT BOOKS:

A1 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

Course Coordinator **HOD**

U18HSEN202	**ENGLISH II**	**L**	**P**	**C**
	Total Contact Hours – 45	3	0	3
	Prerequisite course – + 2 level English			
	Course Coordinator Name & Dept.: Mr.S.KUMARESAN - English			

COURSE OBJECTIVES:- To have a better understanding of the English language skills and its implementation it in day to day life activities.

COURSE OUTCOMES (COs)

CO1	Remember and recall the concepts of English language
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarize the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O	PSO 2	PS O3
2	CO1	H	L								
	CO2	H	L						H		
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	**Approval**	Academic Council Meeting								

UNIT 1: PROSE **9**

The Refugee – **K.A. Abbas** – Author Biography – Plot – Theme - Summary - Critical analysis;

The Lion and the Lamb – **Leonard Clark** – Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2: POETRY **9**

The Solitary Reaper – **William Wordsworth** – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Gift** – **Alice Walker**- Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT 3: SHORT STORIES **9**

The Fortune -Teller – **Karel Capek** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **The Postmaster** – **Rabindranath Tagore** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 4: ONE-ACT PLAYS **9**

The Death Trap – **Saki (H.H. Munro)** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **The Dear Departed**: **A Comedy in One-Act – Stanley Houghton**- Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 5: GRAMMAR **9**

Communicative Grammar - Seeking and giving information – statements and questions Being informal – phrasal verbs, Expressing ability, possibility, etc – Modals and other devices

TEXT BOOKS:

1. The Death Trap by Saki, The Novels and Plays of Saki, 2001
2. Pooja Khanna, "English Communication", S.CHAND Publishing, 2016
3. Rabindranath Tagore, "The Postmaster", Penguin India, 2000

REFERENCE BOOKS:

1. K.A.Abbas Suresh Kohli, "An Evening in Calcutta", HarperCollins, 2015
2. Stanley Houghton, "Five one act plays", Alpha Edition, 2019
3. Edited Prof. Jasbir Jain, "Strings of Gold (Part- II)", MacMillan, 2016

Course Coordinator **HOD**

U18MCSC201	DATA STRUCTURE	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Computer Science / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department:-Ms.V.Ramya/BCA				

COURSE OBJECTIVES:-

Learners will be familiar with basic data structure and algorithm analysis. Learners will understand the applications of data structure & able to apply the problem solving techniques using data structure.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in fundamental data structure
CO2	Describe the concept of algorithmic design and implementation
CO3	Apply suitable data structure for developing a real time application
CO4	Analyze the algorithm for its complexity and performance
CO5	Apply data structures and algorithms on which file structures and data bases are based
CO6	Analyze an real time application using a suitable data structure

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PS O2	PSO 3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	-								
	CO4	M	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Data Structures: Definition of a Data Structure – Primitive and Composite data types, Asymptotic notations, Arrays, Operation on arrays, Order lists.

UNIT II **12**

Stacks - Applications of Stack - Infix to Postfix Conversion, Recursion, Maze Problems - Queues - Operations on Queues, Queue Applications, Circular Queue.

UNIT III **12**

Singly Linked List - Operations, Application - Representation of a Polynomial, Polynomial Addition; Doubly Linked List - Operations, Applications Ordering of Books in Library (Alphabetical Ordering).

UNIT IV **12**

Trees and Graphs: Binary Trees - Conversion of Forest to Binary Tree, Operations - Tree Traversals; Graph - Definition, Types of Graphs, Hashing Tables and Hashing Functions, Traversal- Shortest Path; Dijkstra's Algorithm.

UNIT V **12**

Algorithm - Definition - Examples - Complexity - Divide and Conquer - Binary Search - Maximum and Minimum - Merge Sort.

TEXT BOOKS

1.Seymour Lipschutz, "Data Structures", McGraw Hill, Revised FirstEdition,2014.

2. E.Horowitz and S.Shani,"Fundamentals of Data Structures in C++", Galgotia Pub.1999.

3. Jitendra Patel," Data Structure, Algorithms and Design Techniques",4All Series.

REFERENCE BOOKS

1. Seymour Lipschutz, "Data Structures with C" McGraw Hill Education, Special Indian Edition, 2014.
2. R.F. Gilberg, B.A. Forouzan, "Data Structures" Second Edition, Thomson Indian Edition, 2005.
3. A.V.Aho, J.E.Hopcroft and J.D.Ullman, "Data Structures and Algorithms", Pearson Education, First Edition, Reprint 2003.
4. Reema Thareja, "Data Structures using C", Oxford Higher Education, First Edition, 2011.

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Course Coordinator **HOD**

U18MCSC202	**PROGRAMMING IN C++**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Computer Science/ Mathematics Studied in Higher Secondary Studies.				
	Course Coordinator Name &Department :- Ms.N.Mathimagal/BCA				

COURSE OBJECTIVES :-

Learners will be familiar with the basic programming in C++ concepts and to demonstrate the differences between traditional imperative design and object-oriented design.

COURSE OUTCOMES (COs)

CO1	Remember the basic concepts and elementary of C++ programs.
CO2	List algorithmic thinking and apply it to programming.
CO3	Gain knowledge to use problem-solving techniques.
CO4	Analyze the programming with different operators
CO5	Ability to apply OOPs concepts
CO6	Used to implement real time application using suitable logic programming in C++

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	M	-								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT-I **12**

Principles of Object Oriented Programming (OOP): Software Evolution-OOP Paradigm-Basic Concepts of OOP-Benefits of OOP- Object Oriented Languages-Applications of OOP

UNIT -II **12**

Introduction to C++; Tokens, Keywords, Identifiers, Variables, Operators, Manipulators, Expressions and Control Structures in C++; Pointers - Functions in C++ - Main Function-Function Prototyping - Parameters Passing in Functions - Values Return by Functions - Inline Functions - Friend and Virtual Functions

UNIT-III **12**

Classes and Objects; Constructors and Destructors; and Operator Overloading and Type Conversions - Type of Constructors - Function overloading

UNIT -IV **12**

Inheritance: Single Inheritance - Multilevel Inheritance - Multiple Inheritance - Hierarchical Inheritance - Hybrid Inheritance. Pointers, Virtual Functions and Polymorphism; Managing Console I/O operations

UNIT-V **12**

Working with Files: Classes for File Stream Operations - Opening and Closing a File - End-of-File Deduction - File Pointers - Updating a File - Error Handling during File Operations - Command-line Arguments.

TEXT BOOKS

1. E. Balagurusamy,1995,Object Oriented Programming with C++, Tata McGraw-Hill Publishing Company Ltd.
2. Herbert Schildt, 1999, C++ - The complete Reference, Third Edition, Tata McGraw – Hill.
3. E.Horowitz and S.Shani,1999,Fundamentals of Data Structures in C++ , Galgotia Pub.
4. Robert Lafore, Object Oriented Programming in Microsoft C++, Galgotia publications

REFERENCE BOOKS

1. Robert Lafore, Object Oriented Programming in Microsoft C++, Galgotia publications.
2. Bjarne Stroustrup, Programming: Principles and Practice Using C++.
3. Stanley Lippman, Josée Lajoie, Barbara Moo, C++ Primer.
4. Scott Meyers, Effective Modern C++.
5. Bjarne Stroustrup, A Tour of C++.

Course Coordinator **HOD**

U18NCMA204	MATHEMATICS –II	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Computer Science / Mathematics Studied in Higher Secondary				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

- Learners will be familiarized with certain concepts in Integral calculus, ordinary Differential Equations and Laplace Transforms.
- To direct the students to develop problem solving skills based on the concepts of vector differentiation and vector integration.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Bernoulli's formula
CO2	Understand the concept of equations with constant coefficients
CO3	Apply suitable ideas in Vector differential operator∇
CO4	Analyze the algorithm in inverse Laplace transforms
CO5	Evaluate the problems in Stoke's and Green's theorems
CO6	Create an real time application of surface and volume integrals

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M	-	-	-	-	M	H		
	CO2	M	H	-	-	-	-	M			
	CO3	H	M	-	-	-	-	M			
	CO4	H	H	-	-	-	-	M			
	CO5	M	H	-	-	-	-	M			
	CO6	H	H	-	-	-	-	M			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT-I: **INTEGRAL CALCULUS** **12**

Bernoulli's formula, simple problems, Fourier series for functions in $(\propto, \propto+2\pi)$, Half range sine and cosine series.
Chapter 2, Section 2.7 and 2.9
Chapter 4, Section 4.1 to 4.2

UNIT-II: **ORDINARY DIFFERENTIAL EQUATIONS** **12**

Second order non- homogeneous differential equations with constant coefficients of the form ay" +by'+ cy = X where X is of the form $e^x, \sin x, \cos x, X^2, e^{\propto x}\cos \beta x$ and $e^{\propto x}\sin \beta x$.

UNIT-III: **LAPLACE TRANSFORMS:** **12**

Laplace transformations of standard functions and simple properties, inverse Laplace transforms, Application to solution of linear differential equations up to 2^{nd}order- simple problems.
Chapter 7, Section 7.1.1 to 7.1.4 and 7.2 to 7.3

UNIT – IV: **VECTOR DIFFERENTIATION** **12**

Introduction, Scalar point functions, Vector point functions, Vector differential operator∇ , Gradient, Divergence, Curl, Solenoidal, irrotational, identities. Chapter 8, Section 8.1 to 8.4.4

UNIT – V: VECTOR INTEGRATION **12**

Line, surface and volume integrals, Gauss, Stoke's and Green's theorems (without proofs)- Simple problems.
Chapter 8, Section 8.5 to 8.6.3

TEXT BOOK:

1. Content and treatment as in Allied Mathematics Volume I and II by P. Duraipandian and S. Udayabaskaran, S. Chand Publications

REFERENCES:

1. S. Narayanan and T.K. Manickavasagam Pillai – Ancillary Mathematics, S. Viswanathan Printers, 1986, Chennai.

2. Allied Mathematics by Dr. A. Singaravelu

Course Coordinator **HOD**

U18HSCH201	**ENVIRONMENTAL STUDIES**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course –Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. G. Gurumoorthy / Chemistry				

COURSE OBJECTIVES :-

To make the students learn about the science from the basic and understood all theoretical background with all concepts thoroughly to protect the habitat of biotic and abiotic ecosystem.

COURSE OUTCOMES (COs)

CO1	Remember the fundamental concept of environmental impact and importance of natural Resources
CO2	Understand about the Ecosystem, Biodiversity and its conservation
CO3	Understand the various environmental pollution, effects and prevention.
CO4	Apply the environmental legislations and environmental production act.
CO5	Apply the human rights, value education, environment and human health: women and child welfare, public awareness
CO6	Analyze the local area, local polluted site and local simple ecosystem.

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L	H			H		H		
	CO2	H	L	H			H				
	CO3	H	L	H			H				
	CO4	H	L	H			H				
	CO5	H	L	H			H				
	CO6	H	L	H			H				

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

Unit – I: Introduction to Environmental Sciences: Natural Resources: 6

Environmental sciences – relevance – significance – public awareness – forest resources – water resources – mineral resources – food resources – conflicts over resource sharing – exploitation – land use pattern – environmental impact – fertilizer – pesticide Problems - case studies.

Unit – II: Exosystem, Biodiversity and its conservation: 6

Ecosystem – concept – structure and function – producers, consumers and decomposers –food chain – food web – ecological pyramids – energy flow – forest, grassland, desert and aquatic ecosystem – definition – genetic, species and ecosystem diversity – biodiversity – definition – genetic, species and ecosystem diversity – values and uses of biodiversity – biodiversity at global, national (india) and local levels – hotspots, threats to biodiversity –conservation of biodiversity – insitu and ex-situ.

Unit – III: Environmental Pollution and Management 6

Environmental pollution – causes – effects and control measures of air, water , marine, soil, solid waste. Thermal, nuclear pollution and disaster management – floods, earth quake, cyclone and land slides, role of individuals in prevention of pollution – pollution case studies.

Unit – IV: Social issues – Human population: 6

Urban issues – energy – water conservation – environmental ethics – global warming – resettlement and rehabilitation issues – environmental legislations – environmental production act. 1986 – air, water, wildlife and forest B.C.A.: syllabus (CBCS) conservation act - population growth and explosion – human rights and value education – environmental health – HIV/AIDS – role of it in environment and human health – women and child welfare – public awareness – case studies.

Unit – V: Field Work: 6

Visit to a local area / local polluted site / local simple ecosystem – report submission.

Text Book:

1. K. Kumarasamy, A. Alagappa Moses and M. Vesanthy, Environmental Studies, 2004, Bharathidasan University Pub, 1, Trichy.
2. Y. K. Singh, Environmental Science, 2006, New Age International (P) Limited, New Delhi.
3. Divya Agarwal and Manoj K. Agarwal, Environmental Science, 2014, Astral International Pvt. Ltd,New Delhi.

Reference book:

1. Rajamannar, 2004, Environmental Studies, EVR College Pub, Trichy.
2. S. Kalavathy, (ED.) 2004, Environmental Studies, Bishop Heber College Pub. Trichy.
3. G. TylerMiller, Scott Spoolman, 2018, Environmental science, 16th edition.

Course Coordinator **HOD**

U18HSBC202	VALUE EDUCATION	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary level				
	Course Coordinator Name & Department:- Ms. G. Vinothini, Commerce				

- **COURSE OBJECTIVES**
- To enable the students to understand the Social values.
- To provide knowledge on the features forlife.
- To acquire the knowledge on Humanrights.
- To impart the knowledge on Environment and Ecologicalbalance.
- To educate the knowledge on Socialevils..

COURSE OUTCOMES (COs)

CO1	Recall the basic concept of human values, Social Value role of medias, Self-introspection – Self esteem
CO2	Understand the duties and responsibilities of individuals and role of media
CO3	Apply Salient features for life, : Truth, commitment,, honesty and integrity, forgiveness and love and also positive creative thinking
CO4	Demonstrate Universal declaration of Human rights, peace and nonviolence – Dr. APJ Abdul Kalam's ten points for enlightened citizenship.
CO5	Analyze living and nonliving environmental balance, Ecological balance and conservations and enrichment
CO6	Manipulate the awareness on Corruption, crime, terrorism, Alcoholism, Drug addiction, Dowry

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M	M					H		
	CO2	H	H	H		L					
	CO3	M	H	M	M						
	CO4	H	M	L							
	CO5	H	H	M			M				
	CO6	M	M	L							

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓					✓			

	Approval	Academic Council Meeting

UNITI **6**

Value education: Definition- relevance to present day – concept of human values – self introspection – Self esteem- duties and responsibilities of individuals- Social values- role of media in value building.

UNIT II **6**

Salient features for life: Truth, commitment,, honesty and integrity, forgiveness and love, empathy and ability to sacrifice, care, unity and inclusiveness, Team work- positive creative thinking.

UNIT III **6**

Human rights: Universal declaration of Human rights- human rights violation – National integration – peace and non violence – Dr. APJ Abdul Kalam's ten points for enlightened citizenship

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UNIT IV **6**

Environment and Ecological balance: Interdependent of all being – living and non living – the binding of man and nature – Environmental conservations and enrichment.

UNIT V **6**

Social evils : Corruption – cyber crime, terrorism, Alcoholism, Drug addiction, Dowry – Domestic violence – untouchability – female infanticide – atrocities against women – How to tackle them.

TEXTBOOK

1. N. Arumugam, S. Mohana, Lr. Palkani- value based education- Saras Publication,2009
2. DN Ghose, Value Education- dominant publishers,2005
3. M.G. Chitakra, Education and Human values, A.P.H Publishing Corporation. NewDelhi

REFERENCE BOOKS

1) For Life, for the future: Reserves and Remains – UNESCOPublications.
2) Values, A Vedanta kesari presentations, Sri Ramakrishna Math,Chennai
3) Values for Excellence in Life Compiled by then Curriculum Development Cell Thiagarajar College, Madurai, in collaboration with the Education wing, Brahma Kumaris, Madura

Course Coordinator **HOD**

U18MCSC2L1	PROGRAMMING IN C++ LAB	L	T	P	C
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course – Computer Applications / Mathematics Studied in Higher Secondary Studies.				
	Course Coordinator Name &Department :- Ms. N.Mathimagal/BCA				

COURSE OBJECTIVES :-

Learners will be familiar with the basic programming in C++ concepts and to gain knowledge to create real time application.

COURSE OUTCOMES (COs)

CO1	Implement the basic concept of object oriented programming
CO2	Ability to implement virtual and friend functions.
CO3	Develop the programs for Stack and Queue
CO4	Analyze and implement the expressions for real time applications
CO5	Perform the Linked list operations.
CO6	Ability to use different searching and sorting methods for real time applications.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L							H	
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	M	-								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
					✓						
4	Approval	Academic Council Meeting									

S.NO	LIST OF PROGRAMS
1.	Inheritance
2.	Friend Function
3.	Virtual Functions
4.	Polymorphism
5.	File Concept
6.	Stack operations using Array
7.	Stack operations using Pointers
8.	Infix to Postfix conversion
9.	Queue operations using Array
10.	Queue operations using Pointers
11.	Polynomial addition using Arrays
12.	Singly linked list operations
13.	Doubly linked list operations
14.	Tree Traversals
15.	BFS and DFS

Course Coordinator **HOD**

SEMESTER III

U18HSTA301	**தமிழ்**– III	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department :முனைவர். த. கிறிஸ்டல் ரெஜி &தமிழ்த்துறை				

COURSE OBJECTIVES : காப்பியஇலக்கியம்மற்றும்நீதிஇலக்கியத்தை அறியச் செய்தல்

COURSE OUTCOMES (COs)

CO1	ஐம்பெரும்காப்பியங்களில்சிலப்பதிகாரம், மணிமேகலை, சீவகசிந்தாமணிபற்றிஅறிவர்
CO2	பிற்கால காப்பியங்களில் கம்பராமாயணம், தேம்பாவணி, சீறாப்புராணம் பற்றி அறிவர்
CO3	முக்கால நீதி இலக்கியங்களில் திருக்குறள், நாலடியார், இனியவை நாற்பது பற்றி அறிவர்
CO4	பிற்கால நீதி இலக்கியங்களில் மூதுரை, நன்னெறி, ஆத்தி சூடி பற்றி அறிவர்
CO5	காப்பியம் மற்றும் நீதி இலக்கிய வரலாற்றைப் பற்றி அறிவர்
CO6	காப்பியம், நீதி இலக்கியம் பற்றிய தெளிவான அறிவைப் பெறுவர்

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

அலகு1 **9**

சிலப்பதிகாரம் -இளங்கோவடிகள்- அடைக்கலக்காதை - 115-148, 201-219

மணிமேகலை - சீத்தலைச்சாத்தனார்-ஆபுத்திரன்திறம்அறிவித்தகாதை-1 - 115

சீவகசிந்தாமணி - திருத்தக்கத்தேவர்- குணமாலையார்இலம்பகம் - 851 - 860

அலகு2 **9**

கம்பராமாயணம்- **கம்பர்**- அயோத்தியகாண்டம்- கங்கைப்படலம் - 10

தேம்பாவணி - வீரமாமுனிவர்- நாட்டுப்படலம் - 10

சீறாப்புராணம் -உமறுப்புலவர்-நுபூவத்துக்காண்டம்-மானுக்குப்பிணைநின்றபடலம்- 1- 10

அலகு3 **9**

திருக்குறள் - திருவள்ளுவர்- கல்வி - 1 - 10

நாலடியார் - பொருட்பால் - நட்பாராய்தல் - 1 - 10

இனியவைநாற்பது - பூதஞ்சேந்தனார் - 1 – 10

அலகு4 **9**

மூதுரை - அவ்வையார் - 1- 10

நன்னெறி - சிவப்பிரகாசர் - 8,12,18,24,39

புதியஆத்திசூடி - பாரதியார் - 1- 25

அலகு5 **9**

காப்பியஇலக்கியவரலாறு- நீதிஇலக்கியவரலாறு

பாடநூல்கள்:

1. ந.மு.வேங்கடசாமிநாட்டார், "சிலப்பதிகாரம்", ராமையாபதிப்பகம், 2010
2. புலியூர்க்கேசிகன், "மணிமேகலைமூலமும்உரையும்", சாரதாபதிப்பகம், 2017
3. ஆசிரியர்குழு, "சீவகசிந்தாமணிமூலமும்உரையும்", சாரதாபதிப்பகம், 2015
4 அ.ச.ஞானசம்பந்தன், "கம்பராமாயணம்மூலமும்உரையும்", நியூசெஞ்சுரிபுக்ஸ்,2010
5. வீரமாமுனிவர், "தேம்பாவணிமூலமும்உரையும்", சாரதாபதிப்பகம், 2014
6. செய்குத்தம்பிபாவலர், "சீறாப்புராணம்", யுனிவர்சல்பப்ளிஷர்ஸ், 2010
7. கலைஞர்மு.கருணாநிதி, "திருக்குறள்கலைஞர்உரை", திருமகள்நிலையம், 2010
8. பத்மதேவன், "நாலடியார்மூலமும்உரையும்", கற்பகம்புத்தகாலயம், 2010
9. தமிழ்ப்பிரியன், "இனியவைநாற்பதுமூலமும்.உரையும்", கற்பகம்புத்தகாலயம், 2007
10. ந.மு.வேங்கடசாமிநாட்டார், "மூதுரை", ராதாபதிப்பகம், 2010

பார்வைநூல்கள்:

1. அ.சீனிவாசன், "பாரதியின்புதியஆத்திச்சூடி: ஒருவிளக்கவுரை" , 1999
2. சு.ஆனந்தன், "தமிழ்இலக்கியவரலாறு", பாரிநிலையம், 2018
3. கதிர்முருகு, "நன்னெறிமூலமும்உரையும்", சாரதாபதிப்பகம், 2016

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18HSHI301	Hindi	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Hindi as second language in Grade 12				
	Course Coordinator Name & Department:- Dr. K. MustakHusaain / Department of Hindi				

COURSE OBJECTIVES: -

To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)

CO1	Remember of Ramayana in Panchavati part
CO2	Understand the history of Hindi literature
CO3	Apply the concept of Hindi grammatical speech
CO4	Analyze and develop the translation skills
CO5	Evaluate and develop the unseen passage skills
CO6	Create the skills in Hindi language

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

UNIT I **09**

POETRY - PANCHAVATI

UNIT II **09**

HISTORY OF HINDI LITERATURE - Aadi Kaal and Bhakthi Kaal - general knowledge of the trends of the difference streams

UNIT III **09**

ALANKAR – Anupras – Yamak - Slesh - VakrokthiUpama – Rupak – Drishtanth - Virodhabas.

UNIT IV **09**

TRANSLATION - HINDI – ENGLISH

UNIT V **09**

COMPREHENSION

Text Books:

By MaithilisharanGupt, AnuvadhAbhyas – III

Reference Books:

Publisheres - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator **HOD**

U18HSFR301	Française	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – French as second language in Grade 12				
	Course Coordinator Name & Department:- Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES :-

Développer les aspects techniques de la langue et des nuances grammaticales variées pour interpréter le sujet.

COURSE OUTCOMES (COs)

CO1	Transmettre les différents aspects qui composent la langue.
CO2	Pour apprendre certains faits, procédures, pratiquer certaines structures grammaticales et pratiquer des stratégies de communication.
CO3	Pour apprendre la culture des natifs de la langue.
CO4	Analyser les différences entre la grammaire de base et avancée.
CO5	Se souvenir de l'interdépendance entre les conjugaisons
CO6	Comprendre les restrictions grammaticales.

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

UNIT I Vivement demain! **9**

Le future- La comparaison des qualities, des quantities et des actions

UNIT II Le Tu as du boulot? 9

Le pronom (en)-Le pronom (Y)-Expression de la condition

UNIT III -Qu'en pensez - vous? 9

Le subjonctif (employ lie a quelques verbs)- Expression de la quantite (poids et mesure-evaluation-restriction)

UNIT IV - C'est tout un programme! 9

Les propositions relatives introduites par (qui, que, ou)-Les adverbs (place, formation des adverbs en-ment)-

La forme ((en + participle present))

UNIT V On se retrouve ! 9

Emploi et conjugaison des quatre temps de l'indicatif quatre temps de l'indicatif:--passe recent--Present -Passe compose-Imparfait et future

TEXT BOOKS:

A2 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator HOD

U18HSEN302	**ENGLISH- III**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept: Mrs. B.JANUA SHERLY – English				

COURSE OBJECTIVES:- To enhance the reading, writing, listening and speaking of the English language skills..

COURSE OUTCOMES (COs)

CO1	Remember and recollect the value of LSRW skills.
CO2	Understand the competence of the four modes of language skills.
CO3	Apply the grammatical concepts and the correct usage of the English language.
CO4	Analyze their personality traits and develop interpersonal skills for a better career in life
CO5	Evaluate the knowledge and write resume official letters and reports
CO6	Create and develop their ability as critical thinkers and readers.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PS O3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								

4	**Approval**	Academic Council Meeting

UNIT 1 - LISTENING SKILLS **9**

Types of Listening (Theory / Definition) - Tips for Effective Listening -Academic Listening (Lectures) - Listening to Radio and Television

UNIT 2 - TELEPHONE SKILLS **9**

Basics of Telephone communication -How to handle calls- telephone manners -Leaving a message -Making requests -Greeting and Leave Taking over phone (etiquette) - Handling the situations especially trouble shooting Teleconference - handling Tele interviews for Call Centers

UNIT 3 - WRITING SKILLS **9**

Standard Business letter - Report writing- Email drafting and Etiquettes - Preparing Agenda and writing minutes for meetings - Making notes on Business conversations

UNIT 4 - CAREER SKILLS **9**

Applying for job -Cover letters -Resume and Effective Profiling - Interviews - Group discussions

UNIT 5 – PERSONAL SKILLS **9**

Empathy (Understanding third person's point of view) -Intrapersonal skills -Interpersonal skills- Problem solving

TEXT BOOKS:

1. Improve Your IELTS Listening and Speaking Skill by Barry Cusack, 2007

2. Roche Marc, "Advanced English Writing Skills: Master class for English Language, Roche Publishing ESL, 2019

REFERENCE BOOKS:

1. Frederick H. Wentz, "A Workbook to Develop Skills For Employment", Create space Independent Pub,2012

2. S. P. Dhanavel, "English and Soft Skills", Orient Black Swan, First edition, 2010

Course Coordinator **HOD**

U18MCSC301	**COMPUTER ARCHITECTURE**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department :- Ms.S.Anupriya/BCA				

COURSE OBJECTIVES :-

Learners will be familiar with the basic concepts of Computer Architecture and to understand the working of computer Systems & its basic principles.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in basics of Computer and instruction sets
CO2	S the concept of Pipeline and its types
CO3	Apply the concept to design a hardware component
CO4	Analyze the various Input/ Output Operations & its data transfer
CO5	Study the architecture design of a computer & its type of memory
CO6	Used to design real time application using different computer architecture

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	M	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
					✓						
4	Approval	Academic Council Meeting									

UNIT -I CENTRAL PROCESSING UNIT 12

General registers and stack organization – instruction formats- addressing modes – data transfer and manipulations – program control – RISC.

UNIT -II PIPELINING 12

Arithmetic, instruction and RISC pipelining – vector processing, array processor.

UNIT-III COMPUTER ARITHMETIC 12

Addition, subtraction, multiplication and division algorithms for signed magnitude data- floating point arithmetic operations, decimal arithmetic unit.

UNIT -IV INPUT/OUTPUTORGANIZATION 12

Peripheral Devices – I/O interfaces – asynchronous data transfer – modes of transfer – priority interrupt – DMA – I/O processors – Serial Communication.

UNIT-V MEMORY ORGANIZATION 12

Memory hierarchy – main memory – auxiliary memory – associative, cache and virtual memory– multiprocessor –characteristics -interconnection structures – inter- processor arbitration.

TEXT BOOKS:-

1. Morris Mano,"Computer System Architecture", Third Edition, PHI, 1994.
2. J.P.Hayes ,"Computer System Architecture", Mc-GrawHill, 1988.
3. Hennessy, J.L., Patterson, D.A, and Goldberg, D., Computer Architecture a Quantitative Approach, Pearson Education Asia (2006) 4th edition.

REFERENCE BOOKS:-

1. V C. Hamacher, Z .G. Vraesic, S. G. Zaky, "Computer Organization", Tata McGraw Hill,1996.
2. Vincent P Heuring Harry F Jordan, "Computer system Design and Architecture", Addison Westey, 1999.
3. David A. Patterson and John L. Henessy, "Computer Organization and Design", Elsevier, Fourth edition, 2012.
4. Thomas C Bartee, "Computer Architecture and Logic Design", International Edition 1991, McGraw Hill.

U18MCSC302	PROGRAMMING IN JAVA	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Computer Science / Mathematics Studied in Higher Secondary Studies.				
	Course Coordinator Name &Department :- Ms.V.Ramya/BCA				

COURSE OBJECTIVES:-

Learners will be familiar with the basic programming in JAVA concepts and the ability to write a computer program to solve specified problems using Java structure.

COURSE OUTCOMES (COs)

CO1	Remember the basic concepts of object-oriented programming
CO2	Understand the classes and objects
CO3	Gain knowledge to create packages
CO4	Used to create Java SDK environment to create, debug and run simple Java programs.
CO5	Apply the concept of network programming
CO6	Examine a event driven programming using applets

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L							H	
	CO2	H	L								
	CO3	H	L								
	CO4	M	-								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/TermPaper/ Seminar/ Internship (PR)	
					✓						
4	Approval	Academic Council Meeting									

UNIT I **12**

Introduction to Java – Features of Java – Object Oriented Concepts – Lexical Issues – Data Types – Variables – Arrays – Operators – Control Statements.

UNIT II **12**

Classes – Objects – Constructors – Overloading method – Static and fixed methods – Inner Classes – String Class – Inheritance – Overloading methods – Using super – Abstract class.

UNIT III **12**

Packages – Access Protection – Importing packages – Exception Handling – Throw and Throws – Thread – Synchronizing – Messaging – Runnable Interface – Inner thread Communication – Deadlock – Suspending, Resuming and stopping threads – Multithreading.

UNIT IV **12**

I/O streams – File Streams – Applets-String Buffer-Char Array-Java Utilities-Code Documentation.

UNIT V **12**

Networks basics-Select Programming-Proxy Servers-TCP/IP Sockets-Net Address-URL- Datagrams-Working with windows using AWT Classes-AWT Controls-Layout Managers and Menus.

TEXT BOOKS

1. P.Naughton and H.Schildt ,Java2 ,The Complete References, Third Edition, TMH,1999.
2. E.Balaguruswamy,Programming with Java: A Premier,ThirdEdition,McGrawHill,2007.
3. Cay S.Horstmann, Gary Cornell ,Core Java , Volume 1 – Fundamentals,5thPHI,2000.

REFERENCE BOOKS

1.K.Arnold and J.Gosling- The Java Programming Language, Second Edition, Addison Wesley,1996.
2. Herbert Schildt, Java: A Beginner's Guide, 8th Edition, McGraw-Hill Education.
3. Kathy Sierra & Bert Bates ,Head First Java, 2nd Edition.
4. Scott Oaks , Java Performance: The Definite Guide, 1st Edition.
5. Cay S. Horstmann , Core Java Volume I – Fundamentals, 11th Edition, Prentice Hall.

Course Coordinator **HOD**

U18NCMA304	STATISTICAL METHODS	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Computer Science / Mathematics Studied in Higher Secondary				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

- Learners will be familiarized with certain concepts in Measures of central tendency, Correlation.
- To direct the students to develop problem solving skills based on the concepts of Sample spaceand Statistical hypothesis.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in coefficient of variation
CO2	Understand the concept of karlpearsons spearman's rank correlation
CO3	Apply algorithms in Regression Equation for two variables
CO4	Analyze the algorithm for Correlation and Proportional.
CO5	Evaluate the solution of variance
CO6	Create an real time application of randomization

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M	-	-	-	-	M	H		
	CO2	M	H	-	-	-	-	M			
	CO3	H	M	-	-	-	-	M			
	CO4	H	H	-	-	-	-	M			
	CO5	M	H	-	-	-	-	M			
	CO6	H	H	-	-	-	-	M			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT – I: MEASURES OF CENTRAL TENDENCY **12**

Measures of central tendency- Arithmetic Mean, Median, Mode, Geometric Mean, Harmonic Mean and their properties. Measures of Dispersion- Range,Quartile Deviation mean deviation, Standard deviation, combinedStandard deviation, coefficient of variation.Measures of Skewness , Karl Pearson's Bowley's, Kelly's and coefficient of skewness and kurtosis based on moments.

UNIT – II: CORRELATION **12**

Correlation – methods of studying correlation- graphical method- karlpearsons spearman's rank correlation-regression analysis– construction of Linear Regression Equation for two variables.

UNIT – III: PROBABILITY **12**

Sample space- events- Probability- Addition and Multiplication Theorem of Probability – conditional probability-Bayes' theorem of Probability. Mathematical expectations- Addition Multiplication theorem-Simple problems.

UNIT – IV:TESTING OF HYPOTHESIS. **12**

Statistical hypothesis –types of error- Test of significance- Small sample and large sample test based on normal t, F, χ – Square of mean-Standard Deviation-Correlation and Proportional.

UNIT - V: DESIGN OF EXPERIMENTS **12**

Basic Principle of design of experiments – randomization, replication and local control

in design of experiments – (CRD,RBD,LSD) analysis of variance – one way, two way classification and Latin square design.

Text Book:

1. Gupta S.C and V.K. Kapoor, "Fundamentals of Mathematical Statistics", Sultan & Sons, New Delhi. (2013) .

References:

1. Gupta SP, "Statistical Methods", Sultan & Sons, New Delhi (1995)
2. Kapoor and Saxena, "Mathematical Statistics", Chand & Co, New Delhi.

CourseCoordinator **HOD**

U18MCSC3L1	**PROGRAMMING IN JAVA LAB**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course – Computer Applications / Mathematics Studied in Higher Secondary Studies.				
	Course Coordinator Name &Department :- Ms.V.Ramya/BCA				

COURSE OBJECTIVES :- Ability to develop application using java SDK environment,AWT and Applet

COURSE OUTCOMES (COs)

CO1	Comprehend a simple java program using OOPs concepts
CO2	Ability to use an interface.
CO3	Examine packages and apply exception handling in real time application
CO4	Implement the concept of thread
CO5	Write applications using AWT and Applet.
CO6	Ability to handle Frames & Layout

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L							H	
	CO2	H	L								
	CO3	H	-								
	CO4	M	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
					✓						
4	Approval	Academic Council Meeting									

S.NO	APPLICATION PROGRAMS
1.	String manipulation using Buffered Reader Class.
2.	Determining the order of numbers generated randomly using Random Class
3.	Implementing built-in functions from Vector Classes
4.	Usage of Calendar Class and manipulation
5.	Implementing Method Overloading
6.	Implementation of Method Overriding
7.	Implementation of Multiple Inheritance (Interface)
8.	Implementation of Exception Handling.
9.	Creating a Thread Using Thread Class
10.	Creating a Thread based applications using Runnable Interface
11.	Application using synchronization such as thread based, Class based and synchronized
	APPLET
12.	Working with Dialogs
13.	Working with Menus Creation
14.	Working with Panel and Layout.
15.	Working with Frames and various controls
16.	Working with Colors and Fonts.

Course Coordinator **HOD**

U18HSHI401	Hindi	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Hindi as second language in Grade 12				
	Course Coordinator Name & Department:- Dr. K. Mustak Husaain / Department of Hindi				

COURSE OBJECTIVES: -

To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)	
CO1	Rememberthe skills of the leadership
CO2	Understand and develop the skills to overcome the mistake
CO3	Apply the concept of Hindi essay writing
CO4	Analyzeand develop the translation skills
CO5	Evaluate the unseen passage skills
CO6	Create and develop the Hindi language skills

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO 3**
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

UNIT I **09**
DRAMA – Andher Nagari

UNIT II **09**
NOVEL - GABAN - Premchand

UNIT III **09**
GENERAL ESSAY

UNIT IV **09**
TRANSLATION - HINDI – ENGLISH

UNIT V **09**
COMPREHENSION

Text Books:

ByBharathendu Harischandra**,** Veerendra Kumar Mishra, Anuvadh Abhyas – III

Reference Books:

UNIT 1 - Publisher–Vani Prakashan, New Delhi – 110 002.
UNIT II – Publisher - Rajkamal Prakashan, New Delhi – 110 002
UNIT III – Aadarsh Nibnandh, Vinodh Pustak Mandir, Hospital Road, Agra -282002
UNIT IV - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17
UNIT V - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator **HOD**

U18HSFR401	Française	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – French as second language in Grade 12				
	Course Coordinator Name &Department:- Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES :-

Initier les étudiants aux niveauxavancés de la langue.

COURSE OUTCOMES (COs)

CO1	Pour apprendre la culture des natifs de la langue dans la configuration avancée.
CO2	Comprendre la structure grammaticaleintégraleenfrançais.
CO3	Encourager le développement de compétencesenlinguistique
CO4	Évaluerl'ensemble des compétencesorales et écrites
CO5	Se souvenir de la construction du langage
CO6	Pour améliorer la maîtriseavancée de la langue

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

UNIT I Vousplaisantez! **9**

Le conditionnel present -expression de l'hypothese-demandes polies-suggestions et conseils

UNIT II On s'entend bien! **9**

Les constructions du discours rapport-Les constructions (faire + verbe)-et (laisser + verb)

UNIT III A vos risqué et perils! **9**

Le subjonctif Present- La construction passive pourmetreenvaleurl'object direct de l' action

UNIT IV C'est tout un programme! **9**

Les pronom possessives -Les adjectifs et les pronomsindefinis-Les pronomdemonstratifs:

Les constructions --celui+de

UNIT V C'est la fete ! **9**

Les fornes de l'appreciation : trop/ pas assez –si-Les constructions verbe+verbes

TEXT BOOKS:

A2 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

Course Coordinator **HOD**

U18HSEN402	**ENGLISH- IV**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept. :Ms.E.REKHA - English				

COURSE OBJECTIVES:- To focus on the balanced development of the English language communication skills.

COURSE OUTCOMES (COs)

CO1	Remember the basic concepts of English literature
CO2	Understand the importance of the English language.
CO3	Apply the themes and values by comprehending the given text.
CO4	Analyse the grammar and the literary texts.
CO5	Evaluate the characters and the genre prescribed.
CO6	Create comprehensive essays efficiently.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O1	PS O2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L								
	CO4	H	L						H		
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Eng Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								

4	**Approval**	Academic Council Meeting

UNIT 1 - PROSE **9**

Lalajee – Jim Corbett – Author Biography – Plot – Theme - Summary - Critical analysis; **Face of Judas** – Bonnie Chamberlin - Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2 - POETRY **9**

Laugh and Be Merry – **John Masefield** – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Matilda - Hilaire Belloc**- Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis.

UNIT 3: SHORT STORIES **9**

Hunchback Sundari – **C.Raja Gopalachari** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Eyes Are Not There - Ruskin Bond**- Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT 4: ONE-ACT PLAYS **9**

Macbeth Soliloquy – **Out, Out, Brief Candle - Shakespeare** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **Julius Ceasar - Anthony's Funeral Speech** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT 5: FUNCTIONAL ENGLISH **9**

Wh – Questions - Pattern – Active and Passive voice – usage of passive voice – structure of passive verb; Modal verbs – Tenses.

TEXT BOOKS:

1. Corbett, "My India", Rupa Publications India Pvt. Ltd., 2018
2. Stories of Innocent by C.Rajagopalachari, Bharathiya Vidya Bhavan, 2009
3. Shakespeare, "Macbeth", Macmillan Publisher, 2014

REFERENCE BOOKS:

1. Shakespeare – The Complete Work; Wilco Publishing House, Mumbai, India. 2005
2. Hilaire Belloc, "Matilda", Random House UK, 1994

Course Coordinator **HOD**

U18MCSC401	OPERATING SYSTEMS	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course –				
	Course Coordinator Name & Department :- Ms. K.Hemalakshmi & Dept of CS				

COURSE OBJECTIVES :-

Learners can know about essential part of any computer system with the help of an operating system. The purpose of this course is providing a clear understanding of the concepts that underlie operating systems.

COURSE OUTCOMES (COs)

CO1	Remember the concepts to gain knowledge about an operating system and the role it plays
CO2	Understand the high-level structure of operating systems, applications, and the relationship between them.
CO3	Applying various knowledge of the services provided by operating systems. Exposure to some details of major OS concepts.
CO4	Analyzing about the behavior of the different scheduling, memory management and file systems.
CO5	Implement the concept of Virtual memory and learn about techniques to manage and recovery from the deadlock.
CO6	Used to create different types of I/O system.

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO 2	PSO 3
2	**CO1**	**H**	**L**						**H**		
	CO2	**H**	**L**								
	CO3	**H**	**L**								
	CO4	**H**	**L**								
	CO5	**H**	**L**								
	CO6	**H**	**L**								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
					✓						
4	Approval	Academic Council Meeting									

UNIT I **12**

Introduction: Views – Goals – Types of system – OS structures – Components – Services – System Structur – LayeredApproach – Virtual Machines – System Design and Implementation. Process Management: Process – Process Scheduling – Cooperating Process – threads – Inter- process communication CPU Scheduling: CPU schedulers – SchedulingCriteria – SchedulingAlgorithms.

UNIT II **12**

Process Synchronization: Critical- Section Problem – Synchronization Hardware – Semaphores – ClassicalProblems of synchronizing – Critical Region – Monitors. Deadlock: Characterization – Methods for Handling Deadlocks – Deadlocks Prevention – Avoidance – Detection – Recovery.

UNIT III **12**

Memory Management: Address Binding – Dynamic Loading and Linking – Overlays – Logical and Physical AddressSpace – Contiguous Allocation – Internal&External Fragmentation. Non- Contiguous Allocation. Paging and Segmentation Schemes – Implementation – Hardware- Protection – Sharing – Fragmentation.

UNIT IV **12**

Virtual Memory: Demand paging – Page Replacement – Page Replacement Algorithms – Thrashing. File system: File concepts – Access Methods – Directory Structures – Protection - ConsistencySemantics – File System Structures – Allocation Methods – Free Space Management.

UNIT V **12**

I/O System: Overview – I/O Hardware – Application I/O Interface – Kernal I/O Subsystem – Transforming I/O Requests to Hardware Operations – Performance. Secondary Storage Structures: Protection – Goals – Domain – Access matrix – The Security Problem – Authentication – Threats – Threat Monitoring – Encryption.

TEXT BOOKS:

1. Siblerschatz P.B Galvin, Gange., "Operating System Concepts", 6th Edn., Addision –Wesley PublishingCo.,2002.
2. H.M. Deital, An Introduction to Operating System, second edition, Addision Wesley, 1990.
3. Operating Systems | Internals and Design Principles | Ninth Edition | By Pearson, William Stallings.

REFERENCE BOOKS:

1. "Operating System Concepts", by Abraham Silberchatz, Peter B Galvin, Gerg Gagne , 2016 Indian Edition.
2. "Modern Operating Systems" by Prof. Vishwajit K. Barbudhe, Notion Press; 1st edition (18 March 2020)
3. "Modern Operating Systems" by Kaushik Velusamy Shriram K. Vasudevan, Subashri Vasudevan, Sunandhini Muralidharan, Dreamtech Press (1 January 2019)
4. "Advanced Operating Systems and Kernel Applications: Techniques and Technologies", Yair Wiseman, Song Jiang, Information Science Reference; Illustrated edition , 2009.

Course Coordinator **HOD**

U18MCSC402	WEB TECHNOLOGY	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course –				
	Course Coordinator Name &Department :- Mr.R.Balamurugan - Dept of CS				

COURSE OBJECTIVES :-

Learners will be familiar with the basic concepts of web technology and Understand the various steps in designing a creative and dynamic website.

COURSE OUTCOMES (COs)

CO1	Remember the basic internet concepts
CO2	Gain knowledge to design dynamic and interactive web pages
CO3	Ability to create Events and functions in java script
CO4	Apply Dynamic HTML to create website
CO5	Understand the fundamentals of ASP .Net & to use web server controls
CO6	Design a website by connecting with data base for real time application.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO 2	PSO 3
2	**CO1**	**H**	**L**						**H**		
	CO2	**H**	**L**								
	CO3	**H**	**L**								
	CO4	**H**	**L**								
	CO5	**H**	**L**								
	CO6	**H**	**L**								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
					✓						
4	Approval	Academic Council Meeting									

UNIT – 1 **12**

Internet Basic – Introduction to HTML – List Creating Table – Linking document – Frames - Graphics to HTML Doc – Style sheet – style sheet basic – Add style to document – Creating style sheet rules – Style sheet properties – Font – Text – List – Color and Background color – Box – Display properties.

UNIT – 2 **12**

Introduction to JavaScript – Advantage of JavaScript – JavaScript syntax – Data type – Variable – Array – Operator and Expression – Looping Constructor – Function – Dialog box.

UNIT – 3 **12**

JavaScript document object model – Introduction – object in HTML – Event Handling – Window object – Document object – Browser Object – Form Object – Navigator object – Screen object – Build in object – User defined object – Cookies.

UNIT – 4 **12**

ASP.NET Languages structure – Page event, Properties & Compiler Directives. HTML server controls – Anchor, Tables, Forms, Forms, Files. Basic web server Controls – Label, Textbox, Button, Image, Links, Check & Radio button, Hyperlink. Data list Web server controls – Check box list, Radio button list, Drop down list, List box, and Data grid, Repeater.

UNIT – 5 **12**

Request and Response Objects, Cookies, Working with Data – OLEDB connection class, Command class transaction class, data adaptor class, data set class. Advanced Issues – Email, Application Security – Authentication, IP Address, Secure by SSL & Client Certificates.

Text Books

1. Bayross, Web Enable Commercial Application Development Using HTML, DHTML, JavaScript, Perl CGI, Fourth Edition,BPBPublications,2010.

2. Deitel H M, Nieto T.R, Internet and world wide web How to program, Fifth Edition, Prentice Hall of India Pvt. Ltd, NewDelhi,2011.

3. Thomas. A. Powell, The Complete Reference HTML&CSS, Fifth Edition.

Reference Books

1.Jaworski, Mastering JavaScript, BPB Publications,1999.
2.Deitel, Nieto,lin, Sadhu , XML How to program, Pearson Education,2005.
3.Joel Sklar, Principles of Web Design.
4.Ramesh Bangia, Web Technology: Including Html, Css, Xml, Asp, Java
5.Jeremy McPeak, JavaScript 24-Hour Trainer

Course Coordinator **HOD**

U18MCSC403	DATABASE TECHNOLOGY	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Nil				
	Course Coordinator Name & Department :- Dr. K. Rajakumari /CS				

COURSE OBJECTIVES:-

Leaner's can easily know about the information of the database technology is an essential part of any computer system. The purpose of this course is providing a clear understanding of the concepts that underline Database Technology.

COURSE OUTCOMES (COs)

CO1	Remember the fundamental elements of relational database management
CO2	Understand the basic concepts of relational data model, entity-relationship model, Relational database design, relational algebra and SQL.
CO3	Apply various ER-models to represent simple database application scenarios
CO4	Analyze the ER-model to relational tables, populate relational database and formulate SQL queries on data.
CO5	Analyze to improve the database design by normalization.
CO6	Used to create the database system architecture.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO 2	PSO 3
2	**CO1**	**H**	**L**						**H**		
	CO2	**H**	**L**								
	CO3	**H**	**L**								
	CO4	**H**	**L**								
	CO5	**H**	**L**								
	CO6	**H**	**L**								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					

4	Approval	Academic Council Meeting

UNIT I **12**

Database concepts - basic concepts- constraints - keys -ER diagram - reduction or ER schema – UML- design of an ER database schema - relational model - relational algebra- views - relational database- SQL structure - set quotation- sub queries- join relation- DDL - DML - embedded SQL,QBE.

UNIT II **12**

Integrity & security - domain constraints - referential integrity - assertion – triggers- authorization in SQL - relational database design- 1, 2, 3, 4, BCNF normal forms decompositio

UNIT III **12**

Object relational data model - nested relations - complex types - inheritance - reference types - querying with complex - types - functions & procedures- object oriented versus object relational – introduction to xml concepts.

UNIT IV **12**

Storage and file structure - physical storage media - file organization, data dictionary storage, query processing - selection operation - sorting - join operation transaction - concepts - state - atomicity and amiability - Serialisability - transaction definition in sql - concurrency control - protocols - deadlock handling.

UNIT V **12**

Database system architecture - centralized& client server architecture - server system architecture -case study - oracle.

TEXT BOOKS:

1. A. Silberschatz, H.F. Korth and S. Sudharshan, 2006, Database System Concepts, 5th Edition, Tata McGraw Hill, New Delhi.
2. C.J.Date, A.Kannan and S.Swamynathan,"An Introduction to Database Systems", Eighth Edition, Pearson Education, 2006
3. R. Elmasri, S.B. Navathe, "Fundamentals of Database Systems", Fifth Edition, Pearson Education/Addison Wesley, 2007

REFERENCE BOOKS:

1. Silbersehatz, h.f.korth and sudharshan ,Database system concepts , 4th ed ,mcgrawhill
2. Jeffrey .d. ullman ,principles of databasesystems,Galgotia
3. C.J.date ,An introduction to databasesystem
4.Thomas Cannolly and Carolyn Begg, "Database Systems, A Practical Approach to Design, Implementation and Management", Third Edition, Pearson Education, 2007.

Course Coordinator **HOD**

U18MCSC4L1	WEB TECHNOLOGY LAB	L	T	P	C
	Total Contact Hours - 30	0	0	4	2
	Prerequisite course – Nil				
	Course Coordinator Name &Department :- Mr. R.Balamurugan - Dept of CS				

COURSE OBJECTIVES :-

Learners will gain knowledge to handle basic web concepts and to create a dynamic website.

COURSE OUTCOMES (COs)

CO1	Implement the basic internet concepts using html.
CO2	Ability to design dynamic and interactive web pages.
CO3	Develop web pages using CSS
CO4	Ability to create Events and functions in java script
CO5	Apply Dynamic HTML to create website
CO6	Develop an application using HTML tags and javaScript.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO 2	PSO 3
2	**CO1**	**H**	**L**						**H**		
	CO2	**H**	**L**								
	CO3	**H**	**L**								
	CO4	**H**	**L**								
	CO5	**H**	**L**								
	CO6	**H**	**L**								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	47th Academic Council Meeting								

S.NO	LIST OF PROGRAMS
1.	Create a simple page introducing your-self, how old you are, what you do, what you like and dislike. Modify the introduction to include a bullet list of what you do and put a list on the 5 things you like most and dislike is numbered lists. Create another page about your favoritehobby, and link it to (and from) your main page. Centersomething, and put a quote on one of your pages.
2.	Put an existing image on a web page. Create a table, use a heading and at least one use of row span / col span. Colour a page and some text within the page. Link to another site.
3.	Create a new file called index.html.
4.	Put the normal HTML document structure tags in the file.
5.	Give a title.
6.	At the bottom of the page (i.e. the last thing between the body tags) put the following:
7.	A horizontal rule.
8.	A link to your email-address (with your name between the tag); remember to put the link to your email address within address tags.
9.	A line break.
10.	The Date (I have this same structure at the bottom of this page)
11.	Above this Block (which is called the footer), put a title in heading tags.
12.	Add some text describing you. (You can split this into multiple headings and paragraphs if you want).
13.	Write a script to create an array of 10 elements and display its contents.

Course Coordinator **HOD**

V - SEMESTER

U18MCSC501	PHP PROGRAMMING	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – Web Technology				
	Course Coordinator Name & Department :- Dr. S.Brintha Rajakumari / CS				

COURSE OBJECTIVES :-

Learners will gain practical experience in the overall view of web technologies and its programming with PHP.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in basic concepts of PHP and its advantages over other languages.
CO2	Understand HTML form elements that work with any server-side language.
CO3	Understand the concept of functions, arrays , strings and databases in PHP
CO4	Ability to validate user input.
CO5	Evaluate to perform various MySQL database queries
CO6	Create software using MYSQL database.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H	M	
	CO2	H	L								
	CO3	M	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	-								
3	Category	Part 1 Tamil/Linguistic Study	Part II Linguistic English	Part III Core	Part III Substream	Part III Project	Part IV Basic/ Advanced Tamil/ EVS/VE/ SBE/ Soft Skill	Part V Extension Activity	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
				✓							
4	Approval	Academic Council Meeting									

UNIT I – BASICS OF PHP **12**

Introduction to PHP – what does PHP Do? – a brief history of PHP – language basics lexical structure – data types – variables – expressions and operators – flow control statements – including code – embedding PHP in web pages.

UNIT II – FUNCTIONS & STRINGS **12**

Functions: Calling a function – defining function – variable scope – function parameters – return values – variable functions anonymous functions. Strings: Accessing individual characters – cleaning strings – encoding and escaping – comparing strings – manipulating and searching strings – regular expression.

UNIT III - ARRAYS **12**

Arrays: Indexed Vs associative arrays – identifying elements of an array – storing data in arrays - multidimensional array – extracting multiple values – converting between arrays and variables traversing arrays – sorting.

UNIT IV – OOPs Concept and PHP Forms **12**

Object-Oriented Programming in php: Class, Objects, Inheritance, Interface, Abstraction, Constructor, Destructor, Magic Methods – php Form: Create a form, POST method, GET method, GET vs POST Methods, Processing the registration form data – form validation

UNIT V - MYSQL DATABASES IN PHP **12**

Working with MYSQL Databases: connecting to and disconnecting from the server – Entering queries – Creating and using a database – Creating and selecting a database – working with tables – loading data into a table – Retrieving information from a table – selecting all data – selecting particular rows – selecting particular columns – sorting rows – date calculations – working with NULL values – pattern matching – counting rows – using more than one tables - Sessions, Cookies

TEXT BOOKS :

1.Rasmus Lerdorf, Kevin Tatroe, Bob Kaehms, Ric McGredy, Programming PHP, O'REILLY(SPD) , 2002.
2. Lee Babin, Nathan A. Good, Frank M. Kromann, Jon Stephens, PHP 5 Recipes, A problem solution approach, Apres , 2005.
3. The PHP Complete Reference, Steven Holzner, McGrawHill Education, 2007.

REFERENCE BOOKS:

1. Vikram Vaswani , PHP: A Beginner's Guide, McGraw-Hill, 2008.
2. https://www.guru99.com/php-tutorials.html.
3. Pratiyush Guleria, PHP Beginner's Practical Guide , BPB Publications, 2018.
4. David Carr, Beginning PHP, Packt Publishing Limited, 2018.

U18MCSC502	SOFTWARE ENGINEERING	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.S.Thirunirai Senthil/BCA				

COURSE OBJECTIVES :-

Helps the learners to understand theories, methods, and technologies applied for professional software development.

COURSE OUTCOMES (COs)

CO1	Gain knowledge about the fundamentals of Software Engineering.
CO2	Understand the Planning of a software Project
CO3	Applying various Software Cost Estimation Techniques
CO4	Analyze the various software design techniques
CO5	Comprehend the Coding and testing part of the project.
CO6	Understand the Software Quality Assurance and software maintenance tools

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO 2	PSO 3
2	CO1	H	L							M	H
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Introduction to Software Engineering : Definitions – Size Factors- Quality and Productivity Factors – Managerial Issues- Planning a software Project: Defining the Problem – Developing a Solution – Strategy – Planning the Development Process – Planning an Organization Structure – Other Planning Activities.

UNIT II **12**

Software Cost Estimation : Software cost factors – Software Cost Estimation Techniques – Staffing – Level Estimation – Estimating Software Maintenance Costs – The Software Requirements Specification – Formal Specification Techniques – Languages and Processors for Requirements Specification.

UNIT III **12**

Software design: Fundamental Design Concepts – Modules and Modularization Criteria – Design Notations – Design Techniques – Detailed Design Considerations – Real-Time and Distributed System Design – Test Plans – Milestones, Walkthroughs, and Inspections.

UNIT IV **12**

Implementation issues : Structured Coding Techniques – Coding Style – Standards and Guidelines – Documentation guidelines – Type checking – Scooping Rules – Concurrency Mechanism.

UNIT V **12**

Quality Assurance – Walkthroughs and Inspections – Static Analysis – Symbolic Execution – Unit Testing and Debugging – System Testing – Formal Verification: Enhancing Maintainability during Development – Managerial aspects of Software Maintenance – Source Code Metrics – Other Maintenance Tools and Techniques.

TEXT BOOKS

1.Richard Fairley,Software Engineering Concepts,McGrawHill, 2002.

2. R.S.Pressman Software Engineering , Fourth Ed , McGraw Hill,1997.

3. Waman S Jawadekar, Software Engineering principles and practice, The McGraw-Hill Companies

REFERENCE BOOKS

1. Roger S Pressman, Software Engineering: A practitioner's approach.

2. Rajib Mall, Fundamentals of Software Engineering.

3. Ian Sommerville, Software Engineering.

4. LaPlante LaPlante, Encyclopedia of Software Engineering.

5. Udit Agarwal, Software Engineering, 1st Edition.

Course Coordinator **HOD**

U18MCSC503	PROGRAMMING IN ASP .NET	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course –Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Ms.S.Anupriya/BCA				

COURSE OBJECTIVES :-

Learners will be familiar with basics of the ASP .NET. Learners will understand the design and implementation of the complete applications over the web

COURSE OUTCOMES (COs)

CO1	Gain knowledge in developing and creating ASP .Net Applications
CO2	Listthe usage of web controls and forms
CO3	Apply development products of Microsoft Visual Studio.Net® products
CO4	Analyze the implementation and connect the automated system to a database stored on a web server.
CO5	Analyze how to link and publish Visual Studio.Net® applications to reflect a web application.
CO6	Examine an real time application using ASP .NET

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L							H	
	CO2	H	L								
	CO3	H	L								
	CO4	M	L								
	CO5	H	L								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					

4	Approval	Academic Council Meeting

UNIT I INTRODUCTION TO .NET FRAMEWORK 12

Genesis of .Net – Features of .Net - .Net binaries – Microsoft Intermediate Language – MetaData-.Net typesand.netnamespaces–CommonLanguageRuntime–CommonTypeSystem Common Language Specification - .Net Applications using command line compiler and visual studio .netIDE.

UNIT II BASICS OFASP.NET 12

Introducing ASP .NET – Creating and deploying ASP .NET applications – Web forms – Web controls – working with events – Rich web controls – Custom web controls – Validation controls Debugging ASP .NETpages.

UNIT III ADVANCED ASP .NET 12

ASP .NET configuration – Business objects – HTTP Handlers – Caching in ASP .NET – ASP.NET security – Localizing ASP .NET applications – Deployment projects.

UNIT IV BUILDINGWEBSERVICES 12

Introduction to web services – Web services Infrastructure – SOAP – Building a web service – Deploying and publishing web services – Finding web services – Consuming webservices.

UNIT V ADO.NET 12

Basics of ADO .NET – Changes from ADO – Data Table – Data Views – Data Set – Data Relation Type – ADO .NET Managed Providers – OLEDB and SQL Managed Providers – OLEDB Data Adapter Type.

TEXT BOOKS:

1. Andrew Troelsen – "C# and the .Net Platform" – Apress – 2001.(Unit I and II).
2. MridulaParihar, et. al. – "ASP .NET Bible" – Wiley-dreamtech India Pvt. Ltd. –2002.
3. Christian Nagel et al. "Professional C# 2012 with .NET 4.5", Wiley India, 2012.

REFERENCE BOOKS:

1. David S. Platt – "Introducing .Net" – Microsoft Press –2002.
2. Alex Homer et. al. – "Professional ASP .NET 1.1" – Wiley-dreamtech India Pvt. Ltd. – 2004.
3. Rebecaa M. Riordan – "ADO .Net step by step" - MicrosoftPress.
4. Ian Griffiths, Matthew Adams, Jesse Liberty, "Programming C# 4.0", Sixth Edition, O"Reilly, 2010.

Course Coordinator **HOD**

U18MCSC5L1	PROGRAMMING IN ASP .NET LAB	L	T	P	C
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course – Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Ms.S.Anupriya/BCA				

COURSE OBJECTIVES :-

Learners will gain ability to design and implement the complete applications over the web

COURSE OUTCOMES (COs)

CO1	Implement the basic concept of console applications like string manipulation, exception handling.
CO2	Understand the technical code to implement windows applications
CO3	Apply the programs using predefined functions
CO4	Analyze Web Applications
CO5	Develop applications that connect database
CO6	Examine web pages using ASP .NET

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO 2	PSO3
2	CO1	H	L							H	
	CO2	H	L								
	CO3	H	-								
	CO4	H	L								
	CO5	M	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
					✓						
4	Approval	Academic Council Meeting									

S.NO	ASP.NET PROGRAMS
	CONSOLE APPLICATIONS
1	String Manipulation
2	Area of Rectangle, Square, Circle
3	Swapping of Two Numbers(Using Function)
4	Conversion of Celsius to Fahrenheit & Fahrenheit to Celsius
5	Exception Handling
	WINDOWS APPLICATIONS
6	Convert Case & Display Day, Month,& Year
7	Menus Using Text Editor
8	Quiz Program
9	Student Progress Details
	WEB APPLICATIONS
10	Creation of Customer Details(Using Standard Web Controls)
11	Creation of Biodata(Using Html Server Controls)
12	Creation of Master Page(Using Rich Web Controls)
13	Display Database(Using Data Controls)
14	Creation of Database(Manipulate With Report)

Course Coordinator **HOD**

U18MCSC5L2	PHP PROGRAMMING LAB	L	T	P	C
	Total Contact Hours - 30	0	0	4	2
	Prerequisite course – Web Technology				
	Course Coordinator Name &Department :- Dr.S.Brintha Rajakumari/Dept of CS				

COURSE OBJECTIVES :-

Learners will gain practical experience in the overall view of web technologies and its programming with PHP.

COURSE OUTCOMES (COs)

CO1	Create PHP scripts to handle HTML forms
CO2	Create PHP programs that use various PHP library functions, and that manipulate files and directories
CO3	Develop programs for downloading files from servers
CO4	Develop program to store the cookie and session status
CO5	Analyse and solve various database tasks using the PHP language
CO6	Develop web based applications with database connection

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	
2	**CO1**	H	L						**H**	**M**	
	CO2	H	L								
	CO3	M	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
				✓						
4	Approval	Academic Council Meeting								

S.NO.	LIST OF PROGRAMS
1	Simple Program using Loops.
2	A program using String and Array concept.
3	Program using Function concept.
4	Program using Regular expression.
5	Simple program using class and objects.
6	Program using Form.
7	Program using Cookies and session.
8	Simple program using file concept.
9	Program to create a simple Registration form.
10	Program for form validation.
11	Program to connect to the server and selecting database.
12	Mini project using PHP and MySQL.

Course Coordinator **HOD**

VI - SEMESTER

U18MCSC601	COMPUTER NETWORKS	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course - Nil				
	Course Coordinator Name &Department :- Ms. P. Jennifer/CS				

COURSE OBJECTIVES :-

Learners will gain knowledge in computer networks and concentrates on building a firm foundation for understanding Data Communications and Networks.

COURSE OUTCOMES (COs)

CO1	Recall the layers of OSI and TCP/IP networks.
CO2	Identify the solution for the error control and flow control problems.
CO3	Explain the working principles of IP layer and its routing algorithms.
CO4	Analyze the functionalities of transport layer protocols and its congestion control mechanism.
CO5	Apply the functionalities of application layer protocols.
CO6	Analyze the different types of network devices and their functions

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L						H		L
	CO2	H	-								
	CO3	H	L								
	CO4	M	-								
	CO5	M	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT - 1 : **12**

Introduction - Network Hardware - Software - Reference Models - OSI and TCP/IP models - Example Networks: Internet, ATM, Ethernet and Wireless LANs.

UNIT - 2 : **12**

Physical layer - Theoretical basis for data communication - guided transmission - media wireless transmission - Communication Satellites - Telephones structure - local loop, trunks and multiplexing, switching.

UNIT - 3: **12**

Data link layer : Design issues - Error detection and correction - Elementary data link protocols - sliding window protocols - Data Link Layer in the Internet - Medium Access Layer - Channel Allocation Problem - Multiple Access Protocols.

UNIT- 4: **12**

Network Layer - Design issues - Routing Algorithms - Congestion control algorithms IP Protocol - IP Address - Internet Control Protocol.

UNIT -5: **12**

Transport layer - Design issues - Connection Management - Addressing, Establishing& Releasing a connection - Simple Transport Protocol - Internet Transport Protocol (TCP) - Network Security:Cryptography.

TEXT BOOKS

1. 1.S.Tanenbaum, 2003, Computer Networks, Fourth Edition, - Pearson Education, Inc, (Prentice hall of India Ltd),Delhi.
2. B. Forouzan, 1998, Introduction to Data Communications in Networking, Tata McGraw Hill, NewDelhi.
3. William Stallings, Data and Computer Communication.

REFERENCE BOOKS

1. F. Halsall, 1995, Data Communications, Computer Networks and Open Systems, AddisonWessley.
2. D. Bertsekas and R. Gallagher, 1992, Data Networks, Prentice hall of India, New Delhi.
3. Lamarca, 2002, Communication Networks, Tata McGraw Hill, New Delhi.
4. James F Kurose and Keith W Ross“Computer Networking”.
5. Larry L Peterson Computer Networks: A System Approach, 5th Edition.

Course Coordinator **HOD**

U18MCSC602	SOFTWARE TESTING	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course - Nil				
	Course Coordinator Name &Department :- Ms.P.Jennifer/CS				

COURSE OBJECTIVES :-

Learners will gain knowledge in fundamental concepts of software testing.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in software testing methods.
CO2	Design and conduct a software test process for a software project.
CO3	Identify the needs of software test automation anddevelop a test tool to support test automation**.**
CO4	Identify various software testing problems, and solve these problems by designing and selecting software test models
CO5	Gain skills to communicate with their teammates to conduct their practice-oriented software testing projects
CO6	Apply Test planning and process documents

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L							L	H
	CO2	M	-								
	CO3	H	L								
	CO4	M	L								
	CO5	H	L								
	CO6	M	-								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
					✓						
4	Approval	Academic Council Meeting									

UNIT-I **12**

Software Development Life Cycle models: Phases of Software project – Quality, Quality Assurance, Quality control – Testing, Verification and Validation – Process Model to represent Different Phases - Life Cycle models. White-Box Testing: Static Testing – Structural Testing – Challenges in White-Box Testing.

UNIT-II **12**

Black-Box Testing: What is Black-Box Testing? - Why Black-Box Testing? – When to do Black-Box Testing – How to do Black-Box Testing? – Challenges in White Box Testing - Integration Testing: Integration Testing as Type of Testing – Integration Testing as a Phase of Testing – Scenario Testing – Defect Bash.

UNIT-III **12**

System and Acceptance Testing: system Testing Overview – Why System testing is done? – Functional versus Non-functional Testing - Functional testing - Non-functional Testing – Acceptance Testing – Summary of Testing Phases.

UNIT-IV **12**

Performance Testing: Factors governing Performance Testing – Methodology of Performance Testing – tools for Performance Testing – Process for Performance Testing – Challenges. Regression Testing: What is Regression Testing? – Types of Regression Testing – When to do Regression Testing – How to do Regression Testing – Best Practices in RegressionTesting.

UNIT V **12**

Test Planning, Management, Execution and Reporting: Test Planning – Test Management – Test Process – Test Reporting –Best Practices. Test Metrics and Measurements: Project Metrics – Progress Metrics – Productivity Metrics – Release Metrics.

TEXT BOOKS:

1. Software Testing Principles and Practices, Srinivasan Desikan&Gopalswamy Ramesh, 2006, Pearson Education.
2. Effective Methods of Software Testing, William E. Perry, 3 rded, Wiley India. 2. Software Testing, RenuRajani, Pradeep Oak, 2007, TMH
3. Roger.S.Pressman, “Software Engineering, & Practitioner Approach”. 5th edition,
4. Fairely, “Software Engineering Concepts” McGRaw Hill 1985.

REFERENCE BOOKS

1. Sommerville, I “Software Engineering”, 5th edition.
2. K.K.Agarwal&Yokeshsingh “Software Engineering” – 2001.
3. Stevenson.C. “Software Engineering Productivity” – 1995
4. William Perry, “Effective Methods for Software Testing”, John Wiley & Sons, USA, 1995.
5. Ron Patton, “Software Testing”, Techmedia.

Course Coordinator **HOD**

U18MCSC6L1	MAJOR ELECTIVE LAB II LAB :NETWORK PROGRAMMING LAB	L	T	P	C
	Total Contact Hours - 30	0	0	4	2
	Prerequisite course - Computer Science / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department :- Ms.S.Surya/ Dept of CS				

COURSE OBJECTIVES :-

Learners will understand the use of client/server architecture in application development and use elementary and advanced socket system calls

COURSE OUTCOMES (COs)

CO1	Implement simple networking concepts
CO2	Identify the application using Client Server Communication
CO3	Implement programs using TCP and UDP based sockets.
CO4	Compare interaction between Echo Server and Echo Client
CO5	Apply protocols in real time programs.
CO6	Examine the application to retrieve Remote Data File & RPC

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L						H	M	
	CO2	H	-								
	CO3	H	-								
	CO4	H	-								
	CO5	M	L								
	CO6	H	-								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
						✓				

4	Approval	Academic Council Meeting

S.NO.	LIST OF PROGRAMS
1.	IP Address of Local Machine
2.	Ping Server
3.	Echo Server and Echo Client
4.	Client Server Communication Using Object
5.	Time and Date Server
6.	TCP Server
7.	UDP Server
8.	Chat Server
9.	Address Resolution Protocol
10.	Multiple Client Handling
11.	Retrieving Remote Data File
12.	Remote Procedure Call

Course Coordinator **HOD**

U18MCSC6L1	MAJOR ELECTIVE LAB II LAB : C# Lab	L	T	P	C
	Total Contact Hours - 30	0	0	4	2
	Prerequisite course - Computer Science / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department :- Dr.S.Brintha Rajakumari /Dept of CS				

COURSE OBJECTIVES :-

Learners will gain practical knowledge to use the features of Dot Net Framework along with the features of C#

COURSE OUTCOMES (COs)

CO1	Implement simple console application programs using C#
CO2	Develop applications using OOPs concepts
CO3	Design dynamic web pages.
CO4	Design window based applications using various controls
CO5	Analyze web based applications by connecting a database with Data control
CO6	Apply concept to deploy web based applications

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L							M	L
	CO2	H	L								
	CO3	M	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
						✓					
4	Approval	Academic Council Meeting									

S.NO.	LIST OF PROGRAMS
Console Applications	
1	Classes and Objects
2.	Jagged Array
3.	Overloading
4.	Overriding
5.	Interface
6.	Structure
7.	Constructor
8.	Sealed Class
9.	Delegates
10.	Exception Handling
Web Based Applications	
11.	Navigation Control
12.	Validation Control
13.	Login Control
14.	Repeater Control
15.	Data Control

Course Coordinator **HOD**

U18MCSC6L1	**MAJOR ELECTIVE LAB II LAB : PYTHON PROGRAMMING Lab**	**L**	**T**	**P**	**C**
	Total Contact Hours - 30	0	0	4	2
	Prerequisite course - Computer Science / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department :- Mr.R.Balamurugan /Dept of CS				

COURSE OBJECTIVES :-

Learner will have knowledge about python basics and how to use concept in Python programs.

COURSE OUTCOMES (COs)

CO1	Identify the important feature of python programming languages.
CO2	Paraphrase the concept to various computational tasks which requires loops and conditional statements.
CO3	Summarize the Object Oriented Programming concepts and principles used in python.
CO4	Demonstrate the concept of object oriented to draw conclusions about real life problems.
CO5	Use the concept of function, files and packages in python for solving problems.
CO6	Compare various cost-effective robust applications using the latest Python trends and technologies.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	**CO1**	H	L						H		
	CO2	H	-								
	CO3	H	-								
	CO4	M	-								
	CO5	H	L								
	CO6	H	-								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
						✓					
4	Approval	Academic Council Meeting									

S.NO.	LIST OF PROGRAMS
1.	Compute the GCD of two numbers
2.	Find the maximum of a list of numbers
3.	Linear search
4.	Insertion sort
5.	Convert decimal number into binary numbers.
6.	Calculate addition of two number using methods.
7.	Calculate average of numbers using function.
8.	Find the Area of a Rectangle Using Classes.
9.	Find the sum of all the primes.
10.	Program that takes two numbers as command line arguments and prints its sum.
11.	To Append, Delete and Display Elements of a List Using Classes.
12.	To count frequency of characters in a given file.
13.	Reads a Text File and Counts the Number of Times a Certain Letter Appears in the Text File.
14.	Read a Text File and Print all the Numbers Present in the Text File.
15.	Generation of pyramid.

Course Coordinator **HOD**

U18EESC6P1	PROJECT (DISSERTATION AND VIVA-VOCE)	L	T	P	C
	Total Contact Hours - 30	0	0	18	10
	Prerequisite course – Computer Science / Mathematics Studied in Higher y studies				
	Course Coordinator Name & Department: -Mr.S.Kannan/ Dept of CS				

COURSE OBJECTIVES :-

Learner understand the current scenario in computing technology and present the research report on their findings as per the acceptable format.

COURSE OUTCOMES (COs)

CO1	List out the concept and objectives, nature, types and methods of project.
CO2	Choose the process and steps involved in preparation of project work, research gap
CO3	Practice the research design, and methodology , sampling techniques & sampling design
CO4	Calculate the statistical tools in the project for data analysis
CO5	Measure the major findings, suggestions and conclusion
CO6	Design the model for project report.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H	L	M
	CO2	H	L								
	CO3	H	L								
	CO4	H	-								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
										✓

4	Approval	Academic Council Meeting

PROJECT (DISSERTATION AND VIVA-VOCE) **10**

The project topics are to be finalized to the students at the end of the second semester with a time schedule to carryout various stages of work. During the semester vocation, the data Collection may be commenced. The theme selected by each student for the Dissertation should be related to various problems and issues pertaining to Computer Application. Each candidate should submit three copies of dissertation as per the guidelines to the department concerned.

Marks

Dissertation	**150**
Viva- Voce Examination	**50**

Course Coordinator **HOD**

MAJOR ELECTIVE - I

U18MESC011	Major Elective I :OBJECT ORIENTED ANALYSIS AND DESIGN	L	T	P	C
	Total Contact Hours - 60	4	0	0	4
	Prerequisite course –Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department :- Dr.S.Thirunirai Senthil/BCA				

COURSE OBJECTIVES :-

Learners will gain knowledge in object oriented modeling, class diagram, use case and component diagram.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in design the problem domain using unified object approach.
CO2	Understanding the identification and categorize business, access and view layer objects of the application.
CO3	Apply the knowledge in creating Use case diagram, class diagram.
CO4	Analyze the Component Diagrams and Deployment Diagrams
CO5	Analyze the construction of software system by applying various modeling techniques
CO6	Examine an real time application by applying OOAD concepts

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
						✓					
4	Approval	Academic Council Meeting									

UNIT I INTRODUCTION TO UML 12

Importance of Modeling - Principles of Modeling - Object Oriented Modeling - Conceptual Model of the UML- Architecture - Software Development Life Cycle.

UNIT II STRUCTURAL MODELING 12

Classes – Relationships – Common Mechanisms – Diagrams

UNIT III CLASS & OBJECT DIAGRAMS 12

Terms – Concepts - Modeling Techniques for Class and Object Diagrams.

UNIT IV BEHAVIORAL MODELING 12

Interactions - Interaction Diagrams – Use cases – Use case Diagrams – Activity Diagrams.

UNIT V ARCHITECTURAL MODELING 12

Component – Deployment – Component Diagrams and Deployment Diagrams.

TEXT BOOKS

1. Grady Booch, James Rumbaugh and Ivar Jacobson (2004). "The Unified Modeling Language User Guide". Addison Wesley Longman Pvt. Ltd., Singapore

REFERENCE BOOKS

1. Grady Booch, James Rumbaugh and Ivar Jacobson (2000), "The Unified Modeling language Reference manual". Addison Wesley Longman Pvt.Ltd.,Singapore

Course Coordinator **HOD**

U18MESC012	**Major Elective I :CLOUD COMPUTING**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	4	0	0	4
	Prerequisite course –Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department :- Ms.V.Brindha/BCA				

COURSE OBJECTIVES :-

Learners will be familiar with world-leading IT technology with high international standard of service. Learners will understand the expertise of service.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in identifying the technical foundations of cloud systems architectures.
CO2	Understand the problems and solutions to cloud application problems.
CO3	Apply principles of best practice in cloud application design and management.
CO4	Analyze and define technical challenges for cloud applications and assess their importance.
CO5	Apply the implementation service with a quality control from project imitation to production
CO6	Examine an real time application using Cloud Computing by using various services.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	-								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
						✓					
4	Approval	Academic Council Meeting									

UNIT I FUNDAMENTALS OF GRID ANDCLOUD COMPUTING 12

Fundamentals – Cloud computing – History of Cloud Computing – Cloud Architecture – Cloud Storage – Why cloud computing Matters – Advantages of Cloud computing – Disadvantages of Cloud Computing – Companies in the Cloud Today – Cloud Services.

UNIT II DEVELOPING CLOUD SERVICES 12

Web-Based Application – Pros and Cons of Cloud Service Development – Types of Cloud Service Development – Software as a Service – Platform as a Service – Web Services – On- Demand computing – Discovering Cloud Services Development Services and Tools – Amazon Ec2- Google App Engine – IBM Clouds.

UNIT III CLOUD COMPUTING FOR EVERY ONE 12

Centralizing Email communications – collaborating on Schedules – Collaborating on To-Do Lists – Collaborating Contact Lists – Cloud computing for the Community – Collaborating on Group Projects and Events – Cloud Computing for theCorporation.

UNIT IV USINGCLOUDSERVICES 12

Collaborating on Calendars, Schedules and Task Management – Exploring Online Scheduling Applications – Exploring Online Planning and Task Management – Collaborating on Event Management – Collaborating on Contact Management – Collaborating on Project Management – Collaborating on Word Processing – Collaborating on Databases – Storing and Sharing Files – Evaluating Web Mail Services – Evaluating Web Conference Tools – Collaborating via Social Networks and Groupware – Collaborating via Blogs and Wikis.

UNIT V GRIDCOMPUTING 12

OGSA – Sample Use Cases – OGSA Platform Components – OGSI – OGSA Basic Services. Globus Toolkit – Architecture – Programming Model – High Level Services – OGSI.Net. Middleware Solutions.

TEXT BOOKS

1. Michael Miller, Cloud Computing : Web-Based Applications That Change the Way You Work and Collaborate Online, Que Publishing, August2008.

REFERENCE BOOKS

1.Haley Bear, Cloud Computing Best Practices for Managing and Measuring Processes for On-demand Computing, Applications and Data Centersin the Cloud with SLAs

Course Coordinator **HOD**

		L	T	P	C
U18MECS013	**Major Elective I : DATA MINING AND DATA WAREHOUSING**				
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course –Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department :- Ms.S.Anupriya/BCA				

COURSE OBJECTIVES :-

Learners will be familiar with the concepts of data ware house and data mining, which gives a complete description about the principles, used, architectures, applications, design and implementation of data mining and data ware housing concepts.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in mathematical foundations of data mining tools
CO2	Understand how to gather and analyze large sets of data to gain useful business
CO3	Understand and implement classical models and algorithms in data warehouses and data mining.
CO4	Characterize the kinds of patterns that can be discovered by association rule mining, classification and clustering. Analyzing and demonstrating basic data mining algorithms, methods, and tools
CO5	Master data mining techniques in various applications like social, scientific and environmental context.
CO6	Develop skill in selecting the appropriate data mining algorithm for solving practical problems

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	h	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
						✓				
4	Approval	Academic Council Meeting								

UNIT I Data Warehouse 12

Data Warehouse roles and structures – What can a data warehouse do? The Cost of Warehousing data – Data Stores, Warehouses and Marts – The Data Warehouse environment – Data warehouse characteristics – The Data Warehouse architecture – Metadata, Metadata Extraction – Implementing the Data Warehouse – Designing and building the Data Warehouse – The data warehouse project plan – Data warehouse architecture, specification and development- Data Warehouse project success factors.

UNIT II Introduction to Data Mining 12

Basic Data Mining tasks – Data mining versus knowledge discovery in data bases – Data Mining issues – Data Mining Metrics – Social implications of data mining - Data Mining from a database perspective – Data Mining Techniques – Introduction – A statistical perspective on Data Mining – Similarity measures – Decision trees – Neural networks – Genetic algorithms.

UNIT III Classification 12

Introduction – Statistical based algorithms – Distance based algorithms – Decision tree based algorithms – Neural networks based algorithms – Rule based algorithms – Combining Techniques.

UNIT IV Clustering 12

Introduction – Similarity and distance measures – Outliers – Hierarchical algorithms – Partitional algorithms – Clustering large data bases – Clustering with categorical attributes – Association Rules – Introduction – Large Item – sets – Basic Algorithms.

UNIT V Web Mining 12

Web Mining – Introduction – Web Content Mining – Web Structure Mining – Web Usage Mining.

TEXT BOOKS

1.Margaret H.Dunham. “Data Mining Introductory and Advanced Topics”. Pearson Education –2003.

REFERENCE BOOKS

1.George M. Maracas’. “Modern Data Warehousing, Mining and Visualization: Core concepts”, Pearson Education – 2003

Course Coordinator HOD

MAJOR ELECTIVE – II

U18MESC021	**MAJOR ELECTIVE - II : NETWORK PROGRAMMING**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	4	0	0	4
	Prerequisite course - Nil				
	Course Coordinator Name &Department :- Ms. P.Jennifer/CS				

COURSE OBJECTIVES :-

Learners will understand the use of client/server architecture in application development and use elementary and advanced socket system calls

COURSE OUTCOMES (COs)

CO1	Gain knowledge in networking.
CO2	List the network protocols
CO3	Identify several common programming interfaces for network communication.
CO4	Apply advanced knowledge of programming for network communications.
CO5	Describe the knowledge of the TCP/UDP Sockets.
CO6	Ability to create an application using sockets and network programming

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L						**H**		
	CO2	H	L								
	CO3	M	L								
	CO4	M	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
						✓				

4	Approval	Academic Council Meeting

UNIT-I : Introduction to Network Programming: **12**

OSI model, Unix standards, TCP and UDP & TCP connection establishment and termination, Buffer sizes and limitation, standard internet services, Protocol usage by common internet application.

UNIT-II: Sockets : **12**

Address structures, value – result arguments, Byte ordering and manipulation function and related functions Elementary TCP sockets – Socket, connect, bind, listen, accept, fork and exec function, concurrent servers. Close function and related function.

UNIT-III : TCP client server: **12**

Introduction, TCP Echo server functions, Normal startup, terminate and signal handling server process termination, Crashing and Rebooting of server host shutdown of server host.

UNIT – IV: I/O Multiplexing and socket options: **12**

I/O Models, select function, Batch input, shutdown function, poll function, TCP Echo server, getsockopt and setsockopt functions. Socket states, Generic socket option.

UNIT- V :Elementary UDP sockets: **12**

Introduction UDP Echo server function, lost datagram, summary of UDP example, Lack of flow control with UDP, determining outgoing interface with UDP. Elementary name and Address conversions: DNS, get host by Name function, Resolver option.

TEXT BOOKS:

1. W.Richard Stevens, UNIX Network Programming, Sockets API, Volume I, 3rd Edition, PHI , 2010.
2. Richard M. Reese, Learning Network Programming with Java,Packt Publishing Ltd., 2015
3. W.Richard Stevens, UNIX Network Programming, Volume II, 1st Edition, PHI,2009.

REFERENCE BOOKS:

1. T Chan, “UNIX Systems Programming using C++”, 1st Edition, PHI,2010.
2. Graham Glass, King abls, “UNIX for Programmers and Users”, 3rd Edition, Pearson Education,2010.
3. M.J. Rochkind, “Advanced UNIX Programming”, 2nd Edition, Pearson Education, 2008.

Course Coordinator **HOD**

U18MESC022	MAJOR ELECTIVE - II : C#	L	T	P	C
	Total Contact Hours - 60	4	0	0	4
	Prerequisite course - Nil				
	Course Coordinator Name &Department :- Dr. K.Rajakumari - Dept of CS				

COURSE OBJECTIVES :-

Learners will gain practical knowledge to use the features of Dot Net Framework along with the features of C#

COURSE OUTCOMES (COs)

CO1	Gain knowledge to Implement simple console application programs using C#
CO2	List the applications using OOPs concepts
CO3	Compare Web pages with dynamic web pages.
CO4	Design window based applications using various controls
CO5	Develop web based applications by connecting a database with Data control
CO6	Examine deployment of web based applications using web controls

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L						H		
	CO2	L	L								
	CO3	H	-								
	CO4	H	L								
	CO5	H	L								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
						✓				
4	Approval	Academic Council Meeting								

UNIT I: INTRODUCTION TO C# 12

Introducing C#, Understanding .NET, overview of C#, Literals, Variables, Data Types, Operators and Expressions, Branching, Looping, Methods, Typecasting,

UNIT – II: OBJECT ORIENTED ASPECTS OF C# 12

Arrays: Single Dimensional Array - Two Dimensional Array- System Array Class- Array List, String: Manipulating String, Structure, Enumerations, Class, Objects, Constructors and its types

UNIT -III: ADNVANCE CONCEPTIN C# 12

Inheritance, polymorphism, sealed class and methods, interface, operator overloading, delegates, events, errors and exception, Threading.

UNIT -IV: APPLICATION DEVELOPMENTON.NET 12

Visual studio IDE features, introduction to Window forms, components, control: textbox, label, image ,linklabel, status bar, checkedlistbox, combobox, listbox, listview, radiobutton, button, panel, groupbox, dialog box, menustrip control, data control, date and time control

UNIT -V: WEB BASED APPLICATION DEVELOPMENTON .NET 12

Web controls - Rich Web Control- Data Control- Validation Controls- Login Control ADO.NET Architecture – ADO.NET Connected and DisconnectedModels–XML and ADO.NET – Simple and Complex Data Binding.& Case Study.

TEXT BOOKS:

1. Andrew Troelsen – "C# and the .Net Platform" – Apress – 2001.(Unit I and II).
2. MridulaParihar, et. al. – "ASP .NET Bible" – Wiley-dreamtech India Pvt. Ltd. –2002.
3. Christian Nagel et al. "Professional C# 2012 with .NET 4.5", Wiley India, 2012.

REFERENCE BOOKS:

1. David S. Platt – "Introducing .Net" – Microsoft Press –2002.
2. Alex Homer et. al. – "Professional ASP .NET 1.1" – Wiley-dreamtech India Pvt. Ltd. – 2004.
3. Rebecaa M. Riordan – "ADO .Net step by step" - MicrosoftPress.
4. Ian Griffiths, Matthew Adams, Jesse Liberty, "Programming C# 4.0", Sixth Edition, O"Reilly, 2010.

U18MESC023	**MAJOR ELECTIVE - II : PYTHON PROGRAMMING**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	4	0	0	4
	Prerequisite course –Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department :- Dr.S.Brintha Rajakumari/CS				

COURSE OBJECTIVES :-

Learner acquires the knowledge of scripting languages, Object oriented programming concepts, and the ability to design and develop Graphical user Interface based database applications in python.

COURSE OUTCOMES (COs)	
CO1	Identify the important feature of python programming languages.
CO2	Paraphrase the concept to various computational tasks which requires loops and conditional statements.
CO3	Summarize the Object Oriented Programming concepts and principles used in python.
CO4	Demonstrate the concept of object oriented to draw conclusions about real life problems.
CO5	Use the concept of function, files and packages in python for solving problems.
CO6	Compare various cost-effective robust applications using the latest Python trends and technologies.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	**CO1**	H	L						H		
	CO2	H	-								
	CO3	H	-								
	CO4	M	-								
	CO5	H	L								
	CO6	H	-								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
						✓					
4	Approval	Academic Council Meeting									

UNIT I : INTRODUCTION **12**

Introduction: The Context of Software Development- Development Tools, Learning Programming with Python Writing a Python Program, the Python Interactive Shell. Values and Variables - Integer and String Values Variables and Assignment, Identifiers, Floating-point Numbers, Control Codes within Strings, User Input Controlling the print Function, String Formatting, Multi-line Strings.

UNIT II : EXPRESSIONS AND LOOPS **12**

Expressions and Arithmetic- Expressions,Mixed Type Expressions, Operator Precedence and Associativity Formatting Expressions, Comments, Errors. Conditional Execution- Boolean Expressions, Simple if, if/else Compound Boolean, pass, Nested Conditionals, Conditional Expressions.Iteration- while,for, Definite Loop vs. Indefinite Loop,Nested loops, Abnormal Loop Termination, while/else and for/else.

UNIT III : FUNCTION, CLASS AND OBJECT **12**

Function-Introduction, Functions and Modules, Built-in Functions, Random Numbers, eval and exec, Turtl Graphics. Basics- Parameter Passing- Documenting- Custom Functions vs. Standard Functions. Introduction t Recursion, Generator, Local Function.Objects: String Objects, File Objects, Fraction, Turtle Graphics, Graphic with tkinter.

UNIT IV : LIST , TUPLES AND DICTIONARIES **12**

Lists, Traversal, Building, List Membership, Assignment and Equivalence, List Bounds, Slicing, Elemen Removal, List Functions, List Methods. Command-line Arguments, Multidimensional Lists, Lists vs Generators, Tuples, Dictionaries, and Sets.

UNIT V : EXCEPTION HANLING AND FILES **12**

Handling Exceptions - Standard Exceptions, Handling Exceptions, Catch-all Handler, Catching Exceptio Objects, The try Statement's Optional else Block, finally block. Custom Types, Inheritance, Files.

TEXT BOOKS:

1. Fundamentals of Programming Python Richard L. Halterman Southern Adventist University, 2019.
2. Robert Sedgewick, Kevin Wayne, Robert Dondero, ―Introduction to Programming in Python: An Inter disciplinary Approach, Pearson India Education Services Pvt. Ltd., 2016.
3. Timothy A. Budd, ―Exploring Python‖, Mc-Graw Hill Education (India) Private Ltd., 2015.

REFERENCE BOOKS:-

1. Zed Shaw, Learn Python the Hard Way: A Very Simple Introduction to the Terrifyingly Beautiful World of Computers and Code (Zed Shaw's Hard Way Series).
2. Mark Lutz, Programming Python 4e: Powerful Object-Oriented Programming
3. Kenneth A. Lambert,Fundamentals of Python: First Programs‖, CENGAGE Learning, 2012.
4. Charles Dierbach, ―Introduction to Computer Science using Python: A Computational Problem- Solving Focus, Wiley India Edition, 2013
5. Paul Gries, Jennifer Campbell and Jason Montojo, ―Practical Programming: An Introduction to Compute Science using Python 3‖, Second edition, Pragmatic Programmers, LLC, 2013.

Course Coordinator **HOD**

SKILL BASED ELECTIVES

U18SEBC001	**BUSINESS PROCESS OUTSOURCING-MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name& Department:-Ms. J.Saranya/Commerce & Economics				

COURSE OBJECTIVES:-

- To familiarize the students with the basic fundamentals of BPO.
- To impart knowledge on type of BPO and call centers .
- To enable the students on the concept Healthcare BPO & Transaction BPO.
- To peep into the concept of Human Resource BPO and the career opportunities in BPO.

COURSE OUTCOMES(COs)

CO1	Describe the basic fundamentals of BPO.
CO2	Discuss and develop the awareness about Types of BPOs and Call Centers
CO3	Identify the concept of Health care BPOs
CO4	Examine the concept of Transaction BPOs
CO5	Develop the confidence in Human Resource BPO and career opportunities in BPOs
CO6	Formulate the Types of Transaction Processing BPO in India

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H							H		
	CO2				H						
	CO3			H							
	CO4		M								
	CO5	M									
	CO6		H								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT-I **6**

Business Process Outsourcing– Basics – Benefits of BPO– BPO companies in India.

UNIT-II **6**

BPO Industry – Employment Opportunities– types of BPO – Call centers– Types of Call Centers– Issues and Problems.

UNIT-III **6**

Health Care-BPO - Structure of foreign Health Care sector– Future Trends and Threats.

UNIT-IV **6**

Transaction Processing BPO– Elements of Back Office services– Types of Transaction Processing BPO in India.

UNIT-V **6**

Human Resource BPO-Reasons for outsourcing HR– Activities involved in HR BPO– HR Outsourcing Trends– Carrier in HR BPO.

Text Books:

1. John K. Holvey, Borboro Murphy Melby, Business Process Outsourcing–Wiley Publisher-2007
2. Sarika Kulkarni –Business Process Outsourcing–Jai co Publishing house – 2005
3. .RickL.Click, Thomas N.Duening,Business Process Outsourcing–John Willey & sons,Publisher 2004

Reference Books:

1. Deepak Shikapur – BPO DIGEST– Ameya (Inspiring books) – 2004.
2. Clifton – System analysis for business data processing– Prentice hall Publications.
3. Anandkumar, V. & Biswas, S., 2008. Business Process Outsourcing, Sage Publications Pvt. Ltd

Course Coordinator **HOD**

U18SEBC002	CUSTOMER RELATIONSHIP MANAGEMENT	L	T	P	C
	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name& Department:-Ms. R.Priya/Commerce & Economics				

COURSE OBJECTIVES:-

- To familiarize the students with the basic fundamentals of CRM.
- To impart knowledge about process and importance of CRM.
- To enable the students on the concept to technological solutions to CRM.
- To expose the students to Trends and challenges in CRM.

COURSE OUTCOMES(COs)

CO1	Recognize the Familiarize with the basic fundamentals of CRM.
CO2	Demonstrate the Can develop awareness about process and importance of customer retention
CO3	Practice to be aware of the concept of technological applications in CRM.
CO4	Correlate respond to the concept of CRM software solutions forB2C and B2B markets
CO5	Validate the Develop confidence on trends and challenges
CO6	Design the Customer Data base and Information Systems

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H		H					H		
	CO2	H									
	CO3	H		H							
	CO4		H								
	CO5	H		H							
	CO6		H		M						

3	Category	Humanities &Social Studies (HS)	Basic Sciences	Engg Sciences (ES)	Professional Core(PC)	Core Elective (CE)	Non-Major Elective(NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	

4	Approval	Academic Council Meeting

UNIT–I **6**

Customer Relationship Management Introduction - Meaning and Definition - Importance – Benefits and difficulties of CRM.

UNIT–II **6**

CRM Process and Implementation Introduction-customer Retention- Customer satisfaction-Importance of customer retention-CRM processor B2B markets

UNIT–III **6**

Technological Support in CRM Introduction-Types of Technological Applications in CRM.

UNIT–IV **6**

Customer Databases and Information Systems –CRM Software Solutions for B2C and B2B Markets .

UNIT–V **6**

E-CRM – Emerging Trend in CRM Introduction - Challenges involved in formulating and implementing-CRM strategies.

TEXT BOOKS:

1. Balasubramaniyan.K , Essence of customers relationship management, learn tech press
2. Jagdish N Sheth, Atul Parvatiyar, G Shainesh –customers relationship management-McGraw Hill Publisher, 2000
3. Roger. J Baranand Robert J. Galka-customers relationship management ,Routledge publisher 2013

REFERENCE BOOKS:

1. M.Peeru mohamed, customer relationship management, Vikas publications
2. Kaushik mukerjee, customer relationship management PHI
3. customer relationship management G Shainesh &.Jagdish N Sheth

Course Coordinator **HOD**

U18SEBC003	ENTREPRENEURIAL DEVELOPMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Commerce / Mathematics Studied in Higher Secondary Studies.				
	Course Coordinator Name & Department :-Mr.G.Santhoshkumar / Commerce				

COURSE OBJECTIVE: -

- To familiarize the students with the basic fundamentals of Entrepreneurship.
- To impart knowledge on Project identification, selection and formulation.
- To enable the students on the concept of types of organization.
- To peep into the concept of commercial banks.
- To enable the students on the concept of women entrepreneurs

COURSE OUTCOMES (COs)

CO1	Underline the Characteristics Of Entrepreneur – Entrepreneur and Intrapreneur
CO2	Explain the Identification – Selection of the Project
CO3	Apply Selection of Types of Organization – Sole Proprietorship- Partnership Joint Stock Company
CO4	Appraise to Institutional finance to entrepreneurs
CO5	Estimate the Factors Influencing The Choice Of Organization
CO6	Develop the Role and Problems of Women Entrepreneurs

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	-	-	-	-	-	-			H
	CO2	-	H	-	-	-	M	H			
	CO3	-	H	-	-	-	M	M			
	CO4	M	-	-	-	-	M	M			
	CO5	-	-	-	-	-	-	-			
	CO6	-	-	H	-	-	-	-			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval		Academic Council Meeting

UNIT-I **6**

Meaning Of Entrepreneur – Entrepreneur and Intrapreneur – Qualities Of Entrepreneur – Characteristics Of Entrepreneur – Types Of Entrepreneur – Function Of An Entrepreneur

UNIT-II **6**

Project Identification – Selection of the Project – Project Formulation –Preparation Of Project Report.

UNIT-III **6**

Selection of Types Of Organization – Sole Proprietorship- Partnership Joint Stock Company – Factors Influencing The Choice Of Organization.

UNIT – IV **6**

Institutional finance to entrepreneurs - commercial banks –IDBI, IFCI, ICICI, IRBI, SFC, DICs, SIDC, SIDBI And EXIM Bank

UNIT – V **6**

Women Entrepreneurs – Role – Problems of Women Entrepreneurs – Suggestions For Development Of Women Entrepreneurs

TEXT BOOKS:

1. C.B. Gupta, Entrepreneurship Development in India – Sultan Chand
2. S.S. Khanka, Entrepreneurship Development, S. Chand & Co., New Delhi.
3. Gupta C. B and Srinivasan N. P Entrepreneurship Development, Sultan Chand & Sons, New Delhi

REFERENCE BOOKS:

1. P. Sarvanavel, E Entrepreneurship Development, Ess Pee Kay Publishing House
2. Jaswer Singh Saini, Entrepreneurship Development, Deep and Deep Publication, New Delhi
3. Jayashree Suresh, Entrepreneurship Development- Margham Publication, Chennai

Course Coordinator **HOD**

U18SEBC004	HUMAN RESOURCE MANAGEMENT	L	T	P	C
	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	CourseCoordinator Name&Department:-Ms. R.Velanganni/Commerce & Economics				

COURSE OBJECTIVES:-

- To learntheimportanceofHR.
- To impartknowledge and importantfactors inHR.
- To enable the students onthe needs and methods oftraining.

COURSE OUTCOMES(COs)

CO1	Identify the Importance of Human Resource and objectives.
CO2	Describe the Human Resource Planning
CO3	Practice to Sources of Recruitment-Selection– Steps in Selection
CO4	Analyze Needs of training– Methods of Training
CO5	Evaluate the Process and Methods of Performance Appraisal
CO6	Formulate the Qualities of Personnel Manager

Mapping of CourseOutcomes with Program outcomes (POs)(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO 3	PO4	P O	PO6	PO7	P S	PS O2	PSO3
2	CO1	H	M	-	-	-	-	-	H		
	CO2	M	H	-	-	-	-	-			
	CO3	H	M	-	-	-	-	-			
	CO4	H	M	-	-	-	-	-			
	CO5	H	M	-	-	M	-	-			
	CO6	H	M	-	-	-	-	-			

3	Category	Humanities &Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core(PC)	CoreElective (CE)	Non-Major Elective(NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	AcademicCouncilMeeting								

UNIT-I **6**

Definition – Importanceof Human Resource– Objectives– Qualities of Personnel Manager.

UNIT-II **6**

Human ResourcePlanning– Importance factors– Steps in HR Planning.

UNIT-III **6**

Recruitment– Objectives– Sources of Recruitment-Selection – Steps in Selection.

UNIT-IV **6**

Training – Definition– Needs of training – Methods of Training– On thejob training– Off the job Training.

UNIT-V **6**

PerformanceAppraisal-Objectives – Process– Methods of PerformanceAppraisal.

TEXT BOOKS:

1. L.M. Prasad– Human ResourceManagement– S. Chand &Sons– 2013.
2. C.B. Mamoria, S.V. Gankar– Personnel Management – Himalaya Pub.– 2012.
3. A.M. Sharma, Human ResourceManagement, HimalayaPublishing House, 2005

REFERENCE BOOKS

1. S.S. Khanka–Human ResourceManagement– S. Chand Ltd.– 2007
2. Gary Dessler–Human ResourceManagement– PrenticeHall– 8thEdition –2000.
3. A Handbook of Human Resource Management Practice,2012.

U18SEBC005	MARKETING MANAGEMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- G.Santhosh kumar/ Commerce & Economics				

COURSE OBJECTIVES :-

- To understand the fundamentals of marketing and its role.
- To examine the factorsi nfluencing buying behavior.
- To enable the students to promote advertising and its sales scope

COURSE OUTCOMES (COs)

CO1	State the Fundamentals of Marketing– Role of Marketing.
CO2	Describe the Factors influencing buying behavior
CO3	Interpret the Marketing segmentation– Needs-Types of segmentation
CO4	Compare to New product development process– Product life cycle
CO5	Revise the Awareness of consumer rights in the market place
CO6	Collect the Advertising– Scope of Advertising

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1		H						H		
	CO2	M	H	M							
	CO3	H			M						
	CO4					M					
	CO5	H		M							
	CO6		H			M					
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT-I **6**

Marketing-Definition– Fundamentals of Marketing– Role ofMarketing–Relationship of marketing with other functional areas–Marketing Mix

UNIT– II **6**

Buyer Behaviour – Buying motives– Factors influencingbuying behavior-Marketing segmentation– Needs-Types of segmentation

UNIT-III **6**

TheProduct– Characteristics– Benefits– Classifications– New product development process– Product life cycle – Branding– Packaging

UNIT-IV **6**

Physical Distribution-Importance-Various kinds of Marketing Channels– Distribution Problems-Awareness of consumer rights in themarket place.

UNIT-V **6**

Advertising – Scopeof Advertising – Personal selling– Direct selling and Sales Promotions.

TEXT BOOKS:

1. BerkovizKerinHontley Rudelivs, MARKETING, New York, Mcgraw Hill Publications.
2. Gony Armstrong, Philip Kotler, Marketing anIntroduction, Pearson Education Asia.
3. Philip Kotler, Marketing Management (Millennium ed.,)NewDelhi, PrenticeHallofIndia(P) Ltd.

Reference Books:

1. Rajan Saxena, MarketingManagement, 2nd edition, New Delhi, Tata McgrawHillPublishing Co.Ltd.
2. V.S. Ramasamy and S. Namakumari, Marketing Management, Planning,Implementation & control, New Delhi, Macmillan

3. Chisnall, P.M. (1997) Marketing Research, Fifth Edition, London: McGraw-Hill.

Course Coordinator **HOD**

U18SEBC006	OFFICE MANAGEMENT	L	T	P	C
	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name& Department:-Dr. M.Sankar /Commerce & Economics				

COURSE OBJECTIVES:-

- To peep into the concept, importance of office management.
- To impart knowledge on features and classification of Communication.
- To expose handling correspondence and market registers

COURSE OUTCOMES(COs)

CO1	Record the Concept and Importance of Office and Office Management.
CO2	Report the Arrangement and adjustment : Furniture, allotment of seats
CO3	Apply to Handling of correspondence and market registers
CO4	Experiment the preparation and play of manuals and charts
CO5	Select the Office staff –Selection-training-Supervision
CO6	Summarise Office Accommodation and Environment

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H							H		
	CO2				H						
	CO3		H								
	CO4		M								
	CO5			H							
	CO6						H				
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT I **6**

Introduction – Concept and Importance of Office and Office Management-Office Accommodation and Environment-Reception: Importance, shape and size, control

UNIT II **6**

Communication: Feature, classification, barriers -Arrangement and adjustment: Furniture, allotment of seats, chambers, cabins rooms etc .

UNIT III **6**

Handling of correspondence and market registers, filling forms and stationery-Office Machines - Kind of office machines.

UNIT IV **6**

Use of machines, installing, handling, maintenance–Manuals and charts-Advantages of office manuals charts - preparation and play of manuals and charts.

UNITV **6**

Office staff– Selection-training -Supervision-span of supervision

TEXT BOOK:

1. Ghosh & Agarwal, Office Management, S.Chand &Company– New Delhi
2. R.S.N. Pillai, Bagavathi, Office Management, S.Chand &Company – New Delhi,2013
3. Dr.R.K. Chopra, Priyanka Gauri Office Management, Himalaya Publishing House, 2017

REFERENCE BOOKS:

1. G.S. Sudha, General Management, Pustak Prakashan,New Delhi
2. Rajendra paul ,Modern Communication &Techniques, S.Chand &Company–New Delhi
3. v. Balachandran, Office Management, Tata Mcgraw-hill education,2009

Course Coordinator **HOD**

U18SEBC007	RETAIL MARKETING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. J. Saranya, Commerce				

COURSE OBJECTIVES:-

- To familiarize the functions and types of Retailing.
- To impart knowledge on Retail consumer behavior and its types.
- To expose the student on promoting sales, public relation and advertising.

COURSE OUTCOMES (COs)

CO1	Recall the Characteristics - Functions of retailing - Types of Retailing
CO2	Express the - Retail Consumer buying behavior and types
CO3	Schedule the Retail Organization Structure
CO4	Categorize to Factors affecting store lay out
CO5	Assess the Sales promotion - Advertising
CO6	Point out the Retail Marketing Mix

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	H						H		
	CO2		H	H		M					
	CO3	H					M				
	CO4		H								
	CO5	H	H	M							
	CO6	H	M					M			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT-I **6**

Retailing – Definition – Importance – Characteristics - Functions of retailing - Types of Retailing

UNIT-II **6**

Retail Marketing Mix - Retail Consumer buying behavior and types – Segmentation - Types of segmentation

UNIT-III **6**

Retail Organization Structure-Major Functional Areas-Careers in Retailing

UNIT-IV **6**

Store layout-Types of lay out-Factors affecting store lay out

UNIT-V **6**

Sales promotion - Advertising - Public Relation - Personal selling

TEXT BOOKS:

1) George E.Belch and Michael A.Belch, Advertsing and Promotion, McGraw Hill Company
2) Ronald, Karen Whitehill king,and J.Thomas Russell, Kleppner's Advertising Procedure, Pearson Education International, Prentice Hall
3) A. Siva Kumar, Retail Marketing, Anurag Jain for Excel Books, 2007.

REFERENCE BOOKS:

1) Malcolm Sullivan, Denn's Adcock, Retail Marketing, S.Chand Publishers, 2002.
2) Gupta, Advertising and Sales Promotion, EPH Publisher
3) Sarangi, Advertising and Sales Promotion, Asian Books

Course Coordinator **HOD**

U18SEBC008	SALESMANSHIP AND ADVERTISING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. S.Binapani/ Commerce & Economics				

COURSE OBJECTIVES:-

- To understand the importance, role, objective of advertising.
- To impart knowledge on importance of salesmanship

To analyze the types of advertising and its benefits

COURSE OUTCOMES (COs)

CO1	Define the objectives of Advertising.
CO2	Classify the types of Advertising-Commercial and Non-Commercial Advertising
CO3	Discover Advertising benefits and criticism
CO4	Explain the importance of salesmanship
CO5	Compute the Qualities and Responsibilities of sales managers
CO6	Examine the types of sales organization - Sales management job

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	H						H		
	CO2	H									
	CO3		M								
	CO4	H		M							
	CO5										
	CO6	H	H								
3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT-I **6**

Definition-Importance-Role of Advertising-Nature-Objectives and Scope of Advertising

UNIT-II **6**

Types of Advertising-Commercial and Non-Commercial Advertising-Primary demand and selective demand advertising

UNIT-III **6**

Advertising-benefits and criticism-Media selection-measuring advertising effectiveness

UNIT-IV **6**

Introduction to the salesmanship-Importance of salesmanship-training and compensating sales men

UNIT-V **6**

Qualities and Responsibilities of sales managers -Types of sales organization - Sales management job

TEXT BOOKS:

1. George E.Belch and Michael A.Belch, Advertsing and Promotion, McGraw Hill Company

2. Ronald, Karen Whitehill king,and J.Thomas Russell, Kleppner's Advertising Procedure, Pearson Education

International, Prentice Hall.

3. P. Saravanavel & S. Sumathi, advertising and salesmanship Margham publications,

REFERENCE BOOKS

1) Sarangi, Advertising and Sales Promotion, Asian Books

2. Gupta, Advertising and Sales Promotion, EPH Publisher.

. 3. A Handbook of Human Resource Management Practice,2012.

Course Coordinator **HOD**

U18SEEN001	**SOFT SKILLS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite – Higher Secondary Level				
	Course coordinator name & Dept: Mrs.B.CAROLINE– English				

COURSE OBJECTIVES:-To effectively complement the already existing Hard Skills so that the combination becomes a winning blend that could project the candidate's true worth in proper perspective.

COURSE OUTCOMES (COs)

CO1	Remember the personal as well as professionals goals of the students
CO2	Understand the manners during professional meetings
CO3	Apply the right reasons of stress
CO4	Analyze the importance of communication skills
CO5	Evaluate the excellence in both personal and professional life
CO6	Create the Growth & development of soft skills
Category	OE

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L						H		
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	

4	Approval	Academic Council Meeting

UNIT I Soft Skills 6

Introduction to soft skills

Types of soft skills

Developing positive attitude, forming values and self confidence

UNIT II Interpersonal skills 6

Developing interpersonal relationship, team building, table manners, organizing meetings, stress and time management

UNIT- III Communication Skills 6

Types of communication ,Art of listening ,Art of reading ,Art of writing,Art of speaking

UNIT IV Corporate Skills 6

Presentation skills, developing body language, practicing etiquette, and mannerism, dress for success

UNIT V Placement Skills 6

Personal interviews, writing resume/ CV- interviews skills career planning, public speak in motivation skills and personality

Text books

1. S.P.Danavel, English and Communication for Students of Science and Engineering.

2.Murali Krishna Moishra, Communication Skills for Engineers.

Reference

1. Developing the leader within you John C. Maxwell.
2. Meena. K and V. Ayothi (2013) A Book on development of soft skills (soft skills: A road map to success), P.R. publishers & Distributors, no. B-20&21,v.m.m. complex, Chatiram bus stand, tiruchirappalli.-620002

Course Coordinator **HOD**

U18SESC001	COMPUTER APPLICATIONS	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- N.Mathimagal & BCA				

COURSE OBJECTIVES:-

The learner will have the knowledge about the basic operations of a computer system, computer applications software, input, and output and storage devices.

COURSE OUTCOMES (COs)

CO1	Define the Characteristics, History, Classification, Personal Computers and Applications.
CO2	Demonstrate understanding of the basic operations of a computer system.
CO3	Explain the principles of operations of computer systems used in a particular application, specifically in terms of the systems' hardware and software components.
CO4	Discuss the various types of Processors, Input and Output devices, OS & DOS command.
CO5	Identify the suitable Storage Devices and Software's to solve the problem.
CO6	Use computer applications software to solve problems.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	-								
	CO4	H	L								
	CO5	M	-								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	

4	Approval	Academic Council Meeting

UNIT I **6**

Brief History of Development of Computers, Computer System Concept, Computer System Characteristics, Capabilities and Limitations, Types of Computers-Personal Computer (PCs) - IBM PCs, Types of PCs- Desktop, Laptop, Notebook, Palmtop, etc. Basic Components of a Computer System - Control Unit, ALU, Input/ Output Unit- Memory, Storage Fundamentals - Primary Vs Secondary memory.

UNIT II **6**

Input Devices: Keyboard, Mouse, Joystick, Scanners, Digital Camera, MICR,OCR, OMR, , Light pen, Touch Screen.

UNIT III **6**

Output Devices: Monitors - Characteristics and types of monitor, Size, Resolution, Refresh Rate, Dot Pitch, Video Standard - VGA, SVGA, XGA etc. Printers - Daisy wheel, Dot Matrix, Inkjet, Laser. Plotter, Sound Card and Speakers.

UNIT IV **6**

Various Storage Devices - Magnetic Disks, Hard Disk Drives, Floppy, Disks, Optical Disks

UNIT V **6**

Computer Software, Need, Types of Software - System software, Application software System Software - Operating System, Compiler, Assemblers, Interpreter.

TEXT BOOKS

1. Computers Today by S.K. Basandra- Galgotia Publications,First Edition Oct 1987.
2. Elementary Computer Application by Dr.ReetaKumari , ArchanaKumari ,First Edition Oct 2019.
3. Computer Fundamentalsby PritiSinha, Pradeep K., Sinha,Third Edition, McGraw-Hill 2018.

REFERENCE BOOKS

1. Fundamentals of Information Technology, Aalexis Leon & Mathews Leon- Vikas Publishing House- New Delhi dos Quick Reference by Rajeev Mathur- GalgotiaPublications.
2. Basic Computer Course Made Simple, Satish Jain/Shalini Jain/M.Geetha ,Pearson, Sep2018.
3. Computer Basic , G. Manjunath,Pearson, Sep2019.
4. Computer Basics: For a Literate Living, Bittu KumarMcGraw hill, Sep2018.

Course Coordinator **HOD**

U18SESC002	MULTIMEDIA	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- N.Mathimagal & BCA				

COURSE OBJECTIVES:-

The learner will have the knowledge about the principles of different types of media and able to identify the proper applications of multimedia, how multimedia can be used in various application areas, and evaluate the appropriate multimedia systems and develop effective multimedia applications.

COURSE OUTCOMES (COs)

CO1	Gain knowledge of basic concepts of multimedia
CO2	Analyze the multimedia application problems.
CO3	Discuss the Video capturing, Sound capturing, editing concepts.
CO4	Identify the basic multimedia design principles.
CO5	Demonstrate the multimedia system and Design Process
CO6	Test real time application using a multimedia concept.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	M	L								
	CO3	H	-								
	CO4	H	L								
	CO5	M	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Multimedia Fundamentals: Concept of multimedia, Fundamental criteria for the design of a multimedia presentation, Multimedia Application Goals & Objectives, opportunities in multimedia production.

UNIT II **6**

Role of multimedia-development of team members, avoiding problems in planning a multimedia application.

UNIT III **6**

Multimedia Building Blocks: Text, Graphics, Video capturing, Sound capturing, editing.

UNIT IV **6**

Basic design principle: proximity, visual hierarchy, Symmetry, Asymmetry, Repetition, unity, Contrast, dynamics, Emphasis, Multimedia Authoring tools.

UNIT V **6**

Design, Development and evaluation of multimedia a system, Development of user interface design, Design Process.

TEXT BOOKS

1. John Villamil, Casanova, Louis Molina, "An introduction tomultimedia".
2. Mohammad Dastbaz, "Designing Interactive MultimediaSystems".
3. "Multimedia: Making it Work" , Tay Vaughan, Ninth Indian Edition.

REFERENCE BOOKS

1. Stephen McGloughlin, "Multimedia on theweb".
2. "Fundamentals of Multimedia", Pearson Education International.
3. "Multimedia: Computing Communications & Applications", Ralf Steinmetz, Pearson Education.
4. Bohdan O. Szuprowicz, "MultimediaNetworking".

Course Coordinator **HOD**

U18SESC003	ADVANCED EXCEL	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Ramya & BCA				

COURSE OBJECTIVES: -

Learners able to understand the basic concept of excel and use various functions in Excel Sheet.

COURSE OUTCOMES (COs)

CO1	Identify the different components of the Excel worksheet
CO2	Construct formulas to manipulate numeric data in an Excel Worksheet
CO3	Change the appearance of an Excel spreadsheet
CO4	Use the functions that are stored in Excel.
CO5	Differentiate between formulas and functions in Excel.
CO6	Access and manipulate data using the database functions of Excel.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	-						H		
	CO2	H	L								
	CO3	M	-								
	CO4	M	-								
	CO5	H	L								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	

4	Approval	Academic Council Meeting

UNIT I **6**

Uses of Advance Excel Formulas -VLOOKUP, HLOOKUP, SUMIF, SUMIFS, SUMPRODUCT, DSUM, COUNTIF, COUNTIFS, IF, IFERROR, ISERROR, ISNA, ISNUMBER, ISNONTEXT, OR, AND, SEARCH, INDEX, MATCH etc

UNIT II **6**

Various Methods and Uses of IF Conditions , Usage of "IF" Conditions? , Creation of Multiple IF Conditions in One Cell , Use the IF Conditions with the Other Advance Functions, How to use nested IF statements in Excel with AND, OR Functions Sorting, Data Forms, Adding Data Using the Data Form, Finding Records Using Criteria

UNIT **6**

Filtering Data, AutoFilter, Totals and Subtotals, Row, Various Methods of Filter and Advance Filter options , Creating and Updating Sub totals , Various Method of Sorting Data ,Creating, Formatting and Modifying Chart.

UNIT IV **6**

Customizing the Quick Access Tool Bar , Managing Windows ,Multiple Windows , Splitting Windows.

UNIT V **6**

Various Methods and Options of Pivot Table, Using the Pivot Table Wizard, Changing the Pivot Table Layout, Subtotal and Grand total Options, Formatting, and Grouping items

TEXT BOOKS:

1. Jordan Goldmeler, "Advanced Excel Essentials" ,APress, 2015 edition.
2. Excel Basics Book by Ian Lamont.
3. Excel for Beginners – M.L. Humphery.

REFERENCE BOOKS:

1. John Walkenbach, "Microsoft Excel 2013 Bible",Wiley Publications,2013.
2. Excel Formulas and Functions For Dummies Book by Ken Bluttman and Peter G. Aitken.
3. Advanced Excel Essentials Book by Jordan Goldmeier.
4. Excel 2019 Bible Book by John Walkenbach, Michael Alexander, and Richard Kusleika

Course Coordinator **HOD**

U18SESC004	WEB DESIGNING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Ramya & BCA				

COURSE OBJECTIVES: -

To gain knowledge in basic web designing concepts.

COURSE OUTCOMES (COs)

CO1	Define the web basics and server side scripting.
CO2	Execute the HTML coding and linking process.
CO3	Analyze the hyperlinks and special characters.
CO4	Relate the Embedded Style Sheets & Linking External Style Sheets.
CO5	Use the backgrounds and user style sheets.
CO6	Test real time application using web designing concept.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L							H	
	CO2	M	L								
	CO3	H	-								
	CO4	H	-								
	CO5	H	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Introduction - The Internet in Industry and Research - Evolution of the Internet and World Wide Web - Web Basics – Client Side Scripting versus Server Side Scripting.

UNIT II **6**

Introduction – First HTML example – Headings – Linking - Images, alt Attribute, Void Elements.

UNIT **6**

Using Images as Hyperlinks-Special Characters and Horizontal Rules – Lists – Tables.

UNIT IV **6**

Introduction - Inline Styles - Embedded Style Sheets - Linking External Style Sheets

UNIT V **6**

Backgrounds - Element Dimensions - Box Model and Text Flow - Drop-Down Menus - User Style Sheets.

TEXT BOOKS

1. Paul Deitel, Harvey Deitel, Abbey Deitel, "Internet & World Wide Web: How To Program", 5th Edition, Pearson Publication, 2012.
2. Jennifer Niederst Robbins, "Learning Web Design", Fourth Edition, O'Reilly Media, 2012.
3. Thomas Michaud, "Foundations of Web Design, Introduction to HTML & CSS", Pearson Publication, 2014.

REFERENCE BOOKS

1. Bayross, "Web Enable Commercial Application Development Using HTML, DHTML, JavaScript, Perl CGI", BPB Publications.
2. T. A Powell, "Complete Reference HTML (Third Edition)", TMH, 2002.
3. HTML & CSS: Design and Build Web Sites Book by Jon Duckett.
4. Learning Web Design Book by Jennifer Niederst Robbins.

Course Coordinator **HOD**

U18SESC005	PHOTOSHOP	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Brindha & BCA				

COURSE OBJECTIVES: -

Learners can apply methods to specific 3D Images and to identify various designs appropriate for Animation.

COURSE OUTCOMES (COs)

CO1	Gain knowledge to Create and save Images in fundamental computer applications
CO2	Define the title bar, menu bar, option bar, image title bar in photo shop program.
CO3	Examine Zooming & Panning an Image while Working with Images.
CO4	Analyze Color manipulations & Working with Toolbox
CO5	Compare the Working with layers.
CO6	Relate real time application using 3D image and Animation.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	-						H		
	CO2	H	L								
	CO3	M	-								
	CO4	H	L								
	CO5	H	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Introduction to Adobe photoshop, Getting started with photoshop, creating and saving a document in photoshop, page layout and background.

UNIT II **6**

Photoshop program window-title bar, menu bar, option bar, image window, image title bar, status bar, ruler, palettes, toolbox, screen modes, saving files, reverting files, closing files.

UNIT III **6**

Images: working with images, image size and resolution, image editing, color modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids-Cropping & Straightening an Image, image backgrounds, making selections.

UNIT IV **6**

Working with toolbox: working with pen tool, save and load selection-working with erasers-working with text and brushes-Color manipulations: color modes- Levels – Curves - Seeing Color accurately - Patch tool

UNIT V **6**

Layers: Working with layers- layer styles- opacity-adjustment layers.

TEXT BOOKS

1. Reema Thareja , "Fundamentals of Computers", Oxford University Press.
2. Photoshop: Beginner's Guide for Photoshop - Digital Photography, Photo Editing, Color
3. Adobe Creative Team, "Adobe Photoshop Classroom in a Book".

REFERENCE BOOKS

5. Adobe Creative Team, "Adobe Photoshop Classroom in a Book".
6. Adobe Photoshop CC For Dummies.
7. Adobe Photoshop CC for Photographers 2018.
8. Photoshop CC Essentials for Photographers.

Course Coordinator **HOD**

U18SESC006	FLASH	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Brindha & BCA				

COURSE OBJECTIVES: -

Learners can identify methods appropriate for Basic Animation and apply methods to design with flash.

COURSE OUTCOMES (COs)

CO1	Define working with flash, drawing with flash using Animation tools and Mixer.
CO2	Classify working with multiple objects, importing color palettes
CO3	Analyze Basic animation and working in the timeline,
CO4	Identify Frames, key frames, deleting, copying and reversing frames
CO5	Organize the Shape tweening and shape hinting in motion
CO6	Apply methods to design with flash

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO 2	PSO 3
2	**CO1**	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	M	-								
	CO5	H	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Working with flash, drawing with flash, drawing with the pencil, modifying lines, drawing with the pen, the oval and rectangle tools, free transform tool, envelope modifier, the brush tool, using the mixer.

UNIT II **6**

Adding custom colors to color palette, importing color palettes, working with multiple objects, grouping objects.

UNIT III **6**

Basic animation and working in the timeline, the timeline, movie properties.

UNIT IV **6**

Frames vs. key frames, deleting, copying, and reversing frames, frame-by-frame vector animation, Animation on an image.

UNIT V **6**

Shape tweening , shape hinting , Shape tweening text , edit multiple frames , animating gradients, basic motion tweening.

TEXT BOOKS:

1. Nick Vandome ,"FLASH 5 in easy steps", ,Dreamtech press,2001
2. Tattoo Lettering Book Reference Flash Book (Volume 2) Spiral-bound – jan 2001 by Various Artists
3. The Flash Book: How to fall hopelessly in love with your flash, and finally start taking the type of images you bought it for in the first place Kindle Edition by Scott Kelby-2013

REFERENCE BOOKS:

1. E A Vander Veer &Chris Graver, "Flash CS3",Orelly Publications,2009.
2. Nick Vandome ,"FLASH 5 in easy steps", ,Dreamtech press,2010
3. Thiagharajan and Anbumani, "Flash MX 2004", Tata McGraw Hill, NewDelhi.
4. Laurie Ulrich Fuller and Robert C. Fuller, "Photoshop CS3 Bible", Willey India Pvt.Ltd.,2017.
5. V. K. Jain, "Multimedia and Animation Paperback", 1st Edition, 1 January 2019.

Course Coordinator **HOD**

U18SESC007	COMPUTER HARDWARE AND NETWORKING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi / CS				

COURSE OBJECTIVES :-

Learners familiar with the basic concepts of Microprocessor, Controller, Server and to demonstrate the traditional imperative design of CPUs, cards, PCs and BIOS.

COURSE OUTCOMES (COs)

CO1	Define the structure of Micro Processor and PCs and CPUs
CO2	State the structure of PC architecture and the study of various PCs
CO3	Describe the basics of Processor
CO4	Study the CPU, Chips, Processor and Controllers
CO5	Examine the working of Internal Components cards and Higher Level Processor
CO6	Relate the Backups, Switches Routers, BIOS, Floppy Disk and zip Driver

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	-						H		
	CO2	H	L								
	CO3	H	L								
	CO4	M	-								
	CO5	H	L								
	CO6	M	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Microprocessor System - Introduction of System overview, Introduction to Processors, Memory Interfacing, Interfacing I/O Devices, Interfacing Data Converters, Display Interface, Serial I/O and Data Communication, Higher level Processors.

UNIT II **6**

Introduction to PC Architecture Study of PC-AT/ATX System, Pentium, Core, Core 2 Cord, Core 2 Duo, I3, I5, I7.

UNIT III **6**

Processor Basics of Processor and CPU Block Diagram of Computer and Computer Generation Motherboards, Chipset and Controllers, BIOS and the Boot Process, Computer Memory.

UNIT IV **6**

Internal Components IDE and SATA Devices: Hard Disk Drive and CD/DVDs Drives, SCSI Devices, Floppy Disk, Zip Drive, Backup Drive, Expansion Cards- LAN Card, IDE Card , VGA and SVGA Cards, Sound Card, Interface Cards, I/O cards, Video Cards, USB Card, Fire-Wire Cards, Internal Ports, Cables and Connector Types.

UNIT V **6**

Introduction of Network Cable like UTP, STP, Fiber Optics, Hub, Unmanageable Switch, Manageable Switch, Router, Modem, Wi-Fi, Access Point, PCI Wireless Card, USB Wireless Device, Print Server, USB Network Sharer, Backup Device, Server Hardware etc.

TEXT BOOKS

1. Ramesh Gaonkar, “Microprocessor Architecture Programming and Application with the 8085”, Penram International Publication.
2. Troubleshooting, Maintaining and Repairing PCs Stephen J Bigelow Tata MCGraw Hill Publication 2004
3. Computer Networks Andrew S.Tanenbaum Prentice-Hall of India, New Delhi 2002

REFERENCE BOOKS

1. M.L. Gupta, “Electronics and Radio Engineering”, Dhanpat rai & Sons, New Delhi.
2. B. Govinda rajalu, “PC AND CLONES Hardware, Troubleshooting and Maintenance”, Tata Mc-graw-Hill Publication.
3. Stephen J. Bigelow, “PC Troubleshooting and Repair”, Dream tech Press, New Delhi.
4. Data Communication and networking Behrouz A.Forouzan Tata Mc-Graw Hill, New Delhi 2006
5. Data and Computer Communications William Stallings Prentice-Hall of India Eighth Edition.

Course Coordinator **HOD**

U18SESC008	COMPUTER PROGRAMMING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi/ CS				

COURSE OBJECTIVES :-

Learners will be familiar with the programming language C, Algorithm, and Design the flowchart and implement the programs using the concept such as Functions, Pointers and Strings.

COURSE OUTCOMES (COs)

CO1	Apply and Write the clear, structure and Looping of elementary C programs.
CO2	Explain algorithmic thinking and apply it to programming.
CO3	Describe problem-solving techniques.
CO4	Ability to use C with Various operators Expressions and Decision making control.
CO5	Write Code using Arrays with single dimensions, Two dimensions and Multidimensional and Various Strings operations
CO6	Examine programs using Functions, Pointers, Structures and Union

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	**CO1**	H	-						H	
	CO2	H	L							
	CO3	H	L							
	CO4	H	-							
	CO5	M	L							
	CO6	H	-							
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Generation and Classification of Computers, Basic organization of a Computer, Number System, Binary, Decimal, Conversion, Problems.

UNIT II **6**

Algorithm, Pseudo code, Flow Chart, Problem formulation, Problem solving , Introduction to "C" programming, Fundamentals, Structure of C Program , compilation and linking processes, Constants, Variables, Data Types.

UNIT III **6**

Expressions using operators in C, Managing input and output operations, Decision making and Branching, Looping Statements.

UNIT IV **6**

Arrays, Initialization, Declaration, One Dimensional and Two Dimensional Arrays, String, String Operations, String Arrays.

UNIT V **6**

Function, Definition of Function, Declaration of Function, Recursion, pointers, pointer and arrays, Structure data type, Structure definition, Structure declaration, Structure within a structure, Union, Storage classes, Pre-processor directives.

Text Books

1. Anita Goel and Ajay Mittal, "Computer Fundamentals and programming in C", Dorling Kindersley (India) Pvt Ltd., Pearson Education in South Asia 2011.
2. PradipDey, ManasGhosh, "fundamentals of computing and programming in c", First edition, Oxford University Press, 2009.
3. Yashavant P. Kanethar, "Let Us C", BPB Publications, 2011.

Reference Books

1.Byron S Gottfried," Programming with C",Schaum'sOutlines,2nd Edition,Tata McGraw-Hill 2006.

2.Dromey R.G., "How to Solve it by Computer", Pearson Education, Fourth Reprint, 2007.

3.Kernighan., B.W and Ritchie, D.M, " The C Programming Language", Second Edition, Pearson Education, 2006.

Course Coordinator **HOD**

U18SESC009	OFFICE AUTOMATION TOOLS	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi / CS				

COURSE OBJECTIVES :-

Learners will create an awareness among the application of computers and information technology.

COURSE OUTCOMES (COs)

CO1	State the basic skills and practices for MS –DOS.
CO2	Gain the knowledge of MS WORD.
CO3	Analysis the power point presentation concepts.
CO4	Discuss the EXCEL and formula processing.
CO5	Use the PowerPoint template.
CO6	Applying the computer excel formula.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	-								
	CO3	M	-								
	CO4	M	-								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
									✓		
4	Approval	Academic Council Meeting									

UNIT I **6**

Text Manipulations- font size, style, color. Alignment- left, right and justify, paragraph alignment, Usage of Numbering, Bullets, Footer and Headers, Usage of Spell check, and Find & Replace, Text Formatting, Picture insertion and alignment.

UNIT II **6**

Insertion – Table, chart, clip art, shapes, borders. Creation of documents, saving of documents, using templates, Creation templates, Mail Merge Concepts, Copying Text & Pictures from Excel.

UNIT III **6**

Creating of Excel sheet, Cell Editing, Usage of Formulae and Built-in Functions, File Manipulations, Data Sorting, Worksheet Preparation, Drawing Graphs, Usage of Auto Formatting.

UNIT IV **6**

Start power point, Create blank presentation, Selecting slide layout , Insert new slide, Editing presentation , Designing and formatting presentation , Change font, font color, size, style of text, Bullet and numbering, Slide design, layout, change background , preparing slide show presentation.

UNIT V **6**

Inserting Clip arts and Pictures, Frame movements, Insertion of new slides.Preparation of Organization Charts, Presentation using Wizards, Usage of design templates, working with tables, graphics and animation, working with graphs and organization charts.

TEXT BOOKS:

1. Joyce Cox, Joan Lambert and Curtis Fryc, “Step by Step Microsoft Office Professional 2010”, Microsoft press edition.
2. Ralph T.Reilly, “The Handbook of Office Automation”, iUniverse Publications,2012.
3. Learning of MS –Office 2007 – Ramesh Bangia
4. 2007 Microsoft Office System and Your Windowsbased PC – Window Vista
5. Microsoft Office Professional 2010 Step by Step Paperback – 1 January 2010 by Cox Et Al

REFERENCE BOOKS:

1. Microsoft office word 2007 Torben large frandsen
2. Microsoft office word 2008 Stephen moffat
3. Microsoft office word 2010 Advance – Gay B.Shelly
4. Microsoft Office 2010 by Bittu Kumar
5. Learning Microsoft Word 2010 by Bangia Ramesh

Course Coordinator **HOD**

U18SEMA001	QUANTITATIVE APTITUDE – I	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Number Series with its applications.
CO2	Understand the concept of Data Interpretation
CO3	Apply suitable algorithms in Loss & Discount
CO4	Analyze the Rates, Time and Distance
CO5	Evaluate problems Simple Interest
CO6	Create an real time application compounds and mixtures

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			
3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT I NUMBER SYSTEM **6**

Numbers, Number Series, Number Theory, Arithmetic & Geometric Ratio

UNIT II STATISTICS **6**

Average, Ages, Data Interpretation.

UNIT III PERCENTAGE AND APPLICATIONS **6**

Percentage, Profit, Loss & Discount, Simple Interest, Compound Interest

UNIT IV TIME

6

Rates, Time and Distance, Train Problems, Boats and Streams, Time and Work.

UNIT V RATIO AND PROPORTION **6**

Allegations of compounds and mixtures.

Text Books:

1. Aggarwal.R.S(2018) "Quantitative Aptitude" by, S.Chand Publications.

2. Aggarwal.R.S(2018) "A modern approach to Logical approach" by, S.Chand Publications.

3. AbhijitGuha, (2014) "Quantitative Aptitude for competitive examinations" by Tata McGraw-HillPublications.

Reference Books:

1.AbhijitGuha, "Quantitative Aptitude"- Mc Graw Hills Publishers.

2. Aggarwal.R.S(2018) "A modern approach to Logical approach" by, S.Chand Publications.

3. RS Aggarwal, (2018) "A Modern Approach to Verbal & Non-Verbal Reasoning",S. Chand Publications.

Course Coordinator **HOD**

U18SEMA002	QUANTITATIVE APTITUDE – II	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Inverse, Compound equation.
CO2	Understand the circular arrangement.
CO3	Apply suitable direction of Permutations and combinations test.
CO4	Analyze the Heights and Distance
CO5	Evaluate problems on Simple Interest
CO6	Create a real time application of Date and time.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									☐		
4	Approval		Academic Council Meeting								

UNIT I SOLVING ABILITY **6**

Simple equations –Variation-Direct, Inverse, Compound

UNIT II PROBABILITY **6**

Problems on Linear and circular arrangement.

UNIT III REASONING ABILITY **6**

Coding and decoding – Direction Permutations and combinations test- Lateral reasoning-Blood relations-Paragraph based puzzles.

UNIT IV TRIGONOMETRY **6**

Heights and Distance.

UNIT V CLOCKS AND CALENDERS **6**

Interpretation of Date and time.

Text Books:

1. Aggarwal.R.S(2018) "Quantitative Aptitude" by, S.Chand Publications.

2. Aggarwal.R.S(2018) "A modern approach to Logical approach" by, S.Chand Publications.

3. AbhijitGuha, (2014) "Quantitative Aptitude for competitive examinations" by Tata McGraw-HillPublications.

Reference Books:

1.AbhijitGuha, "Quantitative Aptitude"- Mc Graw Hills Publishers.

2. Aggarwal.R.S(2018) "A modern approach to Logical approach" by, S.Chand Publications.

3. RS Aggarwal, (2018) "A Modern Approach to Verbal & Non-Verbal Reasoning",S.Chand Publications.

Course Coordinator **HOD**

U18SEMA003	REGRESSION ANALYSIS WITH SPSS	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Ms.S.Kavitha /Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge Qualitative Variable on Nominal Scale, Ranked.
CO2	Understand the Deleting and Rearranging Items from the Viewer
CO3	Apply suitable direction Permutations and combinations test.
CO4	Analyze the Pie Chart, Scatter Plot and Dot plots
CO5	Evaluate data questionnaire Analysis
CO6	Create an real time application and test of hypotheses

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									□		
4	Approval		Academic Council Meeting								

Unit 1: Introduction **6**

Observations and Variables, Quantitative or Measurement Variable on Interval Scale, Qualitative Variable on Nominal Scale, Ranked Variable on Ordinal Scale.

Unit 2: SPSS Data File **6**

Opening a Data File in SPSS – Variable View, Data View, Entering Data into the Data Editor, Saving the Data File. Editing and Manipulating Data: Inserting a New Variable, Rearranging the Order of Variable in the Variable View, Deleting and Rearranging Items from the Viewer. Usage of Data, Transform, Analyse and Graphs menus – Editing and copying and printing SPSS output – Importing Data from Excel File.

Unit 3:Descriptive Statistics with SPSS **6**

Charts and Graphs: Simple Bar charts, Pie Chart, Scatter Plot and Dot plots, Line graphs, Histogram.

Unit 4: Correlation and Regression Analysis with SPSS **6**

Simple correlation (Karl Pearson's Method) - Rank correlation (Spearman's method) – Simple linear regression equation, Scatter plot and line of best fit – Questionnaire Analysis (Uni-variate and Bi- variate tables) – Chi square test with SPSS for independence of Attributes.

Unit 5: correlation and Testing of Hypothesis **6**

Partial and multiple correlation coefficients. Simple linear regression model: Description of data model - Estimation and test of hypotheses.

Books for Study:

1. AnanthiSheshasayee and Sheshasayee, G, (2003), Computer Applications in Business and Management, Margham Publications, Chennai.
2. Rajathi, A. and Chandran, P. (2010), SPSS for you, MJP Publishers, Chennai.
3. Chatterjee, S and Price, B (1977), Regression Analysis by Example, John Wiley and Sons, New York
4. Kapoor, V. K and Gupta, S. C (2002), Fundamentals of Mathematical Statistics, Sultan Chand and Sons, New Delhi.

Books for Reference:

1. Singh, V. P. and Singh, M. (1998), MS-Excel, Megabyte Series, Asian Publishers, New Delhi.
2. Andy Field (2006), Discovering Statistics Using SPSS, SAGE Publications, London.
3. Johnston, J (1972), Econometric Methods, McGraw-Hill Pvt. Ltd, New York.
4. Draper, N. R and Smith, H (1998), Applied Regression Analysis, 3rd edition, John Wiley and Sons, USA.

CourseCoordinator **HOD**

CURRICULUM & SYLLABUS- B.SC MATHS
SEMESTER I

S.No.	CATEGORY	SUB. CODE	SUBJECT	TOTAL CONTACT Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA101/ U18HSFR101/ U18HSHI101	Tamil / French/ Hindi	5	3	0	0	3
2.	HS	U18HSEN102	English	5	3	0	0	3
3.	MC	U18MCMA101	Algebra And Trigonometry	5	3	1	0	4
4.	MC	U18MCMA102	Calculus	5	3	1	0	4
5.	NC	U18NCMA103	Mathematical Statistics-1	5	3	1	0	4
PRACTICAL								
6.	NC	U18NCMA1L1	Mathematical Statistics Practical-1	4	3	1	0	2
Total				29	15	4	0	20

II SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	TOTAL CONTACT Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA201/ U18HSFR201/ U18HSHI201	Tamil / French/ Hindi	4	3	0	0	3
2.	HS	U18HSEN202	English	4	3	0	0	3
3.	MC	U18MCMA201	Differential Equations And Laplace Transforms	5	3	1	0	4
4.	MC	U18MCMA202	Analytical Geometry 3D	4	3	1	0	4
5.	NC	U18NCMA203	Mathematical Statistics-2	5	3	1	0	4
6.	HS	U18HSCH201	Environmental Studies	2	2	0	0	2
7.	HS	U18HSBC202	Value Education	2	2	0	0	2
PRACTICAL								
8.	NC	U18NCMA2L1	Mathematical Statistics practical-2	4	3	1	0	2
Total				30	22	4	0	24

III SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	TOTAL CONTACT Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA301/ U18HSFR301/ U18HSHI301	Tamil / French/ Hindi	4	3	0	0	3
2.	HS	U18HSEN302	English	5	3	0	0	3
3.	MC	U18MCMA301	Sequences And Series	5	3	1	0	4
4.	MC	U18MCMA302	Numerical Analysis	4	3	1	0	4
5.	NC	U18NCPS302	Physics -1	5	3	2	0	4
6.	NME	U18NETA301	Non Major Elective I – for those who studied Tamil under Part I a) Basic Tamil for other language students	2	2	0	0	2
		U18NETA302	b) Special Tamil for those who studied Tamil upto10th +2 but opt for other languages in degree programme.					
PRACTICAL								
7.	**NC**	U18NCPS3L1	Physics Practical-1	4	0	0	4	2
Total				29	17	4	4	22

IV SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	TOTAL CONT Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA401/ U18HSFR401/ U18HSHI401	Tamil / French/ Hindi	4	3	0	0	3
2.	HS	U18HSEN402	English	4	3	0	0	3
3.	MC	U18MCMA401	Vector calculus, Fourier series and Fourier Transforms	5	3	1	0	4
4.	MC	U18MCMA402	Dynamics	4	3	1	0	4
5.	NC	U18NCPS402	Physics -2	5	3	2	0	4
6.	NME	U18NETA401	Non Major Elective II – for those who studied Tamil under Part I Basic Tamil for other language students	2	2	0	0	2
		U18NETA402	Special Tamil for those who studied Tamil upto10th +2 but opt for other languages in degree programme.					
7.	**SBE**		Skill Based Elective I	2	2	0	0	2
PRACTICAL								
8.	**NC**	U18NCPS4L2	Physics Practical-2	4	0	0	4	2
Total				30	19	4	4	24

SEMESTER V

S.No.	CATEGORY	SUB. CODE	SUBJECT	TOTAL CONTCT Hrs	L	T	P	C
THEORY								
1.	MC	U18MCMA501	Real Analysis-1	5	3	1	0	4
2.	MC	U18MCMA502	Algebraic Structures	4	3	1	0	4
3.	MC	U18MCMA503	Operations Research	5	3	1	0	4
4.	MC	U18MCSC504	Unix and C Programming	5	3	1	0	4
5	ME	U18MEMA011	Major Elective 1 Discrete Mathematics	4	3	1	0	4
6.	SBE		Skill Based Elective – II	2	2	0	0	2
7.	SBE		Skill Based Elective – III	2	2	0	0	2
PRACTICAL								
8.	**MC**	U18MCSC5L1	**C** Programming Lab	3	0	0	4	2
Total				30	19	5	6	26

VI SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	TOTAL CONTACT Hrs	L	T	P	C
THEORY								
1.	MC	U18MCMA601	Real Analysis-2	5	3	1	0	4
2.	MC	U18MCMA602	Complex Analysis	5	3	1	0	4
3.	MC	U18MCMA603	Graph theory	5	3	1	0	4
4.	ME	U18MEMA023	Major Elective – II : Elementary Number Theory	4	3	1	0	4
PRACTICAL								
5.	EE	U18EEMA6P1	Mini project		0	0	20	10
6.	HS	U18HSMA6L1	Extension Activities	2	0	0	2	1
Total				21	12	3	22	27

LIST OF ELECTIVES

MAJOR ELECTVES: I

Sub Code	Sub Name	No. of periods per week			C
		L	T	P	
U18MEMA011	**DISCRETE MATHEMATICS**	3	1	0	4
U18MEMA012	**BIO – STATISTICS**	3	1	0	4
U18MEMA013	**MECHANICS**	3	1	0	4

MAJOR ELECTVES: II

Sub Code	Sub Name	No. of periods per week			C
		L	T	P	
U18MEMA021	**SPECIAL FUNCTIONS**	3	1	0	4
U18MEMA022	**ASTRONOMY**	3	1	0	4
U18MEMA023	**ELEMENTARY NUMBER THEORY**	3	1	0	4

LIST OF SKILL BASED ELECTIVES
Choose any three courses – one in semester IV & two in semester V

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18SEBC001	Business Process Outsourcing – Management	2	2	0	0	2
2	U18SEBC002	Customer Relationship Management	2	2	0	0	2
3	U18SEBC003	Entrepreneurial Development	2	2	0	0	2
4	U18SEBC004	Human Resource Management	2	2	0	0	2
5	U18SEBC005	Marketing Management	2	2	0	0	2
6	U18SEBC006	Office Management	2	2	0	0	2
7	U18SEBC007	Retail Marketing	2	2	0	0	2
8	U18SEBC008	Salesmanship and Advertising	2	2	0	0	2
9	U18SEEN001	Soft Skills	2	2	0	0	2
10	U18SESC001	Computer Application	2	2	0	0	2
11	U18SESC002	Multimedia	2	2	0	0	2
12	U18SESC003	Advanced Excel	2	2	0	0	2
13	U18SESC004	Web Designing	2	2	0	0	2
14	U18SESC005	Photoshop	2	2	0	0	2
15	U18SESC006	Flash	2	2	0	0	2
16	U18SESC007	Computer Hardware and Networking	2	2	0	0	2
17	U18SESC008	Computer Programming	2	2	0	0	2
18	U18SESC009	Office Automation Tools	2	2	0	0	2
19	U18SEMA001	Quantitative and Aptitude Reasoning -I	2	2	0	0	2
20	U18SEMA002	Quantitative and Aptitude Reasoning-II	2	2	0	0	2
21	U18SEMA003	Regression Analysis with SPSS	2	2	0	0	2

SEMESTER-I

U18HSTA101	□□□□□- I	**L**	**T**	**P**	**C**
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CO1	□□□□□□□□□□, □□□□□□□□□□□□, □□□□□□□□□□□□□□□□□□□□

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CO3	To ***learn*** the basics of grammar along with its principles.
CO4	To ***remember*** the anatomy of conjugations.
CO5	To ***create*** dialogs and conversation on their own within the language & to practice oral and written skills.
CO6	To ***remember*** the necessary rules of the language

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	H						H		
	CO2	H	H								
	CO3	H	M								
	CO4	H	M								
	CO5	M	M								
	CO6	H	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								
4	Approval		Academic Council Meeting							

UNIT I - Vous comprenez **9**

Alphabets - French Accents - Les Nombres – Pronunciations.

UNIT II Au travail! **9**

Masculine Singular and Feminine singular - Conjugaison des verbes (present tense) -
Les articles définis.

UNIT III En se detend? **9**

Conjugaison (faire-aller-venir-Vouloir-Pouvoir-Devoir

UNIT IV Racontez-moi **9**

La date et l'heure – les saisons – les couleurs

UNIT V Bon voyage! **9**

Adjectifs demonstratives - Adjectifs possessives - Les Voyages / les transport-Bon appétit!-Article partitif - Emploi des articles - Interrogation (Forme avec inversion) - Les repas - La fête

TEXT BOOKS:

A1 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator **HOD**

U18HSHI101	**HINDI**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department:- Mrs Rani Selvan / Hindi				
COURSE OBJECTIVES:- To introduce students to basic principles and practice of oral and written communication.					
COURSE OUTCOMES (COs)					
CO1	Remember the behavior				

CO2	Understand the importance of money by story
CO3	Apply the concept of Hindi grammar
CO4	Analyze the usage of translation from English to Hindi
CO5	Evaluate the unseen passage to answer the questions
CO6	Create the knowledge in Hindi Language

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								
4	Approval		Academic Council Meeting							

UNIT I **9**

NAVEEN GADYA CHAYANIKA – 2 - Bholaram ka jeev - Mehamaan se Bhagavaan bachaaye - Numberovali Thijori –Kaffan - Gunda

UNIT II **9**

NON DETAILED TEXT: KAHANI KUNJ - Stories: 6 – 10 only

UNIT III9

GRAMMAR: SHABDA VICHAR ONLY - NOUN, PRONOUN, ADJECTIVE, VERB, TENSE, CASE ENDINGS - Theoretical & Applied

UNIT IV **9**

TRANSLATION - English – Hindi only - ANUVADH ABHYAS – III - 1 – 15 Lessons Only

UNIT V **9**

COMPREHENSION - 1 Passage from ANUVADH ABHYAS – III (16 – 30)

TEXT BOOKS:

UNIT 1 - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017
UNIT II - Govind Prakashan, Sadhar Bagaar, Mathura, Uttar Pradesh – 281001 - Editor: Dr V.P. Amithab
UNIT III - Vyakaran Pradeep by Ramdev - Hindi Bhavan,36, Tagor Town, Allahabad – 211002.
UNIT IV - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017.
UNIT V - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017

CourseCoordinator **HOD**

U18HSEN102	**ENGLISH I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept: Mrs. SHEEBA - English				
COURSE OBJECTIVES:- :- To use English effectively for study purpose and enable the learner to communicate appropriately in real life situation.					
	COURSE OUTCOMES (COs)				

CO1	Rememberand recall the words according to the given context.
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarizes the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O1	PSO2	PS O3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓							

4	**Approval**	Academic Council Meeting

UNIT-I POETRY **9**

Lucy Gray -William Wordsworth– Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis; Ulysses-Alfred Lord Tennyson -Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis; The Road Not Taken – Robert Frost -Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis

UNIT-II – ONE ACT PLAYS **9**

The Boy Comes Home-A.A.Milne– Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; The Referee- W.H.Andrews and Geoffrey Dearmer -Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT -III SHORT STORIES **9**

The Unicorn in the Garden – James Thurber - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; The Avenger – Anton Chekov - Author Biography - Plot – Theme - Character

sketch – Summary – Critical analysis

UNIT IV PROSE **9**

Six Thinking Hats- Edward de Bono–Author Biography - Self analysis technique, Summary; My Early Days-Abdul Kalam - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis;I Have a Dream (Speech) -Martin Luther King- Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT V **9**

Introduction to Basics of Communication – Definitions – Types – Listening, Speaking, Reading& Writing

TEXT BOOKS:

1. Six Thinking Hats by Edward de Bono, Little Brown and Company,1985
2. My Early Days by Abdul Kalam,October 7,2013

REFERENCE BOOKS:

1. Strings of Gold (Part- II) Edited by Prof. Jasbir Jain (MacMillan),2007
2. Basic Communication Skills for Technology by Rutherfoord(DorligKindersly),2007
3. English for Professionals A Practice Book of Communication Skills in English by Dr.Miglani (Vayu Education of India),2010.

CourseCoordinator **HOD**

U18MCMA101	**ALGEBRA AND TRIGONOMETRY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				
COURSE OBJECTIVES :- To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.					
COURSE OUTCOMES (COs)					

CO1	Understand to the transformation of equations
CO2	Understand the theory of equations
CO3	Understand the concepts of matrices, in solving a system of linear equations
CO4	Study about the Summation of Trigonometric Series: When the angles are in A.P
CO5	Expand trigonometric functions and also find the summation of T-series
CO6	Formation of equation with trigonometric roots.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT- I THEORY OF EQUATION -I 12

Polynomial equations; Imaginary and irrational roots; Relation between roots and coefficients; Symmetric functions of roots in terms of coefficients; Transformations of equations; Reciprocal equations.
Chapter 6 Section 9 to 12, 15, 15.1, 15.2, 15.3, 16, 16.1,16.2.

UNIT-II THEORY OF EQUATION -II 12

Increase or decrease the roots of the given equation; Removal of term; Descartes' rule of signs; Approximate solutions of roots of polynomials by Horner's method; Cardan's method of solution of a cubic polynomial; Summation of Series using Binomial, Exponential and Logarithmic series. Chapter 6: Section 17, 19, 24, 30, 34, 34.1
Chapter 3: Section 10, Chapter 4: Section 3, 3.1, 7.

UNIT-III MATRICES 12
Symmetric; Skew Symmetric; Hermitian; Skew Hermitian; Orthogonal Matrices; Eigen values; Eigen Vectors; Cayley - Hamilton Theorem; Similar matrices; Diagonalization of a matrix.
Chapter 2, Section 6.1 to 6.3, 9.1, 9.2 , 16 , 16.1, 16.2 16.3.

UNIT- 1V EXPANSION OF TRIGONOMETRY SERIES 12
Expansions of powers of sin θ, cos θ - Expansions of $cos^n\,\theta$, $sin^n\,\theta$, $cos^m\,\theta sin^n\,\theta$.
Chapter 2, Section 2.1, 2.1.1, 2.1.2, 2.1.3

UNIT-V ROOTS OF THE TRIGONOMETRY SERIES 12

Expansions of sin n θ, cos n θ, tan n θ - Expansions of tan(θ_1+θ_2 +……..+θ_n) - Expansions of sin x, Cos x, tan x in terms of x-Sum of roots of trigonometric equations – Formation of equation with trigonometric roots.
Chapter 3, Section 3.1 to 3.6.

TEXT BOOK:

1. **Unit-1, Unit-2 and Unit-3**

   Algebra Volume I by T. K. Manicavachagam Pillay,T.Natarajan, K.S.Ganapathy, Viswanathan 07.Unit – 3, Algebra Volume II by T. K. Manicavachagom Pillay ,T.Natarajan ,K.S.Ganapathy, Viswanathan Publication 2008 .
2. **Unit-4 and Unit-5**
   Contentand treatment as in Trigonometry by P. Duraipandian and Kayalal Pachaiyappa, Muhil Publishers.

REFERENCES:

1. Algebra: by S. Arumugam (New Gama publishing house, Palayamkottai).
2. Trigonometry by T.K. Manickavachagam Pillay.

CourseCoordinator **HOD**

U18MCMA102	CALCULUS	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Understand the problems using expansion of functions
CO2	Understand to apply integral calculus in solving problems
CO3	Understand to have a clear understanding of analytical geometry
CO4	Understand to have a thorough knowledge of conics
CO5	Understand to study the Maxima and minima of functions of 2 variables
CO6	Find the areas in polar coordinates and length of the curve

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT- I DIFFERENTIATION12

Introduction to differentiation - Successive differentiation - n^{th} derivative – Leibnitz formula for nth derivative of a product – Partial differentiation – total differential Coefficient– Homogeneous functions – Euler's theorem.

UNIT- II MAXIMA AND MINIMA OF FUNCTIONS 12

Maxima and minima of functions of 2 variables – Lagrange's method of undetermined multipliers – simple problems.

UNIT- III INTEGRATION12

Introduction to integration - Methods of integration – Integration by parts - Bernoulli's formula.

Properties of definite integrals-reduction formulae for standard integrals.

UNIT-IV DOUBLE INTEGRATION **12**

Double integration - Double integration in polar coordinates – Change of order of integration- Triple integration in Cartesian coordinates – Areas as double integral – Volume as triple integral.

UNIT- V CARTESIAN AND POLAR COORDINATES **12**

Areas in polar coordinates - Length of the curve (Cartesian and polar coordinates) – Area of surface of revolution (Cartesian and polar coordinates).

TEXT BOOK:

1) H. Jeromeskeisler "Elementary Calculus: An Infinitesimal Approach", Prindle Weber & Schmidt, revised Edition December, 2013. (Unit II).
2) S.Narayanan, T.K. Manickavachagam Pillai, "Calculus", S.Viswanathan Publications Pvt. Ltd, 1997). (Unit - I, III, IV).

REFERENCES:

1. P. Kandasamy and Thilagavathy, "Mathematics", Volume 1 S. Chand, New Delhi, 2004.
2. Thomas and Finney, "Calculus", Pearson Education, 9th Edition, 2006.
3. .S. Sudha, "Calculus", Emerald Publishers, 1998.

CourseCoordinator **HOD**

U18NCMA1L1	ALLIED 1 MATHEMATICAL STATISTICS–I	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

To enable the students to know the importance of Statistics and its applications.

COURSE OUTCOMES (COs)

CO1	Understand the Measures of central tendency- Mean, Median, Mode, Geometric Mean, Harmonic Mean and Quartiles.
CO2	Understand the theoretical concepts Probability- Axiomatic and Classical Probability
CO3	Understand the Concept of Random Variable ,Discrete and Continuous
CO4	Understand the Bivariate Probability Distribution Discrete and Continuous
CO5	Understand about the Correlation, Types of Correlation, Karl Pearson's Co-efficient of correlation, Rank Correlation
CO6	Understand the concept of probability mass function and probability density function.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
						✓				
4	Approval		Academic Council Meeting							

UNIT-I DESCRIPTIVESTATISTICS **12**

Measures of central tendency- Mean, Median, Mode, Geometric Mean, Harmonic Mean and Quartiles. Measures of Dispersion- Quartile Deviation and Standard deviation, Measures of Skewness and Kurtosis.

UNIT–II CORRELATION12

Correlation – Definition, Types of Correlation, Karl Pearson's Co-efficient of correlation, Rank Correlation Co-efficient – Linear Regression Equation.

UNIT–III PROBABILITY

12

Probability- Axiomatic and Classical Probability – Simple problems.Addition and Multiplication Theorem of Probability – Bayes' theorem of Probability. Simple problems .

UNIT–IV CONCEPT OF RANDOM VARIABLE **12**

Concept of Random Variable –Discrete and Continuous, Distribution Functions, Probability Mass Function, Probability Density Function and Mathematical Expectations.

UNIT-V BIVARIATE PROBABILITYDISTRIBUTION **12**

Bivariate Probability Distribution - Discrete and Continuous, Marginal and Conditional Distributions, Moment Generating Function.

TEXT BOOK:

1.Gupta S.C and V.K. Kapoor, “Fundamentals of Mathematical Statistics”, Sultan & Sons, New Delhi. (2013) .

REFERENCES:

1.Gupta SP, “Statistical Methods”, Sultan & Sons, New Delhi (1995).
2.Kapoor and Saxena, “Mathematical Statistics”, Chand & Co, New Delhi.

CourseCoordinator **HOD**

U18NCMA103	ALLIED 1 MATHEMATICAL STATISTICS–I	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

To enable the students to know the importance of Statistics and its applications.

COURSE OUTCOMES (COs)

CO1	Understand about the need of Statistics practical
CO2	Understand the uses of experiments in our day today life
CO3	Understand to handle and explain thoroughly about concepts
CO4	Understand the Calculation of Arithmetic Mean, Median, Mode, Geometric Mean and Harmonic and Quartiles for raw data and grouped data.
CO5	Understand the Calculation of Karl Pearson's co-efficient of Correlation, Spearman's rank correlation.
CO6	Solving problems using Bayes' theorem of probability.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
						✓				
4	Approval		Academic Council Meeting							

Experiments covering the following topics.

Formation of frequency distribution using tally marks, diagrammatic and graphical representation of data. Calculation of Arithmetic Mean, Median, Mode, Geometric Mean and Harmonic and Quartiles for raw data and grouped data.

Computation of Mean Deviation, variance, Standard Deviation, Co-efficient of Variation, Karl Pearson's and Bowley's Co-efficient of Skewness.

Calculation of Karl Pearson's co-efficient of Correlation, Spearman's rank correlation. Construction of Regression lines, Forecasting the values-algebraic and graphical methods.

Solving problems using Bayes' theorem of probability.Finding Expected values, Probabilities, moments for univariate and bivariate probability distributions.

TEXT BOOK:

1. Gupta S.C., and V.K.Kapoor, "Fundamental of Mathematical Statistics". - Sultan Chand & Sons, New Delhi. (2013).
2. Pillai R.S.N., and Bagavathi, "Statistics (Theory & Practice)". S. Chand, 7th Revised Edition (2008).
3. Gupta S.P, "Statistical Methods", Sultan Chand & Sons, New Delhi. (1995).

REFERENCE BOOK:

1. Hogg, R.V and Craig, A.T "An Int to Mathematical Statistics" 6thEdn. Pearson Education Pub. New Delhi. (2009).
2. Gareth James., Daniela Witten., Trevor Hastie and Robert Tibshirani, "An Introducation to statistical Learning with Applications in R. Springer (2017).
3. Gupta SP, "Statistical Methods", Sultan & Sons, New Delhi (1995).
4. Kapoor and Saxena, "Mathematical Statistics", Chand & Co, New Delhi.

CourseCoordinator **HOD**

SEMESTER-II

U18HSTA201	□□□□□- II	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name&Department :□□□□□□□. □. □□□□□□□□□□□□□□□&□□□□□□□□□□□□				

COURSE OBJECTIVES : □□□□□□□□□□□□□□□□

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	De Française
COURSE OBJECTIVES:- To introduce students to the complexity of the grammar and how to overcome it with simple rules.	
COURSE OUTCOMES (COs)	
CO1	To being able to interpret the language.
CO2	To familiarize with methodological approaches in the study of literary and cultural texts, such as close reading, socio-historical contextualization, and literary and cultural theory.
CO3	To obtain advanced proficiency in spoken and written French.
CO4	To encourage the development of skills in linguistics, translation, and comparative studies.
CO5	To remember the anatomy of conjugations in past tense.
CO6	To evaluate the given text critically and enhance communication skills.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	H						H		
	CO2	H	H								
	CO3	H	M								
	CO4	H	M								
	CO5	M	M								
	CO6	H	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

UNIT I -Quelle journee! 9

La Conjugaison pronominale -L'imperatif -L'expression de la quantite (peu-in peu de- quelque – etc.)

UNIT II - Qu'on est bien ici ! 9

Prepositions et adverbs de lieu - Verbs experimant un deplacement (employ des prepositions)
Le lodgement/la localisation/ l'orientation/l'etat physique/le temps qu'il fait

UNIT III -En se detend? 9

L'imparfait-Emplois du passé compose et de l'imparfait-Expression de la duree-L'enchainement des idees (alors, donc, mais) /Le sens reciproque

UNIT IV- On s'appelle? **9**

Les pronoms complements direct -Les pronoms compliments indirects de personne -c'est/ il est-Imperatif des verbs avec pronoms-La fornation des mots

UNIT V Un bon conseil ! **9**

Expression du deroulement de l'action--passe recent--Present progressif-future proche-Les phrases rappotrees- La place de l'adjectif- La proposition relative finale avec -qui

TEXT BOOKS:

A1 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator **HOD**

U18HSHI201	**HINDI**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department:- Mrs Rani Selvan / Hindi				

COURSE OBJECTIVES:- To understand and improve the skills in the Language of Hindi											
COURSE OUTCOMES (COs)											
CO1	Remember of Ramayana In Sabari part										
CO2	Understand the historical stories										
CO3	Apply the concept of translation										
CO4	Analyzeand develop the letter writing skills										
CO5	Evaluateand develop the speaking skills										
CO6	Create knowledge in letter writing and speaking skills										
Mapping of Course Outcomes with Program outcomes (POs) (H/M/L indicates strength of correlation) H-High, M-Medium, L-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

UNIT I **09**

MODERN POETRY - SHABARI

UNIT II **09**

ONE ACT PLAY - EKANKI SANKALAM

UNIT III **09**

TRANSLATION - HINDI – ENGLISH ONLY

UNIT IV **09**

LETTER WRITING - Leave letter - Job Application - Ordering books - Letter to Publisher - Personal letter

UNIT V **09**

CONVERSATION - Doctor & Patient - Teacher & Student - Storekeeper & Buyer - Two Friends - Booking clerk & Passenger at Railway station – Auto rickshaw driver and passenger.

Text Books:

By Naresh Mehtha,Veerendra Kumar Mishra

Reference Books:

UNIT 1 – Publisheres - Lokbharathi Prakashan ,1 Floor, Duebari Building,Mahathma Gandhi Marg, Allahabad – 1.
UNIT II – Publishers – Vani Prakasam, New Delhi-110002
UNIT III – Publishers – Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator **HOD**

U18HSEN202	**ENGLISH II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept.: Mr.S.KUMARESAN - English				

COURSE OBJECTIVES:-To have a better understanding of the English language skills and its implementation it in day to day life activities.

	COURSE OUTCOMES (COs)
CO1	Rememberand recall the concepts of English language
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarize the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O	PSO2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L						H		
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								

4	**Approval**	Academic Council Meeting

UNIT 1: PROSE **9**

The Refugee – **K.A. Abbas** – Author Biography – Plot – Theme - Summary - Critical analysis; **The Lion and the Lamb** – **Leonard Clark**–Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2: POETRY **9**

The Solitary Reaper – William Wordsworth– Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis; Gift – Alice Walker- Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis

UNIT 3: SHORT STORIES **9**

The Fortune-Teller – Karel Capek– Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; The Postmaster – Rabindranath Tagore – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 4: ONE-ACT PLAYS **9**

The Death Trap – Saki (H.H. Munro)– Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; The Dear Departed: A Comedy in One-Act – Stanley Houghton- Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 5: GRAMMAR **9**

Communicative Grammar- Seeking and giving information – statements and questions
Being informal – phrasal verbs, Expressing ability, possibility, etc – Modals and other devices

TEXT BOOKS:

1. The Death Trap by Saki, The Novels and Plays of Saki,2001
2. Pooja Khanna, "English Communication", S.CHAND Publishing,2016
3. Rabindranath Tagore, "The Postmaster", Penguin India, 2000

REFERENCE BOOKS:

1. K.A.AbbasSuresh Kohli, "An Evening in Calcutta", HarperCollins, 2015
2. Stanley Houghton, "Five one act plays", Alpha Edition, 2019
3. Edited Prof. Jasbir Jain, "Strings of Gold (Part- II)", MacMillan, 2016

CourseCoordinator **HOD**

U18MCMA201	DIFFERENTIAL EQUATIONS AND LAPLACE TRANSFORMS	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Understand the concept of solving ordinary differential equations
CO2	Understand the concept of differential equations with constant coefficients.
CO3	Understand the concept of formation and solution of PDE
CO4	Understand the concept of homogenous linear differential equations
CO5	Understand the concept of laplace transforms.
CO6	Applications of Laplace Transform to solution of first and second order linear differential equations.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT- I SOLVING ORDINARY DIFFERENTIAL EQUATIONS 12

First order but of higher degree equations - solvable for p, solvable for x, solvable for y, Clairaut's form - simple problems.

UNIT -II DIFFERENTIAL EQUATIONS WITH CONSTANT COEFFICIENTS12

Second Order Differential Equations with Constant Coefficients - Second Order Differential Equations with Variable Coefficients - Method of Variation of Parameters - Simple Problems.

UNIT -III FORMATION AND SOLVING PDE 12

Formation of P.D.E by eliminating arbitrary constants and arbitrary functions; Complete Integral; Singular Integral; General Integral; the standard types f(p,q) = 0, f(x,p,q) = 0, f(y,p,q) = 0, f(z,p,q) = 0, f(x,p) = f(y,q); Clairaut's form ; Equation reducible to standard types - simple problems; Charpit's method.

UNIT IVHOMOGENEOUS LINEAR DIFFERENTIAL EQUATIONS 12

Lagrange's Equation Pp + Qq = R; Method of multipliers; Homogeneous linear differential equation - solutions - simple problems.

UNIT VLAPLACE TRANSFORMS 12

Laplace Transform; Inverse Laplace Transform (usual types); Convolution theorem; Applications of Laplace Transform to solution of first and second order linear differential equations (constant coefficients) and simultaneous linear differential equations - simple problems.

TEXT BOOK:

1. 1.P. Kandasamy, K. Thilagavathy, "Mathematics for B. Sc Branch – I, Volume 3", 1st Edition, S. Chand and Co.Ltd., New Delhi, 2004.
2. Dr. S. Sudha, "Differential Equations & Integral Transforms", Emerald Publishers, 2002.

REFERENCES:

1. 1.M. K. Venkataraman and S. Krishnan, "Engineering Mathematics, The National Publishing Co., 2010.
2. Dipak Chatterjee, "Integral Calculus and differential equations", TATA McGraw S Hill Publishing Company Ltd., 2000.
3. Narayanan, T.K. Manichavasagam Pillai, "Calculus, Vol. I", S. Viswanathan Printers Pvt. Limited, 2007.

CourseCoordinator HO

U18MCMA202	**ANALYTICAL GEOMETRY 3D**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Understand the concept of analytical geometry I
CO2	Understand the concept of analytical geometry II
CO3	Understand the concept of sphere
CO4	Understand the concept of cone
CO5	Understand the concept of quadratic cone.
CO6	Understand the condition for the plane to touch the conicoid

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**

2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT -I ANALYTICAL GEOMETRY - I 12

Coordinates in space-Direction cosines of a line in space-angle between lines in space – equation of a plane in normal form.Angle between planes – Distance of a plane from a point.

Chapter 1: Sec 1.5 to 1.9, Chapter II Sec 2.1 to 2.3, Pages : 10-31.

Chapter 2: Sec 2.4 to 2.8 pages : 32-47 of [1].

UNIT -II ANALYTICAL GEOMETRY- II 12

Straight lines in space – line of intersection of planes – plane containing a line.Coplanar lines – skew lines and shortest distance between skew lines- length of the perpendicular from point to line.

Chapter 3: section 3.1-3.7, pages 55-89 of [1].

UNIT -III SPHERE 12

General equation of a sphere-Section of sphere by plane-tangent planes –condition of tangency-system of spheres generated by two spheres - System of spheres generated by a sphere and plane.

Chapter 4: Sec. 6.1 to 6.6 pages : 121-143 of [1].

UNIT -IV CONE 12

The equation of surface – cone – intersection of straight line and quadric cone – tangent plane and normal.

Chapter 4: Sec.43 to 47 pages : 103-113 of [2].

UNIT- V QUADRIC CONE 12

Condition for plane to touch the quadric cone - angle between the lines in which the plane cuts the cone. Condition that the cone has three mutually perpendicular generators- Central quadrics – intersection of a line and quadric – tangents and tangent planes – condition for the plane to touch the conicoid

Chapter 5: Sec.49 to 53, Pages:115-125 of [2].

TEXT BOOK:

1. 1.Shanthi Narayanan and Mittal P.K:Analytical Solid Geometry 16th Edition S.Chand & Co., New Delhi.
2. Narayanan and Manickavasagam Pillay, T.K. Treatment as Analytical Geometry S.Viswanathan (Printers &Publishers) Pvt. Ltd.,

REFERENCES:

1. P.Duraipandian & others- Analytical Geometry 3 Dimensional – Edition.

CourseCoordinator HOD

U18NCMA203	ALLIED - II MATHEMATICAL STATISTICS–II	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

To enable the students to know the importance of Statistics and its applications.

COURSE OUTCOMES (COs)

CO1	Understand the concept of Discrete Distribution
CO2	Understand the concept of continuous Distribution.
CO3	Understand about the beta distribution, f distributions.
CO4	Understand the concept of test of significance for large sample test.
CO5	Understand the concept of test of significance for small sample test.
CO6	Understand the concept of Chi-square test for goodness of fit and independence of attributes and F-test.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
						✓				
4	Approval		Academic Council Meeting							

UNIT – I DISCRETE DISTRIBUTIONS **12**

Discrete Distribution- Bernoulli, Binomial, Poisson and Geometric distributions-Moments and M.G.F.

UNIT – II CONTINUOUS DISTRIBUTIONS I **12**

Continuous distributions – Normal, exponential and uniform distributions- Moments and M.G.F.

UNIT – III CONTINUOUSDISTRIBUTIONSII 12

Beta Distribution of First and Second kind and Gamma Distribution – Definition and Derivation of MGF and moments. 't' , F and Chi-square distributions (Derivation of the probability density function only)

UNIT – IV TEST OFSIGNIFICANCE 12

Test of Significance for large Samples- Single Mean, difference between mean, proportion and difference between proportions and difference between two standard deviations.

UNIT – V TEST OFSIGNIFICANCE II 12

Test of significance for Small Samples- 't' test for single mean, Difference between means, Simple Correlation. Paired 't' test. Chi-square test for goodness of fit and independence of attributes and F-test.

TEXT BOOK:

1. Gupta S.C. and V.K. Kapoor, "Fundamental of Mathematical Statistics", Sultan & Sons. New Delhi.2013. Units I to III.
2. Gupta S.C. and V.K. Kapoor, "Fundamental of Applied Statistics", Sultan & Sons. New Delhi.2013. Units IV and V.

REFERENCES:

1. 1.Kapoor and Saxena, "Mathematical Statistics", Chand & Co, New Delhi
2. 2.Gupta SP, "Statistical Methods", Sultan & Sons, New Delhi (1995).

CourseCoordinator HOD

U18NCMA2L1	MATHEMATICAL STATISTICS PRATICAL – II	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

To enable the students to know the importance of Statistics and its applications.

COURSE OUTCOMES (COs)

CO1	Understand about the need of Statistics practical
CO2	Understand to explain about the uses of experiments in our day today life
CO3	Understand to give extreme practice to handle and explain thoroughly about concepts
CO4	Understand theCalculation of Arithmetic Mean, Median, Mode, Geometric Mean and Harmonic and Quartiles for raw data and grouped data.
CO5	Understand theCalculation of Karl Pearson's co-efficient of Correlation, Spearman's rank correlation.
CO6	Understand the concept of Fitting of Normal distribution.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
						✓				
4	Approval		Academic Council Meeting							

Experiments covering the following topics:

Drawing Simple random samples, systematic samples from a finite population and finding mean and variances.

Fitting of Binomial and Poisson discrete distributions. Fitting of Normal distribution(area method only).

Tests of significance based on large samples for proportions, means and variance using Normal distribution.

Tests of significance based on small samples for single mean, two means, simple correlation, single variance, equality of two variances.

Chi-square test for goodness of fit and independence of attributes. Analysis of Variance for CRD, RBD and LSD.

TEXT BOOK:

1. Gupta S.C. and V.K. Kapoor, "Fundamental of Mathematical Statistics", Sultan & Sons. New Delhi.2013. Units I to III.
2. Gupta S.C. and V.K. Kapoor, "Fundamental of Applied Statistics", Sultan & Sons. New Delhi.2013. Units IV and V.

REFERENCES:

1.Kapoor and Saxena, "Mathematical Statistics", Chand & Co, New Delhi

2.Gupta SP, "Statistical Methods", Sultan & Sons, New Delhi (1995).

CourseCoordinator **HOD**

	ENVIRONMENTA STUDIES	L	T	P	C
U18HSCH201	**Total Contact Hours – 30**	2	0	0	2
	Prerequisite course –Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. G. Gurumoorthy / Chemistry				

COURSE OBJECTIVES :-

To make the students learn about the science from the basic and understood all theoretical background with all concepts thoroughly to protect the habitat of biotic and abiotic ecosystem.

COURSE OUTCOMES (COs)

CO1	Remember the fundamental concept of environmental impact and importance of natural Resources
CO2	Understand about the Ecosystem, Biodiversity and its conservation
CO3	Understand the various environmental pollution, effects and prevention.
CO4	Apply the environmental legislations and environmental production act.
CO5	Apply the human rights, value education, environment and human health: women and child welfare, public awareness
CO6	Analyze the local area, local polluted site and local simple ecosystem.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L	H			H		H		
	CO2	H	L	H			H				
	CO3	H	L	H			H				
	CO4	H	L	H			H				
	CO5	H	L	H			H				
	CO6	H	L	H			H				

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								
4	Approval		Academic Council Meeting							

Unit – I: Introduction to Environmental Sciences: Natural Resources: 6

Environmental sciences – relevance – significance – public awareness – forest resources – water resources – mineral resources – food resources – conflicts over resource sharing – exploitation – land use pattern – environmental impact – fertilizer – pesticide Problems - case studies.

Unit – II: Exosystem, Biodiversity and its conservation: 6

Ecosystem – concept – structure and function – producers, consumers and decomposers –food chain – food web – ecological pyramids – energy flow – forest, grassland, desert and aquatic ecosystem – definition – genetic, species and ecosystem diversity – biodiversity – definition – genetic, species and ecosystem diversity – values and uses of biodiversity – biodiversity at global, national (india) and local levels – hotspots, threats to biodiversity –conservation of biodiversity – insitu and ex-situ.

Unit – III: Environmental Pollution and Management **6**

Environmental pollution – causes – effects and control measures of air, water, marine, soil, solid waste. Thermal, nuclear pollution and disaster management – floods, earth quake, cyclone and landslides, role of individuals in prevention of pollution – pollution case studies.

Unit – IV: Social issues – Human population: **6**

Urban issues – energy – water conservation – environmental ethics – global warming – resettlement and rehabilitation issues – environmental legislations – environmental production act. 1986 – air, water, wildlife and forest B.C.A.: syllabus (CBCS) conservation act - population growth and explosion – human rights and value education – environmental health – HIV/AIDS – role of it in environment and human health – women and child welfare – public awareness – case studies.

Unit – V: Field Work: **6**

Visit to a local area / local polluted site / local simple ecosystem – report submission.

Text Book:

1. K. Kumarasamy, A. Alagappa Moses and M. Vesanthy, Environmental Studies, 2004, Bharathidasan University Pub, 1, Trichy.
2. Y. K. Singh, Environmental Science, 2006, New Age International (P) Limited, New Delhi.
3. Divya Agarwal and Manoj K. Agarwal, Environmental Science, 2014, Astral International Pvt. Ltd,New Delhi.

Reference book:

1. Rajamannar, 2004, Environmental Studies, EVR College Pub, Trichy.
2. S. Kalavathy, (ED.) 2004, Environmental Studies, Bishop Heber College Pub. Trichy.
3. G. TylerMiller, Scott Spoolman, 2018, Environmental science, 16th edition.

Course Coordinator **HOD**

U18HSCH202	VALUE EDUCATION	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Ms. G. Vinothini, Commerce				

COURSE OBJECTIVES :-

- To enable the students to understand the Social values.
- To provide knowledge on the features for life.
- To acquire the knowledge on Human rights.
- To impart the knowledge on Environment and Ecological balance.
- To educate the knowledge on Social evils.

COURSE OUTCOMES (COs)

CO1	List out the Formation and Essential Elements of Contract.
CO2	Determine the self-esteem, duties and responsibilities of individuals, Social values
CO3	Apply to create peace and nonviolence and Dr. APJ Abdul Kalam's ten points for Enlightened citizenship
CO4	Determine the Environment and Ecological balance
CO5	Measure the Knowledge on Environmental conservations and enrichment
CO6	Formulate the awareness on Corruption, crime, terrorism, Alcoholism, Drug addiction, Dowry

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M	M					H		
	CO2	H	H	H		L					
	CO3	M	H	M	M						
	CO4	H	M	L							
	CO5	H	H	M			M				
	CO6	M	M	L							

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

UNIT I **6**

Value education: Definition- relevance to present day – concept of human values – self introspection – Self esteem- duties and responsibilities of individuals- Social values- role of media in value building.

UNIT II **6**

Salient features for life: Truth, commitment,, honesty and integrity, forgiveness and love, empathy and ability to sacrifice, care, unity and inclusiveness, Team work- positive creative thinking.

UNIT III **6**

Human rights: Universal declaration of Human rights- human rights violation – National integration – peace and non-violence – Dr. APJ Abdul Kalam's ten points for enlightened citizenship

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UNIT IV **6**

Environment and Ecological balance: Interdependent of all being – living and nonliving – the binding of man and nature – Environmental conservations and enrichment.

UNIT V **6**

Social evils : Corruption – cybercrime, terrorism, Alcoholism, Drug addiction, Dowry – Domestic violence – untouchability – female infanticide – atrocities against women – How to tackle them.

TEXT BOOK

1. N. Arumugam, S. Mohana, Lr. Palkani- value based education- Saras Publication, 2009
2. DN Ghose, Value Education- dominant publishers, 2005
3. M.G. Chitakra, Education and Human values, A.P.H Publishing Corporation. New Delhi

REFERENCE BOOKS

1) For Life, for the future: Reserves and Remains – UNESCO Publications.
2) Values, A Vedanta kesari presentations, Sri Ramakrishna Math, Chennai

CourseCoordinator **HOD**

SEMESTER-III

U18HSTA301	□□□□□– III	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name&Department :□□□□□□□. □. □□□□□□□□□□□□□□□&□□□□□□□□□□□□				

COURSE OBJECTIVES :

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	De Française

COURSE OBJECTIVES:-

To develop the technical aspects of the language and varied grammatical nuances to interpret the subject matter.

COURSE OUTCOMES (COs)	
CO1	To impart the various aspects that makeup the language.
CO2	To learn some facts, procedures, practice certain grammatical structures, and practice communicative strategies.
CO3	To learn the culture of the language natives.
CO4	To analyse the differences between the basic and advanced grammar.
CO5	To remember the interlink between the conjugations
CO6	To understand grammatical strictures.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	H	L	M	-	M	-	H		
	CO2	H	H	L	M	-	-	-			
	CO3	H	M	H	H	-	H	-			
	CO4	H	M	M	M	-	-	-			
	CO5	M	M	M	H	-	H	-			
	CO6	H	H	H	M	-	M	-			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

UNIT I Vivement demain! **9**

Le future- La comparaison des qualities, des quantities et des actions

UNIT II Le Tu as du boulot? **9**

Le pronom (en)-Le pronom (Y)-Expression de la condition

UNIT III -Qu'en pensez - vous? **9**

Le subjonctif (employ lie a quelques verbs)- Expression de la quantite (poids et mesure-evaluation-restriction)

UNIT IV - C'est tout un programme! **9**

Les propositions relatives introduites par (qui, que, ou)-Les adverbs (place, formation des adverbs en-ment)-La forme ((en + participle present))

UNIT V On se retrouve ! **9**

Emploi et conjugaison des quatre temps de l'indicatif quatre temps de l'indicatif:--passe recent--Present - Passe compose-Imparfait et future

TEXT BOOKS:

A2 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator **HOD**

U18HSHI301	**HINDI**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department:- Mrs Rani Selvan / Hindi				

COURSE OBJECTIVES:- To understand and improve the skills in the Language of Hindi	
COURSE OUTCOMES (COs)	
CO1	Remember of Ramayana in Panchavati part
CO2	Understand the history of Hindi literature
CO3	Apply the concept of Hindi grammatical speech
CO4	Analyzeand develop the translation skills
CO5	Evaluate and develop the unseen passage skills
CO6	Create the skills in Hindi language

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

UNIT I **9**

POETRY - PANCHAVATI

UNIT II **9**

HISTORY OF HINDI LITERATURE - Aadi Kaal and Bhakthi Kaal - general knowledge of the trends of the difference streams

UNIT III **9**

ALANKAR – Anupras – Yamak- Slesh - Vakrokthi Upama – Rupak – Drishtanth - Virodhabas.

UNIT IV **9**

TRANSLATION - HINDI – ENGLISH

UNIT V **9**

COMPREHENSION

Text Books:

By Maithilisharan Gupt, Anuvadh Abhyas – III

Reference Books:

Publisheres - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator **HOD**

U18HSEN302	**ENGLISH- III**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept: Mrs. B.JANUA SHERLY – English				

COURSE OBJECTIVES:-To enhance the reading, writing, listening and speaking of the English language skills..

	COURSE OUTCOMES (COs)
CO1	Remember and recollect the value of LSRW skills.
CO2	Understand the competence of the four modes of language skills.
CO3	Apply the grammatical concepts and the correct usage of the English language.
CO4	Analyze their personality traits and develop interpersonal skills for a better career in life
CO5	Evaluate the knowledge and write resume official letters and reports
CO6	Create and develop their ability as critical thinkers and readers.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L						H		
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								

4	**Approval**	Academic Council Meeting

UNIT 1-LISTENING SKILLS **9**

Types of Listening (Theory / Definition) -Tips for Effective Listening -Academic Listening (Lectures) - Listening to Radio and Television

UNIT 2-TELEPHONE SKILLS **9**

Basics of Telephone communication -How to handle calls- telephone manners -Leaving a message -Making requests -Greeting and Leave Taking over phone (etiquette) - Handling the situations especially trouble

shooting Teleconference - handling Tele interviews for Call Centers

UNIT 3-WRITING SKILLS 9

Standard Business letter - Report writing- Email drafting and Etiquettes - Preparing Agenda and writing minutes for meetings - Making notes on Business conversations

UNIT 4 -CAREER SKILLS 9

Applying for job -Cover letters -Resume and Effective Profiling - Interviews - Group discussions

UNIT 5 –PERSONAL SKILLS 9

Empathy(Understanding of someone else points of view) -Intrapersonal skills -Interpersonal skills- Problem solving

TEXT BOOKS:

1. Improve Your IELTS Listening and Speaking Skill by Barry Cusack,2007

2. Roche Marc, "Advanced English Writing Skills: Masterclass for English Language, Roche Publishing ESL, 2019

REFERENCE BOOKS:

1. Frederick H. Wentz, "A Workbook to Develop Skills For Employment", Createspace Independent Pub,2012

2. S.P.Dhanavel, "English and Soft Skills", Orient BlackSwan, First edition, 2010

CourseCoordinator **HOD**

U18MCMA301	SEQUENCES AND SERIES	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				

	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics										
COURSE OBJECTIVES :- To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.											
COURSE OUTCOMES (COs)											
CO1	Understand Sequences										
CO2	Understand Monotonic functions.										
CO3	Gain knowledge Cauchy sequences.										
CO4	Understand Cauchy's general principal of convergence										
CO5	Apply suitable Test of convergence										
CO6	Understand the concept of Test of convergence using D Alembert's ratio test										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT- I SEQUENCES **12**

Sequences – Bounded Sequences – Monotonic Sequences – Convergent Sequence – Divergent Sequences – Oscillating sequences.

Chapter 3: Sec. 3.0 – 3.5 Page No : 39-55

UNIT -II MONOTONIC FUNCTIONS **12**

Algebra of Limits – Behavior of Monotonic functions.

Chapter 3: Sec. 3.6, 3.7 Page No:56 – 82

UNIT -III CAUCHY SEQUENCES **12**

Some theorems on limits – subsequences – limit points: Cauchy sequences.

Chapter 3 : Sec. 3.8-3.11, Page No:82-102

UNIT -IV SERIES **12**

Series – infinite series – Cauchy's general principal of convergence – Comparison – test theorem and test of convergence using comparison test (comparison test statement only, no proof).

Chapter 4 : Sec. (4.1 & 4.2) Page No : 112-128.

UNIT -V TEST OF CONVERGENCE **12**

Test of convergence using D Alembert's ratio test – Cauchy's root test – Alternating Series – Absolute Convergence (Statement only for all tests). Relevant part of Chapter 4 and Chapter 5: Sec. 5.1 &5.2 . Page No:157-167.

TEXT BOOK:

1. Dr. S.Arumugam & Mr.A.Thangapandi Isaac Sequences and Series – New Gamma Publishing House – 2002 Edition.
2. Dr. Ellina Grigorieva, Methods of Solving Sequence and Series Problems, Springer International Publishing, Switzerland 2016.
3. M.K.Singal & Asha Rani Singal, A first course in Real Analysis, R. Chand &Co. 1999.

REFERENCES:

1. *S. Surya Narayan Iyer, Algebra*, Margham Publications, Chennai, 2002.
2. Asuman G. Aksoy, Sequences and Series of Functions, Springer publication, 2009.
3. W. J. Kaczor & M.T. Nowak, Problems in Mathematical Analysis 1: Real Numbers, Sequences and Series, volume 4, 2000.
4. Peter winkler, An Excursion through Elementary Mathematics, Volume-I, Real numbers and functions, Springer International Publishing , 2017.

CourseCoordinator **HOD**

U18MCMA302	NUMERICAL ANALYSIS	L	T	P	C
	Total Contact Hours – 60	3	1	0	4

	Prerequisite course – Mathematics Studied in Higher Secondary studies
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Understand to solve equations numerically by direct and iterative methods
CO2	Understand the concepts of interpolation and numerical differentiation & integration
CO3	Understand the best approximations and spline approximations
CO4	Understand to solve equations using predictor – corrector methods
CO5	Understand the concepts of elliptic, parabolic and hyperbolic equations
CO6	Understand the concepts of finite difference solutions for one dimensional heat equation (both implicit and explicit) one dimensional wave equation.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT – I SOLUTION OF EQUATION AND EIGEN VALUE PROBLEM 12

Methods of false position, Newton – Raphson's method for single variable and simultaneous equation with two variables, solutions of a linear system by Gaussian, Gauss – Jordan, inverse of a matrix by Gauss – Jordan method, Eigen value of a matrix by power and Jacobi method.

UNIT – II INTERPOLATION AND APPROXIMATION 12

Interpolation with Newton forward and backward differences, Newton's divided differences, Lagrange's polynomial, central difference-Gauss Forward and Backward formula and Bessel's formula.

UNIT – III NUMERICAL DIFFERENTATION AND INTEGRATION 12

Numerical differentiation upto second order based on NFF and NBF, numerical integration by Trapezoidal and Simpson's (both 1/3rd and 3/8th) rules, Weddles's Rule.

UNIT – IV INITIAL VALUE PROBLEMS FOR ODEs 12

Single step methods – Tailor series, Euler and modified Euler methods, Runge – Kutta method of 4th order and 2nd order differential equations - Multistep methods – Milne and Adam's – Bashforth predictor and corrector methods.

UNIT – V BOUNDARY VALUE PROBLEMS FOR ODEs 12

Finite difference solution for the second order differential equation, finite difference solutions for one dimensional heat equation (both implicit and explicit) one dimensional wave equation.

TEXT BOOK:

1. Grewal, B.S. "Higher Engineering Mathematics (36th edition)" Khanna Publication Delhi 2001.
2. Dixit JB."Numerical Methods" University Science Press, New Delhi
3. Kandasamy.P, K.Thilagavathy, and K.Gunavathy, "Numerical Methods" S.Chand& Co, New Delhi (2007)

REFERENCES:

1. Jain K.K. Iyengar, S.R.K and Jain, R.K. Numerical Methods for Scientific and Engineering Computation 3rd edition, New Age International Publications and Co. 1993.
2. Sastry SS. "Introductory Methods of Numerical Analysis" PHI. 2005.
3. Venkatraman.MK "Numerical Methods", NPC Chennai.
4. Rao V.Dukkipatti "Numerical Methods". New Age International, 2010

CourseCoordinator HOD

U18NCPS302	ALLIED PHYSICS - PAPER 1	L	T	P	C

	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. S.Anandhi / Physics				

COURSE OBJECTIVES :-

To stimulate the key concepts underpinning the physical interpretations of different properties of matter and apply the min real world problems.

COURSE OUTCOMES (COs)

CO1	Study the general equation of wave motion in general and TM waves in stretched strings and longitudinal waves in gases
CO2	To Learn about the principles of Heat Transfer properties
CO3	Acquire knowledge about the Matters (solid, liquid gas).
CO4	Understand and study about the concepts of Acoustics
CO5	Understand the relationship between electrical charge, electrical field, electrical potential, and magnetism.
CO6	Understand the relationship between observation and theory and their use in building the basic concepts of modern physics

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
						✓				
4	Approval		Academic Council Meeting							

UNIT I - SIMPLE HARMONIC MOTION AND CIRCULAR MOTION 12

Composition of two Simple harmonic motions along a line and at right angles - Lissajous figures. Uniform circular motion - Acceleration of a particle in a circle - centripetal and centrifugal forces - centrifuge - motion of a Bicycle and a car around a circle - Banking on curved tracks.

UNIT II- PROPERTIES OF MATTER 12

Elasticity: Elastic constants - Bending of beams - young's modulus by nonuniform bending - energy stored in a Stretched wire - torsion in a wire - determination of rigidity modulus by torsional pendulum - Static torsion.

Viscosity: Coefficient of viscosity - Poissuelle's formula - Comparison of viscosities - burette method - Stoke's law - Terminal velocity - viscosity of highly viscous liquids - lubrication. Surface tension: Molecular theory of surface tension - Excess pressure inside a drop and bubble - surface tension by drop weight method - interfacial surface tension.

UNIT III - HEAT AND THERMODYNAMICS 12

Kinetic theory of gases - Vanderwaal's equation of state - Derivation of critical constants - Low temperature - Joule-Kelvin effect - Theory and applications - Liquefaction of gases - Linde's process - adiabatic demagnetization - laws of thermodynamics - entropy - change of entropy in reversible and irreversible processes.

SOUNDTransverse vibration of a stretched string - Expression for the velocity of transverse waves - laws of transverse vibrations - A.C. Frequency measurement using sonometer - velocity of sound in a gas - Ultrasonics - production and uses.

UNIT IV- ELECTRICITY AND MAGNETISM 12

Capacitor - energy of charged capacitors - Loss of energy due to sharing of charges - potentiometer - internal resistance of a cell and thermo emf measurement - Magnetic Field due to a current carrying conductor - Biot-Savart's law - field along the axis of a coil - force in a conductor carrying current in a magnetic field - Ballistic galvanometer - Circuit control and protective devices - switch - its types - fuses - circuit breaker - Relays.

UNIT V - GEOMETRICAL OPTICS 12

Refraction - Normal refraction - Refractive index by microscope - by air cell - refraction at grazing incidence - grazing emergence in prisms - combination of two prisms to produce dispersion without deviation and deviation without dispersion - defects of images - coma, Distortion - Spherical and chromatic aberration in lenses.

TEXT BOOKS

1. Allied Physics I – A.Sundaravelusamy
2. R.Murughasan- Properties of Matter,S. Chand & Co , 2004

REFERENCE BOOKS

1. R.L. Saihgal, A Text books of Sound, S.Chand & Co,1990
2. Brijlal and Subramanian, Heat and Thermodynamic S. Chand & Co,2002
3. R.Murughasan- Mechanics, S. Chand & Co.

CourseCoordinator **HOD**

U18NCPS3L1	ALLIED- PHYSICS LAB–I	L	T	P	C
	Total Contact Hours – 60	0	0	2	2

	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies
	Course Coordinator Name & Department:- – Dr. S.Anandhi / Physics

COURSE OBJECTIVES :-

To stimulate the key concepts underpinning the physical interpretations of different properties of matter and apply the min real world problems.

COURSE OUTCOMES (COs)

CO1	Apply knowledge of mathematics and physics fundamentals and an instrumentation to arrive solution for various problems.
CO2	Understand about the theoretical concepts of physics Practical's
CO3	Execute the methods to calibrate the given low range voltmeter and ammeter and to measure resistance of the given coil and various physical quantities.
CO4	Analyze the detail about practical importance to be aware of the concepts from the basis.
CO5	Evaluate the importance of handling and precision of experimental skills
CO6	Use of basic laws to study the spectral properties and optical properties of the given prism.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
						✓				

4	Approval		Academic Council Meeting

LIST OF EXPERIMENTS

1. Non-Uniform bending – Pin and Microscope.

2. Uniform bending-scale and Telescope.

3. Surface tension and Interfacial Surface tension by Drop weight Method.

4. Surface tension by Capillary rise Method.

5. Coefficient of viscosity of liquid – Variable Pressure head Method.

6. Thermal conductivity of a bad conductor – Lee's disc Method.

7. Spectrometer – Refractive index of a solid prism.

8. Spectrometer – Grating – Normal incidence.

9. Newton's Rings – 'R' determination.

10. Air wedge – Thickness of the given thin wire.

TEXT BOOK

1. 1. General Physics Laboratory Manual, Department of Physics.
2. A text book of physics practical Indu Prakash and Ramakrishna, 11th Edition, 2011, Kitab Mahal, New Delhi. A Laboratory Manual of Physics•

REFERENCE BOOKS

1. Digital Principles & Applications, A.P. Malvino, D.P. Leach & Saha, 7th Ed.,2011, Tata McGraw Hill

CourseCoordinator **HOD**

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	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name&Department :□□□□□□□. □.□□.□□□□□□□□□&□□□□□□□□□□□□				

**COURSE OBJECTIVES : □□□□□□□□□□□□□□□□

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CourseCoordinator **HOD**

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CourseCoordinator **HOD**

U18HSFR401	**FRENCH IV**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department:- Ms. Tushita Naidu K / Department De Française				

COURSE OBJECTIVES:-

To introduce students to the advanced levels of the language.

COURSE OUTCOMES (COs)	
CO1	To learn the culture of the language natives in advanced setup.
CO2	To understand the integral grammar structure in French.
CO3	To encourage the development of skills in linguistics

CO4	To evaluate the Oral and Written skill set
CO5	To remember the language construction
CO6	To enhance advanced fluency in language

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	H						H		
	CO2	H	H								
	CO3	H	M								
	CO4	H	M								
	CO5	M	M								
	CO6	H	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

UNIT I Vous plaisantez! **9**

Le conditionnel present -expression de l'hypothese-demandes polies-suggestions et conseils

UNIT II On s'entend bien! **9**

Les constructions du discours rapport-Les constructions (faire + verbe)-et (laisser + verbe)

UNIT III A vos risqué et perils! **9**

Le subjonctif Present- La construction passive pour metre en valeur l'object direct de l' action

UNIT IV C'est tout un programme! **9**

Les pronom possessives -Les adjectifs et les pronoms indefinis-Les pronom demonstratifs:
Les constructions --celui+de

UNIT V C'est la fete ! **9**

Les fornes de l'appreciation : trop/ pas assez –si-Les constructions verbe+verbes

TEXT BOOKS:

A2 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator **HOD**

U18HSHI401	**HINDI**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department:- Mrs Rani Selvan / Hindi				

COURSE OBJECTIVES:-

To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)	
CO1	Remember the skills of the leadership
CO2	Understand and develop the skills to overcome the mistake
CO3	Apply the concept of Hindi essay writing

CO4	Analyze and develop the translation skills
CO5	Evaluate the unseen passage skills
CO6	Create and develop the Hindi language skills

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	H						H		
	CO2	H	H								
	CO3	H	M								
	CO4	H	M								
	CO5	M	M								
	CO6	H	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

UNIT I **09**

DRAMA – Andher Nagari

UNIT II **09**

NOVEL - GABAN - Premchand

UNIT III **09**

GENERAL ESSAY

UNIT IV **09**

TRANSLATION - HINDI – ENGLISH

UNIT V **09**

COMPREHENSION

Text Books:

ByBharathendu Harischandra**,** Veerendra Kumar Mishra, Anuvadh Abhyas – III

Reference Books:

UNIT 1 - Publisher–Vani Prakashan, New Delhi – 110 002.
UNIT II – Publisher - Rajkamal Prakashan, New Delhi – 110 002
UNIT III – Aadarsh Nibnandh, Vinodh Pustak Mandir, Hospital Road, Agra -282002
UNIT IV - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17
UNIT V - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator **HOD**

U18HSEN402	**ENGLISH- IV**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept. :Ms.E.REKHA - English				
COURSE OBJECTIVES:-To focus on the balanced development of the English language communication skills.					
COURSE OUTCOMES (COs)					
CO1	Remember the basic concepts of English literature				

CO2	Understand the importance of the English language.
CO3	Apply the themes and values by comprehending the given text.
CO4	Analyse the grammar and the literary texts.
CO5	Evaluate the characters and the genre prescribed.
CO6	Create comprehensive essays efficiently.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O1	PSO2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L						H		
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Eng Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	**Approval**	Academic Council Meeting								

UNIT 1 - PROSE **9**

Lalajee – Jim Corbett – Author Biography – Plot – Theme - Summary - Critical analysis; **Face of Judas**– Bonnie Chamberlin - Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2 - POETRY **9**

Laugh and Be Merry– **John Masefield** – Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis; **Matilda - Hilaire Belloc**- Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis.

UNIT 3: SHORT STORIES **9**

Hunchback Sundari – **C.Raja Gopalachari** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Eyes Are Not There- Ruskin Bond**-Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT 4: ONE-ACT PLAYS **9**

Macbeth Soliloquy – **Out, Out, Brief Candle** - **Shakespeare** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **Julius Ceasar - Anthony's Funeral Speech** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT 5: FUNCTIONAL ENGLISH **9**

Wh – Questions - Pattern – Active and Passive voice – usage of passive voice – structure of passive verb; Modal verbs – Tenses.

TEXT BOOKS:

1. Corbett, "My India", Rupa Publications India Pvt. Ltd., 2018
2. Stories of Innocent by C.Rajagopalachari,BharathiyaVidya Bhavan,2009
3. Shakespeare, "Macbeth",Macmillan Publisher,2014

REFERENCE BOOKS:

1. Shakespeare – The Complete Work; Wilco Publishing House, Mumbai, India. 2005
2. Hilaire Belloc, "Matilda", Random House UK, 1994

CourseCoordinator **HOD**

U18MCMA401	**VECTOR CALCULUS, FOURIER SERIES AND FOURIER TRANSFORMS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Understand the physical interpretation of divergence and curl of a vector

CO2	Understand to evaluating line, surface and volume integrals
CO3	Understand the study of Fourier series expansions
CO4	Understand the half range Fourier series and harmonic analysis
CO5	Understand the properties and theorems on Fourier transforms with even functions
CO6	Understand the concept of Dirichlet's conditions, Fourier integral formula.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT I – VECTOR CALCULUS **12**

Gradient, Divergence of a scalar point function and curl of a vector point function directional derivative, unit normal to a surface, Solenoidal and irrational vectors – physical interpretation of divergence and curl of a vector point function.

UNIT II – LINE AND VOLUME INTEGRAL **12**

Line surface and volume integrals - theorems of Gauss, Stokes and Greens (with proof) - simple problems.

UNIT III – FOURIER SERIES **12**

Fourier series- definition - Fourier Series expansion of periodic functions with Period 2π and period $2l$ – Use of odd & even functions in Fourier Series

UNIT IV - HALF RANGE COSINE AND SINE SERIES **12**

Half-range Fourier series – definition- Development in Cosine series & in Sine series Change of interval.

UNIT V - FOURIER TRANSFORM **12**

Dirichlet's conditions, Fourier integral formula (with proof), Fourier transform, Inverse Theorem for Fourier

transform, Fourier sine and cosine transforms and their inversion formulae. Linearity property of Fourier transforms, Change of scale property, Shifting theorem, Modulation theorem, Convolution theorem of Fourier transforms, Parseval's identity.

TEXT BOOK:

1. 1.P.R.Vittal& V.Malini, "Vector Calculus, Fourier Series and Fourier Transforms", Margham Publications, 2004.

2. S. Narayanan, R. Hanumantha and T. K. Manickavachagam Pillai, "Ancillary Mathematics, Volume I & II", S.Viswanathan Printers, Chennai, 2007.

REFERENCES:

1. 1.S.Narayanan and T.K.Manickavachagam Pillai, "Vector algebra and Analysis", S.Viswanathan Pvt. Ltd., 1995.
2. S.Narayanan and T.K.Manickavachagam Pillai, "Calculus, Volume III", Vijay Nicole Imprints Pvt. Ltd., Chennai, 2004.
3. A.R.Vasistha and R.K.Gupta, "Integral Transforms", Krishna Prakashan Media Pvt. Ltd., New Delhi, 2011.

CourseCoordinator **HOD**

U18MCMA402	**DYNAMICS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Understand Velocity-Relative Velocity

CO2	Understand Characteristics-Horizontal projection
CO3	Understand Direct impact of two smooth spheres
CO4	Understand Compositions of simple harmonic motions of the same period
CO5	Understand equations of motion for two dimensional motion
CO6	Understand the concept of Two dimensional motion of a rigid body.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT I KINEMATICS 12

Introduction-Kinematics: Velocity-Relative Velocity-Angular Velocity-Acceleration - Relative Acceleration-Motion in a straight line under uniform acceleration. Chapter2, Chapter 3, Section 3.1-3.22.

UNIT II PROJECTILE 12

Projectile: Projectile-Path of a projectile-Characteristics-Horizontal projection-Projectile up/down an inclined plane-Enveloping parabola.
Chapter6, Sections 6.1-6.17.

UNIT III COLLISION OF ELASTIC BODIES 12

Collision of Elastic Bodies: Introduction-Definitions-Fundamental Laws of impact - Impact of a smooth sphere on a fixed smooth plane-Direct impact of two smooth spheres-Oblique impact of two smooth spheres-Dissipation of energy due to impact - Compression and Restitution-Impact of a particle on a rough plane.
Chapter8, Sections 8.1-8.11.

UNIT IV SIMPLE HARMONIC MOTION 12

Simple Harmonic Motion: Introduction-S.H.M. in straight line-Compositions of simple harmonic motions of the same period.

Chapter 10, Sections 10.1-10.13.

UNIT – V MOMENT OF INERTIA **12**

Moment of inertia. Two dimensional motion of a rigid body –equations of motion for two dimensional motion– theory of dimensions- definition of dimensions.
Chapter 17 -Section 17.1, Chapter 18 - Section 18.1, 18.2, Chapter 19 - Section 19.1
Contents and treatment as in "Mechanics"" – P. Duraipandian , Laxmi Duraipandian , Muthamizh Jayapragasham, S. Chand and Co limited 2008 .

TEXT BOOK:

1. Dr.M.K.VENKATARAMAN, Dynamics, Agasthiyar Publications, Thirteenth Edition, July 2009.
2. Dynamics – A. V. Dharmapadam, S. Viswanathan Publishers.

REFERENCES:

1. Dynamics – K. Viswanatha Naik and M. S. Kasi, Emerald Publishers.
2. Dynamics – A. V. Dharmapadam, S. Viswanathan Publishers.
3. Mechanics – Walter Grenier

CourseCoordinator **HOD**

U18NCPS402	**ALLIED PHYSICS - PAPER II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. S.Anandhi / Physics				
COURSE OBJECTIVES :- To stimulate the key concepts underpinning the physical interpretations of different properties of matter and apply the min real world problems.					
COURSE OUTCOMES (COs)					

CO1	Study the general equation of wave motion in general and TM waves in stretched strings and longitudinal waves in gases
CO2	To Learn about the principles of Heat Transfer properties
CO3	Acquire knowledge about the Matters (solid, liquid gas).
CO4	Understand and study about the concepts of Acoustics
CO5	Understand the relationship between electrical charge, electrical field, electrical potential, and magnetism.
CO6	Understand the relationship between observation and theory and their use in building the basic concepts of modern physics

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
							✓			
4	Approval		Academic Council Meeting							

UNIT –I IELECTROSTATICS 12

Electrostatics Coulomb's inverse square law – Gauss theorem and its applications (Intensity at a point due to a charged sphere & cylinder) – Principle of a capacitor – Capacity of a spherical and cylindrical capacitors – Energy stored in a capacitor – Loss of energy due to sharing of charges - Capacitors in series and parallel – Types of capacitors.

UNIT II –MAGNETISM 12

Magnetism Intensity of magnetization – Susceptibility – Types of magnetic materials – Properties of para, dia and ferromagnetic materials – Cycle of magnetization – Hysteresis – B-H curve – Applications of B-H curve – Magnetic energy per unit volume – Ferromagnets, ferrimagnets and their applications.

UNIT III -ATOMIC PHYSICS 12

Atomic Physics Atom Models: Sommerfield's and Vector atom Models – Pauli's exclusion Principle –

Various quantum numbers and quantization of orbits. X-rays: Continuous and Characteristic X-rays – Mosley's Law and importance – Bragg's law – Miller indices – Determination of Crystal Structure by Laue's Powder photograph method.

UNIT –IVNUCLEAR PHYSICS **12**

Nuclear Physics Introduction – Nucleus – Classification of Nuclei – Nuclear Size – Charge – Mass and Spin – Liquid drop model.Nuclear Radiations and their properties, particle accelerators – Betatron and Proton Synchrotron - Four types of reactions – Elementary particles and their classifications.

UNIT –VDIGITAL ELECTRONICS **12**

Digital Electronics Decimal – Binary – Octal and Hexa Decimal number systems and their Mutual Conversions – 1's and 2's complement of a Binary number and Binary arithmetic (Addition, Subtraction, Multiplication and Division) – Binary Subtraction by 1's and 2's complement method – Basic logic gates – AND, OR, NOT, NAND, NOR and EXOR gates – NAND and NOR as universal building gates – Boolean Algebra – Laws of Boolean Algebra – De Morgan's Theorems – Their verifications using truth tables.

TEXT BOOKS

1. R. Murugesan., Electricity and Magnetism. S. Chand & Co, New Delhi, Third Revised edition, 2001.
2. R. Murugeshan, Kiruthiga Sivaprasath, Modern Physics., S. Chand & Co, New Delhi, First edition, 1984,.
3. R. S. Sedha, A text book of Digital Electronics, S. Chand & Co, New Delhi, First edition ,2004.

REFERENCE BOOKS

1. Narayanamurthi, Electricity and Magnetism, The National Publishing Co, First edition, 1988.
2. J. B. Rajam, Atomic Physics., S. Chand & Company Limited, New Delhi, First edition, 1990.
3. B. N. Srivastava, Basic Nuclear Physic, Pragati Prakashan, Meerut, 2005.
4. Albert Paul Malvino, Digital principles and Applications, McGraw-Hill International Editions, New York, 2002

CourseCoordinator **HOD**

U18NCPS4L2	**ALLIED- PHYSICS LAB–II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	0	0	2	2
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. S.Anandhi / Physics				

COURSE OBJECTIVES :-

To stimulate the key concepts underpinning the physical interpretations of different properties of matter and apply the min real world problems.

COURSE OUTCOMES (COs)

CO1	Apply the characteristics of electronic devices in practical's.

CO2	Understand about the significance of laws involved in electric circuit
CO3	Apply and know about its importance in electronics and mechanical in mathematical Process
CO4	Analyze the detail about practical importance to be aware of the concepts from the basis.
CO5	Evaluate the importance of handling and precision of experimental skills
CO6	Apply the principles of electronics in day to life

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
							✓			
4	Approval		Academic Council Meeting							

LIST OF EXPERIMENTS

1. Logic Gates (AND, OR, NOT, NAND, NOR and EX-OR) Using IC's.

2. NAND and NOR as Universal Gates.

3. Verification of De-Morgan's Theorems.

4. Half –Adder and Half –Subtractor using logic gates.

5. Full Adder and Full Subtractor using logic gates.

6. Single Stage Amplifier.

7. Potentiometer-Measurement of Current.

8. Potentiometer-Calibration of low range voltmeter.

9. Carey Foster's Bridge- Specific Resistance.

10. Mathematical Operator-Addition, Subtraction using OP-Amp.

TEXT BOOK:

1. General Physics Laboratory Manual, Department of Physics.
2. 2. R. Murugeshan, Kiruthiga Sivaprasath, Modern Physics., S. Chand & Co, New Delhi, First edition, 1984,.
3. 3. R. S. Sedha, A text book of Digital Electronics, S. Chand & Co, New Delhi, First edition ,2004.

REFERENCE BOOKS

1. R.A. Dunlap, Experimental Physics: Modern Methods, Oxford University Press, New Delhi (1988).
2. E.V. Smith, Manual for Experiments in Applied Physics, Butterworths (1970).
3. D. Malacara (ed.), Methods of Experimental Physics, Series of Volumes, Academic Press Inc. (1988)

CourseCoordinator **HOD**

U18NETA402	□□□□□□□□□□□□□□□□- **II**	**L**	**T**	**P**	**C**
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COURSE OBJECTIVES : □□□□□□□□□□□□□□□□□□□□

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SEMESTER V

U18MCMA501	**REAL ANALYSIS-I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)	
CO1	Understand Operations on sets
CO2	Understand convergent sequences
CO3	Understand divergent sequences
CO4	Understand alternating series; conditional convergence and absolute convergence
CO5	Understand Limits in metric spaces
CO6	Understand the concept of Function continuous at a point on the real line.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT – I SETS AND FUNCTIONS **12**

Sets and elements; Operations on sets; functions; real valued functions; equivalence; countability; real numbers; least upper bounds.
Chapter 1 Section 1. 1 to 1.7

UNIT –II SEQUENCE 12

Definition of a sequence and subsequence; limit of a sequence; convergent sequences; divergent sequences; bounded sequences; monotone sequences;
Chapter 2 Section 2.1 to 2.6

UNIT –IIICONVERGENT SEQUENCE **12**

Operations on convergent sequences; operations on divergent sequences; limit superior and limit inferior; Cauchy sequences.
Chapter 2 Section 2.7 to 2.10

UNIT- IV CONVERGENCE AND DIVERGENCE **12**

Convergence and divergence; series with non-negative numbers; alternating series; conditional convergence and absolute convergence; tests for absolute convergence; series whose terms form a non-increasing sequence; the class 12.
Chapter 3 Section 3.1 to 3.4, 3.6, 3.7 and 3.10

UNIT – VMETRIC SPACES **12**

Limit of a function on a real line;. Metric spaces; Limits in metric spaces. Function continuous at a point on the real line, reformulation, Function continuous on a metric space.
Chapter 4 Section 4.1 to 4.3 Chapter 5 Section 5.1-5.3

TEXT BOOK:

1. Contents and Treatment as in "Methods of Real Analysis" : Richard R. Goldberg (Oxford and IBH Publishing Co.)

REFERENCES:

1. Principles of Mathematical Analysis by Walter Rudin
2. Mathematical Analysis Tom M Apostal

CourseCoordinator **HOD**

U18MCMA502	**ALGEBRAIC STRUCTURES**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Understand the basic concepts of group theory
CO2	Understand the concepts subgroups and quotient groups
CO3	Understand the characteristics of the rings and fields
CO4	Understand the further aspects of quotient rings and fields
CO5	Understand the basic concepts of bases
CO6	Understand the concept of Euclidean rings.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT -1 GROUPS **12**

Introduction to groups. Subgroups, cyclic groups and properties of cyclic groups; Lagrange"s Theorem; A counting principle Chapter 2 Section 2.4 and 2.5

UNIT -II SUBGROUPS **12**

Normal subgroups and Quotient group; Homomorphism; Automorphism.
Chapter 2 Section 2.6 to 2.8

UNIT – III CAYLEY'S THEOREM **12**

Cayley's Theorem; Permutation groups.
Chapter 2 Section 2.9 and 2.10

UNIT -IV RINGS **12**

Definition and examples of ring- Some special classes of rings; homomorphism of rings; Ideals and quotient rings; More ideals and quotient rings.
Chapter 3 Section 3.1 to 3.5

UNIT – V INTEGRAL DOMAIN **12**

The field of quotients of an integral domain; Euclidean Rings; The particular Euclidean ring.
Section 3.6 to 3.8

TEXT BOOK:

1. S.Arumugam, A. Thangapandi Issac, Modern Algebra, New Gamma Publishing, House, 1990.
2. I. N. Herstein,Contents and treatment as in Topics in Algebra Wiley Eastern Ltd.
3. M.L. Khanna, Modern Algebra, Jai Prakash Nath and Co, 1990.

REFERENCES:

1. S Arumugam and A Thangapandi Isaac, Modern Algebra, SciTech Publications, Chennai, 2003.
2. Vijay, K. Khanna and S.K. Bhambri, A Course in Abstract Algebra, Vikas Publishing HousePvt.Ltd.
3. T. K. Manicavachagam Pillai, T. Natarajan, & K. S. Ganapathy, Algebra, Vol.I, S. ViswanathanPvt. Limited, 2012.
4. John Wiley & Sons, Student, Topics in Algebra, 2nd Edition,1975.

CourseCoordinator **HOD**

U18MCMA503	**OPERATIONS RESEARCH**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)	
CO1	Understand to solve LPP using different techniques
CO2	Understand the formulation of different types of problems
CO3	Understand the concepts queueing theory
CO4	Understand the concepts of game theory
CO5	Understand the concepts of PERT – CPM calculations
CO6	Understand the concepts of(M/M/1): (∞/FIFO); (M/M/1): (N/FIFO); (M/M/C): (∞/FIFO); (M/M/C): (N/FIFO) Models.
Mapping of Course Outcomes with Program outcomes (POs)	

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT I - LINEAR PROGRAMMING PROBLEM **12**

Formulation of LPP. Graphical Method – Simplex Method – Artificial Variable Techniques, Big-M Method of solving LPP

UNIT II - ASSIGNMENT PROBLEM **12**

Mathematical Formulation of an Assignment Problem – Assignment Algorithm - Unbalanced Assignment Models – Travelling Salesman Problems – Transportation Problems – Optimum solution.

UNIT III – QUEUEING THEOREM **12**

Queuing Theory – Introduction – Queuing system – Characteristics of Queuing system – symbols and Notation – Classifications of queues – Problems in (M/M/1): (∞/FIFO); (M/M/1): (N/FIFO); (M/M/C): (∞/FIFO); (M/M/C): (N/FIFO) Models.

UNIT IV – GAME THEORY **12**

Game Theory – Two person zero sum game – The Maximin – Minimax principle – problems - Solution of 2 x 2 rectangular Games – Domination Property – (2 x n) and (m x 2) - graphical method – Problems.

UNIT V – SCHEDULING PROBLEMS **12**

Network scheduling by PERT / CPM – Introduction – Network and basic components– Rules of Network construction

– Time calculation in Networks – CPM. PERT – PERT calculations – Problems.

TEXT BOOK:

1. Kandiswarup, P.K.Gupta, Man Mohan, "Operations Research", Sultan Chand & Sons Education Publications, New Delhi, 12th Revised edition, 2004.
2. Hamdy Taha, "Operations Research", PHI India Publication.
3. G. Srinivasan , Operations Research : Principles and Applications, Prentice Hall of India

REFERENCES:

1. V.Sundaresan, K.S.Ganapathy Subramanian, K.Ganesan, "Resource Management Techniques", A.R.Publications, 2012.
2. Prem Kumar Gupta D. S. Hira, Operations Research, 5th Edition, S. Chand & Company Ltd., Ram Nagar, New Delhi, 1998.
3. R.Paneerselvam, Operations Research, 2nd edition, Prentice Hall of India
4. Carl L. Sandblom and Horst A. Eiselt, Operations Research: A Model-Based Approach, Springer

CourseCoordinator **HOD**

U18MCSC504	**UNIX AND C PROGRAMMING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course - Computer Science / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- R. Balamurugan & CS				

COURSE OBJECTIVES :-

Learners will be familiar with basic of the Unix and C programming. Learners will understand Unix general system commands, the capacity to think logic in C programming, start to do coding and to solve the problems.

COURSE OUTCOMES (COs)

CO1	Gain knowledge on the concept of Basic concepts of unix and C
CO2	Understand to Working with Directories
CO3	Apply the concept of conditional statements
CO4	Analyze the concept of Functions, Passing arguments to a function
CO5	Evaluate the concept of single dimension, Matrix manipulations
CO6	Create an real time application using Unix and C programming

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
							✓				
4	Approval		Academic Council Meeting								

UNIT I UNIX 12

Introduction - History - Basic Commands - Working with Files - Working with Directories - Filename Substitution - Standard Input / Output and I/O Redirection - Pipes - Standard Error - More on Commands.

UNIT II C LANGUAGE – INTRODUCTION 12

Introduction- Identifiers and keywords, Constants and variables, Declarations – Expressions and statements, Types of operators - Library functions Input statements - Output statements.

UNIT III CONDITIONAL STATEMENTS 12

Conditional statements-If …else - Switch. Case - Looping - While, DO While - Break and continue, Comma operator, go to statement.

UNIT IV FUNCTIONS 12

Functions-Definitions and prototypes - Passing arguments to a function - Storage class variables,

UNIT V ARRAYS 12

Arrays –single dimension- Arrays with two dimensions- Matrix manipulations - String operations.

TEXT BOOKS:

1. Stephen G. Kochan and Patrick Wood, *UNIX Shell Programming*, Sams Publishing, 2003.

2. E.Balagurusamy, "*Programming in ANSI C"*, Tata McGraw Hill, 2008.

REFERENCE BOOKS:

1. Arnold Robbins, "*Unix in a Nutshell"*, O'Reilly, 2005.
2. Kanetkar Y, "*Let us C"*, BPB Publications, 1995.

3. Deitel H.M. and Deitel .P.J, "*How to Program C"*, Prentice Hall India, 2001.
4. Kamthane, Ashok N, "*Programming in C"*, Pearson Education, 2013.

5. YashavantKanetkar, *Exploring C*, BPB Publications, 2003.

Course Coordinator **HOD**

U18MCSC5L1	**C PROGRAMMING LAB**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	0	0	4	2
	Prerequisite course – Computer Science / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Ms. E. Srimathi / CS				

COURSE OBJECTIVES :-

Learners will be familiar with the basic programming in C concepts and to provide strong logical thinking and error-free syntax.

COURSE OUTCOMES (COs)	
CO1	Implement the basic concept of programming in C.
CO2	Develop the program using looping concept.
CO3	Understand the concept with Functions, Passing arguments to a function.
CO4	Understand the various concept like structure and array.
CO5	Perform the string manipulation.
CO6	Create program to evaluate sin(x), cos(x) series

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
							✓				
4	Approval		Academic Council Meeting								

List of Experiments to be Implemented in C language.

1. Program to print the following output using **for** loop

   1
   22
   333
   4444
   ……
   ……

2. Program to evaluate the following function to 0.0001% accuracy.

   a)sin(x) **b**) cos(x) **c**) exp(-x)

3. Program to find roots of a quadratic equation.
4. Program to sort the array of numbers and then to find median value.
5. Program to read an integer number and then to print in the reverse order and also to find the sum of all the digits.
8. Program to create structure, which consists of EMPLOYEE details like ID Number, Name, Designation, Basic Salary, DA, others. Then to calculate DA, HRA and PF depending on the basic salary and print gross salary, deduction, net salary.
9. Program to read two Matrices of different Data Types such as integers and floating point numbers and then to find the sum, difference, and product of the above two matrices.
10. Program to check whether the given string is a palindrome.
11. Program to solve ODE using Euler's method, R-K method.
12. Program to interpolate a value using Lagrange interpolation formula.

13. Program to find integral value using Simpson's formula.
14. Program to find Lagrange interpolation.
15. Program to find Trapezoidal and Simpson one-third rules.

Course Coordinator **HOD**

U18MEMA011	**DISCRETE MATHEMATICS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Understand the Generating Functions
CO2	Understand the Tautological Implications
CO3	Understand the Functionally Complete sets
CO4	Understand the properties of Lattices
CO5	Understand the Boolean Algebra
CO6	Understand the Normal Forms , Principal Normal Forms.

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
						✓					
4	Approval		Academic Council Meeting								

UNIT- I MATHEMATICAL INDUCTION, RECURRENCE RELATIONS AND GENERATING FUNCTIONS 12

Techniques of Proof – Mathematical Induction – Recurrence – Polynomials and their Evaluations – Recurrence Relations – Generating Functions – Some Common Recurrence Relations – Primitive Recursive Functions – Recursive and Partial Recursive Functions.

UNIT- II MATHEMATICAL LOGIC 12

TF Statements–Connectives–Atomic and Compound Statements– Well-Formed Statement Formulae –Parsing – Truth Table of a Formula – Tautology – Tautological Implications and Equivalence of Formulae.

UNIT-III MATHEMATICAL LOGIC (CONTD…) 12

Replacement Process–Functionally Complete sets of connectives and Duality law – Normal Forms – Principal Normal Forms.

UNIT -IV LATTICES12

Lattices–Some properties of Lattices–New Lattices–Modular and Distributive Lattices.

UNIT –VBOOLEAN ALGEBRA12

Boolean Algebra–Boolean Polynomials–Karnaugh Maps.

TEXT BOOK:

1. 1.M.K. Venkataraman, N. Sridharan and N. Chandrasekaran, “Discrete Mathematics”, The National Publishing Company, Chennai, 2003.
2. Sen.M.K, and B.C. Chakraborthy, “Discrete Mathematics”, 2nd Edn. Books and Allied Private Ltd., Kolkata, 2002

REFERENCES:

1. 1. Johnsonbaugh.R, “Discrete Mathematics”, 5th Edn. Pearson Education, Asia, 2001.
2. C.L. Liu, “Elements of Discrete Mathematics”, McGraw Hill, New York, 1985.
3. Truss.J, “Discrete Mathematics for Computer Scientists”, 2nd Edn. Pearson Education, Asia, 2000.

CourseCoordinator **HOD**

SEMESTER VI

U18MCMA601	**REAL ANALYSIS-II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Understand the Discontinuous function on R1
CO2	Understand compact metric spaces, continuous functions on a compact metric space
CO3	Understand Riemann integral
CO4	Understand the Fundamental theorems of calculus.
CO5	Understand the uniform convergence of sequences of functions.
CO6	Understand the concept of properties of Riemann integral.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT – I SETS **12**

Open sets; closed sets; Discontinuous function on R1. More about open sets;Connected sets : Chapter 5 Section 5.4 to 5.6 Chapter 6 Section 6.1 and 6.2

UNIT –II METRIC SPACES **12**

Bounded sets and totally bounded sets: Complete metric spaces; compact metric spaces, continuous functions on a compact metric space, continuity of inverse functions, uniform continuity.
Chapter 6 Section 6.3 to 6.8

UNIT –III RIEMANN INTEGRAL **12**

Sets of measure zero, definition of the Riemann integral, existence of the Riemann integral; properties of Riemann integral.
Chapter 7 Section 7.1 to 7.4

UNIT – IV LAW OF MEAN **12**

Derivatives; Rolle's theorem, Law of mean, Fundamental theorems of calculus.
Chapter 7 Section 7.5 to 7.8

UNIT – V SEQUENCES OF FUNCTIONS **12**

Taylor's theorem; Pointwise convergence of sequences of functions, uniform convergence of sequences of functions.

Chapter 8 Section 8.5 Chapter 9 Section 9.1 and 9.2

TEXT BOOK:

1. Contents and Treatment as in "Methods of Real Analysis" Richard R. Goldberg (Oxford Publishing)
2. Real analysis by S.G. Venkatachalapathy, Margham Publications, India.
3. A Basic Course in Real Analysis by Ajit Kumar and S. Kumaresan, CRC press, Taylor and Francis.

REFERENCES:

1. Principles of Mathematical Analysis by Walter Rudin, International Series in Pure & Applied Mathematics, 1976.
2. Mathematical Analysis Tom M Apostal, Narosa publishing house, New Delhi
3. Introduction to Real Analysis by S.K. Mapa, Sarat Book house, New Delhi
4. First Course in Mathematical Analysis by Somasundaram D, Narosa publishing house, New Delhi.

CourseCoordinator **HOD**

U18MCMA602	**COMPLEX ANALYSIS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Understand the continuity ,derivatives, differentiation formulae
CO2	Understand the transformation w = sin z
CO3	Understand the contour integrals
CO4	Understand the zeros of analytic functions.
CO5	Understand an Argument principle and Rouche's theorem.
CO6	Understand the concept of Cauchy-Riemann equations in polar form.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**

2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT – 1 FUNCTIONS OF A COMPLEX VARIABLE 12

Functions of a complex variable - mappings, limits - theorems on limits, continuity,derivatives, differentiation formulae - Cauchy-Riemann equations - sufficient conditions for differentiability- Cauchy-Riemann equations in polar form - Analytic functions - Harmonic functions.
Chapter 2 Section 2.9 to 2.12, 2.14 to 2.20 and 2.22

UNIT – II LINEAR FRACTIONAL TRANSFORMATIONS 12

Linear functions - The transformation w = 1/z - linear fractional transformations - an implicit form - exponential and logarithmic transformations – transformation w = sin z - Preservation of angles.
Chapter 8 Section 8.68 to 8.71 and 8.73, 8.74 Chapter 9 : 9.79

UNIT – III DERIVATIVES OF ANALYTIC FUNCTION 12

Complex Valued functions- contours - contour integrals - Anti derivatives - Cauchy-Goursat theorem. Cauchy integral formula - derivatives of analytic function – Liouvilli's theorem and fundamental theorem of algebra -maximum moduli of functions.
Chapter 4 Section 4.30 to 4.42

UNIT – IVANALYTIC FUNCTIONS. 12

Convergence of sequences and series – Taylor's series –Laurent's series - zeros of analytic functions.
Chapter 5 Section 5.43 to 5.47

UNIT – V IMPROPER INTEGRALS **12**

Residues - Residue theorems- Three types of isolated singular points- Residues at poles- Zeros and poles of order 'm' - Evaluation of improper integrals – Improper integrals involving sines and cosines - Definite integrals involving sines and cosines – Argument principle and Rouche"s theorem.
Chapter 6 Section 6.53 to 6.57 and Chapter 7 Section 7.60 to 7.65.

TEXT BOOK:

1. Content and treatment as in Complex variables and Applications (Sixth Edition) by James Ward Brown and Ruel V.Churchill, Mc.Grawhill Inc.
2. Introduction to Complex Analysis, S. Ponnuswamy , Narosa Publishers 1993.
3. Complex Analysis, Lars.V.Ahlfors, 3rd edition, Mc Graw Hill Publisher

REFERENCES:

1. Theory and problems of Complex Variables – Murray R.Spiegel, Schaum outline series
2. Complex Analysis – P.Duraipandian.-Muhill Publishers
3. A Complex Analysis Problem Book, Daniel Alpay, 2nd edition, Birkhauser Publishers
4. Complex Analysis, A.R.Vasistha, Krishna Prakashan media

CourseCoordinator **HOD**

U18MCMA603	**GRAPH THEORY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-
To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Understand the degree of a vertex
CO2	Understand the Operations on graphs
CO3	Understand the contour integrals
CO4	Understand bridge, block, and connectivity.
CO5	Understand Hamiltonian graphs
CO6	Understand the Characterization of planar graph, colour ability.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H			

	CO2	H	M	-	-	-	-	M	H		
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT- IGRAPHS **12**

Graphs, subgraphs, Degree of a vertex, Isomorphism of graphs, independent sets and coverings; intersection graphs.

UNIT -II GRAPHIC SEQUENCES **12**

Adjacency and incidence of matrices; Operations on graphs; degree sequences; graphic sequences; Walks; trails; paths; problems.

UNIT -IIICONNECTIVITY **12**

Connectedness and components; cut point, bridge, block; Connectivity theorems and simple problems.

UNIT -IV EULERIAN GRAPHS **12**

Eulerian graphs and Hamiltonian graphs; simple problems; Trees, theorems, and simple problems.

UNIT -VCOLOURS 12

Planarity; definition and properties; Characterization of planar graph, Colour ability; chromatic number and index.

TEXT BOOK:

1. S. Arumugam and S. Ramachandran, Invitation to Graph Theory, SITECH Publications India Pvt. Ltd, Chennai – 17, 2006.
2. S. Kumaravelu, Susheela Kumaravelu, Graph Theory, SKV Publishers, Sivakasi, 1999.
3. Narsingh Deo, Graph Theory with applications to Engineering and Computer Science, Prentice Hall of India,2004.

REFERENCES:

1. 1.S.A. Choudham, A First Course in Graph Theory, Macmillan India Ltd, 2000.
2. Robin J. Wilson, Introduction to Graph Theory, Prentice Hall, 2012.
3. J.A.Bondy and U.S.R. Murthy, Graph Theory with Applications, Macmillan, London, 2008.
4. S. A. Arumugam and G. Ramachandran , Invitation to Graph Theory, Scitech Publications, 2003.

CourseCoordinator **HOD**

U18MEMA023	**ELEMENTARY NUMBER THEORY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Understand the divisibility of primes
CO2	Understand the concept of congruences.
CO3	Understand the concepts of quadratic residues.
CO4	Understand the concepts of Number theory.
CO5	Understand the simultaneous Linear equations,Pythagorean Triangle.
CO6	Understand the concepts of Groups, rings and fields.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**

2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
							✓			
4	Approval		Academic Council Meeting							

UNIT-I BINOMIAL THEOREM 12

Introduction – divisibility- primes- The Binomial theorem
Chapter 1 Sections - 1.1 to 1.4

UNIT- II CONGRUENCES 12

Congruences, Solution of Congruences, Chinese Remainder Theorem- primitive roots and power Residues- Number Theory from an Algebric view point - Groups, rings and fields.
Chapter – 2 Sections 2.1 to 2.3, 2.8 (cor 2.42, Th 2.43 and cor 2.44 are omitted) - 2.10.- 2.11

UNIT- III QUADRATIC RESIDUES 12

Quadratic Residues, Quadratic reciprocity,
The Jacobi Symbol
Chapter – 3 Sections 3.1 to 3.3

UNIT -IV NUMBER THEORY 12

Greatest Integer Function, Arithmetic function, The Mobius Inversion formula
Combinational Number Theory
Chapter – 4 Sections 4.1 to 4.3 and 4.5

UNIT -V LINEAR EQUATIONS 12

The equation ax+by=c, Simultaneous Linear Equations, Pythagorean Triangle, Assorted examples. Chapter – 5 Sections 5.1 to 5.4 Content and treatment as **i**n

TEXT BOOK:

1.An introduction to the Theory of Numbers (Vth edition) by Ivan Niven, Herbert S. Zuckarman and Hugh L. Montgometry John Wiley & Sons, Inc.2001.

REFERENCES:

1. Elementary theory of numbers, cy. Hsiung, Allied publishers, 1995.
2. Elementary Number Theory, Allyn and Bacon Inc., Boston, 1980.
3. Introduction to Analytic Number Theory, Tom. M. Apostol, Narosa Publishing House, New Delhi, 1989.

CourseCoordinator **HOD**

U18EEMA6P1	**PROJECT (DISSERTATION AND VIVA-VOCE)**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	0	0	20	10
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

To make the students understand the importance of experimental and theoretical analysis. Students can develop a Scientific approach in solving a problems related to Mathematics.

COURSE OUTCOMES (COs)	
CO1	List out the concept and objectives, nature, types and methods of project.
CO2	Choose the process and steps involved in preparation of project work, research gap
CO3	Practice the research design, and methodology , sampling techniques & sampling design
CO4	Calculate the statistical tools in the project for data analysis
CO5	Measure the major findings, suggestions and conclusion
CO6	Design the model for project report.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
										✓	
4	Approval		Academic Council Meeting								

PROJECT (DISSERTATION AND VIVA-VOCE) 10

The project topics are to be finalized to the students at the end of the second semester with a time schedule to carryout various stages of work. During the semester vocation, the data Collection may be commenced. The theme selected by each student for the Dissertation should be related to various problems and issues pertaining to Computer Application. Each candidate should submit three copies of dissertation as per the guidelines to the department concerned.

Marks

Dissertation	**150**
Viva- Voce Examination	**50**

Course Coordinator **HOD**

U18SEBC001	**BUSINESS PROCESS OURTSOURCING - MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Ms. J. Saranya, Commerce				

COURSE OBJECTIVES :-

- To familiarize the students with the basic fundamentals of BPO.
- To impart knowledge on types of BPO and call centers .
- To enable the students on the concept Health care BPO & Transaction BPO.
- To peep into the concept of Human Resource BPO and the career opportunities in BPO

COURSE OUTCOMES (COs)	
CO1	Describe the basic fundamentals of BPO.
CO2	Discuss and develop the awareness about Types of BPOs and Call Centers
CO3	Identify the concept of Health care BPOs
CO4	Examine the concept of Transaction BPOs
CO5	Develop the confidence in Human Resource BPO and career opportunities in BPOs

CO6	Formulate the Types of Transaction Processing BPO in India										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H							H		
	CO2				H						
	CO3			H							
	CO4		M								
	CO5	M									
	CO6		H								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT-I: **6**

Business Process Outsourcing – Basics – Benefits of BPO – BPO companies in India.

UNIT-II: **6**

BPO Industry – Employment Opportunities – types of BPO – Call centers – Types of Call Centers – Issues and Problems.

UNIT-III: **6**

Health Care - BPO - Structure of foreign Health Care sector – Future Trends and Threats.

UNIT-IV: **6**

Transaction Processing BPO – Elements of Back Office services – Types of Transaction Processing BPO in India.

UNIT-V: **6**

Human Resource BPO - Reasons for outsourcing HR – Activities involved in HR BPO – HR outsourcing Trends – Carrier in HR BPO.

Text Books:

1. John K. Holvey, Borboro Murphy Melby, Business Process Outsourcing – Wiley Publisher- 2007
2. Sarika Kulkarni – Business Process Outsourcing – Jaico Publishing house – 2005
3. .Rick L. Click, Thomas N. Duening,Business Process Outsourcing – John Willey & sons, Publisher , 2004

Reference Books:

1. Deepak Shikapur – BPO DIGEST – Ameya (Inspiring books) – 2004.
2. Clifton – System analysis for business data processing – Prentice hall Publications.
3. Anandkumar, V. & Biswas, S., 2008. Business Process Outsourcing, Sage Publications Pvt. Ltd

Course Coordinator **HOD**

U18SEBC002	**CUSTOMER RELATIONSHIP MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Ms. R. Priya, Commerce				

COURSE OBJECTIVES :-

- To familiarize the students with the basic fundamentals of CRM.
- To impart knowledge about process and importance of CRM.
- To enable the students on the concept of technological solutions to CRM.
- To expose the student on Trends and challenges in CRM.

COURSE OUTCOMES (COs)	
CO1	Recognize the Familiarize with the basic fundamentals of CRM.
CO2	Demonstrate the Can develop awareness about process and importance of customer retention
CO3	Practice to be aware of the concept of technological applications in CRM.
CO4	Correlate to respond to the concept of CRM software solutions for B2C and B2B markets
CO5	Validate the Develop confidence on trends and challenges

CO6	Design the Customer Databases and Information Systems										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H		H					H		
	CO2	H									
	CO3	H		H							
	CO4		H								
	CO5	H		H							
	CO6		H		M						
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT -I **6**

Customer Relationship Management Introduction - Meaning and Definition - Importance - Benefits and difficulties of CRM.

UNIT –II **6**

CRM Process and Implementation Introduction - customer Retention - Customer satisfaction - Importance of customer retention - CRM process for B2B markets

UNIT –III **6**

Technological Support in CRM Introduction - Types of Technological Applications in CRM.

UNIT –IV **6**

Customer Databases and Information Systems - CRM Software Solutions for B2C and B2B Markets

UNIT –V **6**

E-CRM – Emerging Trend in CRM Introduction - Challenges involved in formulating and implementing e-CRM strategies.

TEXT BOOKS:

1.Balasubramaniyan.K ,Essence of customers relationship management, learn tech press
2. Jagdish N Sheth, Atul Parvatiyar, G Shainesh - customers relationship management- McGraw Hill Publisher, 2000
3. Roger. J Baran and Robert J. Galka- customers relationship management, Routledge publisher 2013

REFERENCE BOOKS:

1. M.Peeru mohamed, customer relationship management, Vikas publications
2. Kaushik mukerjee, customer relationship management PHI
3. Customerrelationshipmanagement GShainesh &.Jagdish N Sheth

Course Coordinator **HOD**

U18SEBC003	ENTREPRENEURIAL DEVELOPMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Ms. R. Priya, Commerce				

COURSE OBJECTIVES :-

- To familiarize the students with the basic fundamentals of Entrepreneurship.
- To impart knowledge on Project identification, selection and formulation.
- To enable the students on the concept of types of organization.
- To peep into the concept of commercial banks.
- To enable the students on the concept of women entrepreneurs

COURSE OUTCOMES (COs)

CO1	Underline the Meaning Of Entrepreneur – Entrepreneur and Intrapreneur
CO2	Explain the Identification – Selection of the Project

CO3	Apply Selection of Types of Organization – Sole Proprietorship- Partnership Joint Stock Company
CO4	Appraise to Institutional finance to entrepreneurs
CO5	Estimate the Factors Influencing The Choice Of Organization
CO6	Develop the Role and Problems of Women Entrepreneurs

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	-	-	-	-	-	-			H
	CO2	-	H	-	-	-	M	H			
	CO3	-	H	-	-	-	M	M			
	CO4	M	-	-	-	-	M	M			
	CO5	-	-	-	-	-	-	-			
	CO6	-	-	H	-	-	-	-			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	
4	Approval		Academic Council Meeting							

UNIT-I **6**

Meaning Of Entrepreneur – Entrepreneur and Intrapreneur – Qualities Of Entrepreneur – Characteristics Of Entrepreneur – Types Of Entrepreneur – Function Of An Entrepreneur

UNIT-II **6**

Project Identification – Selection of the Project – Project Formulation –Preparation of Project Report

UNIT-III **6**

Selection of Types Of Organization – Sole Proprietorship- Partnership Joint Stock Company – Factors Influencing The Choice Of Organization.

UNIT – IV **6**

Institutional finance to entrepreneurs - commercial banks –IDBI, IFCI, ICICI, IRBI, SFC, DICs, SIDC, SIDBI And EXIM Bank

UNIT – V **6**

Women Entrepreneurs – Role – Problems of Women Entrepreneurs – Suggestions For Development Of Women Entrepreneurs

TEXT BOOKS:

1. C.B. Gupta, Entrepreneurship Development in India – Sultan Chand
2. S.S. Khanka, Entrepreneurship Development, S. Chand & Co., New Delhi.
3. Gupta C. B and Srinivasan N. P Entrepreneurship Development, Sultan Chand & Sons, New Delhi

REFERENCE BOOKS:

1. P. Sarvanavel, E Entrepreneurship Development, Ess Pee Kay Publishing House
2. Jaswer Singh Saini, Entrepreneurship Development, Deep and Deep Publication, New Delhi
3. Jayashree Suresh, Entrepreneurship Development- Margham Publication, Chennai

Course Coordinator **HOD**

U18SEBC004	**HUMAN RESOURCE MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Ms. R.Velanganni/Commerce & Economics				

COURSE OBJECTIVES :-

- To learn the importance of HR.
- To impart knowledge and important factors in HR.
- To enable the students on the needs and methods of training.

COURSE OUTCOMES (COs)	
CO1	Identify theImportance of Human Resource and objectives.
CO2	Describe the Human Resource Planning
CO3	Practice to Sources of Recruitment - Selection – Steps in Selection
CO4	Analyze Needs of training – Methods of Training
CO5	Evaluate theProcess and Methods of Performance Appraisal
CO6	Formulate the Qualities of Personnel Manager

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M	-	-	-	-	-	H		
	CO2	M	H	-	-	-	-	-			
	CO3	H	M	-	-	-	-	-			
	CO4	H	M	-	-	-	-	-			
	CO5	H	M	-	-	M	-	-			
	CO6	H	M	-	-	-	-	-			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval	Academic Council Meeting									

UNIT- I: **6**

Definition – Importance of Human Resource – Objectives – Qualities of Personnel Manager.

UNIT- II: **6**

Human Resource Planning – Importance factors – Steps in HR Planning.

UNIT- III: **6**

Recruitment – Objectives – Sources of Recruitment - Selection – Steps in Selection.

UNIT- IV: **6**

Training – Definition – Needs of training – Methods of Training – On the job training – Off the job Training.

UNIT- V: **6**

Performance Appraisal - Objectives – Process – Methods of Performance Appraisal.

TEXT BOOKS:

1. L.M. Prasad – Human Resource Management – S. Chand & Sons – 2013.
2. C.B. Mamoria, S.V. Gankar – Personnel Management – Himalaya Pub. – 2012.
3. A.M. Sharma, Human Resource Management, Himalaya Publishing House, 2005

REFERENCE BOOKS

1. S.S. Khanka – Human Resource Management – S. Chand Ltd. – 2007
2. Gary Dessler – Human Resource Management – Prentice Hall – 8th Edition – 2000.
3. A Handbook of Human Resource Management Practice,2012.

Course Coordinator **HOD**

U18SEBC005	**MARKETING MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- G.Santhosh kumar/ Commerce & Economics				

COURSE OBJECTIVES :-

- To understand the fundamentals of marketing and its role.
- To examine the factors influencing buying behavior.
- To enable the students to promote advertising and its sales scope

COURSE OUTCOMES (COs)	
CO1	Underline the Fundamentals of Marketing – Role of Marketing.
CO2	Describe the Factors influencing buying behavior
CO3	Interpret the Marketing segmentation – Needs - Types of segmentation
CO4	Analyze to New product development process – Product life cycle
CO5	Revise the Awareness of consumer rights in the market place
CO6	Collect the Advertising – Scope of Advertising

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1		H						H		
	CO2	M	H	M							
	CO3	H			M						
	CO4					M					
	CO5	H		M							
	CO6		H			M					
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT-I: **6**

Marketing- Definition – Fundamentals of Marketing – Role of Marketing – Relationship of marketing with other functional areas – Marketing Mix

Unit – II **6**

Buyer Behaviour – Buying motives – Factors influencing buying behavior - Marketing segmentation – Needs - Types of segmentation

UNIT-III: **6**

The Product – Characteristics – Benefits – Classifications – New product development process – Product life cycle – Branding – Packaging

UNIT-IV: **6**

Physical Distribution - Importance - Various kinds of Marketing Channels – Distribution Problems- Awareness of consumer rights in the market place.

UNIT- V: **6**

Advertising – Scope of Advertising – Personal selling – Direct selling and Sales Promotions.

TEXT BOOKS:

1. Berkoviz Kerin Hontley Rudelivs, MARKETING, New York, Mcgraw Hill Publications.
2. Gony Armstrong, Philip Kotler, Marketing an Introduction, Pearson Education Asia.
3. Philip Kotler, Marketing Management (Millennium ed.,) New Delhi, Prentice Hall of India (P) Ltd.

Reference Books:

1. Rajan Saxena, Marketing Management, 2nd edition, New Delhi, Tata Mcgraw Hill Publishing Co.Ltd.

2. V.S. Ramasamy and S. Namakumari, Marketing Management, Planning, Implementation & control, New Delhi, Macmillan

3. Chisnall, P.M. (1997) Marketing Research, Fifth Edition, London: McGraw-Hill.

Course Coordinator **HOD**

U18SEBC006	OFFICE MANAGEMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Dr. M. Sankar,Commerce				

COURSE OBJECTIVES :-

- To peep into the concept, importance of office management.
- To impart knowledge on features and classification of Communication.
- To expose handling correspondence and market registers

COURSE OUTCOMES (COs)

CO1	Record theConcept and Importance of Office and Office Management.
CO2	Report the Arrangement and adjustment : Furniture, allotment of seats
CO3	Apply to Handling of correspondence and market registers
CO4	Experiment the preparation and play of manuals and charts
CO5	Select the Office staff – Selection- training - Supervision
CO6	Creates Office Accommodation and Environment

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H							H		
	CO2				H						
	CO3		H								
	CO4		M								
	CO5			H							
	CO6						H				
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

Unit I **6**

Introduction – Concept and Importance of Office and Office Management - Office Accommodation and Environment -Reception : Importance, shape and size, control

Unit II **6**

Communication: Feature, classification, barriers - Arrangement and adjustment : Furniture, allotment of seats, chambers, cabins rooms etc .

Unit III **6**

Handling of correspondence and market registers, filling forms and stationery.
Office Machines - Kind of office machines.

Unit IV **6**

Use of machines, installing, handling, maintenance –Manuals and charts- Advantages of office manuals charts - preparation and play of manuals and charts.

Unit V **6**

Office staff – Selection- training - Supervision - span of supervision

TEXT BOOK:

1. Ghosh & Agarwal, Office Management, S.Chand & Company – New Delhi
2. R.S.N. Pillai, Bagavathi, Office Management, S.Chand & Company – New Delhi,2013
3. Dr.R.K. Chopra, Priyanka Gauri Office Management, Himalaya Publishing House, 2017

REFERENCE BOOKS:

1. G.S. Sudha, General Management, Pustak Prakashan, New Delhi
2. Rajendra paul, Modern Communication & Techniques , S.Chand & Company – New Delhi

Course Coordinator **HOD**

U18SEBC007	RETAIL MARKETING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Dr. M. Sankar,Commerce				

COURSE OBJECTIVES :-

- To familiarize the functions and types of Retailing.
- To impart knowledge on Retail consumer behavior and its types.
- To expose the student on promoting sales, public relation and advertising.

COURSE OUTCOMES (COs)	
CO1	Underline the Characteristics - Functions of retailing - Types of Retailing
CO2	Express the - Retail Consumer buying behavior and types
CO3	Schedule the Retail Organization Structure
CO4	Categorize to Factors affecting store lay out
CO5	Assess the Sales promotion - Advertising

CO6	Creates the Retail Marketing Mix										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	M	H						H		
	CO2		H	H		M					
	CO3	H					M				
	CO4		H								
	CO5	H	H	M							
	CO6	H	M					M			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT-I **6**

Retailing – Definition – Importance – Characteristics - Functions of retailing - Types of Retailing

UNIT-II **6**

Retail Marketing Mix - Retail Consumer buying behavior and types – Segmentation - Types of segmentation

UNIT-III **6**

Retail Organization Structure-Major Functional Areas-Careers in Retailing

UNIT-IV **6**

Store layout-Types of lay out-Factors affecting store lay out

UNIT-V **6**

Sales promotion - Advertising - Public Relation - Personal selling

TEXT BOOKS:

1) George E.Belch and Michael A.Belch, Advertsing and Promotion, McGraw Hill Company
2) Ronald, Karen Whitehill king,and J.Thomas Russell, Kleppner's Advertising Procedure, Pearson Education International, Prentice Hall
3) Prashant Chaudhary ,Retail Marketing in the Modern Age ,First Edition Saga Publication 2019

REFERENCE BOOKS:

1) Malcolm Sullivan, Denn's Adcock, Retail Marketing, S.Chand Publishers, 2002.
2) Gupta, Advertising and Sales Promotion, EPHPublisher
3) Sarangi, Advertising and Sales Promotion, AsianBooks

Course Coordinator **HOD**

U18SEBC008	**SALESMANSHIP AND ADVERTISING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Ms. S.Binapani/ Commerce & Economics				

COURSE OBJECTIVES :-

- To understand the importance, role, objective of advertising.
- To impart knowledge on importance of salesmanship
- To analyze the types of advertising and its benefits

COURSE OUTCOMES (COs)

CO1	Repeat theNature-Objectives and Scope of Advertising.
CO2	Explain the Types of Advertising-Commercial and Non-Commercial Advertising
CO3	Interpret to Media selection-measuring advertising effectiveness
CO4	Correlate the trainingand compensating sales men
CO5	Judge the Qualities and Responsibilities of sales managers
CO6	Design the types of sales organization - Sales management job

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**

2	CO1	H	H						H		
	CO2	H									
	CO3		M								
	CO4	H		M							
	CO5										
	CO6	H	H								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT-I **6**

Definition-Importance-Role of Advertising-Nature-Objectives and Scope of Advertising

UNIT-II **6**

Types of Advertising-Commercial and Non-Commercial Advertising-Primary demand and selective demand advertising

UNIT-III **6**

Advertising-benefits and criticism-Media selection-measuring advertising effectiveness

UNIT-IV **6**

Introduction to the salesmanship-Importance of salesmanship-training and compensating sales men

UNIT-V **6**

Qualities and Responsibilities of sales managers -Types of sales organization - Sales management job

TEXT BOOKS:

1. George E.Belch and Michael A.Belch, Advertsing and Promotion, McGraw Hill Company
2. Ronald, Karen Whitehill king,and J.Thomas Russell, Kleppner's Advertising Procedure, Pearson Education International, Prentice Hall.
3. P. Saravanavel & S. Sumathi, advertising and salesmanship Margham publications,

REFERENCE BOOKS

1) Sarangi, Advertising and Sales Promotion, Asian Books
2. Gupta, Advertising and Sales Promotion, EPH Publisher
3.A Handbook of Human Resource Management Practice 2012.

Course Coordinator **HOD**

U18SEEN001	SOFT SKILLS	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Mrs.B.CAROLINE– Dept of English				

COURSE OBJECTIVES :-	
To impart students with the efficient knowledge of important events in through soft skills.	
COURSE OUTCOMES (COs)	
CO1	Remember the personal as well as professionals goals of the students
CO2	Understand the manners during professional meetings
CO3	Apply the right reasons of stress
CO4	Analyze the importance of communication skills
CO5	Evaluate the excellence in both personal and professional life
CO6	Create the Growth & development of soft skills

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L								

	CO2	H	L						H		
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT I Soft Skills **6**

Introduction to soft skills
Types of soft skills
Developing positive attitude, forming values and self confidence

UNIT II Interpersonal skills **6**

Developing interpersonal relationship, team building, table manners, organizing meetings, stress and time management

UNIT- III Communication Skills 6

Types of communication
Art of listening
Art of reading
Art of writing
Art of speaking

UNIT IV Corporate Skills **6**

Presentation skills, developing body language, practicing etiquette, and mannerism, dress for success

UNIT V Placement Skills **6**

Personal interviews, writing resume/ CV- interviews skills career planning, public speak in motivation skills and personality

Text books

1.S.P.Danavel, English and Communication for Students of Science and Engineering.
2.Murali Krishna Moishra, Communication Skills for Engineers.

Reference

1. Developing the leader within you john C. Maxwell.
2. Meena. K and V. Ayothi (2013) A Book on development of soft skills (soft skills: A road map to success), P.R. publishers & Distributors, no. B-20&21,v.m.m. complex, Chatiram bus stand, tiruchirappalli.-620002

U18SESC001	**COMPUTER APPLICATION**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- N.Mathimagal & BCA				

COURSE OBJECTIVES:-

The learner will have the knowledge about the basic operations of a computer system, computer applications software, input, and output and storage devices.

COURSE OUTCOMES (COs)	
CO1	Define the Characteristics, History, Classification, Personal Computers and Applications.
CO2	Demonstrate understanding of the basic operations of a computer system.
CO3	Explain the principles of operations of computer systems used in a particular application, specifically in terms of the systems' hardware and software components.

CO4	Discuss the various types of Processors, Input and Output devices, OS & DOS command.
CO5	Identify the suitable Storage Devices and Software's to solve the problem.
CO6	Use computer applications software to solve problems.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L						H		
	CO2	H	L								
	CO3	H	-								
	CO4	H	L								
	CO5	M	-								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Brief History of Development of Computers, Computer System Concept, Computer System Characteristics, Capabilities and Limitations, Types of Computers-Personal Computer (PCs) - IBM PCs, Types of PCs- Desktop, Laptop, Notebook, Palmtop, etc. Basic Components of a Computer System - Control Unit, ALU, Input/ Output Unit- Memory, Storage Fundamentals - Primary Vs Secondary memory.

UNIT II **6**

Input Devices: Keyboard, Mouse, Joystick, Scanners, Digital Camera, MICR,OCR, OMR, , Light pen, Touch Screen.

UNIT III6

Output Devices: Monitors - Characteristics and types of monitor, Size, Resolution, Refresh Rate,

Dot Pitch, Video Standard - VGA, SVGA, XGA etc. Printers - Daisy wheel, Dot Matrix, Inkjet, Laser. Plotter, Sound Card and Speakers.

UNIT IV6

Various Storage Devices - Magnetic Disks, Hard Disk Drives, Floppy, Disks, Optical Disks

UNIT V 6

Computer Software, Need, Types of Software - System software, Application software System Software - Operating System, Compiler, Assemblers, Interpreter.

TEXT BOOKS

1. John Villamil, Casanova, Louis Molina, "An introduction tomultimedia".
2. Mohammad Dastbaz, "Designing Interactive MultimediaSystems".
3. "Multimedia: Making it Work" , Tay Vaughan, Ninth Indian Edition.

REFERENCE BOOKS

1. Stephen McGloughlin, "Multimedia on theweb".
2. "Fundamentals of Multimedia", Pearson Education International.
3. "Multimedia: Computing Communications & Applications", Ralf Steinmetz, Pearson Education.
4. Bohdan O. Szuprowicz, "MultimediaNetworking".

CourseCoordinator **HOD**

U18SESC002	**MULTIMEDIA**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- N.Mathimagal & BCA				
COURSE OBJECTIVES:- The learner will have the knowledge about the principles of different types of media and able to identify the proper applications of multimedia, how multimedia can be used in various application areas, and evaluate the appropriate multimedia systems and develop effective multimedia applications.					
COURSE OUTCOMES (COs)					
CO1	Gain knowledge of basic concepts of multimedia				
CO2	Analyze the multimedia application problems.				
CO3	Discuss the Video capturing, Sound capturing, editing concepts.				

CO4	Identify the basic multimedia design principles.
CO5	Demonstrate the multimedia system and Design Process
CO6	Test real time application using a multimedia concept.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO 2	PSO3
2	**CO1**	**H**	**L**						H		
	CO2	**M**	**L**								
	CO3	**H**	**-**								
	CO4	**H**	**L**								
	CO5	**M**	**L**								
	CO6	**H**	**L**								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Multimedia Fundamentals: Concept of multimedia, Fundamental criteria for the design of a multimedia presentation, Multimedia Application Goals & Objectives, opportunities in multimedia production.

UNIT II **6**

Role of multimedia-development of team members, avoiding problems in planning a multimedia application.

UNIT III **6**

Multimedia Building Blocks: Text, Graphics, Video capturing, Sound capturing, editing.

UNIT IV **6**

Basic design principle: proximity, visual hierarchy, Symmetry, Asymmetry, Repetition, unity, Contrast, dynamics, Emphasis, Multimedia Authoring tools.

UNIT V **6**

Design, Development and evaluation of multimedia a system, Development of user interface design, Design Process.

TEXT BOOKS

1. John Villamil, Casanova, Louis Molina, "An introduction tomultimedia".
2. Mohammad Dastbaz, "Designing Interactive MultimediaSystems".
3. "Multimedia: Making it Work" , Tay Vaughan, Ninth Indian Edition.

REFERENCE BOOKS

1. Stephen McGloughlin, "Multimedia on theweb".
2. "Fundamentals of Multimedia", Pearson Education International.
3. "Multimedia: Computing Communications & Applications", Ralf Steinmetz, Pearson Education.
4. Bohdan O. Szuprowicz, "MultimediaNetworking".

CourseCoordinator **HOD**

U18SESC003	**ADVANCED EXCEL**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Ramya & BCA				

COURSE OBJECTIVES: -

Learners able to understand the basic concept of excel and use various functions in Excel Sheet.

COURSE OUTCOMES (COs)	
CO1	Identify the different components of the Excel worksheet
CO2	Construct formulas to manipulate numeric data in an Excel Worksheet
CO3	Change the appearance of an Excel spreadsheet

CO4	Use the functions that are stored in Excel.
CO5	Differentiate between formulas and functions in Excel.
CO6	Access and manipulate data using the database functions of Excel.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO 2	PSO3
2	**CO1**	H	-						H		
	CO2	H	L								
	CO3	M	-								
	CO4	M	-								
	CO5	H	L								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Uses of Advance Excel Formulas -VLOOKUP, HLOOKUP, SUMIF, SUMIFS, SUMPRODUCT, DSUM, COUNTIF, COUNTIFS, IF, IFERROR, ISERROR, ISNA, ISNUMBER, ISNONTEXT, OR, AND, SEARCH, INDEX, MATCH etc

UNIT II **6**

Various Methods and Uses of IF Conditions , Usage of "IF" Conditions? , Creation of Multiple IF Conditions in One Cell , Use the IF Conditions with the Other Advance Functions, How to use nested IF statements in Excel with AND, OR Functions Sorting, Data Forms, Adding Data Using the Data Form, Finding Records Using Criteria

UNIT III **6**

Filtering Data, AutoFilter, Totals and Subtotals, Row, Various Methods of Filter and Advance Filter options , Creating and Updating Subtotals , Various Method of Sorting Data ,Creating, Formatting and Modifying Chart.

UNIT IV **6**

Customizing the Quick Access Tool Bar , Managing Windows ,Multiple Windows , Splitting Windows.

UNIT V **6**

Various Methods and Options of Pivot Table, Using the Pivot Table Wizard, Changing the Pivot Table Layout, Subtotal and Grand total Options, Formatting, and Grouping items

TEXT BOOKS:

1. Jordan Goldmeler, "Advanced Excel Essentials" ,APress, 2015 edition.
2. Excel Basics Book by Ian Lamont.
3. Excel for Beginners – M.L. Humphery.

REFERENCE BOOKS:

1. John Walkenbach, "Microsoft Excel 2013 Bible",Wiley Publications,2013.
2. Excel Formulas and Functions For Dummies Book by Ken Bluttman and Peter G. Aitken.
3. Advanced Excel Essentials Book by Jordan Goldmeier.
4. Excel 2019 Bible Book by John Walkenbach, Michael Alexander, and Richard Kusleika

CourseCoordinator **HOD**

U18SESC004	**WEB DESIGNING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Ramya & BCA				

COURSE OBJECTIVES: -

To gain knowledge in basic web designing concepts.

COURSE OUTCOMES (COs)	
CO1	Definethe web basics and server side scripting.
CO2	Execute the HTML coding and linking process.

CO3	Analyze the hyperlinks and special characters.
CO4	Relate the Embedded Style Sheets & Linking External Style Sheets.
CO5	Use the backgrounds and user style sheets.
CO6	Test real time application using web designing concept.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L							H	
	CO2	M	L								
	CO3	H	-								
	CO4	H	-								
	CO5	H	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I6

Introduction - The Internet in Industry and Research - Evolution of the Internet and World Wide Web - Web Basics – Client Side Scripting versus Server Side Scripting.

UNIT II 6

Introduction – First HTML example – Headings – Linking - Images, alt Attribute, Void Elements.

UNIT III6

Using Images as Hyperlinks-Special Characters and Horizontal Rules – Lists – Tables.

UNIT IV 6

Introduction - Inline Styles - Embedded Style Sheets - Linking External Style Sheets

UNIT V6

Backgrounds - Element Dimensions - Box Model and Text Flow - Drop-Down Menus - User Style Sheets.

TEXTBOOKS:

1. Paul Deitel, Harvey Deitel, Abbey Deitel, "Internet & World Wide Web: How To Program", 5th Edition, Pearson Publication, 2012.

REFERENCE BOOKS:

1. Jennifer Niederst Robbins, "Learning Web Design", Fourth Edition, O'Reilly Media, 2012.
2. Thomas Michaud, "Foundations of Web Design, Introduction to HTML & CSS", Pearson Publication, 2014.
3. Bayross, "Web Enable Commercial Application Development Using HTML, DHTML, JavaScript, Perl CGI", BPB Publications.
4. T. A Powell, "Complete Reference HTML (Third Edition)", TMH, 2002.

CourseCoordinator **HOD**

U18SESC005	**PHOTOSHOP**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Brindha & BCA				
COURSE OBJECTIVES: - Learners can apply methods to specific 3D Images and to identify various designs appropriate for Animation.					
COURSE OUTCOMES (COs)					
CO1	Gain knowledge to Create and save Images in fundamental computer applications				

CO2	Define the title bar, menu bar, option bar, image title bar in photo shop program.
CO3	Examine Zooming & Panning an Image while Working with Images.
CO4	Analyze Color manipulations & Working with Toolbox
CO5	Compare the Working with layers.
CO6	Relate real time application using 3D image and Animation.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PS O1	PS O2	PS O3
2	**CO1**	H	-						H		
	CO2	H	L								
	CO3	M	-								
	CO4	H	L								
	CO5	H	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Introduction to Adobe photoshop, Getting started with photoshop, creating and saving adocument in photoshop, page layout and background.

UNIT II **6**

Photoshop program window-title bar, menu bar, option bar, image window, image title bar, status bar, ruler, palettes,toolbox, screen modes, saving files, reverting files, closing files.

UNIT III6

Images: working with images, image size and resolution, image editing, color modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids-Cropping & Straightening an Image, image backgrounds, making selections.

UNIT IV6

Working with toolbox: working with pen tool, save and load selection-working with erasers- working with text and brushes-Color manipulations: color modes- Levels – Curves - Seeing Color accurately - Patch tool

UNIT V **6**

Layers: Working with layers- layer styles- opacity-adjustment layers.

TEXTBOTEXT BOOKS

1. Reema Thareja , “Fundamentals of Computers”, Oxford University Press.
2. Photoshop: Beginner's Guide for Photoshop - Digital Photography, Photo Editing, Color
3. Adobe Creative Team, “Adobe Photoshop Classroom in a Book”.

REFERENCE BOOKS

1. Adobe Creative Team, “Adobe Photoshop Classroom in a Book”.
2. Adobe Photoshop CC For Dummies.
3. Adobe Photoshop CC for Photographers 2018.
4. Photoshop CC Essentials for Photographers.

CourseCoordinator **HOD**

U18SESC006	FLASH	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Brindha & BCA				

COURSE OBJECTIVES: -

Learners can identify methods appropriate for Basic Animation and apply methods to design with flash.

COURSE OUTCOMES (COs)

CO1	Define working with flash, drawing with flash using Animation tools and Mixer.
CO2	Classify working with multiple objects, importing color palettes
CO3	Analyze Basic animation and working in the timeline,
CO4	Identify Frames, key frames, deleting, copying and reversing frames
CO5	Organize the Shape tweening and shape hinting in motion
CO6	Apply methods to design with flash

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	M	-								
	CO5	H	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Working with flash, drawing with flash, drawing with the pencil, modifying lines, drawing with the pen, the oval and rectangle tools, free transform tool, envelope modifier, the brush tool, using the mixer.

UNIT II **6**

Adding custom colors to color palette, importing color palettes, working with multiple objects, grouping objects.

UNIT II **6**

Basic animation and working in the timeline, the timeline, movie properties.

UNIT IV **6**

Frames vs. key frames, deleting, copying, and reversing frames, frame-by-frame vectoranimation, Animation on an image.

UNIT V **6**

Shape tweening , shape hinting , Shape tweening text , edit multiple frames , animating gradients, basic motion tweening.

TEXT BOOKS:

1. Nick Vandome ,"FLASH 5 in easy steps", ,Dreamtech press,2001
2. Tattoo Lettering Book Reference Flash Book (Volume 2) Spiral-bound – jan 2001 by Various Artists
3. The Flash Book: How to fall hopelessly in love with your flash, and finally start taking the type of images you bought it for in the first place Kindle Edition by Scott Kelby-2013

REFERENCE BOOKS:

1. E A Vander Veer &Chris Graver, "Flash CS3",Orelly Publications,2009.
2. Nick Vandome ,"FLASH 5 in easy steps", ,Dreamtech press,2010
3. Thiagharajan and Anbumani, "Flash MX 2004", Tata McGraw Hill, NewDelhi.
4. Laurie Ulrich Fuller and Robert C. Fuller, "Photoshop CS3 Bible", Willey India Pvt.Ltd.2017.
5. V. K. Jain, "Multimedia and Animation Paperback", 1st Edition, 1 January 2019.

CourseCoordinator **HOD**

U18SESC007	**COMPUTER HARDWARE AND NETWORKING**	**L**	**T**	**P**	**C**

	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi / CS				

COURSE OBJECTIVES :-

Learners familiar with the basic concepts of Microprocessor, Controller, Server and to demonstrate the traditional imperative design of CPUs, cards, PCs and BIOS.

COURSE OUTCOMES (COs)

CO1	Define the structure of Micro Processor and PCs and CPUs
CO2	State the structure of PC architecture and the study of various PCs
CO3	Describe the basics of Processor
CO4	Study the CPU, Chips, Processor and Controllers
CO5	Examine the working of Internal Components cards and Higher Level Processor
CO6	Relate the Backups, Switches Routers, BIOS, Floppy Disk and zip Driver

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	**CO1**	H	-						H		
	CO2	H	L								
	CO3	H	L								
	CO4	M	-								
	CO5	H	L								
	CO6	M	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Microprocessor System - Introduction of System overview, Introduction to Processors, Memory Interfacing, Interfacing I/O Devices, Interfacing Data Converters, Display Interface, Serial I/O and Data Communication, Higher level Processors.

UNIT II **6**

Introduction to PC Architecture Study of PC-AT/ATX System, Pentium, Core, Core 2 Cord, Core 2 Duo, I3, I5, I7.

UNIT III **6**

Processor Basics of Processor and CPU Block Diagram of Computer and Computer Generation Motherboards, Chipset and Controllers, BIOS and the Boot Process, Computer Memory.

UNIT IV **6**

Internal Components IDE and SATA Devices: Hard Disk Drive and CD/DVDs Drives, SCSI Devices, Floppy Disk, Zip Drive, Backup Drive, Expansion Cards- LAN Card, IDE Card , VGA and SVGA Cards, Sound Card, Interface Cards, I/O cards, Video Cards, USB Card, Fire-Wire Cards, Internal Ports, Cables and Connector Types.

UNIT V **6**

Introduction of Network Cable like UTP, STP, Fiber Optics, Hub, Unmanageable Switch, Manageable Switch, Router, Modem, Wi-Fi, Access Point, PCI Wireless Card, USB Wireless Device, Print Server, USB Network Sharer, Backup Device, Server Hardware etc.

TEXT BOOKS

1. Ramesh Gaonkar, "Microprocessor Architecture Programming and Application with the 8085", Penram International Publication.
2. Troubleshooting, Maintaining and Repairing PCs Stephen J Bigelow Tata MCGraw Hill Publication 2004
3. Computer Networks Andrew S.Tanenbaum Prentice-Hall of India, New Delhi 2002

REFERENCE BOOKS

1. M.L. Gupta, "Electronics and Radio Engineering", Dhanpat rai & Sons, New Delhi.
2. B. Govinda rajalu, "PC AND CLONES Hardware, Troubleshooting and Maintenance", Tata Mc-graw-Hill Publication.
3. Stephen J. Bigelow, "PC Troubleshooting and Repair", Dream tech Press, New Delhi.
4. Data Communication and networking Behrouz A.Forouzan Tata Mc-Graw Hill, New Delhi 2006
5. Data and Computer Communications William Stallings Prentice-Hall of India Eighth Edition.

Course Coordinator **HOD**

	COMPUTER PROGRAMMING	L	T	P	C

	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi/ CS				

COURSE OBJECTIVES :-

Learners will be familiar with the programming language C, Algorithm, and Design the flowchart and implement the programs using the concept such as Functions, Pointers and Strings.

COURSE OUTCOMES (COs)

CO1	Apply and Write the clear, structure and Looping of elementary C programs.
CO2	Explain algorithmic thinking and apply it to programming.
CO3	Describe problem-solving techniques.
CO4	Ability to use C with Various operators Expressions and Decision making control.
CO5	Write Code using Arrays with single dimensions, Two dimensions and Multidimensional and Various Strings operations
CO6	Examine programs using Functions, Pointers, Structures and Union

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	**CO1**	H	-						H	
	CO2	H	L							
	CO3	H	L							
	CO4	H	-							
	CO5	M	L							
	CO6	H	-							

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Generation and Classification of Computers, Basic organization of a Computer, Number System, Binary, Decimal, Conversion, Problems.

UNIT II **6**

Algorithm, Pseudo code, Flow Chart, Problem formulation, Problem solving , Introduction to "C" programming, Fundamentals, Structure of C Program , compilation and linking processes, Constants, Variables, Data Types.

UNIT III **6**

Expressions using operators in C, Managing input and output operations, Decision making and Branching, Looping Statements.

UNIT IV **6**

Arrays, Initialization, Declaration, One Dimensional and Two Dimensional Arrays, String, String Operations, String Arrays.

UNIT V **6**

Function, Definition of Function, Declaration of Function, Recursion, pointers, pointer and arrays, Structure data type, Structure definition, Structure declaration, Structure within a structure, Union, Storage classes, Pre-processor directives.

Text Books

1. Anita Goel and Ajay Mittal, "Computer Fundamentals and programming in C", Dorling Kindersley (India) Pvt Ltd., Pearson Education in South Asia 2011.
2. PradipDey, ManasGhosh, "fundamentals of computing and programming in c", First edition, Oxford University Press, 2009.
3. Yashavant P. Kanethar, "Let Us C", BPB Publications, 2011.

Reference Books

1. Byron S Gottfried," Programming with C",Schaum'sOutlines,2nd Edition,Tata McGraw-Hill 2006.
2. Dromey R.G., "How to Solve it by Computer", Pearson Education, Fourth Reprint, 2007.
3. Kernighan., B.W and Ritchie, D.M, " The C Programming Language", Second Edition, Pearson Education, 2006.

Course Coordinator **HOD**

U18SESC009	**OFFICE AUTOMATION TOOLS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi / CS				

COURSE OBJECTIVES :-

Learners will create an awareness among the application of computers and information technology.

COURSE OUTCOMES (COs)	
CO1	State the basic skills and practices for MS –DOS.
CO2	Gain the knowledge of MS WORD.
CO3	Analysis the power point presentation concepts.
CO4	Discuss the EXCEL and formula processing.
CO5	Use the PowerPoint template.
CO6	Applying the computer excel formula.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	**CO1**	H	L						H		
	CO2	H	-								
	CO3	M	-								
	CO4	M	-								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Text Manipulations- font size, style, color. Alignment- left, right and justify, paragraph alignment, Usage of Numbering, Bullets, Footer and Headers, Usage of Spell check, and Find & Replace, Text Formatting, Picture insertion and alignment.

UNIT II **6**

Insertion – Table, chart, clip art, shapes, borders. Creation of documents, saving of documents, using templates, Creation templates, Mail Merge Concepts, Copying Text & Pictures from Excel.

UNIT III **6**

Creating of Excel sheet, Cell Editing, Usage of Formulae and Built-in Functions, File Manipulations, Data Sorting, Worksheet Preparation, Drawing Graphs, Usage of Auto Formatting.

UNIT IV **6**

Start power point, Create blank presentation, Selecting slide layout , Insert new slide, Editing presentation , Designing and formatting presentation , Change font, font color, size, style of text, Bullet and numbering, Slide design, layout, change background , preparing slide show presentation.

UNIT V **6**

Inserting Clip arts and Pictures, Frame movements, Insertion of new slides.Preparation of Organization Charts, Presentation using Wizards, Usage of design templates, working with tables, graphics and animation, working with graphs and organization charts.

TEXT BOOKS:

1. Joyce Cox, Joan Lambert and Curtis Fryc, “Step by Step Microsoft Office Professional 2010”, Microsoft press edition.
2. Ralph T.Reilly, “The Handbook of Office Automation”, iUniverse Publications,2012.
3. Learning of MS –Office 2007 – Ramesh Bangia
4. 2007 Microsoft Office System and Your Windowsbased PC – Window Vista
5. Microsoft Office Professional 2010 Step by Step Paperback – 1 January 2010 by Cox Et Al

REFERENCE BOOKS:

1. Microsoft office word 2007 Torben large frandsen
2. Microsoft office word 2008 Stephen moffat
3. Microsoft office word 2010 Advance – Gay B.Shelly
4. Microsoft Office 2010 by Bittu Kumar

Course Coordinator **HOD**

U18SEMA001	**QUANTITATIVE APTITUDE – I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Number Series with its applications.
CO2	Understand the concept of Data Interpretation
CO3	Apply suitable algorithms in Loss & Discount
CO4	Analyze the Rates, Time and Distance
CO5	Evaluate problems Simple Interest
CO6	Create an real time application compounds and mixtures

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	
4	Approval		Academic Council Meeting							

UNIT I NUMBER SYSTEM **6**

Numbers, Number Series, Number Theory, Arithmetic & Geometric Ratio

UNIT II STATISTICS **6**

Average, Ages, Data Interpretatio

UNIT III PERCENTAGE AND APPLICATIONS **6**

Percentage, Profit, Loss & Discount, Simple Interest, Compound Interest

UNIT IV TIME **6**

Rates, Time and Distance, Train Problems, Boats and Streams, Time and Work.

UNIT V RATIO AND PROPORTION **6**

Allegations of compounds and mixtures.

Text Books:

1. Aggarwal.R.S(2018) “Quantitative Aptitude” by, S.Chand Publications.
2. Aggarwal.R.S(2018) “A modern approach to Logical approach” by, S.Chand Publications.
3. Abhijit Guha, (2014) “Quantitative Aptitude for competitive examinations” by Tata McGraw-HillPublications.

Reference Books:

1.Abhijit Guha, “Quantitative Aptitude”- Mc Graw Hills Publishers.
2. Aggarwal.R.S(2018) “A modern approach to Logical approach” by, S.Chand Publications.
3. RS Aggarwal, (2018) “A Modern Approach to Verbal & Non-Verbal Reasoning”,S. Chand Publications.

CourseCoordinator **HOD**

U18SEMA002	QUANTITATIVE APTITUDE – II	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Inverse, Compound equation.
CO2	Understand the circular arrangement.
CO3	Apply suitable direction of Permutations and combinations test.
CO4	Analyze the Heights and Distance
CO5	Evaluate problems on Simple Interest
CO6	Create a real time application of Date and time.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	
4	Approval		Academic Council Meeting							

UNIT I SOLVING ABILITY **6**

Simple equations –Variation-Direct, Inverse, Compound

UNIT II PROBABILITY **6**

Problems on Linear and circular arrangement.

UNIT III REASONING ABILITY **6**

Coding and decoding – Direction Permutations and combinations test- Lateral reasoning-Blood relations-Paragraph based puzzles.

UNIT IV TRIGONOMETRY **6**

Heights and Distance.

UNIT V CLOCKS AND CALENDERS **6**

Interpretation of Date and time.

Text Books:

1. Aggarwal.R.S(2018) “Quantitative Aptitude” by, S.Chand Publications.

2. Aggarwal.R.S(2018) “A modern approach to Logical approach” by, S.Chand Publications.

3. Abhijit Guha, (2014) “Quantitative Aptitude for competitive examinations” by Tata McGraw-HillPublications.

Reference Books:

1.Abhijit Guha, “Quantitative Aptitude”- Mc Graw Hills Publishers.

2. Aggarwal.R.S(2018) “A modern approach to Logical approach” by, S.Chand Publications.

3. RS Aggarwal, (2018) “A Modern Approach to Verbal & Non-Verbal Reasoning”,S.Chand Publications.

CourseCoordinator **HOD**

U18SEMA002	REGRESSION ANALYSIS WITH SPSS	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Ms.S.Kavitha /Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge Qualitative Variable on Nominal Scale, Ranked.
CO2	Understand the Deleting and Rearranging Items from the Viewer
CO3	Apply suitable direction Permutations and combinations test.
CO4	Analyze the Pie Chart, Scatter Plot and Dot plots
CO5	Evaluate data questionnaire Analysis
CO6	Create an real time application and test of hypotheses

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	
4	Approval		Academic Council Meeting							

Unit 1: Introduction **6**

Observations and Variables, Quantitative or Measurement Variable on Interval Scale, Qualitative

Variable on Nominal Scale, Ranked Variable on Ordinal Scale.

Unit 2: SPSS Data File **6**

Opening a Data File in SPSS – Variable View, Data View, Entering Data into the Data Editor, Saving the Data File. Editing and Manipulating Data: Inserting a New Variable, Rearranging the Order of

Variable in the Variable View, Deleting and Rearranging Items from the Viewer. Usage of Data, Transform, Analyse and Graphs menus – Editing and copying and printing SPSS output – Importing Data from Excel File.

Unit 3:Descriptive Statistics with SPSS 6

Charts and Graphs: Simple Bar charts, Pie Chart, Scatter Plot and Dot plots, Line graphs, Histogram.

Unit 4: Correlation and Regression Analysis with SPSS 6

Simple correlation (Karl Pearson's Method) - Rank correlation (Spearman's method) – Simple linear regression equation, Scatter plot and line of best fit – Questionnaire Analysis (Uni-variate and Bi-variate tables) – Chi square test with SPSS for independence of Attributes.

Unit 5: correlation and Testing of Hypothesis 6

Partial and multiple correlation coefficients. Simple linear regression model: Description of data model - Estimation and test of hypotheses.

Books for Study:

1. Ananthi Sheshasayee and Sheshasayee, G, (2003), Computer Applications in Business and Management, Margham Publications, Chennai.

2. Rajathi, A. and Chandran, P. (2010), SPSS for you, MJP Publishers, Chennai.

3. Chatterjee, S and Price, B (1977), Regression Analysis by Example, John Wiley and Sons,

New York

4. Kapoor, V. K and Gupta, S. C (2002), Fundamentals of Mathematical Statistics, Sultan

Chand and Sons, New Delhi.

Books for Reference:

1. Singh, V. P. and Singh, M. (1998), MS-Excel, Megabyte Series, Asian Publishers, New Delhi.

2. Andy Field (2006), Discovering Statistics Using SPSS, SAGE Publications, London.

3. Johnston, J (1972), Econometric Methods, McGraw-Hill Pvt. Ltd, New York.

4. Draper, N. R and Smith, H (1998), Applied Regression Analysis, 3rd edition, John Wiley and Sons, USA.

CourseCoordinator HOD

CURRICULUM & SYLLABUS- B.Sc- Microbiology
(Applicable to the batches admitted from July 2018)

I SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA101	Tamil-I	5	3	0	0	3
		U18HSHI101	Hindi-I	5				
		U18HSFR101	French-I	5				
2.	HS	U18HSEN102	English-I	5	3	0	0	3
3.	MC	U18MCMI101	Core I- Fundamentals of Microbiology	5	3	1	0	4
4.	MC	U18MCMI102	Core II- Cell Biology	5	3	1	0	4
5.	NC	U18NCMI103	Genetics	5	3	1	0	4
	PRACTICAL							
6.	MC	U18MCMI1L1	Core III- Basic Microbiology Lab I	4	0	0	4	2
Total				30	15	3	4	20

II SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA201	Tamil-II	4	3	0	0	3
		U18HSHI201	Hindi-II	4				
		U18HSFR201	French-II	4				
2.	HS	U18HSEN202	English-II	4	3	0	0	3
3.	MC	U18MCMI201	Core IV- Microbial Physiology	5	3	1	0	4
4.	MC	U18MCMI202	Core V- Medical Bacteriology	4	3	1	0	4
5.	NC	U18NCMI203	Biochemistry	5	3	1	0	4
6.	HS	U18HSCH201	Environmental Studies	2	2	0	0	2

7.	HS	U18HSBC202	Value Education	2	2	0	0	2
PRACTICAL								
8.	MC	U18MCMI2L1	Core VI- Biochemistry Lab	4	0	0	4	2
Total				30	19	3	4	24

III SEMESTER

S.No.	**CATEGORY**	**SUB. CODE**	**SUBJECT**	**Total Contact H**	**L**	**T**	**P**	**C**
THEORY								
1.	HS	U18HSTA301	Tamil-III	5	3	0	0	3
		U18HSHI301	Hindi-III	5				
		U18HSFR301	French-III	5				
2.	HS	U18HSEN302	English-III	5	3	0	0	3
3.	MC	U18MCMI301	Core VII- Enzymology	4	3	1	0	4
4.	MC	U18MCMI302	Core VIII- Soil and Agricultural microbiology	4	3	1	0	4
`5.	NC	U18NCMI303	Microbial Diversity	4	3	1	0	4
6.	NME	U18NETA301	Basic Tamil – I, for those who studied other language under Part I	2	2	0	0	2
	NME	U18NETA302	Special Tamil – I, for those who studied Tamil under Part I	2	2	0	0	2
	PRACTICAL							
7.	MC	U18MCBS3L1	Core IX- Microbiology Lab II	4	0	0	4	2
				30	19	3	4	24

IV SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA401	Tamil-IV	4	3	0	0	3
		U18HSHI401	Hindi-IV	4				
		U18HSFR401	French-IV	4				
2.	HS	U18HSEN402	English-IV	4	3	0	0	3
3.	MC	U18MCMI401	Core X- Clinical Microbiology	5	3	1	0	4
4.	MC	U18MCMI402	Core XI- Molecular biology	5	3	1	0	4
`5.	MC	U18NCMI403	Environmental Microbiology	4	3	1	0	4
6.	NME	U18NETA401	Basic Tamil – II, for those who studied other language under Part I	2	2	0	0	2
	NME	U18NETA402	Special Tamil – II, for those who studied Tamil under Part I	2	2	0	0	2
7.	SE		Skill Based Elective - I	2	2	0	0	2
	PRACTICAL							
7.	MC	U18MCMI4L1	Core XII- Clinical Microbiology Lab	4	0	0	4	2
				30	21	3	4	24

V SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	MC	U18MCMI501	Core XIII- Food Microbiology	5	3	1	0	4
2.	MC	U18MCMI502	Core-XIV-Immunology	5	3	1	0	4
3.	MC	U18NCMI503	rDNA technology	4	3	1	0	4
4.	ME		Major Elective – I	4	4	0	0	4
5.	SE		Skill Based Elective-II	2	2	0	0	2
6.	SE		Skill Based Elective-III	2	2	0	0	2
PRACTICAL								
7.	MC	U18MCMI5L1	Core XV- Food Microbiology Lab	4	0	0	4	2
8.	MC	U18MCMI5L2	Core XVI-Fermentation lab	4	0	0	4	2
Total				30	17	3	8	24

VI SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	MC	U18MCMI601	Core XVII-Fermentation Technology	5	3	1	0	4
2.	MC	U18MCMI602	Core XVIII-Virology, mycology and Parasitology	5	3	1	0	4
3	ME		Major Elective II	4	4	0	0	4
PRACTICAL								
4.	MC	U18MCMI6L1	Core XIX-Immunology Lab	4	0	0	6	3
5.	EEC	U18EEMI6P1	Project	10	0	0	20	10

6.	HS	U18HSSC6L1	Extension Activities	2	0	0	2	1
Total				30	10	2	28	26

LIST OF MAJOR ELECTIVE – I
CHOOSE ANY ONE IN SEMESTER V

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18MEMI011	Major Elective -I: Fundamentals of Microbial Remediation	4	4	0	0	4
2	U18MEMI012	Major Elective -I: Bioinformatics	4	4	0	0	4
3	U18MEMI013	Major Elective -I: Microbial Genetics	4	4	0	0	4
Total			4	4	0	0	4

LIST OF MAJOR ELECTIVE – II
CHOOSE ANY ONE IN SEMESTER VI

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18MEMI021	Major Elective -II: Nanotechnology	4	4	0	0	4
2	U18MEMI022	Major Elective -II: Diagnostic Microbiology	4	4	0	0	4
3	U18MEMI023	Major Elective -II: Biosafety, Bioethics and IPR	4	4	0	0	4
Total			4	4	0	0	4

LIST OF SKILL BASED ELECTIVES
CHOOSE ANY THREE COURSES – ONE IN SEMESTER IV & TWO IN SEMESTER V

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18SEBC001	Business Process Outsourcing – Management	2	2	0	0	2
2	U18SEBC002	Customer Relationship Management	2	2	0	0	2
3	U18SEBC003	Entrepreneurial Development	2	2	0	0	2
4	U18SEBC004	Human Resource Management	2	2	0	0	2
5	U18SEBC005	Marketing Management	2	2	0	0	2
6	U18SEBC006	Office Management	2	2	0	0	2
7	U18SEBC007	Retail Marketing	2	2	0	0	2
8	U18SEBC008	Salesmanship and Advertising	2	2	0	0	2
9	U18SEEN001	Soft Skills	2	2	0	0	2
10	U18SESC001	Computer Application	2	2	0	0	2
11	U18SESC002	Multimedia	2	2	0	0	2
12	U18SESC003	Advanced Excel	2	2	0	0	2
13	U18SESC004	Web Designing	2	2	0	0	2
14	U18SESC005	Photoshop	2	2	0	0	2
15	U18SESC006	Flash	2	2	0	0	2
16	U18SESC007	Computer Hardware and Networking	2	2	0	0	2
17	U18SESC008	Computer Programming	2	2	0	0	2
18	U18SESC009	Office Automation Tools	2	2	0	0	2
19	U18SEMA001	Quantitative and Aptitude Reasoning -I	2	2	0	0	2
20	U18SEMA002	Quantitative and Aptitude Reasoning-II	2	2	0	0	2
21	U18SEMA003	Regression Analysis with SPSS	2	2	0	0	2

FIRST SEMESTER

U18HSTA101	□□□□□ **- I**	**L**	**T**	**P**	**C**
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COURSE OUTCOMES (COs)

CO1	□□□□□□□□□, □□□□□□□□□□, □□□□□□ □□□□□□□□□ □□□□□□□□□□□□□□□ □□□□□□
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CO3	□□□□□□□□□ □□□□□□□□□□ □□□□□□ □□□□□□□□□□ □□□□□□
CO4	□□□□□□□□□ □□□□□□□□□□ □□□□□□□□□□□□□□□□ □□□□□□□□□ □□□□□□
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Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates trength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PS O2
2	CO1	3	3	3	1	3	1	3		
	CO2	3	3	3	2	3	1	3		
	CO3	3	2	2	2	3	1	2		
	CO4	3	3	3	1	3	1	3		
	CO5	3	2	2	2	3	1	2		
	CO6	3	2	3	2	3	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
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4	Approval	47 □□□ □□□□□ □□□□□□□□□ □□□□□□□								

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Course Coordinator **HOD**

U18HSHI101	**HINDI-I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite – Higher Secondary studies				
	Course Coordinator Name & Department: -Ms.Rani Selvan & Hindi				

COURSE OBJECTIVES:-

To understand, read, write and speak Hindi language with grammar

COURSE OUTCOMES (COs)

CO1	Remember the behavior
CO2	Understand the importance of money by story
CO3	Apply the concept of Hindi grammar
CO4	Analyze the usage of translation from English to Hindi
CO5	Evaluate the unseen passage to answer the questions
CO6	Create the knowledge in Hindi Language

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	3	1	1	1	3		
	CO2	3	3	2	2	2	2	3		
	CO3	3	3	2	1	2	1	3		
	CO4	3	3	2	1	1	2	3		
	CO5	3	2	2	1	1	1	3		
	CO6	2	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47th Academic Council Meeting								

UNIT I **9**

Naveen Gadya Chayanika – 2 - Bholaram ka jeev - Mehamaan se Bhagavaan bachaaye - Numberovali Thijori – Kaffan - Gunda

UNIT II **9**

Non Detailed Text: Kahani Kunj - Stories: 6 – 10 only

UNIT III **9**

Grammar: Shabda Vichar only - Noun, Pronoun, Adjective, Verb, Tense, Case Endings - Theoretical & Applied

UNIT IV **9**

Translation - English – Hindi only - Anuvadh Abhyas – III - 1 – 15 Lessons Only

UNIT V **9**

Comprehension - 1 Passage from Anuvadh AbhyAS – III (16 – 30)

TEXT BOOKS:

UNIT-I - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017

UNIT-II - Govind Prakashan, Sadhar Bagaar, Mathura, Uttar Pradesh – 281001 - Editor: Dr V.P. Amithab

UNIT III - Vyakaran Pradeep by Ramdev - Hindi Bhavan, 36, Tagor Town, Allahabad – 211002.

UNIT IV - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017.

UNIT V - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017

Course Coordinator **HOD**

	FRENCH-I	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	**3**	**0**	**0**	**3**
U18HSFR101	Prerequisite – Higher Secondary studies				
	Course Coordinator Name & Department: -Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES:-

To introduce students to basic principles and practice of oral and written communication.

COURSE OUTCOMES (COs)

CO1	To understand the basics of the language
CO2	To analyze the sentence patterns and form the grammar
CO3	To learn the basics of grammar along with its principles
CO4	To remember the anatomy of conjugations
CO5	To create dialogs and conversation on their own within the language & to practice oral and written skills.
CO6	To remember the necessary rules of the language

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	2	1	1	1	3		
	CO2	3	3	3	1	2	1	3		
	CO3	3	3	3	1	3	1	3		
	CO4	3	3	3	1	1	1	3		
	CO5	3	3	3	3	1	1	3		
	CO6	3	3	3	2	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core PC)	Core Elective (CE)	Non-Major Elective NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47th Academic Council Meeting								

UNIT I - Vous comprenez **9**

Alphabets - French Accents - Les Nombres – Pronunciations.

UNIT II Au travail! **9**

Masculine Singular and Feminine singular - Conjugaison des verbes (present tense) -

Les articles définis.

UNIT III En se detend? **9**

Conjugaison (faire-aller-venir-Vouloir-Pouvoir-Devoir)

UNIT IV Racontez-moi **9**

La date et l'heure – les saisons – les couleurs

UNIT V Bon voyage! **9**

Adjectifs demonstratives - Adjectifs possessives - Les Voyages / les transport-Bon appétit!- Article partitif - Emploi des articles - Interrogation (Forme avec inversion) - Les repas - La fête

TEXTBOOK:

1. A1 Echo- J. Girardet, J. Pecheurb Cle Publication.

Course Coordinator **HOD**

U18HSEN102	ENGLISH-I	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Higher Secondary level English				
	Course Coordinator : Mrs.M.Sheeba & Department of English				

COURSE OBJECTIVES:-

To understand the power of knowledge about LRSW(i.e.) listening, reading speaking and writing, and arious forms of literature

COURSE OUTCOMES (COs)

CO1	Remember the authors of the prescribed literature
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarizes the prescribed literature
CO6	Create critical essays by evaluating the literary techniques and devices used

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	3	3	3	3	2	2		
	CO2	2	2	3	3	3	3	2		
	CO3	3	2	2	2	2	2	2		
	CO4	3	3	3	3	3	3	3		
	CO5	2	2	2	2	2	2	2		
	CO6	2	2	3	2	2	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47th Academic Council Meeting								

UNIT-I POETRY **9**

Lucy Gray -William Wordsworth – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; Ulysses -Alfred Lord Tennyson - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; The Road Not Taken – Robert Frost - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis.

UNIT-II – ONE ACT PLAYS **9**

The Boy Comes Home - A.A.Milne – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; The Referee - W.H.Andrews and Geoffrey Dearmer - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT -III SHORT STORIES **9**

The Unicorn in the Garden – James Thurber - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; The Avenger – Anton Chekov - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT IV PROSE **9**

Six Thinking Hats - Edward de Bono – Author Biography - Self analysis technique, Summary; My Early Days - Abdul Kalam - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; I Have a Dream (Speech) - Martin Luther King - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT V **9**

Introduction to Basics of Communication – Definitions – Types – Listening, Speaking, Reading & Writing.

TEXT BOOKS:

1. Six Thinking Hats by Edward de Bono, Little Brown and Company, 1985
2. My Early Days by Abdul Kalam, October 7, 2013

REFERENCE BOOKS:

1. Strings of Gold (Part- II) Edited by Prof. Jasbir Jain (MacMillan), 2007
2. Basic Communication Skills for Technology by Rutherfoord (Dorlig Kindersly), 2007
3. English for Professionals A Practice Book of Communication Skills in English by Dr.Miglani (Vayu Education of India), 2010.

Course Coordinator **HOD**

	FUNDAMENTALS OF MICROBIOLOGY	L	T	P	C
U18MCMI101	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department: - Dr. V. JanakiDevi & Microbiology				

COURSE OBJECTIVES: -

Learners will be familiar with the basics of microbiology concepts. Learners will understand the lassification, characteristics and importance of microbes.

COURSE OUTCOMES (COs)

CO1	Recall the history and scope of basics of Microbiology.
CO2	Recognize the classification of microbes based on physiological characteristics.
CO3	Apply various techniques in microbiology lab maintenance.
CO4	Analyze the microbes based on morphological studies using staining techniques.
CO5	Evaluate the pathogenicity of microorganisms.
CO6	Create the familiarity to identify the microbial diseases and their treatments.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	2	3	2	3		
	CO2	3	2	2	2	2	3	3		
	CO3	3	2	1	3	3	3	3		
	CO4	2	2	1	2	3	3	3		
	CO5	2	2	2	2	3	3	3		
	CO6	2	2	2	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Overview of history of Microbiology - Biogenesis and abiogenesis Contributions of Redi, Spallanzani, Needham, Pasteur, Tyndal, Joseph Lister, Koch [Germ Theory], Edward Jenner and Flemming [Penicillin], General Concepts of Microscopy- Simple and Compound, Fluorescent microscopy and Phase contrast microscopy. Scope of Microbiology and its application.

UNIT II **12**

Classification of microbes - general properties and principles of classification of microorganisms-Numerical taxonomy- Nutritional types (media preparation and examples), classification on the basis of Temp, pH, and Oxygen requirement

UNIT III **12**

Concept of Sterilization and Disinfection – Physical methods of sterilization- dry and moist heat, pasteurization, tyndallisation, radiation, ultrasonication, filtration- Chemical methods of sterilization- Concept of Disinfection sanitization, antisepsis, sterilants and fumigation.

UNIT IV **12**

Staining techniques – Classification of stains, Theories and Mechanism of Gram staining, acid fast staining, Negative staining, Capsule staining, Flagella staining, Endospore staining.

UNIT V **12**

Common pathogenesis of bacteria, fungi and virus (Morphology, Biochemical characters, pathogenicity, treatment and preventive measures).

TEXT BOOKS:

1. Pelczar MJ, Chan ECS and Kreig NR. Microbiology, McGraw Hill, NewYork, 1999.
2. Tortora GJ, Funke BR and Chase CL. Microbiology: An Introduction, 11th Edn., Pearson-Benjamin Cummings, 2000.

REFERENCE BOOKS:

1. Prescott LM, Harley JP and Klein DA. Microbiology, McGraw Hill, New Delhi, 1999.
2. Madigan MT, Martinko, JM and Parker J. Brock's Biology of Microorganisms, 9th ed., Prentice Hall, New Jersey press, 2013.

Course Coordinator **HOD**

	CELL BIOLOGY	L	T	P	C
U18MCMI102	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department: - Dr. V. Janaki Devi & Microbiology				

COURSE OBJECTIVES: -

Learners will be familiar with the basics of Cells and cellular components. Learners will understand he structure, function, types and its culture.

COURSE OUTCOMES (COs)

CO1	Recall the history and fundamental principles of cellular biology.
CO2	Recognize the cellular components and their structure and functions.
CO3	Apply the role of cell organelles in physiology.
CO4	Analyze the cell cycles and growth of cells.
CO5	Evaluate molecular and sub-cellular components of a cell to a framework of heredity and volution.
CO6	Create the familiarity to cancer and cell death.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	3	2	3		
	CO2	3	2	1	1	3	2	3		
	CO3	3	2	2	2	2	3	3		
	CO4	3	2	1	2	2	3	3		
	CO5	3	2	2	3	3	2	3		
	CO6	3	3	3	3	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

An Overview of cells – Origin and evolution of cells- Cell theory, Classification of cells – Prokaryotic cells and Eukaryotic cells- Comparison of prokaryotic and eukaryotic cells Cell cycle – components in cell cycle control – cyclic- CDKs – check points in cell cycle - abnormalities in cell cycle.

UNIT II **12**

Cell Membrane – Fluid mosaic model of membrane structure- Membrane proteins and their properties-Membrane carbohydrates and their role- Transport across membranes – Diffusion - active and passive diffusion.

UNIT III **12**

Endoplasmic reticulum – Types, structure and function- Golgi apparatus – Structure and function-Lysosome– Structure and functions- Morphology and functions of peroxisomes and glyoxisomes-Ribosomes – Types structure and function.

UNIT IV **12**

Nucleus: Structure and function. Chromosomes, chromatin structure- Mitochondria – Structure and functions- Cytoskeleton: Types of filaments and their functions. Microtubules – Chemistry and functions – Cilia and flagella- Cell –cell interactions.

UNIT V **12**

Introduction to Necrosis, Senescence, Apoptosis – Programmed cell death- Mechanism of Apoptosis- Oncogenes – Types of cancer.

TEXT BOOKS:

1. Harvey Lodish, Arnold Berk, Chris A. Kaiser and Monty Krieger. Molecular Cell Biology, 4th ed., WH Freeman and Co, New York, 1999.
2. Cooper, Geoffrey M, Sunderland. The Cell - A Molecular Approach, Sinauer Associates, 2nd ed., Inc, 2000.

REFERENCE BOOKS:

1. Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts, and Peter Walter. Molecular Biology of the Cell, Garland Science publisher, USA, 4th ed, 2002.
2. Gerald Karp. Cell and Molecular Biology: Concepts and Experiments, 4th ed., NCBI mart, 2004.

Course Coordinator **HOD**

U18NCMI103	GENETICS	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department: - Dr. V. JanakiDevi & Microbiology				

COURSE OBJECTIVES: -

Learners will be familiar with the fundamental knowledge on genetics, its laws, genes and hromosomes, inheritance, heredity. Learners will understand the causes of genetic disorders and the nethods of gene transfer.

COURSE OUTCOMES (COs)

CO1	Recall the basics about genes and genetics.
CO2	Recognize the mechanism of genetic materials.
CO3	Apply the different laws of genetics.
CO4	Analyze the role of genetic materials in cells.
CO5	Evaluate the mechanism of gene transfer.
CO6	Create the familiarity about genetic materials and diseases.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	2	3		
	CO2	3	1	1	1	3	2	3		
	CO3	3	2	2	1	3	2	3		
	CO4	3	1	1	2	3	1	3		
	CO5	3	1	2	2	3	1	3		
	CO6	3	2	2	3	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences BS)	Engg Sciences (ES)	Professional Core PC)	Core Elective (CE)	Non-Major Elective NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Classical genetics, Mendelian Laws- Mendel's experiment-monohybrid cross-pheotype, genotype, Dihybrid inheritance, Interaction of genes, Fine structure of Genes.

UNIT II **12**

Chromosome structure and organization in prokaryotes and eukaryotes, Unsusal chromosomes- chromosome banding, chromosome abnormalities- genetic disorders.

UNIT III **12**

Classical concepts of allelomorphism, Multiple alleles, ABO blood groups, Rh factor, sex linkage in Drosophila, linkage in human beings, mechanism of sex determination, XX-XY mechanisms of sex determination, sex determination in Drosophila, environmental factors and sex determination, sex differentiation.

UNIT IV **12**

Coupling and Repulsion-Hypothesis, Test cross in maize and crossing over, theory of crossing over, molecular mechanism of crossing over, sex chromosomes and sex linked inherited disorders, colour blindness, hemophilia, Muscular dystrophy.

UNIT V **12**

Transformation, Tansduction, Conjugation, Plasmids and Episomes.

TEXT BOOKS:

1. Gardener EJ, Simmons MJ and Snustad DP. Principles of Genetics, J. Wiley and Sons Pubs., 1998.
2. Obe G and Natarajan AT. Chromosomal Abberrations: Basic and Applied aspects, Springer Verlag, Berlin, 1990.

REFERENCE BOOKS:

1. Winter PC, Hickey GI, and FletcherHL. Instant notes in Genetics, Viva Books Pvt.Ltd. 2003.
2. Sinha U, Sunita Sinha, and Vikas. Cytogenetics, Plant Breeding and evolution, Publishing House Private, Limited, 1998.

Course Coordinator **HOD**

	BASIC MICROBIOLOGY LAB I	L	T	P	C
U18MCMI1L1	Total Contact Hours – 30	0	0	4	2
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department: - Dr. V. Janaki Devi & Microbiology				

COURSE OBJECTIVES: -

Learners will be familiar with the fundamental knowledge in microbial laboratory techniques. Learners vill understand the microbial characteristics and identification of microbes in disease perspectives.

COURSE OUTCOMES (COs)

CO1	Differentiate the microbes based on morphology.
CO2	Grasp the microscopic observation of microbes.
CO3	Handle various instruments for culturing the microbes in lab.
CO4	Measure the different medium level for exact microbial culture.
CO5	Sketches the results and identifying the microbes.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	3	3		
	CO2	3	3	1	1	2	2	3		
	CO3	3	3	2	1	3	2	3		
	CO4	2	1	2	2	3	1	3		
	CO5	3	1	2	1	2	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences BS)	Engg Sciences (ES)	Professional Core PC)	Core Elective (CE)	Non-Major Elective NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					

4	Approval	Academic Council Meeting

1. Microscopy- light microscopy: principles, parts & function, operation
2. Image analysis of different classes of Microbes.
3. Preparation of Microbial media (Bacteria, yeast, mold, algae, protozoa)
4. Sterilization: principles & operations-Auto clave, Hot air oven, Filtration, Laminar air flow
5. Principles and operations of Incubators and shakers.
6. Principles and operations of Centrifuge.
7. Principles and operations of pH meter
8. Principles and operations of Colorimeter.
9. Principles and operations of Spectrophotometer.
10. Electrophoresis Techniques.

TEXT BOOKS:

1. Josephine A, Morello Paul A, Granato Helen and Eckel Mizer. Laboratory Manual and Workbook in Microbiology. Spiral Bound, Comb press, 1999.
2. Nina Parker. Microbiology Manual, OpenStax CNX,2001.

REFERENCE BOOKS:

1. Moat AG, Foster JW and Spector MP. Microbial Physiology, 4 th Edn., Wiley-Liss Publishers, 2002.
2. James Cappuccino. Microbiology: A Laboratory Manual, 10 ed., Pearson, 2013.

Course Coordinator **HOD**

SECOND SEMESTER

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COURSE OUTCOMES (COs)

CO1	தூது,பள்ளு,குறவஞ்சி என்ற சிற்றிலக்கியங்கள் பற்றி அறிவர்
CO2	சைவ இலக்கியமான தேவாரம், திருவாசகம், அற்புதத்திருவந்தாதிப் பற்றி அறிவர்
CO3	வைணவ இலக்கியமான நாலாயிர திவ்யப் பிரபந்தம் பற்றி அறிவர்
CO4	பௌத்த, இசுலாம், கிறித்துவ சமய இலக்கியங்களைப் பற்றி அறிவர்
CO5	□□□□□□□□□□□□□□□ □□□□□□□□ □□□□ □□□□□□□□ □□□□□□□ □□□□□□ □□□□□□□
CO6	□□□□□□□□□□□□□□□ , □□□□ □□□□□□□□□□ □□□□□□□ □□□□□□□□ □□□□□□□□ □□□□□□□□

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	3	2	3	1	2		
	CO2	3	2	3	2	3	1	2		
	CO3	3	2	3	2	3	1	2		
	CO4	3	2	3	2	3	1	3		
	CO5	3	2	3	2	3	1	2		
	CO6	3	2	3	2	3	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
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இயேசு காவியம் - பாடுகளின் பாதை - கண்ணதாசன்

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1. கதிர் முருகு, "அழகர் கிள்ளைவிடு தூது", சாரதா பதிப்பகம், 2011
2. கதிர் முருகு, "முக்கூடற் பள்ளு மூலமும் உரையும்", சாரதா பதிப்பகம், 2017
3. புலியூர்க் கேசிகன், "திருக்குற்றாலக் குறவஞ்சி", செண்பகா பதிப்பகம், 2010
4. தமிழமுதன், "அற்புதத்திருவந்தாதி", பாரி நிலையம், 2011
5. சோ.கந்தசாமி "பன்னிரு திருமுறை", உலகத் தமிழாராய்ச்சி நிறுவனம், 2008
6. த.கோவேந்தன், "நாலாயிரத் திவ்யப் பிரபந்தம் மூலமும் எளிய உரையும்", சாரதா பதிப்பகம், 2015
7. கமலா முருகன், "ஆசிய ஜோதி மூலமும் உரையும்", சாரதா பதிப்பகம், 2012
8. கமலா முருகன், "பராபரக்கண்ணி மூலமும் உரையும்", சாரதா பதிப்பகம், 2013
9. கண்ணதாசன், "இயேசு காவியம்", கண்ணதாசன் பதிப்பகம், 2014
10. சு.ஆனந்தன், “தமிழ் இலக்கிய வரலாறு", பாரி நிலையம், 2018

Course Coordinator **HOD**

	HINDI-II	L	T	P	C
U18HSHI201	Total Contact Hours – 45	3	0	0	3
	Prerequisite – Higher Secondary studies				
	Course Coordinator Name & Department: -Ms.Rani Selvan & Hindi				

COURSE OBJECTIVES:-

To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)

CO1	Remember of Ramayana in Sabari part
CO2	Understand the historical stories
CO3	Apply the concept of translation
CO4	Analyze and develop the letter writing skills
CO5	Evaluate and develop the speaking skills
CO6	Create knowledge in letter writing and speaking skills

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	2	2	1	3		
	CO4	3	3	2	1	1	2	3		
	CO5	2	3	2	1	1	1	3		
	CO6	3	3	3	2	3	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	47th Academic Council Meeting								

UNIT I **9**

Modern Poetry - Shabari

UNIT II **9**

One Act Play - Ekanki Sankalam

UNIT III **9**

Translation - Hindi – English Only

UNIT IV **9**

Letter Writing - Leave letter - Job Application - Ordering books - Letter to Publisher - Personal letter

UNIT V **9**

Conversation - Doctor & Patient - Teacher & Student - Storekeeper & Buyer - Two Friends - Booking clerk & Passenger at Railway station – Auto rickshaw driver and passenger.

TEXT BOOKS:

1. Naresh Mehtha,Veerendra Kumar Mishra

REFERENCE BOOKS:

1. UNIT 1 – Publisheres - Lokbharathi Prakashan ,1 Floor, Duebari Building,Mahathma Gandhi Marg, Allahabad – 1.
2. UNIT II – Publishers – Vani Prakasam, New Delhi-110002
3. UNIT III – Publishers – Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

Course Coordinator **HOD**

	FRENCH-II	L	T	P	C
	Total Contact Hours – 45	**3**	**0**	**0**	**3**
U18HSFR201	Prerequisite – Higher Secondary studies				
	Course Coordinator Name & Department: -Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES:-

To introduce students to the complexity of the grammar and how to overcome it with simple rules.

COURSE OUTCOMES (COs)

CO1	To being able to interpret the language.
CO2	To familiarize with methodological approaches in the study of literary and cultural texts, such as lose reading, socio-historical contextualization, and literary and cultural theory.
CO3	To obtain advanced proficiency in spoken and written French.
CO4	To encourage the development of skills in linguistics, translation, and comparative studies.
CO5	To remember the anatomy of conjugations in past tense.
CO6	To evaluate the given text critically and enhance communication skills.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PS O2
2	CO1	1	3	2	1	1	1	3		
	CO2	3	3	3	1	2	1	3		
	CO3	3	3	3	1	2	1	3		
	CO4	3	3	3	1	1	2	3		
	CO5	3	3	3	3	1	1	3		
	CO6	3	3	2	3	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	47th Academic Council Meeting								

UNIT I -Quelle journee! 9

La Conjugaison pronominale -L'imperatif -L'expression de la quantite (peu-in peu de-quelque – etc.)

UNIT II - Qu'on est bien ici ! 9

Prepositions et adverbs de lieu - Verbs experimant un deplacement (employ des prepositions) Le lodgement/la localisation/ l'orientation/l'etat physique/le temps qu'il fait

UNIT III -En se detend? 9

L'imparfait-Emplois du passé compose et de l'imparfait-Expression de la duree-L'enchainement des idees (alors, donc, mais) /Le sens reciproque

UNIT IV- On s'appelle? 9

Les pronoms complements direct -Les pronoms compliments indirects de personne -c'est/ il est-Imperatif des verbs avec pronoms-La fornation des mots

UNIT V Un bon conseil ! 9

Expression du deroulement de l'action--passe recent--Present progressif-future proche-Les phrases rappotrees- La place de l'adjectif- La proposition relative finale avec -qui

TEXT BOOKS:

A1 Echo- J. Girardet, J. Pecheurb Cle Publication.

Course Coordinator HOD

U18HSEN202	ENGLISH-II	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Higher Secondary level English				
	Course Coordinator : Mrs.M.Kumaresan & Department of English				

COURSE OBJECTIVES:-

To know the themes of literary texts and understand the language skills and how to implement it in day to lay life activity

COURSE OUTCOMES (COs)

CO1	Remember the authors of the prescribed literature
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarizes the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	3	2	3	2	2	3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	2	2	2	3	3	3		
	CO4	2	2	2	2	3	3	3		
	CO5	2	2	2	2	2	2	2		
	CO6	3	3	3	2	2	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47th Academic Council Meeting								

UNIT 1: PROSE 9

The Refugee – K.A. Abbas – Author Biography – Plot – Theme - Summary - Critical analysis; The Lion and the Lamb – Leonard Clark – Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2: POETRY 9

The Solitary Reaper – William Wordsworth – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; Gift – Alice Walker- Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT 3: SHORT STORIES 9

The Fortune -Teller – Karel Capek – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; The Postmaster – Rabindranath Tagore – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 4: ONE-ACT PLAYS **9**

The Death Trap – Saki (H.H. Munro) – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; The Dear Departed: A Comedy in One-Act – Stanley Houghton- Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 5: GRAMMAR **9**

Communicative Grammar - Seeking and giving information – statements and questions
Being informal – phrasal verbs, Expressing ability, possibility, etc – Modals and other devices

TEXT BOOKS:

1. The Death Trap by Saki, The Novels and Plays of Saki, 2001
2. Pooja Khanna, “English Communication”, S.CHAND Publishing, 2016
3. Rabindranath Tagore, “The Postmaster”, Penguin India, 2000

REFERENCE BOOKS:

1. K.A.Abbas Suresh Kohli, “An Evening in Calcutta”, HarperCollins, 2015
2. Stanley Houghton, “Five one act plays”, Alpha Edition, 2019
3. Edited Prof. Jasbir Jain, “Strings of Gold (Part- II)”, MacMillan, 2016

Course Coordinator **HOD**

U18MCMI201	**MICROBIAL PHYSIOLOGY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department: - Dr. V. JanakiDevi & Microbiology				

COURSE OBJECTIVES: -

Learners will be familiar with basic knowledge about nutrition and microbial growth. Learners will understand the microbial metabolism and physiology.

COURSE OUTCOMES (COs)	
CO1	Recall the basics of nutrients and microbial growth.
CO2	Recognize the factors influencing the growth of microbes.
CO3	Apply the role of metabolism in microbial physiology.
CO4	Analyze the role of metabolic pathways in cell growth.
CO5	Evaluate the biochemical components of the microbes involving biosynthesis.
CO6	Create the familiarity to importance of various metabolic pathways in cell growth.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	3	3		
	CO2	2	1	1	2	2	3	3		
	CO3	3	1	1	2	3	3	3		
	CO4	2	2	1	2	2	3	3		
	CO5	2	2	2	2	3	3	3		
	CO6	2	2	2	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Basic concepts of metabolism – Nutritional types for microorganisms - Uptake of nutrients to the cell - Active transport and Passive transport.

UNIT II **12**

Different phases of growth –Growth curve- generation time – factors influencing the microbial growth- pH, Temperature, pressure salt concentration, nutrients – continuous growth and synchronous growth-Diauxic growth.

UNIT III **12**

Metabolism- pathways role in microbial growth- EMP-HMP-ED Pathways – TCA cycle-electron transport chain – oxidative photophosphorylation and substrate level photophosrylation.

UNIT IV **12**

Control of microbial growth by antisepsis-antimicrobial drugs and antibiotics-antimicrobial resistance

UNIT V **12**

Photosynthesis –oxygenic and an oxygenic, carbon dioxide fixation–Biosynthesis of bacterial cell wall- biosynthesis of amino acids (Glutamic acid) –Bioluminescence.

TEXT BOOKS:

1. Prescott LM, Harley JP and Klein DA. Microbiology, McGraw Hill, New Delhi. Tortora, Funke and case, Microbiology 8th edi., 1989.
2. Drummond JT, White D and Fuqua C. The Physiology and Biochemistry of Prokaryotes, 4th Edn. Oxford University Press, 1998.

REFERENCE BOOKS:

1. Moat AG, Foster JW and Spector MP. Microbial Physiology, 4 th Edn. Wiley-Liss Publishers, 2002.
2. Rosenberg E, Delong EF, Lory S, Stackebrandt E and Thompson F. The Prokaryotes: Prokaryotic Communities and Ecophysiology, 4 th Edn., Omnipress, USA, 2013.

Course Coordinator **HOD**

U18MCMI202	**MEDICAL BACTERIOLOGY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department: - Dr. V. Janaki Devi & Microbiology				

COURSE OBJECTIVES: -

Learners will be familiar with basic knowledge about pathogenicity of microbes. Learners will understand the microbial diseases.

COURSE OUTCOMES (COs)

CO1	Recall the common microbial flora present in the human body.
CO2	Recognize the importance of handling and storage of specimens.
CO3	Apply the microbial characteristics for identifying the pathogens.
CO4	Analyze the role of pathogens in human diseases.
CO5	Evaluate the role of zoonotic diseases.
CO6	Create the familiarity to microbial disease and diagnosis methods.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	2	3		
	CO2	2	2	2	1	2	3	3		
	CO3	3	1	1	2	3	3	3		
	CO4	2	2	2	2	2	3	3		
	CO5	2	2	2	2	3	3	3		
	CO6	3	2	2	3	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Normal microbial flora of human body; General attributes and virulence factors of bacteria causing infections- Host Parasite relationships

UNIT II **12**

Specimen Collection, Transport and Storage; Specimen processing- (Blood, Urine, GSF, Sputum, other body fluids).

UNIT III **12**

Classification morphology, cultural characteristics, pathogenicity, epidemiology, laboratory diagnosis, treatment, prevention and control of diseases caused by: Staphylococci, Streptococci, Pneumococci, Neisseriae (Gonococci and Meningococci), Corynebacterium, Mycobacterium, Clostridium, Bacillus, Pseudomonas and Haemophilus.

UNIT IV **12**

Human Pathogens - of Salmonella, Shigella, Vibrios, Brucella, Bordetella, Escherichia, Gramnegative anaerobes, Spirochaetes, Rickettsiae, Chlamydiae, Mycoplasmas and Ureoplasmas

UNIT V **12**

Zoonotic diseases and their control; Hospital acquired infections and their control; Hospital waste disposal; Ethical committee and their functions.

TEXT BOOKS:

1. Salle AJ. Fundamental Principles of Bacteriology, 7th Edition, Mc. Graw Hill Publishing Co. Ltd., New York, 1992.
2. Ananthanarayanan R and Jayaram Panicker CK. Text book of Microbiology. Orient Longman, 1994.

REFERENCE BOOKS:

1. Gottschalk G. Bacterial Metabolism, 2nd edition, Springer Verlag, 1986.
2. Atlas RM, Microbiology: Fundamentals and Applications, 2nd Edition, MacMillan Publishing Company, New York,1989.

Course Coordinator **HOD**

U18NCMI203	BIOCHEMISTRY	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department: - Dr. V. JanakiDevi & Microbiology				

COURSE OBJECTIVES: -

Learners will be familiar with biochemical molecules present in cell. Learners will understand the importance of biochemical molecules in cellular functions.

COURSE OUTCOMES (COs)

CO1	Recall the basic knowledge about biomolecules.
CO2	Recognize the importance of Carbohydrate, protein and lipids.
CO3	Apply the processes and control of bioenergetics and metabolism, as chemical reactions.
CO4	Analyze the metabolites origin and its functions.
CO5	Evaluate principles of biochemistry to analytical determination of biomolecules.
CO6	Create the familiarity to analysis biomolecules and its importance.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	3	3		
	CO2	3	1	1	2	2	3	3		
	CO3	3	1	2	3	3	3	3		
	CO4	2	2	1	2	2	3	3		
	CO5	3	2	2	2	3	3	3		
	CO6	3	2	2	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Introduction to biochemistry – Biomolecules, structure of water & its importance – Important noncovalent forces – Hydrogen bonds, electrostatic, hydrophobic & Vanderwaals forces – Acid, base & buffers – pH, Biological buffers and their significance.

UNIT II **12**

Classification, structure & properties of carbohydrates – mono, di, oligo & polysaccharides- Classification, structure & properties of amino acids & proteins- Classification, structure & properties of Lipids – Lipoproteins Structure & functions of nucleic acids.

UNIT III **12**

Principles of Bio-energetic; Metabolism of carbohydrates, fats, proteins, purines, pyrimidines- their biosynthesis & degradation; mechanism of oxidative phosphorylation & its inhibitors, photo phosphorylation.

UNIT IV **12**

Prostaglandins, leukotrienes, thromboxines, interferons and interleukins; antibodies; alkaloids; plant and animal pigments

UNIT V **12**

Separation methods: Chromatography - electrophoresis and immunoelectrophoresis, high voltage electrophoresis and isoelectric focusing. Isolation methods– centrifugation, ultra – centrifugation, density gradient centrifugation

TEXT BOOKS:

1. Satynarayana T. Biochemistry, Books and Allied Pvt. Ltd. 2005.
2. Moore JT and Langley R. Biochemistry for Dummies, Wiley Publishing Company, 2008.

REFERENCE BOOKS:

1. Nelson DL and Cox MM. Lehninger Principles of Biochemistry, 7 th Edn. Intl. Edition, WH Freeman and Company, 2017.
2. Campbell MK, Farrell SO and McDougal OM. Biochemistry, 9 th Edn. Brooks /Cole Cenage Learning, 2018.

Course Coordinator **HOD**

U18HSCH201	**ENVIRONMENTAL STUDIES**	L	T	P	C
	Total Contact Hours - 30	2	0	0	2
	Prerequisite course –Higher Secondary studies				
	Course Coordinator Name & Department:- – Mrs. S. Vinitha / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the science from the basic and understood all theoretical background with all concepts thoroughly to protect the habitat of biotic and abiotic ecosystem.

COURSE OUTCOMES (COs)

CO1	Gain the knowledge about the environmental impact and importance of natural Resources
CO2	Understand about the Ecosystem, Biodiversity and its conservation
CO3	Apply its properties and uses of Hydrocarbons and Alkynes
CO4	Analyze the impact of population and Urbanization to affect the system of habitat loss
CO5	Evaluate the Social issues by our conservation act
CO6	Create the organic environmental approach to protect our habitat for the next generation.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates trength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO
2	CO1	2	3	3	3	1	1	3		
	CO2	3	3	1	2	2	3	3		
	CO3	3	2	2	2	3	2	3		
	CO4	3	2	3	1	1	3	3		
	CO5	2	3	3	2	3	1	3		
	CO6	3	3	2	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47th Academic Council Meeting								

UNIT I **6**

Introduction to Environmental Sciences: Natural Resources: Environmental sciences – relevance – significance – public awareness – forest resources – water resources – mineral resources – food resources – conflicts over resource sharing – exploitation – land use pattern – environmental impact – fertilizer – pesticide Problems - case studies.

UNIT II **6**

Exosystem, Biodiversity and its conservation: Ecosystem – concept – structure and function – producers, consumers and decomposers –food chain – food web – ecological pyramids – energy flow – forest, grassland, desert and aquatic ecosystem – definition – genetic, species and ecosystem diversity – biodiversity – definition – genetic, species and ecosystem diversity – values and uses of biodiversity – biodiversity at global, national (india) and local levels – hotspots, threats to biodiversity –conservation of biodiversity – insitu and ex-situ.

UNIT III **6**

Environmental Pollution and Management- Environmental pollution – causes – effects and control measures of air, water , marine, soil, solid waste. Thermal, nuclear pollution and disaster management – floods, earth quake, cyclone and land slides, role of individuals in prevention of pollution – pollution case studies.

UNIT IV **6**

Social issues – Human population: Urban issues – energy – water conservation – environmental ethics – global warming – resettlement and rehabilitation issues – environmental legislations – environmental production act. 1986 – air, water, wildlife and forest B.C.A.: syllabus (CBCS) conservation act - population growth and explosion – human rights and value education – environmental health – HIV/AIDS – role of it in environment and human health – women and child welfare – public awareness – case studies.

UNIT V **6**

Field Work: Visit to a local area / local polluted site / local simple ecosystem – report submission.

TEXT BOOKS:

1. K. Kumarasamy, A. Alagappa Moses and M. Vesanthy, 2004, Environmental Studies, Bharathidasan University Pub, 1, Trichy.

REFERENCE BOOKS:

1. Rajamannar, 2004, Environmental Studies, EVR College Pub, Trichy.
2. S. Kalavathy, (ED.) 2004, Environmental Studies, Bishop Heber College Pub., Trichy.

Course Coordinator **HOD**

U18HSBC202	**VALUE EDUCATION**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary level				
	Course Coordinator Name & Department:- Ms. G. Vinothini, Commerce				

COURSE OBJECTIVES:-

Enable the students to understand the Social values, provide knowledge on the features for life, Human ights, Environment and Ecological balance. To educate the knowledge on Social evils.

COURSE OUTCOMES (COs)

CO1	List out the Formation and Essential Elements of Contract.
CO2	Determine the Self esteem, duties and responsibilities of individuals, Social values
CO3	Apply to create peace and non violence and Dr. APJ Abdul Kalam's ten points for Enlightened itizenship
CO4	Determine the Environment and Ecological balance
CO5	Measure the Knowledge on Environmental conservations and enrichment
CO6	Formulate the awareness on Corruption, crime, terrorism, Alcoholism, Drug addiction, Dowry

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	1	2	3	2		
	CO2	3	2	3	2	1	3	3		
	CO3	3	1	2	2	3	3	1		
	CO4	2	3	3	3	3	1	3		
	CO5	3	2	3	2	2	1	3		
	CO6	2	2	3	3	3	3	1		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I **6**

Value education: Definition- relevance to present day – concept of human values – self introspection – Self esteem- duties and responsibilities of individuals- Social values- role of media in value building.

UNIT II **6**

Salient features for life: Truth, commitment,, honesty and integrity, forgiveness and love, empathy and ability to sacrifice, care, unity and inclusiveness, Team work- positive creative thinking.

UNIT III **6**

Human rights: Universal declaration of Human rights- human rights violation – National integration – peace and non violence – Dr. APJ Abdul Kalam's ten points for enlightened citizenship

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UNIT IV **6**

Environment and Ecological balance: Interdependent of all being – living and non living – the binding of man and nature – Environmental conservations and enrichment.

UNIT V **6**

Social evils : Corruption – cyber crime, terrorism, Alcoholism, Drug addiction, Dowry – Domestic violence – untouchability – female infanticide – atrocities against women – How to tackle them.

TEXT BOOK

1. N. Arumugam, S. Mohana, Lr. Palkani- value based education- Saras Publication, 2009
2. DN Ghose, Value Education- dominant publishers, 2005
3. M.G. Chitakra, Education and Human values, A.P.H Publishing Corporation. New Delhi

REFERENCE BOOKS

1) For Life, for the future: Reserves and Remains – UNESCO Publications.

2) Values, A Vedanta kesari presentations, Sri Ramakrishna Math, Chennai

Course Coordinator **HOD**

U18MCMI2L1	BIOCHEMISTRY LAB	L	T	P	C
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department: - Dr. V. Janaki Devi & Microbiology				

COURSE OBJECTIVES: -

Learners will be familiar with the fundamental knowledge in biochemistry lab techniques. Learners will understand the role of biochemicals in cellular functions.

COURSE OUTCOMES (COs)

CO1	Grasp the basic principles of biochemical tests.
CO2	Calibrates the instruments for basic biochemical tests.
CO3	Perform different procedures for identify the biomolecules.
CO4	Manipulate the obtained values with reference range values.
CO5	Sketches and write the interpretation and inferences.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	2	3	3	3		
	CO2	3	3	1	1	2	2	3		
	CO3	3	2	2	1	3	2	3		
	CO4	2	2	3	2	3	1	2		
	CO5	3	2	2	1	2	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

1. pH measurements and preparation of buffers.
2. Qualitative tests for Carbohydrates.
3. Estimation of sugars.
4. Estimation of proteins by Lowry's method / Biuret method.
5. Estimation of cholesterol by Zak's method.
6. Determination of saponification number of lipids.
7. Estimation of Amino acids.
8. Separation of amino acids - Thin layer chromatography.
9. Separation of sugars - Paper chromatography
10. Biochemical estimation of DNA /RNA using Spectrophotometer

TEXT BOOKS:

1. Mark Brandt. Biochemistry Laboratory Manual - Ph.D. 3rd edition , 1997.
2. Dennis Welsh. Biochemistry Laboratory Manual, Lissa publisher, 1999.

REFERENCE BOOKS:

1. Andrew J Bonham. Biochemistry Laboratory Manual Chem Today Publisher, 2013.
2. Rodwell VW, Bender DA, Botham KM, Kennelly PJ and Weil PA. Harper's Biochemistry, 30th Edn., McGraw Hill Education. 2015.

Course Coordinator **HOD**

THIRD SEMESTER

U18HSTA301	□□□□□ **- III**	**L**	**T**	**P**	**C**
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COURSE OUTCOMES (COs)

CO1	ஐம்பெரும் காப்பியங்களில் சிலப்பதிகாரம், மணிமேகலை, சீவக சிந்தாமணி பற்றி அறிவர்
CO2	பிற்கால காப்பியங்களில் கம்பராமாயணம், தேம்பாவணி, சீறாப்புராணம் பற்றி அறிவர்
CO3	முக்கால நீதி இலக்கியங்களில் திருக்குறள், நாலடியார், இனியவை நாற்பது பற்றி அறிவர்
CO4	பிற்கால நீதி இலக்கியங்களில் மூதுரை, நன்னெறி, ஆத்தி சூடி பற்றி அறிவர்
CO5	காப்பியம் மற்றும் நீதி இலக்கிய வரலாற்றைப் பற்றி அறிவர்
CO6	□□□□□□□□□□, □□□□□ □□□□□□□□□□ □□□□□□□ □□□□□□□□ □□□□□□□□ □□□□□□□□

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	1	2	3	3	1	3		
	CO2	3	1	1	3	3	1	3		
	CO3	3	1	1	3	3	1	3		
	CO4	3	1	2	3	3	1	3		
	CO5	3	1	2	3	3	1	3		
	CO6	3	1	1	3	3	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective CE)	Non-Major Elective (NE)	Open Elective OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47 □□□ □□□□□ □□□□□□□□□ □□□□□□□								

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1. சு.ஆனந்தன், "தமிழ் இலக்கிய வரலாறு", பாரி நிலையம், 2018
2. ந.மு.வேங்கடசாமி நாட்டார், "சிலப்பதிகாரம் மூலமும் உரையும்", ராமையா பதிப்பகம், 2010
3. புலியூர்க் கேசிகன், "மணிமேகலை மூலமும் உரையும்", சாரதா பதிப்பகம், 2017
4. ஆசிரியர் குழு, "சீவக சிந்தாமணி மூலமும் உரையும்", சாரதா பதிப்பகம், 2015
5 அ.ச.ஞானசம்பந்தன், "கம்ப ராமாயணம் மூலமும் உரையும்", நியூ செஞ்சுரி புக் ஹவுஸ், 2010
6. வீரமாமுனிவர், "தேம்பாவணி மூலமும் உரையும்", சாரதா பதிப்பகம், 2014
7. செய்குத் தம்பி பாவலர், "சீறாப்புராணம் மூலமும் உரையும்", யுனிவர்சல் பப்ளிஷர்ஸ், 2010
8. கலைஞர் மு.கருணாநிதி, "திருக்குறள் கலைஞர் உரை", திருமகள் நிலையம், 2010
9. பத்மதேவன், "நாலடியார் மூலமும் உரையும்", கற்பகம் புத்தகாலயம், 2010
10. தமிழ்ப்பிரியன், "இனியவை நாற்பது மூலமும்.உரையும்", கற்பகம் புத்தகாலயம், 2007
11. ந.மு.வேங்கடசாமி நாட்டார், "மூதுரை பதவுரையும் பொழிப்புரையும்", ராதா பதிப்பகம், 2010
12. கதிர் முருகு, "நன்னெறி மூலமும் உரையும்", சாரதா பதிப்பகம், 2016
13. அ.சீனிவாசன், "பாரதியின் புதிய ஆத்திச்சூடி: ஒரு விளக்கவுரை", 1999.

Course Coordinator **HOD**

	HINDI-III	L	T	P	C
U18HSHI301	Total Contact Hours – 45	3	0	0	3
	Prerequisite – Higher Secondary studies				
	Course Coordinator Name & Department: -Ms.Rani Selvan & Hindi				

COURSE OBJECTIVES:-	
To understand and improve the skills in the Language of Hindi	
COURSE OUTCOMES (COs)	
CO1	Remember of Ramayana in Panchavati part
CO2	Understand the history of Hindi literature
CO3	Apply the concept of Hindi grammatical speech
CO4	Analyze and develop the translation skills
CO5	Evaluate and develop the unseen passage skills
CO6	Create the skills in Hindi language

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	3	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	2	1	3	1	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47th Academic Council Meeting								

UNIT I **9**

Poetry - Panchavati

UNIT II **9**

History of Hindi Literature - Aadi Kaal and Bhakthi Kaal - general knowledge of the trends of the difference streams

UNIT III **9**

Alankar – Anupras – Yamak - Slesh - Vakrokthi Upama – Rupak – Drishtanth – Virodhabas

UNIT IV **9**

Translation - Hindi – English

UNIT V **9**

Comprehension

TEXT BOOKS:

1. Maithilisharan Gupt, Anuvadh Abhyas – III

REFERENCE BOOKS:

1. Publisheres - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

Course Coordinator **HOD**

U18HSFR301	**FRENCH-III**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	**3**	**0**	**0**	**3**
	Prerequisite – Higher Secondary studies				

	Course Coordinator Name & Department: -Ms. Tushita Naidu K / Département De Française

COURSE OBJECTIVES:-

To develop the technical aspects of the language and varied grammatical nuances to interpret the subject matter.

COURSE OUTCOMES (COs)

CO1	To impart the various aspects that makeup the language.
CO2	To learn some facts, procedures, practice certain grammatical structures, and practice ommunicative strategies.
CO3	To learn the culture of the language natives.
CO4	To analyse the differences between the basic and advanced grammar.
CO5	To remember the interlink between the conjugations
CO6	To understand grammatical structures.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PS O2
2	CO1	1	3	2	1	1	1	3		
	CO2	3	3	3	3	2	1	3		
	CO3	3	3	3	1	3	1	3		
	CO4	2	3	3	1	1	1	3		
	CO5	3	3	3	1	1	2	3		
	CO6	3	3	3	2	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences BS)	Engg Sciences ES)	Professional Core (PC)	Core Elective CE)	Non-Major Elective (NE)	Open Elective OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	47th Academic Council Meeting								

UNIT I Vivement demain! **9**

Le future- La comparaison des qualities, des quantities et des actions

UNIT II Le Tu as du boulot? **9**

Le pronom (en)-Le pronom (Y)-Expression de la condition

UNIT III -Qu'en pensez - vous? **9**

Le subjonctif (employ lie a quelques verbs)- Expression de la quantite (poids et mesure-evaluation-restriction)

UNIT IV - C'est tout un programme! **9**

Les propositions relatives introduites par (qui, que, ou)-Les adverbs (place, formation des adverbs en-ment)-
La forme ((en + participle present))

UNIT V On se retrouve ! **9**

Emploi et conjugaison des quatre temps de l'indicatif quatre temps de l'indicatif:--passe recent--Present -Passe compose-Imparfait et future

TEXT BOOKS:

A2 Echo- J. Girardet, J. Pecheurb Cle Publication.

Course Coordinator **HOD**

	ENGLISH-III	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	**3**	**0**	**0**	**3**

U18HSEN302	Prerequisite course – Higher Secondary level English
	Course Coordinator : Mrs.B.Janua Sherly & Department of English

COURSE OBJECTIVES:-

To enable them to realize the value of language, communicate effectively and develop career skills.

COURSE OUTCOMES (COs)

CO1	Remember the value of LSRW skills.
CO2	Understand the language skills and know the accuracy of writing skill
CO3	Apply the significance and learn how to write resume, official letters and reports
CO4	Analyze their personality traits and develop interpersonal skills for a better career in life
CO5	Evaluate the knowledge and write resume official letters and reports
CO6	Create differentiate various official letters and reports and the language to be used in E-mails, Business letters etc.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	3	3	3	3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	2	3	3	2	2	3		
	CO4	2	2	2	2	2	2	2		
	CO5	3	3	2	2	2	3	3		
	CO6	3	3	3	3	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47th Academic Council Meeting								

UNIT 1 - LISTENING SKILLS **9**

Types of Listening (Theory / Definition) - Tips for Effective Listening -Academic Listening (Lectures) - Listening to Radio and Television

UNIT 2 - TELEPHONE SKILLS **9**

Basics of Telephone communication -How to handle calls- telephone manners -Leaving a message -Making requests -Greeting and Leave Taking over phone (etiquette) - Handling the situations especially trouble shooting Teleconference - handling Tele interviews for Call Centers

UNIT 3 - WRITING SKILLS **9**

Standard Business letter - Report writing- Email drafting and Etiquettes - Preparing Agenda and writing minutes for meetings - Making notes on Business conversations

UNIT 4 - CAREER SKILLS **9**

Applying for job -Cover letters -Resume and Effective Profiling - Interviews - Group discussions

UNIT 5 – PERSONAL SKILLS **9**

Empathy (Understanding of someone else points of view) -Intrapersonal skills -Interpersonal skills- Problem solving

TEXT BOOKS:

1. Improve Your IELTS Listening and Speaking Skill by Barry Cusack, 2007

2. Roche Marc, "Advanced English Writing Skills: Masterclass for English Language, Roche Publishing ESL, 2019

REFERENCE BOOKS:

1. Frederick H. Wentz, "A Workbook to Develop Skills For Employment", Create space Independent Pub,2012

2. S.P.Dhanavel, "English and Soft Skills", Orient BlackSwan, First edition, 2010

Course Coordinator **HOD**

U18MCMI301	ENZYMOLOGY	L	T	P	C
	Total Contact Hours – 60	3	1	0	4

	Prerequisite course – Biology at Higher Secondary Education
	Course Coordinator Name & Department: - Dr. V. JanakiDevi & Microbiology

COURSE OBJECTIVES: -

Learners will be familiar with enzymology. Learners will understand the importance of enzymes in cellular functions.

COURSE OUTCOMES (COs)

CO1	Recall the basic concepts of enzymology.
CO2	Recognize the structure, functions and the mechanism of action of enzymes.
CO3	Apply to characterize the enzymes in each enzymatic class.
CO4	Analyze kinetics of enzyme catalysed reactions and enzyme inhibitory process.
CO5	Evaluate immobilization of enzymes.
CO6	Create wide applications of enzymes and their future potentials.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	3	3		
	CO2	2	1	1	1	2	3	3		
	CO3	2	1	2	2	3	3	3		
	CO4	2	2	1	2	2	3	3		
	CO5	2	2	2	1	2	3	3		
	CO6	2	2	2	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Structure and functions of Enzymes- Classification of enzymes- Specificity of enzyme action –Active site, Fischers lock and key model, Koshland induces fit hypothesis. Factors modifying enzyme activity, biotechnological applications of enzymes

UNIT II **12**

Mechanism of Catalyst, Acid base catalyst, Electrostatic catalyst, Covalent and enzyme catalyst-Structural Components of Enzymes – apoenzymes, prosthetic group, cofactors, Mechanisms of reactions catalysed by enzymes- metalloenzymes, coenzymes.

UNIT III **12**

Kinetics of single substrate reactions, turnover number, Enzyme Inhibition, Kinetics of multi-substrate reactions, Temperature and pH effects on enzyme activity.

UNIT IV **12**

Methods of immobilization of enzymes, Determination of molecular weight of enzymes (Column Chromatography) - Application in medicine (assay of plasma enzyme) and its application

UNIT V **12**

Methods of production of enzymes, Extraction of Enzymes –soluble enzymes – membrane bound enzymes –Nature of extraction medium – purification of enzyme.

TEXT BOOKS:

1. Nelson, David l and Cox, Principles of Biochemistry, Macmillan/worth, NY, 1999.
2. Donald Voet, Judith G.Voet and Charlotte W Pratt, Fundamentals of Biochemistry, John Wiley & Sons, NY. 2000

REFERENCE BOOKS:

1. Zubay GL, W M C, Biochemistry, 4th edition, Brown Publishers, 1988.
2. Lubert stryer and freeman WH, Biochemistry, 3rd Ed., Sanfrancisco press, 1994.

Course Coordinator **HOD**

U18MCMI302	SOIL AND AGRICULTURAL MICROBIOLOGY	L	T	P	C
	Total Contact Hours – 60	3	1	0	4

	Prerequisite course – Biology at Higher Secondary Education
	Course Coordinator Name & Department: - Dr. V. JanakiDevi & Microbiology

COURSE OBJECTIVES: -

Learners will be familiar with environmental microbiology. Learners will understand the importance of soil microbes in agricultural development.

COURSE OUTCOMES (COs)

CO1	Recall the microbial population of soil.
CO2	Recognize the importance of microbial interaction.
CO3	Apply the soil microbes in agriculture development.
CO4	Analyze the role of soil microbes.
CO5	Evaluate the plant diseases and role of microbes.
CO6	Create wide applications of soil microbes.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	3	3		
	CO2	2	1	1	1	2	3	3		
	CO3	2	1	2	2	2	3	3		
	CO4	3	2	1	2	2	3	3		
	CO5	3	2	2	1	2	3	3		
	CO6	2	2	2	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Properties of soil (Structure, texture, formation)-Types and significance of soil microbes – Bacteria, Fungi, Actinomycetes, Algae, Protozoa, Nematode and Viruses – Factors affecting microbial population.

UNIT II **12**

Biogeochemical cycle – Carbon, Phosphorus, Nitrogen – Biological Nitrogen fixation – Nitrogen fixers- Root nodule formation–Nitrogenase, Hydrogenase.

UNIT III **12**

Microbial interaction between microbes–Neutralism, Commensalism, Synergism, Mutualism, Amensalism, Symbiosis, Competition, Parasitism and Predation-Interaction of Microbes with plants – Rhizosphere and Mycorrhizae – Interaction of microbes – insects and rumen.

UNIT IV **12**

Plant pathology –Bacterial diseases – Blight of rice, Citrus canker – Fungal disease – Red rot of sugarcane, Wilt of cotton, Tikka leaf spot of groundnut.

UNIT V **12**

Methods of production of enzymes, Extraction of Enzymes –soluble enzymes – membrane bound enzymes –Nature of extraction medium – purification of enzyme.

TEXT BOOKS:

1. Subba Rao NS, Soil Microbiology. 4th Edition, Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi, 1994.
2. Mishra RR, Soil Microbiology. 1st Edition, CBS Publishers and Distributors, New Delhi, 2001.

REFERENCE BOOKS:

1. Rangaswami G and Mahadevan A. Diseases of crop plants in India. 4th Edition, Printice-Hall of India Pvt. Ltd., New Delhi, 2002.
2. Robert LTate. Soil Microbiology. 1st Edition, John Wiley & Sons, Inc. New York, 2005.

Course Coordinator **HOD**

U18NCMI303	MICROBIAL DIVERSITY	L	T	P	C
	Total Contact Hours – 60	3	1	0	4

	Prerequisite course – Biology at Higher Secondary Education
	Course Coordinator Name & Department: - Dr. V. JanakiDevi & Microbiology

COURSE OBJECTIVES: -

Learners will be familiar with environmental microbiology. Learners will understand the importance of soil microbes in agricultural development.

COURSE OUTCOMES (COs)

CO1	Recall the basic classifications of living organisms.
CO2	Recognize the classification strategy in microorganisms.
CO3	Apply the classifications for identify the microbes.
CO4	Analyze the characteristics of microbes by classification.
CO5	Evaluate the importance of microbial classifications.
CO6	Create the knowledge in understanding of microbes.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	3	3		
	CO2	2	1	1	1	2	3	3		
	CO3	2	1	2	2	2	3	3		
	CO4	3	2	1	2	2	3	3		
	CO5	3	2	2	1	2	3	3		
	CO6	2	2	2	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Microbial Classification: Whittaker's five kingdom classification of living system.

UNIT II **12**

Archaebacteria: – Cell structure, metabolic character, function and reproduction of Methanogens.

UNIT III **12**

Eubacteria: Cell morphology, function, reproduction and of

a) Photosynthetic eubacteria (cyanobacteria).
b) Gram negative eubacteria (Spirochetes, Rickttsias, Chlamydias)
c) Gram positive eubacteria (Actinomycetes).
d) Spore forming bacteria (spore formation and germination)
e) Sulfur bacteria and Nitrogen fixing bacteria.

UNIT IV **12**

Brief description of eukaryotic Algae & Fungi and protozoa : General characteristics, vegetative and reproductive structure of the following groups of Microorganism particularly Protozoa (Entamoeba, Plasmodium), Algae (Cyanophyta, Cholorophyta) , Fungi(Phycomycetis, Bacidiomycetis).

UNIT V **12**

General properties of Actinomycetes of plants and animals.

TEXT BOOKS:

1. Michael T Madigan, John M Martinko, Paul V Dunlap and David P Clark. Biology of Microorganisms 12thEdition, Nova press, 2000.
2. Ananthanarayanan.R, Jayaram Panicker CK and Orient Longaman, Textbook of Microbiology, The Orient Blackswan, 2013.

REFERENCE BOOKS:

1. Reiss E, Shadomy HJ and Lyon GM. Fundamental Medical Mycology, WileyBlackwell. 2011.
2. Denyer SP, Hodges NA and Gorman SP and Hugo R. Russell's Textbook of Microbiology, 7th Edn. Blackwell Publishers. 2004.

Course Coordinator **HOD**

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COURSE OUTCOMES (COs)

CO1	தமிழ் எழுத்துக்களில் உயிர் எழுத்துக்களை அறிவர்
CO2	தமிழ் எழுத்துக்களில் மெய் எழுத்துக்களை அறிவர்
CO3	தமிழில் எண்கள், நாட்கள் பற்றி அறிவர்
CO4	தமிழ் மாதங்கள் பற்றி அறிவர்
CO5	உறவு முறை பெயர்களைப் பற்றி அறிவர்
CO6	□□□□□□□□□□□□ □□□□□□□□□□□□□ □□□□□ □□□□ □□□□□□□□ □□□□□□□□ □□□□□□□□

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	1	1	1	1	2		
	CO2	1	3	1	1	1	1	2		
	CO3	1	3	1	1	1	1	2		
	CO4	1	3	1	1	1	1	2		
	CO5	1	3	1	1	1	1	2		
	CO6	1	3	1	1	1	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
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COURSE OUTCOMES (COs)

CO1	பழங்கால தமிழரின் சமூக அமைப்பைப் பற்றி அறிவர்
CO2	பண்டைத் தமிழர் திருமணமுறை நல்லறம் - குடும்ப வாழ்வு பற்றி அறிவர்
CO3	பண்டைத் தமிழரின் கல்வி, வானியல் அறிவு பற்றி அறிவர்
CO4	தமிழரின் உணவு, உடை, உறையுள் - சங்க கால விழாக்கள் பற்றி அறிவர்
CO5	பண்டைத் தமிழரின் கல்வி, வானியல் அறிவு பற்றி அறிவர்
CO6	□□□□□□ □□□□□□□□ □□□□□□□ □□□□□ □□□□□□

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	3	2	3	1	3		
	CO2	3	2	3	2	3	1	3		
	CO3	3	2	3	2	3	1	3		
	CO4	3	2	3	2	3	1	3		
	CO5	3	2	3	2	3	1	3		
	CO6	3	2	3	2	3	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
							✓			
4	Approval	47 □□□ □□□□□ □□□□□□□□□ □□□□□□□								

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Course Coordinator **HOD**

U18MCMI3L1	**MICROBIOLOGY LAB II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department: - Dr. V. JanakiDevi & Microbiology				

COURSE OBJECTIVES: -

Learners will be familiar with the fundamental knowledge in microbial laboratory techniques. Learners will understand the microbial characteristics and identification of microbes from various sources.

COURSE OUTCOMES (COs)	
CO1	Grasp the basics behind the physiological reactions in prokaryotic cells.
CO2	Handle the sophisticated instruments and equipment for anaerobic culture.
CO3	Manipulates the experimental techniques for culturing various microbes.
CO4	Perform the physiological tests for identifying the microbes.
CO5	Sketch the results and compare with manual for identification of microbes.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	3	3		
	CO2	3	2	1	1	2	2	3		
	CO3	3	2	2	1	3	2	3		
	CO4	2	1	2	2	3	1	3		
	CO5	3	3	2	1	2	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

1. Protein estimation (Lowry *et al)*
2. Estimation of Carbohydrates (DNSA method)
3. Cultivation of anaerobic Microorganisms – Wrights tube – Mclntosh fildes jar
4. Physiological characterization: Measurement of growth curve- direct and indirect methods.
5. Effect of pH and temp on microbial growth.
6. Carbohydrate fermentation tests: a) Glucose, b) Lactose, c) Sucrose, d) Mannitol
7. Indole production test.
8. MRVP test
9. Citrate utilization test.
10. Catalase test.

11.Oxidase test, TSI test, Nitrate reduction test
12. Starch hydrolysis.
13. Gelatin hydrolysis
14. Urea hydrolysis

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TEXT BOOKS:

1. Josephine A, Morello Paul A, Granato Helen and Eckel Mizer. Laboratory Manual and Workbook in Microbiology. Spiral Bound,Comb press, 1999.
2. Nina Parker. Microbiology Manual, OpenStax CNX,2001.

REFERENCE BOOKS:

1. Moat AG, Foster JW and Spector MP. Microbial Physiology, 4 th Edn., Wiley-Liss Publishers, 2002.
2. James Cappuccino. Microbiology: A Laboratory Manual, 10 ed., Pearson, 2013.

Course Coordinator **HOD**

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COURSE OUTCOMES (COs)	
CO1	எட்டுத்தொகையில் நற்றிணை, குறுந்தொகை, கலித்தொகை இலக்கியங்களை அறிவர்
CO2	எட்டுத்தொகையில் புறநானூறு, பதிற்றுப்பத்து இலக்கியங்களை அறிவர்
CO3	பத்துப்பாட்டு இலக்கியத்தில் பொருநராற்றுப்படை, பெரும்பாணாற்றுப்படை பற்றி அறிவர்
CO4	பத்துப்பாட்டில் நெடுநல்வாடை, பட்டினப்பாலை, முல்லைப்பாட்டு பற்றி அறிவர்
CO5	எட்டுத்தொகை, பத்துப்பாட்டு இலக்கிய வரலாற்றை அறிவர்
CO6	□□□□ □□□□□□□□□□□□□□ □□□□□□ □□□□□ □□□□□□□□□□□ □□□□□□□

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	3	1	3		
	CO2	3	2	1	1	3	1	3		
	CO3	3	2	2	1	3	1	3		
	CO4	3	2	1	1	3	1	3		
	CO5	3	2	2	1	3	1	3		
	CO6	3	2	1	1	3	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
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Course Coordinator **HOD**

U18HSHI401	**HINDI-IV**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite – Higher Secondary studies				
	Course Coordinator Name & Department: -Ms.Rani Selvan & Hindi				

COURSE OBJECTIVES:-

To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)

CO1	Remember the skills of the leadership
CO2	Understand and develop the skills to overcome the mistake
CO3	Apply the concept of Hindi essay writing
CO4	Analyze and develop the translation skills

CO5	Evaluate the unseen passage skills
CO6	Create and develop the Hindi language skills

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	1	1	3		
	CO2	3	3	1	2	2	1	3		
	CO3	3	3	2	1	3	1	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	2	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47th Academic Council Meeting								

UNIT I **9**

Drama – Andher Nagari

UNIT II **9**

Novel - Gaban - Premchand

UNIT III **9**

General Essay

UNIT IV **9**

Translation - Hindi – English

UNIT V **9**

Comprehension

TEXT BOOKS:

1. Bharathendu Harischandra**,** Veerendra Kumar Mishra, Anuvadh Abhyas – III

REFERENCE BOOKS:

1. UNIT 1 - Publisher – Vani Prakashan, New Delhi – 110 002.
2. UNIT II – Publisher - Rajkamal Prakashan, New Delhi – 110 002
3. UNIT III – Aadarsh Nibnandh, Vinodh Pustak Mandir, Hospital Road, Agra - 282002
4. UNIT IV - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17
5. UNIT V - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

Course Coordinator **HOD**

U18HSFR401	**FRENCH-IV**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	**3**	**0**	**0**	**3**
	Prerequisite – Higher Secondary studies				
	Course Coordinator Name & Department: -Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES:-

To introduce students to the advanced levels of the language.

COURSE OUTCOMES (COs)

CO1	To learn the culture of the language natives in advanced setup.
CO2	To understand the integral grammar structure in French.
CO3	To encourage the development of skills in linguistics
CO4	To evaluate the Oral and Written skill set

CO5	To remember the language construction
CO6	To enhance advanced fluency in language

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PS O2
2	CO1	1	3	3	1	1	1	3		
	CO2	3	3	3	1	2	2	3		
	CO3	3	3	3	1	3	1	3		
	CO4	3	3	3	1	1	1	3		
	CO5	3	3	3	2	1	2	3		
	CO6	3	3	3	1	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	47th Academic Council Meeting								

UNIT I Vous plaisantez! 9

Le conditionnel present -expression de l'hypothese-demandes polies-suggestions et conseils

UNIT II On s'entend bien! 9

Les constructions du discours rapport-Les constructions (faire + verbe)-et (laisser + verbe)

UNIT III A vos risqué et perils! 9

Le subjonctif Present- La construction passive pour metre en valeur l'object direct de l' action

UNIT IV C'est tout un programme! 9

Les pronom possessives -Les adjectifs et les pronoms indefinis-Les pronom demonstratifs: Les constructions --celui+de

UNIT V C'est la fete ! **9**

Les fornes de l'appreciation : trop/ pas assez –si-Les constructions verbe+verbes

TEXT BOOKS:

A2 Echo- J. Girardet, J. Pecheurb Cle Publication.

Course Coordinator **HOD**

U18HSEN402	**ENGLISH-IV**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	**3**	**0**	**0**	**3**
	Prerequisite course – Higher Secondary level English				
	Course Coordinator : Ms.E.Rekha & Department of English				
COURSE OBJECTIVES:- To understand the literature, and there by improve their language and communication skills.					
COURSE OUTCOMES (COs)					
CO1	Remember the basic concepts of English literature				
CO2	Understand the literature and beauty of language				

CO3	Apply the themes and values by executing the comprehensive ability in Reading.
CO4	Analyse the grammar and the literary texts.
CO5	Evaluate the characters and the genre prescribed.
CO6	Create comprehensive essays efficiently.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	2	2	2	3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	2	2	2	2	2	2		
	CO4	3	3	3	2	2	2	2		
	CO5	3	3	3	2	2	2	2		
	CO6	2	2	2	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47th Academic Council Meeting								

UNIT 1 - PROSE **9**

Lalajee – Jim Corbett – Author Biography – Plot – Theme - Summary - Critical analysis; Face of Judas – Bonnie Chamberlin - Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2 - POETRY **9**

Laugh and Be Merry – John Masefield – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; Matilda - Hilaire Belloc- Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis.

UNIT 3: SHORT STORIES **9**

Hunchback Sundari – C.Raja Gopalachari – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; The Eyes Are Not There - Ruskin Bond- Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT 4: ONE-ACT PLAYS **9**

Macbeth Soliloquy – Out, Out, Brief Candle - Shakespeare – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; Julius Ceasar - Anthony's Funeral Speech – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT 5: FUNCTIONAL ENGLISH **9**

Wh – Questions - Pattern – Active and Passive voice – usage of passive voice – structure of passive verb; Modal verbs – Tenses.

TEXT BOOKS:

1. Corbett, "My India", Rupa Publications India Pvt. Ltd., 2018
2. Stories of Innocent by C.Rajagopalachari, Bharathiya Vidya Bhavan, 2009
3. Shakespeare, "Macbeth", Macmillan Publisher, 2014

REFERENCE BOOKS:

1. Shakespeare – The Complete Work; Wilco Publishing House, Mumbai, India. 2005
2. Hilaire Belloc, "Matilda", Random House UK, 1994

Course Coordinator **HOD**

	CLINICAL MICROBIOLOGY	**L**	**T**	**P**	**C**
U18MCMI401	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department: - Dr. V. JanakiDevi & Microbiology				

COURSE OBJECTIVES: -

Learners will be familiar with basic knowledge about clinically importance bacteria fungi and virus. Learners will understand the microbial diseases and the treatments involved in therapeutic measures.

COURSE OUTCOMES (COs)	
CO1	Recall the basic of microbiology in personal health.
CO2	Recognize the collection and processing of the bacterial and fungal clinical specimens.
CO3	Apply the knowledge of microorganism and their relevance of infectious diseases.
CO4	Analyze the principles of prevention and treatment of infectious diseases in humans.
CO5	Evaluate about the fungal diseases in humans and animals.
CO6	Create the familiarity to microbial disease and diagnosis and treatment methods.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	2	3		
	CO2	2	2	2	1	2	3	3		
	CO3	3	1	1	2	3	3	3		
	CO4	2	2	2	2	2	3	3		
	CO5	2	2	2	2	3	3	3		
	CO6	3	2	2	3	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **10**

Introduction to medical microbiology - Infectious Diseases process – Diagnosis – Process of sample collection, transport and examinations of the specimens, Antibiogram and serological test.

UNIT II **12**

Bacteriology: Gram positive organisms-pathogenicity and laboratory diagnosis of *Staphylococcus aureus, Streptococccus pyogenes, Pneumococcus sp., Bacillus anthracis, Corynebacterium diphteriae, Clostridium tetani, Clostridium botulinum, Mycobacterium tuberculosis, Mycobacterium leprae*.

UNIT III **14**

Bacteriology: Gram negative organisms:- pathogenicity and laboratory diagnosis of *E.coli,*

Klebsiella sp, Salmonella typhi, Shigella dysenteriae, Pseudomonas aeroginosa, Vibrio cholera.

UNIT IV **12**

Virology: Approaches to viral diagnosis- Serological and Molecular techniques, Pathogenicity and Laboratory diagnosis of viral infections - Hepatitis, Polio, Rabies, Influenza, Measles, Mumps, and HIV.

UNIT V **12**

Mycology: approaches to laboratory diagnosis-Mycosis–Superficial, Subcutaneous and Systemic infections– Cryptococcosis, Madura mycosis-Histoplasmosis, *Candida allbicans*. Parasitology: Pathogenicity and laboratory diagnosis of *Entamoeba histolytica, Taenia solium, Plasmodium vivax.*

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TEXT BOOKS:

1. Ananathanarayanan R and Jayaram Panicker CK. Text book of Microbiology. Orient longman,1994.
2. Baird RM, Hodges NA and Denyer SP. Handbook of Microbiological Quality control in Pharmaceutical and Medical Devices, Taylor and Francis Inc., 2005.

REFERENCE BOOKS:

1. Greenwood D, Slack RB and Peutherer JF. Medical Microbiology, 16th Edn. Churchill Livingstone, London. (2002).
2. Saghee MR, Sandle T and Tidswell EC. Microbiology and Sterility Assurance in Pharmaceuticals and Medical devices, Business Horizons publishers. 2011.

Course Coordinator **HOD**

U18MCMI402	**MOLECULAR BIOLOGY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department: - Dr. V. JanakiDevi & Microbiology				

COURSE OBJECTIVES: -

Learners will be familiar with basic knowledge about the general dogma of cell. Learners will understand the genetic materials structure and functions.

COURSE OUTCOMES (COs)	
CO1	Recall the basic of molecular biology.
CO2	Recognize the detailed mechanisms of DNA Replication.
CO3	Apply the knowledge of central dogma in cellular function.
CO4	Analyze the gene expression.
CO5	Evaluate the protein synthesis and structure and functions of proteins.
CO6	Create the familiarity to gene regulation.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	2	3	2	3		
	CO2	3	1	2	1	2	3	3		
	CO3	3	2	1	2	3	3	3		
	CO4	3	1	1	2	3	3	3		
	CO5	2	2	2	2	3	3	3		
	CO6	3	2	2	1	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Scope and History- Structure of DNA-Nucleoside, Nucleotide, Base pairing, Double Helix-features of Watson and Crick model, major and minor groove, Supercoiling- twist, writhe and linking number Types of DNA- Structure and function of mRNA, rRNA, tRNA.Secondary structures in RNA.

UNIT II **12**

Types and functions of DNA polymerases in Prokaryote and Eukaryote-Replication in prokaryote and Eukaryote- Plasmid Replication- rolling circle model.

UNIT III **12**

Fine structure of prokaryotic and eukaryotic gene. Transcription of mRNA, rRNA, and tRNA genes in Prokaryote and eukaryote. Post transcriptional processing of mRNA – 5'capping, splicing, polyadenylation and RNA editing.

UNIT IV **12**

Genetic code and Wobble hypothesis- Translation in prokaryote and eukaryote-Post translational modifications.

UNIT V **12**

Principles of gene regulation- Transcriptional and post transcriptional gene regulation-activators, co-activators, suppressors, co-suppressors, moderators, silencers, insulators, enhancers. Operon - *lac* operon, *trp* operon, *ara* operon and *gal* operon.

TEXT BOOKS:

1. Karp G. Cell and Molecular Biology – Concepts and Experiments, 6 th Edn. John Wiley and Sons., 1998.
2. Verma PS and Agarwal VK. Cell Biology (Cytology, Biomolecules, Molecular Biology), Paperback, S. Chand and Company Ltd., 2016.

REFERENCE BOOKS:

1. McLennan A, Bates A, Turner P and White M. Bios Instant Notes Molecular Biology, 4 th Edn. Taylor and Francis, 2012.
2. Cox MM, Doudna JA and O'Donnell M. Molecular biology: Principles and Practice, WH Freeman and Company, 2012.

Course Coordinator **HOD**

	ENVIRONMENTAL MICROBIOLOGY	**L**	**T**	**P**	**C**
U18NCMI403	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department: - Dr. V. JanakiDevi & Microbiology				

COURSE OBJECTIVES: -

Learners will be familiar with basic knowledge about the microorganisms in various environmental conditions. Learners will understand the interaction and adaptation of microbes in various ecosystems.

COURSE OUTCOMES (COs)	
CO1	Recall the basic of interaction between soil and microbes.
CO2	Recognize soil characteristics and biogeochemical cycling.
CO3	Apply the role of microbes present in the aquatic ecosystem.
CO4	Analyze the microbial content in various environmental samples.
CO5	Evaluate the airborne pathogens using detection methods.
CO6	Create the familiarity to environmental microbes and its importance.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	3	2	3	3		
	CO2	2	1	2	1	2	3	3		
	CO3	3	1	1	2	3	3	3		
	CO4	2	2	2	3	2	3	3		
	CO5	3	2	2	3	3	3	3		
	CO6	3	2	2	3	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Distribution of microorganisms in nature – Microbial communities in soil- Factors Influencing the microbial density in soil- zymogenous and autochthonous flora in Soil- Microbial associations – symbiotic protocooperation, Ammensalism, Commensalism, Syntropism, Parasitism and Predation with suitable examples

UNIT II **12**

Microbial decomposition; Cellulose, Hemicellulose, Lignin, Pectin and Chitin – Factors influencing degradation- Acetate utilization - bioconversion of organicwastes – sugarcane wastes- coir pith composition- composting, principles and Applications- conversion process.

UNIT III **12**

Microorganisms in the Decomposition of organic matter- Carbon cycle – Nitrogen Cycle - Nitrogen fixing microorganisms - Root nodule bacteria – non symbiotic Nitrogen fixers – biofertilizers in agriculture - Rhizobium and phosphateSolubilizers - Mycorrhizial association – Phosphorous cycle

UNIT IV **12**

Water microbiology, algae, phytoplankton- eutrophication- water treatment- Primary,secondary and tertiary-Drinking water- Portability- MPN technique

UNIT V **12**

Aero microbiology- aerosol, droplet nuclei, air pollution- sources (Microbiological) – air quality analysis- air sampling devices.

TEXT BOOKS:

1. Atlas RM and Bartha R. Microbial Ecology, Fundamental and application, 3rd edition Bengamin and Cummings, 1992.
2. Alexander AM. Introduction to Soil Microbiology, 5th edition John Wiley and sons,1987.

REFERENCE BOOKS:

1. Alexander AM. Microbiology Ecology, Jhon Willy & Sons, 1974.
2. Mitchell R. Introduction to Environmental Microbiology, 2nd Ed., Prentice Gall Inc., Englewood Cliffs, 1974.

Course Coordinator **HOD**

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COURSE OUTCOMES (COs)					

CO1	எழுத்துக்கள் மூலம் சொற்கள் அமைப்பதைப் பற்றி அறிவர்
CO2	சொற்கள் மூலம் வாக்கியம் அமைப்பதைப் பற்றி அறிவர்
CO3	எழுத்துக்களை இணைத்தல், சரியான சொற்களால் வாக்கியம் அமைப்பதைப் பற்றி அறிவர்
CO4	வினாவுக்குரிய விடையளித்தல் பற்றி அறிவர்
CO5	தன் விவரப்பட்டியல் தயாரிப்பது பற்றி அறிவர்
CO6	□□□□□□□□□□□□ □□□□□□□□□□□□□ □□□□□ □□□□ □□□□□□□□ □□□□□□□□ □□□□□□□□

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	1	1	1	1	2		
	CO2	1	3	1	1	1	1	2		
	CO3	1	3	1	1	1	1	2		
	CO4	1	3	1	1	1	1	2		
	CO5	1	3	1	1	1	1	2		
	CO6	1	3	1	1	1	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective CE)	Non-Major Elective (NE)	Open Elective OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
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Course Coordinator **HOD**

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COURSE OUTCOMES (COs)					
CO1	நாட்டுப்புறப் பாடல்கள் பற்றி அறியச் செய்தல்				
CO2	விடுகதைகள் பற்றி அறியச் செய்தல்				
CO3	நம்பிக்கைகள் பற்றி அறியச் செய்தல்				

CO4	சமய வழிபாடுகள் பற்றி அறியச் செய்தல்
CO5	பழமொழிகள் பற்றி அறியச் செய்தல்
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Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of orrelation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	2	3	1	3	1	2		
	CO2	1	2	3	1	3	1	2		
	CO3	1	2	3	1	2	1	2		
	CO4	1	2	3	1	3	1	2		
	CO5	1	2	3	1	2	1	2		
	CO6	1	2	3	1	2	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
							✓			
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Course Coordinator **HOD**

U18MCMI4L1	**CLINICAL MICROBIOLOGY LAB**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department: - Dr. V. JanakiDevi & Microbiology				

COURSE OBJECTIVES: -

Learners will be familiar with the fundamental knowledge in microbial disease diagnosis. Learners will understand the human disease-causing microbes, identification and treatment methods.

COURSE OUTCOMES (COs)	
CO1	Grasp the basic behind the disease diagnosis.
CO2	Handle various human specimens for diagnosis.
CO3	Calibrates different procedures for rapid prediction.
CO4	Perform the advanced techniques for molecular level diagnosis.

CO5	Manipulate the obtained values with reference values.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	3	3	3		
	CO2	3	3	1	1	2	2	3		
	CO3	3	2	2	2	3	2	3		
	CO4	2	1	2	2	3	1	3		
	CO5	3	1	2	1	2	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

1. Collection, transport, processing of specimen and Identification of bacteria from clinical specimens –Urine, Blood, Sputum, Pus and Faeces.
2. Slide agglutination -Blood grouping
3. Tube agglutination- WIDAL
4. Precipitation – RPR
5. Immunodiffusion- Radial, Ouchterlony's
6. Immuno electrophoresis- Rocket and Counter current
7. ELISA
8. SDS-PAGE
9. Observation of fungi- LCB or KOH mount
10. Western blotting techniques

TEXT BOOKS:

1. Engelkirk PG and Duben-Engelkirk J. Burton's Microbiology for the Health Sciences,

10th Edn. Wolters Kluwer Health, 2000.
2. Jay JM, Loessner MJ and Golden DA, Clinical Microbiology, 7th Edn. Springer, 2005.

REFERENCE BOOKS:

1. Park K. Parks Text Book of Clinical Microbiology, 5th Ed., Banarsidas Bhanot Publishers, 2017.
2. Brownson RC, Baker EA, Leet TL and Follespie KN. Evidence Based Public Health, Oxford University Press.2003.

Course Coordinator **HOD**

U18MCMI501	**FOOD MICROBIOLOGY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Microbiology				

COURSE OBJECTIVES:-

Learners will be familiar with food preservation methods. Learners will understand the methods of production of different fermented foods.

COURSE OUTCOMES (COs)

CO1	Recall the role of microbes in food.
CO2	Recognize the factors affecting the growth of microorganisms in food.
CO3	Apply the different methods in preserving the food.

CO4	Analyze the role of microbes in food spoilage.
CO5	Evaluate the importance of fermented foods in human life.
CO6	Create and develop the fermented foods according to food standards.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	2	3	3		
	CO2	2	2	1	1	2	1	2		
	CO3	3	3	2	1	2	2	3		
	CO4	3	2	1	1	2	2	2		
	CO5	3	3	2	1	2	2	3		
	CO6	3	3	3	3	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Food and Microorganisms – Important microorganisms in food (Bacteria, Mold and yeasts) ; Factors affecting the growth of microorganisms in food – Ph, moisture, oxidation – Reduction potential , Nutrient content and Inhibitory substances and biological structure.

UNIT II **12**

Principles of food preservation – General principles and application methods – Asepsis – Techniques of removal – use of temperature (low & high) - Drying, radiation and chemical preservatives.

UNIT III **12**

Spoilage of food – cereals, vegetables, fruits, egg and milk – canned foods and sea foods.

UNIT IV **12**

Fermented food – pickled cucumber, Sauerkraut- soysauce, Bread, Idli – Fermented dairy products – Yoghurt and cheese.

UNIT V **12**

Food borne diseases & Food Quality control Measures – Food poisoning and Food borne infections – Bacterial and Mycotoxins- Investigation of food poisoning outbreaks- food standards, quality control- HACCP, FDA, WHO.

TEXT BOOKS:

1. Frazier WC and Westhoff DC. Food Microbiology, 3rd ed., Tata Mcgraw Hill Publishing Co., New Delhi, 1978.
2. Jay JM. Modern Food Microbiology, 4th edition, Van Nostra and Rainhokdd Co., 1991.

REFERENCE BOOKS:

1. Adams MR and Moss MD. Food Microbiology, New Age International limited, 1995.
2. Roday S. Food Hygiene and Sanitation, Tata Mcgraw Hill Publications, 1998.

Course Coordinator **HOD**

U18MCMI502	**IMMUNOLOGY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Microbiology				

COURSE OBJECTIVES:-

Learners will be familiar with human immune system. Learners will understand the types of immune cells, immunity and antigen antibody reactions.

COURSE OUTCOMES (COs)

CO1	Recall the types of immunity.
CO2	Recognize the basic concept of antigen, antibody and immune responses.
CO3	Apply antigen antibody reaction and tests for diagnosing the diseases.

CO4	Analyze the role of B Lymphocytes and T Lymphocytes in humans.
CO5	Evaluate the importance of graft rejection process.
CO6	Create a real time application of drugs in targeting tumour antigens.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	1	2	1	3		
	CO2	3	2	2	1	2	2	3		
	CO3	2	2	1	2	3	1	3		
	CO4	2	1	1	2	2	2	3		
	CO5	1	1	1	2	3	2	3		
	CO6	2	1	2	2	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Introduction, Immunity, antigens &their classification, complement and their biological functions, types of immune responses, anatomy of immune response.

UNIT II **12**

B-lymphocytes and their maturation, activation &differentiation, structure and function of immunoglobulin, immunoglobulin classes, antibody production, mono-clonal antibodies and diagnosis major histocompatibility complex.

UNIT III **12**

T-Lymphocytes their classification, maturation, activation & differentiation, antigen presenting, cells (APC), macrophages, langerhans cells, their origin and function, mechanisms of phagocytosis, Cytokines and their role in immune response, immunosuppression, immune tolerance.

UNIT IV **12**

Principle and application: Precipitation- immuno diffusion & widal test, Agglutination reactions, radio immuno assay, ELISA, Complement fixation test, Immuno fluorescence technique, Immunoelecctrophoresis-Hypersensitivity reactions.

UNIT V **12**

Graft rejection, evidence and mechanisms of graft rejection, prevention of graft rejection-immunosuppressive drugs, mechanisms of immunity to tumour antigens. Auto antibodies in humans, pathogenic mechanisms -autoimmune diseases- treatment of auto immune disorders.

TEXT BOOKS:

1. Owen J, Punt J and Stranford S. Kuby Immunology, 7th Edn., Macmillan Education, India, 2001.
2. Shetti N. Immunology: Introductory Text book, 2nd Edn., New Age International Limited, 2005.

REFERENCE BOOKS:

1. Lydyard P, Whelan A and Fanger M. Bios Instant notes in Immunology, 3rd Edn., Garland Science Publishers, 2011.
2. Delves PJ, Martin SJ, Burton DR and Roitt IM. Roitt's Essential Immunology, 12th Edn., Wiley Publishers, 2011.

Course Coordinator **HOD**

U18NCMI503	**rDNA TECHNOLOGY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Microbiology				

COURSE OBJECTIVES:-

Learners will be familiar with different restriction enzymes and vectors. Learners will understand the gene transfer techniques and sequencing methods.

COURSE OUTCOMES (COs)

CO1	Recall DNA, RNA and its isolation methods.
CO2	Recognize the concept of gene manipulation.
CO3	Apply plasmid and cosmids as vectors.

CO4	Analyze the role of hybrid vectors.
CO5	Evaluate the importance of gene transfer techniques.
CO6	Create new sequencing methods based on the already proposed standards.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	2	2	3		
	CO2	3	3	2	2	3	2	3		
	CO3	3	2	1	1	3	2	2		
	CO4	2	2	1	1	2	1	2		
	CO5	3	3	2	1	3	2	3		
	CO6	3	3	3	3	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Gene manipulation – Definition and Application, Restriction Enzymes, Discovery, Types and Mode of Action, Ligases and Methylases.

UNIT I **12**

Isolation - Purification of DNA (Chromosomal and Plasmid), Isolation and Purification of RNA, Chemical Synthesis of DNA, Genomic Library and cDNA Library.

UNIT III **12**

Vectors – Plasmid based Vectors- Natural (PSC101, PSF2124, PMB1), Artificial – pBR322 & pUC Construction: Phage based Vectors- ג (Lamda) phage Vectors and its Derivatives: Hybrid Vectors- Phagemid, Phasmid and Cosmid, BAC and YAC.

UNIT IV **12**

Gene Transfer Techniques: Physical – Biolistic Method, Chemical- Calcium chloride and DEAE Methods , Biological invitro package method - Screening and Selection of recombinants- Direct Method – Selection by Complementation, -Indirect Methods-

Immunological and Genetic Methods.

UNIT V **12**

PCR, DNA Sequencing (Sanger's Method) Blotting (Southern, Western, Northern) Techniques, RFLP and Application, - RAPD and Application - Microarray. Protein Engineering.

TEXT BOOKS:

1. Old RW and Primrose. Principles of Gene Manipulation, 5th edition, Blackwell Scientific Publication, Boston, 1999.
2. Winnecker ED. From gene to clones, Introduction to Gene Technology, VCH Publication, FRG., 1987.

REFERENCE BOOKS:

1. Brown TA. An introduction to Gene Cloning, 3rd Ed., Champman and Hall, 1995.
2. Glick BR and Pasternak JJ. Molecular Biotechnology - Principles and Application of recombinant DNA, ASM Press, Washington, 1994.

Course Coordinator **HOD**

U18MCMI5L1	**FOOD MICROBIOLOGY LAB**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course –Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Microbiology				

COURSE OBJECTIVES:-

Learners will be familiar with isolation and identification of different microbes from various food samples.

Learners will understand the process of production of fermented products.

COURSE OUTCOMES (COs)

CO1	Perform the complicated microbiological tests.
CO2	Handle and operate the sophisticated instruments and equipments.
CO3	Calibrate the equipments according to the test objectives.

CO4	Measures the microbial load in normal and spoiled foods.
CO5	Sketches and write the interpretation and inferences.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	2	2	3	3		
	CO2	3	2	1	1	2	3	3		
	CO3	3	3	2	2	3	3	3		
	CO4	2	2	1	1	2	3	3		
	CO5	3	3	3	3	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

1. Isolation of *Lactobacillus* from curd sample.
2. Immobilization of yeast.
3. Quality analysis of milk using the Methylene blue reductase test.
4. Isolation of microorganisms from food spoilers.
5. Enumeration of microorganisms in juice sample.
6. Preparation of cheese and yogurt.
7. Estimation of water quality using MPN technique.
8. Enumeration of microbial isolates from Milk sample.
9. Isolation of coli phages from waste water.
10. Physical examination of Milk sample.

11. Extracellular enzyme activities – cellulase, protease, amylase.

TEXT BOOKS:

1. Ray B. Fundamentals of Food Microbiology, CRC Press, USA, 1996.
2. Jay JM. Modern Food Microbiology, Chapman and Hall, New York, 1996.

REFERENCE BOOKS:

1. Banwart GJ. Basic Food Microbiology, CBS Publishers & Distributors Pvt. Ltd, 1993.
2. Frazier WC and Westhoff DC. Food Microbiology, Mc Graw-Hill, New York, 1988.

Course Coordinator **HOD**

U18MCMI5L2	**FERMENTATION LAB**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course –Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Microbiology				

COURSE OBJECTIVES:-

Learners will be familiar with the production of fermented products. Learners will understand the production of biofuels and bio surfactant.

COURSE OUTCOMES (COs)	
CO1	Constructs the bioreactors for large scale production.
CO2	Calibrates the machineries in order to obtain the beneficial products effectively.
CO3	Organizes and perform the production method sequentially.

CO4	Operates the fermentor and other related instruments professionally.
CO5	Fastens the skills in developing the fermented products.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	1	2	1	3		
	CO2	3	2	1	1	2	1	2		
	CO3	3	2	1	1	2	1	3		
	CO4	2	2	2	1	2	1	2		
	CO5	3	3	2	2	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

1. Fermentative production of amylase by *Aspergillus niger* using soy bean meal.
2. Wine production using grapes by *Saccharomyces cerevisiae.*.
3. Operational procedures of bioreactors.
4. Production of Antibiotic Bacitracin by *Bacillus sp*.
5. Production of Vitamin B12.
6. Cultivation of mushroom *in vitro* studies.
7. Fermentation of citrus juices.
8. Bio-ethanol production by using *Zymomonas mobilis*.
9. Bio-surfactant production.
10. Production of probiotics from Lactic acid bacteria.

TEXT BOOKS:

1. Stanburry PF and Whitaker . Principles of fermentation technology, Pergamon Press, 2nd Edition, Butterworth Heinemann - Elsevier, 1999.
2. Sinnotl RK. Coulson and Richardson's Chemical Engineering, 3rd Ed., Butterworth Heinemann - Elsevier Pub, 2001.

REFERENCE BOOKS:

1. Arnold Demain and Julian E Davis. Manual of Industrial Microbiology and Biotechnology, 2nd Ed, ASM Press, Washington DC, 1999.
2. Ashok Pandey, Carlos Ricardo Soccol and Christian Larroche. Current developments in Solid Substrate fermentation, Oxford University Press, Great Clarendon Street, 2008.

Course Coordinator **HOD**

U18MCMI601	**FERMENTATION TECHNOLOGY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Microbiology				

COURSE OBJECTIVES:-

Learners will be familiar with fermentation techniques. Learners will understand the methods of production of beverages, vitamins, antibiotics and enzymes.

COURSE OUTCOMES (COs)	
CO1	Recall the fermentation process.
CO2	Recognize the concept of industrially important microbial strain screening methods.
CO3	Apply different methods in the production of vitamins, enzymes using microbes.

CO4	Analyze the standards that to be followed during production.
CO5	Evaluate the importance of microbes in SCP production.
CO6	Create and develop the methods for downstream process.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	2	2	3		
	CO2	3	3	2	2	3	2	3		
	CO3	3	2	1	1	2	1	3		
	CO4	3	3	3	3	3	3	3		
	CO5	2	2	1	2	3	2	2		
	CO6	3	3	1	1	2	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Fermentation- Definition & types - Submerged and Solid state.Fermentors & its types (Tower, cylindroconical & airlift) – Batch fermentation – Continuous fermentation.

UNIT II **12**

Industrially important strains- Screening methods- Strain development for Improved yield- Mutation, Recombination and protoplasmic fusion.

UNIT III **12**

Production of beverages – beer and wine- vitamin B12 and Riboflavin –Antibiotics- penicillin and streptomycin- production of enzymes- Amylases and Proteases- methods of immobilization.

UNIT IV **12**

Single cell protein- Bakers yeast, spirulina- Details of mushroom development-Oyster (Pleurotus) and Button (Agaricus) mushroom.

UNIT V **12**

Downstream process- Intercellular and extracellular- Centrifugation, filtration, Floatation- solvent extraction, precipitation- Breakage of cells- physical and Chemical methods.

TEXT BOOKS:

1. Stanbury PT and Whitaker. Principles of Fermentation Technology, Pergamon Press, NY, 1984.
2. Casida LEJR. Industrial Microbiology, New Age International Publishers, 1968.

REFERENCE BOOKS:

1. Prescott and Rehm. Industrial Microbiology, Wiley and Sons, 1979.
2. Michael L Shuler and Fikret Kargi. Bioprocess Engineering, Basic Concepts, 2nd Ed., Prentice Hall of India Pvt. Ltd., 2002.

Course Coordinator **HOD**

U18MCMI602	**VIROLOGY, MYCOLOGY AND PARASITOLOGY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Microbiology				

COURSE OBJECTIVES:-

Learners will be familiar with viral and fungal diseases. Learners will understand about the various parasites causing infections in humans.

COURSE OUTCOMES (COs)

CO1	Recall the definition and properties of viruses and fungi.
CO2	Recognize the detection of viruses and antigens in clinical specimens.
CO3	Apply the uses of bacteriophages in microbiology.

CO4	Analyze the medical importance of fungi.
CO5	Evaluate the applications of bacteriophages in bacterial genetics.
CO6	Create and develop the diagnostic methods for identifying parasitical infections.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	1	2	3	2		
	CO2	3	3	2	2	3	2	3		
	CO3	3	2	1	1	2	2	3		
	CO4	2	2	1	1	2	2	2		
	CO5	3	3	2	2	2	2	3		
	CO6	3	3	2	3	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

General properties of viruses - Detection of viruses and antigens in clinical specimens - Serological diagnosis of virus infections. Cultivation of viruses. Structure & properties of viroids, prions.

UNIT II **12**

Arthropod borne and rodent borne virus diseases - Picorna viruses and diseases, Hepatitis viruses-Rabies and other neuro viruses - Orthomyxo and paramyxo viruses. Pox, Adeno, Herpes, Reo, Rota and AIDS viruses-Oncogenic viruses-Viral vaccines, their preparation and their immunization schedules-Viruses of importance to plants and soil.

UNIT III **12**

Viruses of importance to bacteria - Bacteriophages - Their structure, types - Uses in Microbiology - Typing and application in bacterial genetics.

UNIT IV **12**

General Introduction Morphology and taxonomy of fungi of medical importance-Detection

and recovery of fungi from clinical specimens- Dermatophytes and agents of superficial mycoses Yeasts of medical importance dimorphic fungi causing systemic mycoses.

UNIT V **12**

Classification Morphology, Pathogenicity, lab diagnosis of common protozoan diseases- Amoebiasis, Giardiasis, Balantidiosis, Trypanosomiasis, Malaria, Toxoplasmosis, Leishmaniasis. Classification Morphology, Pathogenicity, lab diagnosis of common parasitic metazoan diseases – Ascariasis, Hook worm, Filariasis, Hydatidosis, Taenia infection.

TEXT BOOKS:

1. Ananthanarayanan R and Jayaram Panicker CK. Text book of Microbiology, Orient Longman, 1994.
2. Baron EJ and Finegold SM. Diagnostic Microbiology, Blackwell Scientific Company, 1995.

REFERENCE BOOKS:

1. Singh V. Text book of Virology, 1st Edn., IBDC Publishers, 2010.
2. Oarsman SNJ, Van Zyl GU, Nutt L, Anderson MI and Preiser W. Virology Illustrated Colour text, 1st Edn., Elsevier Health Sciences, 2012.

Course Coordinator **HOD**

U18MCMI6L1	**IMMUNOLOGY LAB**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	0	0	6	3
	Prerequisite course –Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Microbiology				

COURSE OBJECTIVES:-

Learners will be familiar with immunological techniques. Learners will understand the different diagnostic tests that are used in identifying the diseases.

COURSE OUTCOMES (COs)

CO1	Perform the complicated diagnostic tests.
CO2	Handle and operate the sophisticated instruments and equipments.
CO3	Calibrate the equipments according to the diagnostic test objectives.

CO4	Manipulate the obtained values with reference range values.
CO5	Sketches and write the interpretation and inferences.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	2	3	2	3		
	CO2	3	3	2	1	3	2	2		
	CO3	3	2	2	2	2	2	3		
	CO4	2	2	1	1	2	1	2		
	CO5	3	3	2	1	2	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

1. SDS- Slab gel electrophoresis of immunoglobulins
2. Western blotting
3. Immunoelectrophoresis
4. Countercurrent Electrophoresis
5. Rocket Immunoelectrophoresis
6. Single radial immunodiffusion
7. Double immunodiffusion
8. Dot- ELISA
9. DEAE cellulose chromatography for IgG.
10. Affinity chromatography for antiserum purification

TEXT BOOKS:

1. Myers RL and Richard L Myers. Immunology A Laboratory Manual, 5th Ed., McGraw-hills Higher Education, 1954.

2. Henrikk Joakim Stafseth, Stockten and Newman. A Laboratory Manual for Immunology, Burgesss, 2004.

REFERENCE BOOKS:

1. Lydyard P and Whelan A and Fanger M. Bios Instant notes in Immunology, 3rd Edition, Garland Science Publishers, 2011.
2. Delves PJ, Martin SJ, Burton DR and Roitt IM. Roitt's Essential Immunology, 12th Edition, Wiley Publishers, 2011.

Course Coordinator **HOD**

U18EEMI6P1	**PROJECT (DISSERTATION AND VIVA-VOCE)**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	0	0	20	10
	Prerequisite course – Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. T.Kalaiyarasu & Biotechnology				

COURSE OBJECTIVES:-

To facilitate the students to understand the current scenario in computing technology and present the research report on their findings as per the acceptable format.

COURSE OUTCOMES (COs)	
CO1	List out the concept and objectives, nature, types and methods of project.
CO2	Choose the process and steps involved in preparation of project work, research gap
CO3	Practice the research design, and methodology , sampling techniques & sampling design

CO4	Calculate the statistical tools in the project for data analysis
CO5	Measure the major findings, suggestions and conclusion
CO6	Design the model for project report.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	2	3	3	2		
	CO2	2	3	1	3	2	2	3		
	CO3	3	3	3	2	3	3	1		
	CO4	3	2	3	3	1	2	2		
	CO5	3	1	3	1	2	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
										✓
4	Approval	Academic Council Meeting								

MAJOR ELECTIVES

	MAJOR ELECTIVE -I: FUNDAMENTALS OF MICROBIAL REMEDIATION	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
U18MEMI011	Prerequisite course –Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Microbiology				

COURSE OBJECTIVES:-

Learners will be familiar with waste water treatment. Learners will understand the solid waste management and microbial leaching.

COURSE OUTCOMES (COs)

CO1	Recall the pollutants and bioremediation process.

CO2	Recognize the concept of bioaugmentation.
CO3	Apply different methods to treat drinking water and waste water.
CO4	Analyze the pros and cons in solid waste management.
CO5	Evaluate the importance of microbes in leaching process.
CO6	Create and design the methods for various biodegradation process.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	2	1	1	2	2	3		
	CO2	3	2	2	2	3	2	3		
	CO3	3	3	2	2	3	2	2		
	CO4	2	2	1	1	2	3	3		
	CO5	3	3	2	1	3	2	3		
	CO6	3	3	2	2	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Bioremediation- process and organisms involved- Constraints and priorities of bioremediation. Major pollutants and polluted sites- Bioaugmentation; Ex-situ and in-situ processes; Intrinsic and engineered bioremediation.

UNIT II **12**

Pollutants and associated risks; Polyaromatic hydrocarbon pollution; organic pollutant degradation- Microbial aspects and metabolic aspects; Factors affecting the process; Recent developments.

UNIT III **12**

Microbes involved in aerobic and anaerobic processes in nature- Water treatment- BOD,COD, dissolved gases, removal of heavy metals, total organic carbon removal; secondary waste water treatments; use of membrane bioreactor; aquaculture effluent treatment; Aerobic sludge and landfill leachate process; aerobic digestion.

UNIT IV **12**

Composting of solid wastes, treatment of organic pollutants, anaerobic digestion: methane production and important factors involved, sulphur, iron and nitrate reduction, hydrocarbon degradation, dechlorination, nitroaromatic compounds degradation, bioremediation of dyes, bioremediation in paper and pulp industries; Aerobic and anaerobic digesters: design; various types of digester for bioremediation of industrial effluents; Pros and cons of anaerobic process.

UNIT V **12**

Microbial leaching of ores- process, microorganisms involved and metal recovery with special reference to copper and iron, Biotransformation of heavy metals and xenobiotics, Petroleum biodegradation; reductive and aerobic dechlorination. A brief account of biodegradable plastics and super bug.

TEXT BOOKS:

1. Lansing M Prescott, Donald A Klein and John P Harley. Microbiology, Mc Graw Hill, 1988.
2. Madigan MT, Martinko JM, Dunlap PV and Clark DP. Brock Biology of Microorganisms, Prentice Hall, USA, 2001.

REFERENCE BOOKS:

1. Prahlad Singh Mehra. A Textbook of Industrial Microbiology, I K International Publishing House, 2011.
2. Frazier WC and Westhoff DC. Industrial Microbiology, Mc Graw-Hill, New York, 1988.

Course Coordinator **HOD**

U18MEMI012	**MAJOR ELECTIVE-I: BIOINFORMATICS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course –Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Microbiology				

COURSE OBJECTIVES:-

Learners will be familiar with DNA sequences databases. Learners will understand the basics of programming languages.

COURSE OUTCOMES (COs)

CO1	Recall the internet and intranet packages.
CO2	Recognize the concept of programming languages, xml and html.

CO3	Apply the database concepts in sequencing.
CO4	Analyze the genome information resources.
CO5	Evaluate the importance of Genbank and UniGene.
CO6	Create the scope of bioinformatics in human genome project.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	2	2	2	2	3		
	CO2	3	3	2	2	2	1	2		
	CO3	2	2	1	1	2	1	2		
	CO4	3	3	2	1	2	1	3		
	CO5	3	3	2	2	3	3	3		
	CO6	3	3	3	3	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Bioinformatics – an Overview, Definition and History. Information Networks –Internet in Bioinformatics, EMBnet – Commercial Databases and Softwares, Intranet and Internet Packages, Bioinformatics Glossary.

UNIT II **12**

Languages – Basics of Programming Perl – Basics, String handling, subroutines. HTML – Basics, Tags, Text handling, Image handling, Links, Frames and Tables. XML – Basics, data binding and record sets.

UNIT III **12**

Protein Information Resources – Biological Databases, Primary Sequence Databases, Composite Protein Sequence Databases, - Secondary Databases – Prosite, Prints, Blocks Profiles and Identity.

UNIT IV **12**

Genome Information Resources – DNA sequence Databases – EMBL DDBJ, Genbank GSDB

(Genome, Sequence Database), UniGene-Comprehensive microbial Resource.

UNIT V **12**

Evolution of Bioinformatics – Scope – Potentials of Bioinformatics Human Genome Project – Bioinformatics in India – Future of Bioinformatics.

TEXT BOOKS:

1. Higgins D and Taylor W. Bioinformatics- Sequence, structure and databanks, 4th Ed., Oxford University Press, New Delhi, 2000.
2. Baxevanis A and Ouellette BF. Bioinformatics: A practical Guide to the Analysis of Genes and Proteins, Wiley-Interscience, Hoboken, NJ, 1998.

REFERENCE BOOKS:

1. Attwood TK and Parry-Smith DJ. Introduction to Bioinformatics, Pearson Education Ltd., New Delhi, 2004.
2. Arthur M Lesk. Introduction to Bioinformatics, Oxford University Press, New Delhi, 2003.

Course Coordinator **HOD**

U18MEMI013	**MAJOR ELECTIVE -I: MICROBIAL GENETICS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course –Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Microbiology				

COURSE OBJECTIVES:-

Learners will be familiar with mutation and DNA damage mechanisms. Learners will understand the transcription and translation process.

COURSE OUTCOMES (COs)	
CO1	Recall the DNA structure and DNA as a genetic material.
CO2	Recognize the principle behind DNA Replication and mutagenesis.

CO3	Apply different and specific tests to detect the mutants.
CO4	Analyze the concept of central dogma.
CO5	Evaluate the genetic exchange process.
CO6	Create artificial gene transfer mechanism in microbes.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	2	1	1	2	1	2		
	CO2	3	3	2	1	3	2	3		
	CO3	3	2	1	2	2	2	2		
	CO4	3	3	2	2	2	2	3		
	CO5	3	2	2	1	2	1	2		
	CO6	3	3	3	3	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Chromosome organization in Microbial Cells, structure and function of DNA, RNA & its types. Extrachromosomal DNA (Plasmid).

UNIT II **12**

DNA replication in prokaryotes - Meselson-Stahl experiment, Mechanism and enzymology of replication, DNA and RNA polymerase enzymes structure, Rolling circle replication.

UNIT III **12**

Mutation - types of mutation - spontaneous and induced - mutagen and mutagenesis. Detection of mutants, Ames test. DNA repair mechanism.

UNIT IV **12**

Transcription in prokaryotes - Translation of proteins. Regulation of gene expression in prokaryotes -Lac operon. Genetic code.

UNIT V **12**

Genetic exchange - Transformation, Conjugation and Transduction (Specialized and Generalized). Transposons.

TEXT BOOKS:

1. David R Hyde. Genetics and Molecular biology, Special Indian Edition, Tata McGraw Hill Pvt. Ltd., New Delhi, 1996.
2. Klug WS and Gummings MR. Essentials of Genetics, Mentics Hail, New Jersey, 1999.

REFERENCE BOOKS:

1. Peter Paolella. Introduction to Molecular Biology, First edition, Tata McGraw-Hill P. Ltd., New Delhi, 2010.
2. Gardner EJ, Simmons MJ and Snusted DP. Principles of Genetics, John Wiley & Sons, NY, 1991.
3. Ajoy Paul. Text Book of Cell and Molecular Biology, 1st Ed., Books Allied (P) Ltd., Kolkata, 2007.

Course Coordinator **HOD**

U18MEMI021	**MAJOR ELECTIVE -II: NANOTECHNOLOGY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course –Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Microbiology				

COURSE OBJECTIVES:-

Learners will be familiar with Nanopharmaceuticals. Learners will understand the various applications of nanotechnology in biological therapies.

COURSE OUTCOMES (COs)

CO1	Recalls the biopharmaceuticals.
CO2	Recognize the need of nanobiotechnology for drug discovery.

CO3	Apply the concept of nanobiotechnology in tissue engineering and targeted drug delivery.
CO4	Analyze the role of nanoparticle in stem cell based therapy.
CO5	Evaluate the importance of dendrimers.
CO6	Create and design the measures to reduce the toxicity of nanoparticles.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	2	1	1	2	1	3		
	CO2	3	3	2	2	3	2	3		
	CO3	3	2	1	1	2	3	2		
	CO4	3	3	2	2	3	3	3		
	CO5	3	3	3	2	3	2	3		
	CO6	3	3	3	3	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Pharmaceuticals, Biologics and Biopharmaceuticals – Pharmaceutical products, biopharmaceuticals and pharmaceutical Biotechnology, history of pharmaceutical industry, the age of Biopharmaceuticals, Biopharmaceuticals: current status and future prospects, traditional pharmaceuticals of biological origin, distinction between chemical drugs versus biopharmaceuticals, sources and delivery of biopharmaceuticals.

UNIT II **12**

Nanopharmaceuticals – Nanobiotechnology for drug discovery - gold nanoparticles and nanolasers for drug discovery. Nanobiotechnology based drug development – Dendrimers as drugs, fullerenes as drug candidates and nanobodies. Nanobiotechnology and drug delivery devices - coating of implants by ultrafine layers of polymers, delivery systems for cell therapy and #nanochips for drug delivery.

UNIT III **12**

Regenerative medicine and tissue engineering – Targeted drug delivery, Nanobiotechnology in tissue engineering - three dimensional nanofilament based scaffolds. Nanobiotechnology for organ replacement and assisted function - Exosomes for drug free organ transplants,

Nanotechnology based human nephron filter for renal failure and #Blood-compatible membranes for renal dialysis.

UNIT IV **12**

Role of Nanotechnology in biological therapies – Nanobiotechnology for vaccine delivery, nanobiotechnology and cell transplantation, nanobiotechnology in stem cell based therapies, Nanoparticle mediated gene therapy and nanorod gene therapy, nanocarriers for simultaneous delivery of anticancer drugs, dendrimers for antisense drug delivery.

UNIT V **12**

Ethical, Safety and regulatory issues of Nanomedicine – Ethical, legal and social implications of Nanomedicine (Nanoethics), safety concerns about nanobiotechnology – toxicity of Nanoparticle, fate of Nanoparticle in the human body, measures to reduce toxicity of Nanoparticles, public perception of safety and future potentials of Nanomedicine.

TEXT BOOKS:

1. Christof M Niemeyer and Chad A Mirkin. Nanobiotechnology: Concepts, Applications and Perspectives, 1st edition, Wiley-VCH, 1994.
2. Fiorani D. Fundamental Properties of Nanostructured Materials, 3rd Ed., World Scientific, Singapore, 2002.

REFERENCE BOOKS:

1. Chaudry L Castle and Watkins R. Nanotechnologies in Food, RSC Publications, 2010.
2. Nalwa HS. Encyclopedia of nanoscience and nanotechnology, 3rd Ed., American Scientific Publishers, 2007.

Course Coordinator **HOD**

U18MEMI022	**MAJOR ELECTIVE -II: DIAGNOSTIC MICROBIOLOGY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course –Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Microbiology				

COURSE OBJECTIVES:-

Learners will be familiar with laboratory techniques for diagnosis. Learners will understand the various microbiological related diagnostic tools, techniques and biochemical tests.

COURSE OUTCOMES (COs)

CO1	Recall the specimen collection methods and staining techniques.

CO2	Recognize the motility test, biochemical test and susceptibility test.
CO3	Apply various advanced tests and techniques in identifying the microbes.
CO4	Analyze the role of biochemical tests for detection of fungi and parasites.
CO5	Evaluate the importance of Immunoassays.
CO6	Create and design the antibodies against viral pathogens, antigen.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	2	1	3		
	CO2	3	3	2	2	3	2	3		
	CO3	3	2	1	1	3	2	2		
	CO4	3	3	2	1	3	2	2		
	CO5	2	2	1	2	2	3	3		
	CO6	3	3	3	3	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Selection, collection and transport of specimens – Blood, Urine, Sputum, CSF, Pus & Faeces – transport media and storage. Microscopic examination of specimen for Bacterial pathogens – simple, differential staining and motility. Identification of organisms - Biochemical reaction – Sugar fermentation test - Susceptibility testing – MIC, E test - reporting of results & interpretation.

UNIT II **12**

Serology – Antigen - antibody reactions – Agglutinations (blood grouping, WIDAL) RPR and Hemaaglutination. Precipitation (VDRL), Immunodiffusion – mono and double immunodiffusion, Immunoelectorophoresis (rocket, counter current). ELISA, Radioimmune assay (RIA). Advanced techniques – automated methods – ELISA, RIA. Quantitative study of Antigen - Antibody reactions. Immunosensors. CD4, CD8 cell counting, Western blot analysis for HIV.

UNIT III **12**

Laboratory methods in basic Mycology –Collection and transport of clinical specimens – Direct Microscopic examination, culture media and incubation, Serological tests for fungi –

Antifungal susceptibility testing. Mycology: superficial infections- Dermatophytes- Microsporum – *Trichophyton, Epidermophyton- Madura mycosis*- Opportunistic fungal infections- *Candida albicans, Aspergillus sp.*(FBS).

UNIT IV **12**

Laboratory methods for parasitic infections – Diagnostic techniques for faecal, gastrointestinal and urino-genital specimen. Parasitic diseases- *Entamoeba histolytica, Giardia, Taenia solium, Ascaris, Enterobius, Trichuris trichura, Plasmodium vivax, Wuchereria bancrofti*. Identification of Intestinal Protozoa – Amoeba, Blood protozoa – Malaria, Intestinal Helminthes: *Ascaris, Taenia, Entrobius* and Blood Helminthes: *Wuchereria bancrofti*.

UNIT V **12**

Laboratory methods in basic Virology- Viral culture- Media and cells used – Specimen processing – isolation and identification of viruses. Detection of viral antigen (fluorescent antibody and solid phase immunoassays). Viral Serology. Special consideration- Hepatitis and AIDS. Antibiotics and chemotherapeutic agents- Mechanism of actions – Drug resistance – Antimicrobial susceptibility testing- Disc diffusion- Kirby Bauer method.

TEXT BOOKS:

1. Monica Chees brough. Medical laboratory manual for tropical countries, Elseiver Health Sciences, Butter worths, 1987.
2. Bailey and Scott. Diagnostic Microbiology, Eighth edition, The Mosby Company, 1990

REFERENCE BOOKS:

1. Abdul Khader. Medical laboratory techniques, First edition, Frontline Publications, Hyderabad, 2003.
2.Connie Mahon and Donald Lehman. Text book of Diagnostic microbiology, 6th Edition, Elseiver, 2018.

Course Coordinator **HOD**

U18MEMI023	**MAJOR ELECTIVE -1I: BIOSAFETY, BIOETHICS AND IPR**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course –Biology at Higher Secondary Education				
	Course Coordinator Name & Department:- Dr. J. Senthil & Microbiology				

COURSE OBJECTIVES:-

Learners will be familiar with biosafety measures. Learners will understand the bioethics, methods and applications of patents.

COURSE OUTCOMES (COs)

CO1	Recall the biosafety measures that are followed in biological field.

CO2	Recognize the biosafety levels of infectious agents and infected animals.
CO3	Apply the government implemented biosafety guidelines in bioresearch field.
CO4	Analyze the bioethical concerns and decision making.
CO5	Evaluate the importance of patents and its legal implications.
CO6	Create an understanding of patent law legal development.

Mapping of Course Outcomes with Program Outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	2	1	1	2	1	2		
	CO2	3	3	2	2	3	2	3		
	CO3	2	2	1	2	2	2	3		
	CO4	3	3	2	2	3	2	2		
	CO5	3	3	3	3	3	3	3		
	CO6	3	3	2	2	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Bio ethics-concepts-Philosophical considerations-epistemology of science, ethical terms, principles and theories relevance to bio technology-Ethical and law issues-Medical techniques-Trans humanism and bio weapons.

UNIT II **12**

Research concerns-animal rights, ethics of human cloning, emerging issue biotechnology's impact on society.DNA on the witness stand and use of genetics evidence in civil and criminal court cases. Challenges to public policy regulations, improving public understanding of biotechnology products to correct misconceptions.

UNIT III **12**

Introduction to IPR-basics of patents, types of patents indian patent Act1970 recent amendments, filing patent application, precautions before patenting –disclosure and non disclosure. WIP Otreaties, Budapert treaty, PCT and implication, procedure for filing a PCT

application, types of IP-patent, trademarks, copyrights. International frame work for the protection of IP and to history of GATT, WTO. WIPO and TRIPS global scenario of patents and Indian position.

UNIT IV **12**

Patent filing infringement-application forms and guidelines, fee structure and time frames. Types of patenting-requirement procedure and costs, financial assistance for patenting and publication of patents - gazette of India, status in Europe and us patenting by research students. Patent meaning, scope, litigation case studies and examples.

UNIT V **12**

Biosafety committee, RCGM, GEAC of GMoS and LMoS- Definition –roles of institutional biosafety committee. GMos applications in food and agriculture environmental release of GMoS. Biosafety levels and primary containment for biohazards recommended biosafety levels for infectious levels of specific microorganism.

TEXT BOOKS:

1. Ellen Frankel Paul and Fred. Miller. Bioethics, Cambridge University Press, 2002.
2. John A Bryant and Linda Baggott la Vella. Bioethics and Science, 2002.

REFERENCE BOOKS:

1. Emanuel E Crouch and Grady C Baltimore Maryland. John's Hopkins University Press, 2003.

Course Coordinator **HOD**

SKILL BASED ELECTIVES

U18SEBC001	**BUSINESS PROCESS OUTSOURCING - MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. J. Saranya & Commerce				

COURSE OBJECTIVES:-

Learners will be familiar with the basic fundamentals of BPO, to impart knowledge on types of BPO and call centers, to enable the students on the concept Health care BPO & Transaction BPO and to peep into the concept of Human Resource BPO and the career opportunities in BPO.

COURSE OUTCOMES (COs)	
CO1	Underline the with the basic fundamentals of BPO .
CO2	Discuss the Can develop awareness about Types of BPOs and Call centres.
CO3	Initiate to be aware of the concept of Health care BPOs.
CO4	Identify the aware of the concept of Transaction BPOs.
CO5	Evaluate Develop confidence in Human Resource BPO and career opportunities in BPOs.
CO6	Formulate the Types of Transaction Processing BPO in India.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	1	2	3	1		
	CO2	2	1	3	2	3	3	3		
	CO3	1	3	1	3	3	3	1		
	CO4	3	3	3	1	3	1	3		
	CO5	3	3	3	2	2	1	2		
	CO6	2	1	3	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Business Process Outsourcing – Basics – Benefits of BPO – BPO companies in India.

UNIT II **6**

BPO Industry – Employment Opportunities – types of BPO – Call centers – Types of Call Centers – Issues and Problems.

UNIT III **6**

Health Care - BPO - Structure of foreign Health Care sector – Future Trends and Threats.

UNIT IV **6**

Transaction Processing BPO – Elements of Back Office services – Types of Transaction Processing BPO in India.

UNIT V **6**

Human Resource BPO - Reasons for outsourcing HR – Activities involved in HR BPO – HR outsourcing Trends – Carrier in HR BPO.

TEXT BOOKS:

1. John K Holvey, Borboro Murphy Melby. Business Process Outsourcing, Wiley Publishers, 2007.
2. Sarika Kulkarni. Business Process Outsourcing, Jaico Publishing house, 2005.
3. Rick L Click, Thomas N Duening. Business Process Outsourcing, John Willey & sons, Publisher, 2004.

REFERENCE BOOKS:

1. Deepak Shikapur, BPO DIGEST, Ameya (Inspiring books), 2004.
2. Clifton. System analysis for business data processing, Prentice hall Publications.

Course Coordinator **HOD**

U18SEBC002	**CUSTOMER RELATIONSHIP MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. R. Priya & Commerce				

COURSE OBJECTIVES:-

Learners will be familiar with the basic fundamentals of CRM, to impart knowledge about process and importance of CRM, to enable the students on the concept of technological solutions to CRM and to expose the student on Trends and challenges in CRM.

COURSE OUTCOMES (COs)

CO1	Recognise and familiarize with the basic fundamentals of CRM.

CO2	Demonstrate and develop awareness about process and importance of customer retention.
CO3	Practice to be aware of the concept of technological applications in CRM.
CO4	Correlate to respond to the concept of CRM software solutions for B2C and B2B markets.
CO5	Validate the develop confidence on trends and challenges.
CO6	Design the Customer Databases and Information Systems.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	2	3	3	2	2	2		
	CO2	1	3	3	2	2	2	3		
	CO3	3	2	2	3	3	3	1		
	CO4	3	2	3	2	1	2	3		
	CO5	3	2	2	1	2	1	3		
	CO6	3	3	3	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Customer Relationship Management Introduction - Meaning and Definition - Importance - Benefits and difficulties of CRM.

UNIT II **6**

CRM Process and Implementation Introduction - customer Retention - Customer satisfaction - Importance of customer retention - CRM process for B2B markets.

UNIT III **6**

Technological Support in CRM Introduction - Types of Technological Applications in CRM.

UNIT IV **6**

Customer Databases and Information Systems - CRM Software Solutions for B2C and B2B Markets.

UNIT V **6**

E-CRM – Emerging Trend in CRM Introduction - Challenges involved in formulating and implementing e-CRM strategies.

TEXT BOOKS:

1. Balasubramaniyan K. Essence of customers relationship management, learn tech press.
2. Jagdish N Sheth, Atul Parvatiyar, Shainesh G. Customers relationship management, McGraw Hill Publisher, 2000.
3. Roger J Baran and Robert J Galka. Customers relationship management, Routledge publisher, 2013.

REFERENCE BOOKS:

1. Peeru Mohamed M. Customer relationship management, Vikas publications.
2. Kaushik Mukerjee. Customer relationship management PHI .

Course Coordinator **HOD**

U18SEBC003	**ENTREPRENEURIAL DEVELOPMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. S. Jayanthy & Commerce				

COURSE OBJECTIVES:-

Learners will be familiar with the basic fundamentals of Entrepreneurship, to impart knowledge on Project identification, selection and formulation, to enable the students on the concept of types of organization, to peep into the concept of commercial banks and to enable the students on the concept of women entrepreneurs.

COURSE OUTCOMES (COs)

CO1	Underline the Meaning Of Entrepreneur – Entrepreneur and Intrapreneur
CO2	Explain the Identification – Selection of the Project
CO3	Apply Selection of Types of Organization – Sole Proprietorship- Partnership Joint Stock Company
CO4	Appraise to Institutional finance to entrepreneurs
CO5	Estimate the Factors Influencing The Choice Of Organization
CO6	Develop the Role and Problems of Women Entrepreneurs

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	1	2	3	1		
	CO2	2	1	3	2	3	3	3		
	CO3	1	3	1	3	3	3	1		
	CO4	3	3	3	1	3	1	3		
	CO5	3	3	3	2	2	1	2		
	CO6	2	1	3	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Meaning Of Entrepreneur – Entrepreneur and Intrapreneur – Qualities Of Entrepreneur – Characteristics Of Entrepreneur – Types Of Entrepreneur – Function Of An Entrepreneur.

UNIT II **6**

Project Identification – Selection of the Project – Project Formulation –Preparation Of Project Report.

UNIT III **6**

Selection of Types Of Organization – Sole Proprietorship- Partnership Joint Stock Company – Factors Influencing The Choice Of Organization.

UNIT IV **6**

Institutional finance to entrepreneurs - commercial banks –IDBI, IFCI, ICICI, IRBI, SFC, DICs, SIDC, SIDBI And EXIM Bank

UNIT V **6**

Women Entrepreneurs – Role – Problems of Women Entrepreneurs – Suggestions For Development Of Women Entrepreneurs.

TEXT BOOKS:

1. Gupta CB. Entrepreneurship Development in India, Sultan Chand.
2. Khanka SS. Entrepreneurship Development, S Chand & Co., New Delhi.
3. Gupta CB and Srinivasan NP. Entrepreneurship Development, Sultan Chand & Sons, New Delhi.

REFERENCE BOOKS:

1. Sarvanavel PE. Entrepreneurship Development, Ess Pee Kay Publishing House.
2. Jaswer Singh Saini. Entrepreneurship Development, Deep and Deep Publication, New Delhi.
3. Jayashree Suresh. Entrepreneurship Development, Margham Publication, Chennai.

Course Coordinator **HOD**

U18SEBC004	**HUMAN RESOURCE MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. R. Velankanni & Commerce				

COURSE OBJECTIVES:-

Learners will be familiar with the importance of HR, impart knowledge and important factors in HR and enable them on the needs and methods of training.

COURSE OUTCOMES (COs)	
CO1	Identify the Importance of Human Resource and objectives.
CO2	Describe the Human Resource Planning.

CO3	Practice to Sources of Recruitment - Selection – Steps in Selection.
CO4	Analyze Needs of training – Methods of Training.
CO5	Evaluate the Process and Methods of Performance Appraisal.
CO6	Formulate the Qualities of Personnel Manager.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	3	1	3	1		
	CO2	2	2	1	3	3	1	3		
	CO3	2	2	3	2	3	3	2		
	CO4	3	1	3	1	1	2	3		
	CO5	1	3	2	2	2	3	3		
	CO6	3	2	2	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Definition – Importance of Human Resource – Objectives – Qualities of Personnel Manager.

UNIT II **6**

Human Resource Planning – Importance factors – Steps in HR Planning.

UNIT III **6**

Recruitment – Objectives – Sources of Recruitment - Selection – Steps in Selection.

UNIT IV **6**

Training – Definition – Needs of training – Methods of Training – On the job training – Off the job Training.

UNIT V **6**

Performance Appraisal - Objectives – Process – Methods of Performance Appraisal.

TEXT BOOKS:

1. Prasad LM. Human Resource Management, S Chand & Sons, 2013.
2. Mamoria CB and Gankar SV, Personnel Management, Himalaya Pub., 2012.
3. Sharma AM. Human Resource Management, Himalaya Publishing House, 2005.

REFERENCE BOOKS:

1. Khanka SS. Human Resource Management, S Chand Ltd., 2007.
2. Gary Dessler. Human Resource Management, Prentice Hall, 8th Edition, 2000.

Course Coordinator **HOD**

U18SEBC005	**MARKETING MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Dr. J. Anudevi & Commerce				

COURSE OBJECTIVES:-

Learners will be familiar with the fundamentals of marketing and its role, to examine the factors influencing buying behavior and enable them to promote advertising and its sales scope.

COURSE OUTCOMES (COs)

CO1	Underline the Fundamentals of Marketing – Role of Marketing .
CO2	Describe the Factors influencing buying behavior

CO3	Interpret the Marketing segmentation – Needs - Types of segmentation
CO4	Analyze to New product development process – Product life cycle
CO5	Revise the Awareness of consumer rights in the market place
CO6	Collect the Advertising – Scope of Advertising

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	3	2	3	1		
	CO2	2	3	3	2	3	3	3		
	CO3	1	3	1	3	2	3	3		
	CO4	3	2	3	1	3	1	2		
	CO5	3	3	2	3	2	1	2		
	CO6	2	1	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Marketing- Definition – Fundamentals of Marketing – Role of Marketing – Relationship of marketing with other functional areas – Marketing Mix.

UNIT II **6**

Buyer Behaviour – Buying motives – Factors influencing buying behavior - Marketing segmentation – Needs - Types of segmentation .

UNIT III **6**

The Product – Characteristics – Benefits – Classifications – New product development process – Product life cycle – Branding – Packaging.

UNIT IV **6**

Physical Distribution - Importance - Various kinds of Marketing Channels – Distribution

Problems-Awareness of consumer rights in the market place.

UNIT V **6**

Advertising – Scope of Advertising – Personal selling – Direct selling and Sales Promotions.

TEXT BOOKS:

1. Berkoviz Kerin Hontley Rudelivs. MARKETING, New York, Mcgraw Hill Publications.
2. Gony Armstrong and Philip Kotler. Marketing an Introduction, Pearson Education Asia.
3. Philip Kotler. Marketing Management (Millennium ed.,), Prentice Hall of India (P) Ltd., New Delhi.

REFERENCE BOOKS:

1. Rajan Saxena. Marketing Management, 2nd edition, Tata Mcgraw Hill Publishing Co. Ltd., New Delhi.
2. Ramasamy VS and Namakumari S. Marketing Management, Planning, Implementation & control, Macmillan, New Delhi.

Course Coordinator **HOD**

U18SEBC006	**OFFICE MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Dr. M. Sankar & Commerce				

COURSE OBJECTIVES:-

Learners will be familiar with the concept and importance of office management, to impart knowledge on features and classification of Communication, to expose handling correspondence and market registers

COURSE OUTCOMES (COs)

CO1	Record the Concept and Importance of Office and Office Management.

CO2	Report the Arrangement and adjustment : Furniture, allotment of seats
CO3	Apply to Handling of correspondence and market registers
CO4	Experiment the preparation and play of manuals and charts
CO5	Select the Office staff – Selection- training - Supervision
CO6	Creates Office Accommodation and Environment

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	3	3	3	1	2	2		
	CO2	1	2	3	2	2	3	3		
	CO3	3	2	2	3	3	1	3		
	CO4	3	1	3	3	1	3	2		
	CO5	3	2	2	1	2	2	1		
	CO6	3	3	1	3	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Introduction – Concept and Importance of Office and Office Management - Office Accommodation and Environment -Reception : Importance, shape and size, control.

UNIT II **6**

Communication: Feature, classification, barriers - Arrangement and adjustment : Furniture, allotment of seats, chambers, cabins rooms etc.

UNIT III **6**

Handling of correspondence and market registers, filling forms and stationery. Office Machines - Kind of office machines.

UNIT IV **6**

Use of machines, installing, handling, maintenance –Manuals and charts- Advantages of

office manuals charts - preparation and play of manuals and charts.

UNIT V **6**

Office staff – Selection- training - Supervision - span of supervision

TEXT BOOKS:

1. Ghosh and Agarwal. Office Management, S Chand & Company, New Delhi.
2. Pillai RSN and Bagavathi. Office Management, S Chand & Company, New Delhi, 2013.
3. Dr. Chopra RK and Priyanka Gauri. Office Management, Himalaya Publishing House, 2017.

REFERENCE BOOKS:

1. Sudha GS. General Management, Pustak Prakashan, New Delhi.
2. Rajendra Paul. Modern Communication & Techniques, S Chand & Company, New Delhi.

Course Coordinator **HOD**

U18SEBC007	**RETAIL MARKETING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. J. Saranya & Commerce				

COURSE OBJECTIVES:-

Learners will be familiar with the functions and types of Retailing, to impart knowledge on Retail consumer behavior and its types and to expose the student on promoting sales, public relation and advertising.

COURSE OUTCOMES (COs)

CO1	Underline the Characteristics - Functions of retailing - Types of Retailing
CO2	Express the - Retail Consumer buying behavior and types
CO3	Schedule the Retail Organization Structure
CO4	Categorize to Factors affecting store lay out
CO5	Assess the Sales promotion - Advertising
CO6	Creates the Retail Marketing Mix

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	2	3	3	2	3	2		
	CO2	2	1	3	2	3	3	3		
	CO3	3	3	1	3	3	3	2		
	CO4	3	3	3	3	1	2	2		
	CO5	2	3	2	3	2	2	1		
	CO6	3	2	3	1	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Retailing – Definition – Importance – Characteristics - Functions of retailing - Types of Retailing.

UNIT II **6**

Retail Marketing Mix - Retail Consumer buying behavior and types – Segmentation - Types of segmentation.

UNIT III **6**

Retail Organization Structure-Major Functional Areas-Careers in Retailing.

UNIT IV **6**

Store layout-Types of lay out-Factors affecting store lay out.

UNIT V **6**

Sales promotion - Advertising - Public Relation - Personal selling.

TEXT BOOKS:

1. George E Belch and Michael A Belch. Advertising and Promotion, McGraw Hill Company.
2. Ronald, Karen Whitehill king and Thomas J Russell. Kleppner's Advertising Procedure, Pearson Education International, Prentice Hall.
3. Prashant Chaudhary. Retail Marketing in the Modern Age, First Edition, Saga Publication, 2019.

REFERENCE BOOKS:

1. Gupta. Advertising and Sales Promotion, EPH Publisher.
2. Sarangi. Advertising and Sales Promotion, Asian Books.

Course Coordinator **HOD**

U18SEBC008	**SALESMANSHIP AND ADVERTISING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. G. Anandhi & Commerce				

COURSE OBJECTIVES:-

Learners will be familiar with the importance, role, objective of advertising, to impart knowledge on importance of salesmanship and to analyze the types of advertising and its benefits.

COURSE OUTCOMES (COs)

CO1	Repeat the Nature-Objectives and Scope of Advertising.
CO2	Explain the Types of Advertising-Commercial and Non-Commercial Advertising.

CO3	Interpret to Media selection-measuring advertising effectiveness .
CO4	Correlate the training and compensating sales men.
CO5	Judge the Qualities and Responsibilities of sales managers.
CO6	Design the types of sales organization - Sales management job.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PS O2
2	CO1	3	3	2	3	1	3	1		
	CO2	2	2	1	3	3	1	3		
	CO3	2	2	3	2	3	3	2		
	CO4	3	1	3	1	1	2	3		
	CO5	1	3	2	2	2	3	3		
	CO6	3	2	2	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Definition-Importance-Role of Advertising-Nature-Objectives and Scope of Advertising.

UNIT II **6**

Types of Advertising-Commercial and Non-Commercial Advertising-Primary demand and selective demand advertising.

UNIT III **6**

Advertising-benefits and criticism-Media selection-measuring advertising effectiveness.

UNIT IV **6**

Introduction to the salesmanship-Importance of salesmanship-training and compensating sales men

UNIT V **6**

Qualities and Responsibilities of sales managers -Types of sales organization - Sales management job.

TEXT BOOKS:

1. George E Belch and Michael A Belch. Advertsing and Promotion, McGraw Hill Company.
2. Ronald, Karen Whitehill king and Thomas Russell J, Kleppner's Advertising Procedure, Pearson Education International, Prentice Hall.
3. Saravanavel P and SumathiS. Advertising and salesmanshi, Margham publications.

REFERENCE BOOKS:

1. Gupta. Advertising and Sales Promotion, EPH Publisher.
2. Sarangi. Advertising and Sales Promotion, Asian Books.

Course Coordinator **HOD**

U18SEEN001	**SOFT SKILLS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. B. Caroline & English				

COURSE OBJECTIVES:-

Learners will be familiar with the efficient knowledge of important events in through soft skills**.**

COURSE OUTCOMES (COs)	
CO1	Remember the personal as well as professionals goals of the students
CO2	Understand the manners during professional meetings
CO3	Apply the right reasons of stress

CO4	Analyze the importance of communication skills
CO5	Evaluate the excellence in both personal and professional life
CO6	Create the Growth & development of soft skills

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	3	3	3	3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	3	3	2	3	2	3		
	CO4	2	2	2	2	2	2	2		
	CO5	2	2	2	2	2	2	2		
	CO6	2	3	3	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Introduction to soft skills, Types of soft skills, Developing positive attitude, forming values and self confidence.

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UNIT II **6**

Developing interpersonal relationship, team building, table manners, organizing meetings, stress and time management.

UNIT III **6**

Types of communication - Art of listening, art of reading, art of writing and art of speaking.

UNIT IV **6**

Presentation skills, developing body language, practicing etiquette, and mannerism, dress for success.

UNIT V **6**

Personal interviews, writing resume/ CV- interviews skills career planning, public speak in motivation skills and personality.

TEXT BOOKS:

1. Danavel SP. English and Communication for Students of Science and Engineering.
2. Murali Krishna Moishra. Communication Skills for Engineers.

REFERENCE BOOKS:

1. John C. Maxwell. Developing the leader within you.
2. Meena K and Ayothi V. A Book on development of soft skills (soft skills: A road map to success), P.R. Publishers & Distributors, 2013. No. B-20 & 21,VMM Complex, Chatiram bus stand, Tiruchirappalli - 2.

Course Coordinator **HOD**

U18SESC001	**COMPUTER APPLICATION**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms. N. Mathimagal & BCA				

COURSE OBJECTIVES:-

Learners will be familiar with basic of computer application. Learners will understand the applications of computer & able to know about the operating systems.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in fundamental computer applications
CO2	Understand the concept of input device functions
CO3	Indentify the suitable input devices for application

CO4	Analyze the input and output devices and its processes
CO5	Evaluate data and storage devices for application
CO6	Create an real time application using a system software and application software

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Brief History of Development of Computers, Computer System Concept, Computer System Characteristics, Capabilities and Limitations, Types of Computers-Personal Computer (PCs) - IBM PCs, Types of PCs- Desktop, Laptop, Notebook, Palmtop, etc. Basic Components of a Computer System - Control Unit, ALU, Input/ Output Unit- Memory, Storage Fundamentals - Primary Vs Secondary memory.

UNIT II **6**

Input Devices: Keyboard, Mouse, Joystick, Scanners, Digital Camera, MICR,OCR, OMR, Light pen, Touch Screen.

UNIT III **6**

Output Devices: Monitors - Characteristics and types of monitor, Size, Resolution, Refresh Rate, Dot Pitch, Video Standard - VGA, SVGA, XGA etc. Printers - Daisy wheel, Dot Matrix, Inkjet, Laser. Plotter, Sound Card and Speakers.

UNIT IV **6**

Various Storage Devices - Magnetic Disks, Hard Disk Drives, Floppy, Disks, Optical Disks

UNIT V **6**

Computer Software, Need, Types of Software - System software, Application software System Software - Operating System, Compiler, Assemblers, Interpreter.

TEXT BOOKS:

1. Basandra SK. Computers Today, Galgotia Publications.
2. Alexis Leon and Mathews Leon. Fundamentals of Information Technology, Vikas Publishing House, New Delhi.

REFERENCE BOOKS:

1. Rajeev Mathur. Dos Quick Reference, Galgotia Publications.

Course Coordinator **HOD**

U18SESC002	**MULTIMEDIA**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Ms. N. Mathimagal & BCA				
COURSE OBJECTIVES: - To understand the basic multimedia concepts and designing concepts					
COURSE OUTCOMES (COs)					
CO1	Gain knowledge in basic concepts of multimedia				
CO2	Analyze the multimedia application problems.				
CO3	Understand the Video capturing, Sound capturing, editing concepts.				
CO4	Identify the basic multimedia design principles.				
CO5	Evaluate the multimedia system and Design Process.				

CO6	Create a real time application using a multimedia concept.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Multimedia Fundamentals: Concept of multimedia, Fundamental criteria for the design of a multimedia presentation, Multimedia Application Goals & Objectives, opportunities in multimedia production.

UNIT II **6**

Role of multimedia-development of team members, avoiding problems in planning a multimedia application

UNIT III **6**

Multimedia Building Blocks: Text, Graphics, Video capturing, Sound capturing, editing

UNIT IV **6**

Basic design principle: proximity, visual hierarchy, Symmetry, Asymmetry, Repetition, unity, Contrast, dynamics, Emphasis, Multimedia Authoring tools.

UNIT V **6**

Design, Development and evaluation of multimedia a system, Development of user interface design, Design Process.

TEXT BOOKS:

1. John Villamil, Casanova and Louis Molina. An introduction to multimedia
2. Mohammad Dastbaz. Designing Interactive Multimedia Systems.

REFERENCE BOOKS:

1. Bohdan O. Szuprowicz. Multimedia Networking.
2. Stephen Mc Gloughlin. Multimedia on the web.

Course Coordinator **HOD**

U18SESC003	**ADVANCED EXCEL**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Ms. V.Ramya & BCA				
COURSE OBJECTIVES: - To identify the various functions in Excel Sheet					
COURSE OUTCOMES (COs)					
CO1	Understand the advanced Excel formulas.				
CO2	Evaluate IF conditions, AND, OR functions.				
CO3	Analyze the advanced filter options.				
CO4	Execute the multiple windows, splitting windows management.				
CO5	Understand the pivot table methods.				

CO6	Create a real time application by creating, modifying Excel sheet.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Uses of Advance Excel Formulas -VLOOKUP, HLOOKUP, SUMIF, SUMIFS, SUMPRODUCT, DSUM, COUNTIF, COUNTIFS, IF, IFERROR, ISERROR, ISNA, ISNUMBER, ISNONTEXT, OR, AND, SEARCH, INDEX, MATCH etc

UNIT II **6**

Various Methods and Uses of IF Conditions , Usage of "IF" Conditions? , Creation of Multiple IF Conditions in One Cell , Use the IF Conditions with the Other Advance Functions, How to use nested IF statements in Excel with AND, OR Functions Sorting, Data Forms, Adding Data Using the Data Form, Finding Records Using Criteria

UNIT III **6**

Filtering Data, AutoFilter, Totals and Subtotals, Row, Various Methods of Filter and Advance Filter options, Creating and Updating Sub totals, Various Method of Sorting Data, Creating, Formatting and Modifying Chart

UNIT IV **6**

Customizing the Quick Access Tool Bar, Managing Windows, Multiple Windows, Splitting Windows.

UNIT V **6**

Various Methods and Options of Pivot Table, Using the Pivot Table Wizard, Changing the Pivot Table Layout, Subtotal and Grand total Options, Formatting, and Grouping items

TEXT BOOKS:

1. Jordan Goldmeler. Advanced Excel Essentials, A Press, 2015.

REFERENCE BOOKS:

1. John Walkenbach. Microsoft Excel 2013 Bible, Wiley Publications, 2013.

Course Coordinator **HOD**

U18SESC004	**WEB DESIGNING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Ms. V.Ramya & BCA				
COURSE OBJECTIVES: - To gain knowledge in basic web designing concepts.					
COURSE OUTCOMES (COs)					
CO1	Understand the web basics and server-side scripting.				
CO2	Execute the HTML coding and linking process.				
CO3	Analyze the hyperlinks and special characters.				
CO4	Evaluate the Embedded Style Sheets & Linking External Style Sheets.				
CO5	Create the backgrounds and user style sheets.				

CO6	Create a real time application using web designing concept.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Introduction - The Internet in Industry and Research - Evolution of the Internet and World Wide Web - Web Basics – Client-Side Scripting versus Server-Side Scripting.

UNIT II **6**

Introduction – First HTML example – Headings – Linking - Images, alt Attribute, Void Elements.

UNIT III **6**

Using Images as Hyperlinks-Special Characters and Horizontal Rules – Lists – Tables.

UNIT IV **6**

Introduction - Inline Styles - Embedded Style Sheets - Linking External Style Sheets.

UNIT V **6**

Backgrounds - Element Dimensions - Box Model and Text Flow - Drop-Down Menus - User Style Sheets.

TEXT BOOKS:

1. Paul Deitel, Harvey Deitel, Abbey Deitel, "Internet & World Wide Web: How to Program", 5th Edition, Pearson Publication, 2012.

REFERENCE BOOKS:

1. Jennifer Niederst Robbins. Learning Web Design, Fourth Edition, O'Reilly Media, 2012.
2. Thomas Michaud. Foundations of Web Design, Introduction to HTML & CSS, Pearson Publication, 2014.
3. Bayross. Web Enable Commercial Application Development Using HTML, DHTML, JavaScript, Perl CGI, BPB Publications.
4. Powell TA. Complete Reference HTML (Third Edition), TMH, 2002.

Course Coordinator **HOD**

U18SESC005	**PHOTOSHOP**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Ms. V.Brindha & BCA				
COURSE OBJECTIVES: - Learners can Apply methods to specific 3D Images and to identify various designs appropriate for Animation.					
COURSE OUTCOMES (COs)					
CO1	Gain knowledge to Create and save Images in fundamental computer applications				
CO2	Understand the title bar, menu bar, option bar, image title bar in photo shop program.				
CO3	Execute Zooming & Panning an Image while Working with Images.				
CO4	Analyze Color manipulations & Working with Toolbox				

CO5	Evaluate the Working with layers.
CO6	Create a real time application using 3D image and Animation.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Introduction to Adobe photoshop, Getting started with photoshop, creating and saving a document in photoshop, page layout and background.

UNIT II **6**

Photoshop program window-title bar, menu bar, option bar, image window, image title bar, status bar, ruler, palettes, toolbox, screen modes, saving files, reverting files, closing files.

UNIT III **6**

Images: working with images, image size and resolution, image editing, color modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids-Cropping & Straightening an Image, image backgrounds, making selections.

UNIT IV **6**

Working with toolbox: working with pen tool, save and load selection-working with erasers-working with text and brushes-Color manipulations: color modes- Levels – Curves - Seeing Color accurately - Patch tool.

UNIT V **6**

Layers: Working with layers- layer styles- opacity-adjustment layers.

TEXT BOOKS:

1. Reema Thareja. Fundamentals of Computers, Oxford University Press.

REFERENCE BOOKS:

1. Photoshop: Beginner's Guide for Photoshop - Digital Photography, Photo Editing, Color
2. Adobe Creative Team, "Adobe Photoshop Classroom in a Book".

Course Coordinator **HOD**

U18SESC006	**FLASH**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Ms. V.Brindha & BCA				
COURSE OBJECTIVES: - Learners can identify methods appropriate for Basic Animation. Apply methods to design with flash.					
COURSE OUTCOMES (COs)					
CO1	Understand Working with flash, drawing with flash using Animation tools and Mixer.				
CO2	Execute working with multiple objects, importing color palettes				
CO3	Analyze Basic animation and working in the timeline,				

CO4	Create Frames, key frames, deleting, copying and reversing frames
CO5	Evaluate the Shape tweening and shape hinting in motion
CO6	Apply methods to design with flash

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Working with flash, drawing with flash, drawing with the pencil, modifying lines, drawing with the pen, the oval and rectangle tools, free transform tool, envelope modifier, the brush tool, using the mixer.

UNIT II **6**

Adding custom colors to color palette, importing color palettes, working with multiple objects, grouping objects.

UNIT III **6**

Basic animation and working in the timeline, the timeline, movie properties.

UNIT IV **6**

Frames vs. key frames, deleting, copying, and reversing frames, frame-by-frame vector animation, Animation on an image.

UNIT V **6**

Shape tweening, shape hinting, Shape tweening text, edit multiple frames, animating gradients, basic motion tweening.

TEXT BOOKS:

1. Nick Vandome. FLASH 5 in easy step, Dreamtech press, 2001.

REFERENCE BOOKS:

1. Vander Veer EA & Chris Graver. Flash CS3, Orelly Publications, 2009.

Course Coordinator **HOD**

U18SESC007	**COMPUTER HARDWARE AND NETWORKING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Ms. K.HemaLakshmi & CS				

COURSE OBJECTIVES:

Learners familiar with the basic concepts of Micro-processor, Controller, Server and to demonstrate the traditional imperative design of CPUs, cards, PCs and BIOS.

COURSE OUTCOMES (COs)

CO1	Design the structure of Micro Processor and PCs and CPUs
CO2	Understand the structure of PC architecture and the study of various PCs

CO3	Understand the Basics of Processor
CO4	Study the CPU, Chips, Processor and Controllers
CO5	Working with Internal Components cards and Higher-Level Processor
CO6	Used to develop the Backups, Switches Routers, BIOS, Floppy Disk and zip Driver

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Microprocessor System - Introduction of System overview, Introduction to Processors, Memory Interfacing, Interfacing I/O Devices, Interfacing Data Converters, Display Interface, Serial I/O and Data Communication, Higher level Processors.

UNIT II **6**

Introduction to PC Architecture Study of PC-AT/ATX System, Pentium, Core, Core 2 Cord, Core 2 Duo, I3, I5, I7.

UNIT III **6**

Processor Basics of Processor and CPU Block Diagram of Computer and Computer Generation Motherboards, Chipset and Controllers, BIOS and the Boot Process, Computer Memory.

UNIT IV **6**

Internal Components IDE and SATA Devices: Hard Disk Drive and CD/DVDs Drives, SCSI Devices, Floppy Disk, Zip Drive, Backup Drive, Expansion Cards- LAN Card, IDE Card , VGA and SVGA Cards, Sound Card, Interface Cards, I/O cards, Video Cards, USB Card, Fire-Wire Cards, Internal Ports, Cables and Connector Types.

UNIT V **6**

Introduction of Network Cable like UTP, STP, Fiber Optics, Hub, Unmanageable Switch, Manageable Switch, Router, Modem, Wi-Fi, Access Point, PCI Wireless Card, USB Wireless Device, Print Server, USB Network Sharer, Backup Device, Server Hardware etc.

TEXT BOOKS:

1. Ramesh Gaonkar. Microprocessor Architecture Programming and Application with the 8085, Penram International Publication.

REFERENCE BOOKS:

1. Gupta ML. Electronics and Radio Engineering. Dhanpat rai & Sons, New Delhi.
2. Govinda rajalu B. PC AND CLONES Hardware, Troubleshooting and Maintenance, Tata Mc-graw-Hill Publication.
3. Stephen J Bigelow. PC Troubleshooting and Repair, Dream tech Press, New Delhi.

Course Coordinator **HOD**

U18SESC008	**COMPUTER PROGRAMMING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Ms. K.HemaLakshmi & CS				

COURSE OBJECTIVES:

Learners will be familiar with the Programming language C, identify the steps, Write the Algorithm, Design the flowchart and Implement the Programs for various Operations Functions, Pointers and Strings.

COURSE OUTCOMES (COs)

CO1	Apply and Write the clear, structure and Looping of elementary C programs.
CO2	Understand algorithmic thinking and apply it to programming.

CO3	Understand problem-solving techniques.
CO4	Ability to use C with Various operators Expressions and Decision-making control.
CO5	Write Code using Arrays with single dimensions, Two dimensions and Multidimensional and Various Strings operations
CO6	create and develop programs using Functions, Pointers, Structures and Union

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Generation and Classification of Computers, Basic organization of a Computer, Number System, Binary, Decimal, Conversion, Problems.

UNIT II **6**

Algorithm, Pseudo code, Flow Chart, Problem formulation, Problem solving, Introduction to "C" programming, Fundamentals, Structure of C Program, compilation and linking processes, Constants, Variables, Data Types.

UNIT III **6**

Expressions using operators in C, managing input and output operations, Decision making and Branching, Looping Statements.

UNIT IV **6**

Arrays, Initialization, Declaration, One Dimensional and Two-Dimensional Arrays, String, String Operations, String Arrays.

UNIT V **6**

Function, Definition of Function, Declaration of Function, Recursion, pointers, pointer and arrays, Structure data type, Structure definition, Structure declaration, Structure within a structure, Union, Storage classes, Pre-processor directives.

TEXT BOOKS:

1. Anita Goel and Ajay Mittal, "Computer Fundamentals and programming in C", Dorling Kindersley (India) Pvt Ltd., Pearson Education in South Asia 2011.
2. PradipDey, ManasGhosh, "fundamentals of computing and programming in c", First edition, Oxford University Press, 2009.
3. Yashavant P. Kanethar, "Let Us C", BPB Publications, 2011.

REFERENCE BOOKS:

1. Byron S Gottfried. Programming with C, Schaum's Outlines, 2nd Edition, Tata McGraw-Hill, 2006.
2. Dromey RG. How to Solve it by Computer, Pearson Education, Fourth Reprint, 2007.
3. Kernighan BW and Ritchie DM. The C Programming Language, Second Edition, Pearson Education, 2006.

Course Coordinator **HOD**

U18SESC008	**OFFICE AUTOMATION TOOLS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Ms. K.HemaLakshmi & CS				

COURSE OBJECTIVES:

Learners will be familiar with the basic Office tools design that Work with Word,Excel, Power Point.

COURSE OUTCOMES (COs)

CO1	Learn the text manipulations for word documents.
CO2	Understand the templates and mail merge concepts.

CO3	Understand cell editing, formulae, built in functions used in the Excel Sheet.
CO4	Used the power point slide designs and backgrounds.
CO5	Used to Create the graphics and animations using wizards.
CO6	Used to Create the Inserting Clip arts frames, Working with the Graphs and Charts

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Text Manipulations- font size, style, color. Alignment- left, right and justify, paragraph alignment, Usage of Numbering, Bullets, Footer and Headers, Usage of Spell check, and Find & Replace, Text Formatting, Picture insertion and alignment.

UNIT II **6**

Insertion – Table, chart, clip art, shapes, borders. Creation of documents, saving of documents, using templates, Creation templates, Mail Merge Concepts, Copying Text & Pictures from Excel.

UNIT III **6**

Creating of Excel sheet, Cell Editing, Usage of Formulae and Built-in Functions, File Manipulations, Data Sorting, Worksheet Preparation, Drawing Graphs, Usage of Auto Formatting.

UNIT IV **6**

Start power point, create blank presentation, selecting slide layout, insert new slide, editing presentation, Designing and formatting presentation, change font, font color, size, style of text, Bullet and numbering, Slide design, layout, change background, preparing slide show presentation.

UNIT V **6**

Inserting Clip arts and Pictures, Frame movements, Insertion of new slides. Preparation of Organization Charts, Presentation using Wizards, Usage of design templates, working with tables, graphics and animation, working with graphs and organization charts.

TEXT BOOKS:

1. Joyce Cox, Joan Lambert and Curtis Fryc. Step by Step Microsoft Office Professional 2010, Microsoft press edition.

REFERENCE BOOKS:

1. Ralph T Reilly. The Handbook of Office Automation, iUniverse Publications, 2012.

Course Coordinator **HOD**

U18SEMA001	**QUANTITATIVE AND APTITUDE REASONING-I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES:

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically**.**

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Number Series with its applications.

CO2	Understand the concept of Data Interpretation
CO3	Apply suitable algorithms in Loss & Discount
CO4	Analyze the Rates, Time and Distance
CO5	Evaluate problems Simple Interest
CO6	Create a real time application compounds and mixtures

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	1	1	2		
	CO2	2	3	1	2	2	1	2		
	CO3	3	2	2	3	2	2	3		
	CO4	3	3	3	2	2	2	3		
	CO5	2	3	2	1	3	2	2		
	CO6	3	3	3	1	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Numbers, Number Series, Number Theory, Arithmetic & Geometric Ratio.

UNIT II **6**

Average, Ages, Data Interpretation.

UNIT III **6**

Percentage, Profit, Loss & Discount, Simple Interest, Compound Interest.

UNIT IV **6**

Rates, Time and Distance, Train Problems, Boats and Streams, Time and Work.

UNIT V **6**

Allegations of compounds and mixtures.

TEXT BOOKS:

1. Aggarwal RS. Quantitative Aptitude, S.Chand Publications, 2018.
2. Aggarwal RS. A modern approach to Logical approach, S.Chand Publications, 2018.

REFERENCE BOOKS:

1. Abhijit Guha. Quantitative Aptitude, Mc Graw Hills Publisher.
2. Aggarwal RS. A modern approach to Logical approach, S.Chand Publications, 2018.

Course Coordinator **HOD**

U18SEMA002	**QUANTITATIVE AND APTITUDE REASONING-II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES:

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically**.**

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Inverse, Compound equation.
CO2	Understand the circular arrangement.
CO3	Apply suitable direction of Permutations and combinations test.
CO4	Analyze the Heights and Distance
CO5	Evaluate problems on Simple Interest
CO6	Create a real time application of Date and time.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Simple equations –Variation-Direct, Inverse, Compound.

UNIT II **6**

Problems on Linear and circular arrangement.

UNIT III **6**

Coding and decoding – Direction Permutations and combinations test- Lateral Reasoning-Blood Relations-Paragraph based puzzles.

UNIT IV **6**

Heights and Distance.

UNIT V **6**

Interpretation of Date and time.

TEXT BOOKS:

1. Aggarwal RS. Quantitative Aptitude, S.Chand Publications, 2018.
2. Aggarwal RS. A modern approach to Logical approach, S.Chand Publications, 2018.

REFERENCE BOOKS:

1. Abhijit Guha. Quantitative Aptitude, Mc Graw Hills Publisher.
2. Aggarwal RS. A modern approach to Logical approach, S.Chand Publications, 2018.

Course Coordinator **HOD**

U18SEMA003	**REGRESSION ANALYSIS WITH SPSS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department: - Ms.S.Kavitha / Mathematics				

COURSE OBJECTIVES:

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically**.**

COURSE OUTCOMES (COs)

CO1	Gain knowledge Qualitative Variable on Nominal Scale, Ranked.

CO2	Understand the Deleting and Rearranging Items from the Viewer
CO3	Apply suitable direction Permutations and combinations test.
CO4	Analyze the Pie Chart, Scatter Plot and Dot plots
CO5	Evaluate data questionnaire Analysis
CO6	Create a real time application and test of hypotheses

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Observations and Variables, Quantitative or Measurement Variable on Interval Scale, Qualitative Variable on Nominal Scale, Ranked Variable on Ordinal Scale.

UNIT II **6**

Opening a Data File in SPSS – Variable View, Data View, Entering Data into the Data Editor, Saving the Data File. Editing and Manipulating Data : Inserting a New Variable, Rearranging the Order of Variable in the Variable View, Deleting and Rearranging Items from the Viewer. Usage of Data, Transform, Analyse and Graphs menus – Editing and copying and printing SPSS output – Importing Data from Excel File.

UNIT III **6**

Charts and Graphs: Simple Bar charts, Pie Chart, Scatter Plot and Dot plots, Line graphs, Histogram.

UNIT IV **6**

Simple correlation (Karl Pearson's Method) - Rank correlation (Spearman's method) – Simple linear regression equation, Scatter plot and line of best fit – Questionnaire Analysis (Uni-variate and Bi- variate tables) – Chi square test with SPSS for independence of Attributes.

UNIT V **6**

Partial and multiple correlation coefficients. Simple linear regression model: Description of data model - Estimation and test of hypotheses.

TEXT BOOKS:

1. Ananthi Sheshasayee and Sheshasayee, G, Computer Applications in Business and Management, Margham Publications, Chennai, 2003.
2. Rajathi, A and Chandran P. SPSS for you, MJP Publishers, Chennai, 2010.
3. Chatterjee S and Price, B. Regression Analysis by Example, John Wiley and Sons, New York (Chapter 1,2,3 and relevant portions in chapters 4,5,6,7,8,9), 1977.
4. Kapoor V K and Gupta SC. Fundamentals of Mathematical Statistics, Sultan Chand and Sons, New Delhi, (Chapter 10 only), 2002.

REFERENCE BOOKS:

1. Singh VP and Singh M. MS-Excel, Megabyte Series, Asian Publishers, New Delhi, 1998.
2. Andy Field. Discovering Statistics Using SPSS, SAGE Publications, London, 2006.
3. Johnston J. Econometric Methods, McGraw-Hill Pvt. Ltd, New York, 1972.
4. Draper NR and Smith H. Applied Regression Analysis, 3rd edition, John Wiley and Sons, USA, 1998.

Course Coordinator **HOD**

B.SC.PHYSICS

I SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact hour	L	T	P	C
THEORY								
1.	HS	U18HSTA101	Part -1 :Tamil	5	3	0	0	3
		U18HSHI101	Part -1 :Hindi	5				
		U18HSFR101	Part -1 : French	5				
2.	HS	U18HSEN102	Part II : English	5	3	0	0	3
3.	MC	U18MCPH101	Core 1 -Properties Of Matter and Acoustics	5	3	1	0	4
4.	MC	U18MCPH102	Core 2- Heat and Thermodynamics	5	3	1	0	4
5.	NC	U18NCMA105	Allied – Mathematics I	5	3	1	0	4
PRACTICAL								
6.	MC	U18MCPH1L1	Core 3-General Lab I	4	0	0	4	2
			Total	**30**	**5**	**3**		**20**

II SEMESTER

S.No	CATEGORY	SUB. CODE	SUBJECT	Total contact hour	L	T	P	C
THEORY								
1.	HS	U18HSTA201	Part -1 :Tamil	4	3	0	0	3
		U18HSHI201	Part -1 :Hindi	4				
		U18HSFR201	Part -1 : French	4				
2.	HS	U18HSEN202	Part-II: English	4	3	0	0	3
3.	MC	U18MCPH201	Core 4- Mechanics	5	3	1	0	4
4.	MC	U18MCPH202	Core 5- Optics	4	3	1	0	4
5.	NC	U18NCMA205	Allied –Mathematics II	5	3	1	0	4
6.	HS	U18HSCH201	Environmental Studies	2	2	0	0	2
7.	HS	U18HSBC202	Value Education	2	2	0	0	2
PRACTICAL								
8.	MC	U18MCPH2L1	Core 6- General Lab II	4	0	0	4	2
			Total	**30**	**19**	**3**	**4**	**24**

III SEMESTER

S.No	CATEGORY	SUB. CODE	SUBJECT	Total contact hour	L	T	P	C
THEORY								
1.	HS	U18HSTA301	Part -2 :Tamil	4	3	0	0	3
		U18HSHI301	Part -2 :Hindi					
		U18HSFR301	Part -2 : French					
2.	NME	U18NETA301	Basic Tamil	2	2	0	0	2
		U18NETA302	Special Tamil	2				
3.	HS	U18HSEN302	Part-II: English	4	3	0	0	3
4.	MC	U18MCPH301	Core 7- Electricity and Magnetism	5	3	1	0	4
5.	NC	U18NCCH302	Allied –Chemistry I	5	3	1	0	4
PRACTICAL								
6	MC	U18MCPH3L1	Core 8 – General Lab III	4	0	0	4	2
7.	NC	U18NCCH3L2	Allied - Chemistry Lab I	4	0	0	4	2
			Total	**30**	**14**	**2**	**8**	**20**

IV SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total contact hour	L	T	P	C
THEORY								
1.	HS	U18HSTA401	Part -2 :Tamil	4	3	0	0	3
		U18HSHI401	Part -2 :Hindi					
		U18HSFR401	Part -2 : French					
2.	NME	U18NETA401	Basic Tamil	2	2	0	0	2
		U18NETA402	Special Tamil	2				
3.	HS	U18HSEN402	Part-II: English	2	3	0	0	3
4.	MC	U18MCPH401	Core 9- Nuclear and Particle Physics	**5**	3	1	0	4
5.	NC	U18NCCH402	Allied –Chemistry II	5	3	1	0	4
PRACTICAL								
6.	MC	U18MCPH4L1	Core -10- General Lab IV	4	0	0	4	2
7.	NC	U18NCCH4L2	Allied - Chemistry Lab II	4	0	0	4	2
8.	SE		Skill Based Elective I	2	1	0	2	2
			Total	**30**	**15**	**2**	**10**	**22**

V SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total contact hour	L	T	P	C
THEORY								
1.	MC	U18MCPH501	Core 11 Quantum Mechanics and Relativity	5	3	1	0	4
2.	MC	U18MCPH502	Core 12-Basic Electronics	4	3	1	0	4
3.	MC	U18MCPH503	Core 13-Mathematical Physics	5	3	1	0	4
4.	ME	U18MEPH011	Major Elective-Astrophysics	4				
		U18MEPH012	Materials Science					
		U18MEPH013	Nanoscience and Nanotechnology		4	0	0	4
5.	SE		Skill Based Elective-II	2	1	0	2	2
6	SE		Skill Based Elective-III	2	1	0	2	2
PRACTICAL								
7.	MC	U18MCPH5L1	Core 14- General lab V	4	0	0	4	2
8.	MC	U18MCPH5L2	Core 15-Electronics lab I	4	0	0	4	2
			Total	**30**	**15**	**3**	**12**	**24**

VI SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total contact	L	T	P	C
THEORY								
1.	MC	U18MCPH601	Core 16- Digital Electronics	5	4	0	0	4
2.	MC	U18MCPH602	Core 17 – Solid state Physics	5	4	0	0	4
	MC	U18MCPH603	Core 18 – Instrumentation Techniques	4				
3.	EEC	U18EEPH6P1	Project	4	0	0	20	10
4.	ME	U18MEPH021 U18MEPH022 U18MEPH023	Major Elective – II- Basic Mathematics /Energy resources/Applied Electronics	4	4	0	0	4
5.	HS	U18HSPH6V1	Extension Activities	2	0	0	2	1
PRACTICAL								
6.	MC	U18MCPH6L1	Core Lab VII - Electronics II	6	0	0	6	3
			Total	**30**	**12**	**0**	**28**	**30**

LIST OF SKILL BASED ELECTIVES
Choose any three courses – one in semester IV & two in semester V

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18SEBC001	Business Process Outsourcing – Management	2	1	0	2	2
2	U18SEBC002	Customer Relationship Management	2	1	0	2	2
3	U18SEBC003	Entrepreneurial Development	2	1	0	2	2
4	U18SEBC004	Human Resource Management	2	1	0	2	2
5	U18SEBC005	Marketing Management	2	1	0	2	2
6	U18SEBC006	Office Management	2	1	0	2	2
7	U18SEBC007	Retail Marketing	2	1	0	2	2
8	U18SEBC008	Salesmanship and Advertising	2	1	0	2	2
9	U18SEEN001	Soft Skills	2	1	0	2	2
10	U18SESC001	Computer Application	2	1	0	2	2
11	U18SESC002	Multimedia	2	1	0	2	2
12	U18SESC003	Advanced Excel	2	1	0	2	2
13	U18SESC004	Web Designing	2	1	0	2	2
14	U18SESC005	Photoshop	2	1	0	2	2
15	U18SESC006	Flash	2	1	0	2	2
16	U18SESC007	Computer Hardware and Networking	2	1	0	2	2
17	U18SESC008	Computer Programming	2	1	0	2	2
18	U18SESC009	Office Automation Tools	2	1	0	2	2
19	U18SEMA001	Quantitative and Aptitude Reasoning -I	2	1	0	2	2
20	U18SEMA002	Quantitative and Aptitude Reasoning-II	2	1	0	2	2
21	U18SEMA003	Regression Analysis with SPSS	2	1	0	2	2

U18HSTA101	□□□□□– I			L	T	P	C				
	Total Contact Hours – 45			3	0	0	3				
	Prerequisite course – +2 Level Tamil										
	Course Coordinator Name& Department : □□□□□□□. □. □□□□□□□□□ □□□□&□□□□□□□□□□□										
COURSE OBJECTIVES : □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ □□□□□□ □□□□□□□											
COURSE OUTCOMES (COs)											
CO1	□□□□□□□□□, □□□□□□□□□□, □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□										
CO2	□□□□□□□□□, □□□□□□□□□□□□□□□, □□.□□□□□□□□□□□□□□□ □□□□□□□□□ □□□□□□□□□□□□□□ □□□□□□										
CO3	□□□□□□□□ □□□□□□□□□□ □□□□□□ □□□□□□□□□□ □□□□□□										
CO4	□□□□□□□□ □□□□□□□□□□ □□□□□□□□□□□□□□□□ □□□□□□□□□ □□□□□□										
CO5	□□□□□□ □□□□□□□ □□□□□□□□□□ □□□□□ □□□□□□										
CO6	□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ □□□□□ □□□□□□										
Mapping of Course Outcomes with Program outcomes (POs) (H/M/L indicates strength of correlation) H-High, M-Medium, L-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

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U18HSHI101	Française	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Hindi as second language in Grade 12				
	Course Coordinator Name &Department:- Dr. K. MustakHusaain / Department of Hindi				

COURSE OBJECTIVES :-

To understand , read, write and speak Hindi language with grammatical.

COURSE OUTCOMES (COs)

CO1	Remember the behavior
CO2	Understand the importance of money by story
CO3	Apply the concept of Hindi grammar
CO4	Analyze the usage of translation from English to Hindi
CO5	Evaluatethe unseen passage to answer the questions
CO6	Create the knowledge in Hindi Language

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

UNIT I **9**

NAVEEN GADYA CHAYANIKA – 2 - Bholaram ka jeev - Mehamaan se Bhagavaanbachaaye - NumberovaliThijori – Kaffan - Gunda

UNIT II **9**

NON DETAILED TEXT: KAHANI KUNJ - Stories: 6 – 10 only

UNIT III **9**

GRAMMAR: SHABDA VICHAR ONLY - NOUN, PRONOUN, ADJECTIVE, VERB, TENSE, CASE ENDINGS - Theoretical & Applied

UNIT IV **9**

TRANSLATION - English – Hindi only - ANUVADH ABHYAS – III - 1 – 15 Lessons Only

UNIT V **9**

COMPREHENSION - 1 Passage from ANUVADH ABHYAS – III (16 – 30)

TEXT BOOKS:

UNIT 1 - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017
UNIT II - Govind Prakashan, SadharBagaar, Mathura, Uttar Pradesh – 281001 - Editor: Dr V.P. Amithab
UNIT III - Vyakaran Pradeep by Ramdev - Hindi Bhavan, 36, Tagor Town, Allahabad – 211002.
UNIT IV - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017.
UNIT V - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017

CourseCoordinator

HOD

U18HSFR101	Française	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – French as second language in Grade 12				
	Course Coordinator Name & Department:- Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES :-

Initier les étudiants aux principes de base et à la pratique de la communication orale et écrite.

COURSE OUTCOMES (COs)

CO1	Comprendre les bases de la langue.
CO2	Analyser les modèles de phrases et former la grammaire.
CO3	Pour apprendre les bases de la grammaire ainsi que ses principes.
CO4	Se souvenir de l'anatomie des conjugaisons.
CO5	Créer des dialogues et des conversations par eux-mêmes dans la langue et pratiquer des compétences orales et écrites.
CO6	Se souvenir des règles nécessaires de la langue

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval	Academic Council Meeting									

UNIT I - Vous comprenez **9**

Alphabets - French Accents - Les Nombres – Pronunciations.

UNIT II Au travail! **9**

Masculine Singular and Feminine singular - Conjugaison des verbes (present tense) - Les articles définis.

UNIT III En se detend? **9**

Conjugaison (faire-aller-venir-Vouloir-Pouvoir-Devoir)

UNIT IV Racontez-moi **9**

La date et l'heure – les saisons – les couleurs

UNIT V Bon voyage! **9**

Adjectifs demonstratives - Adjectifs possessives - Les Voyages / les transport-Bon appétit!-Article partitif - Emploi des articles - Interrogation (Forme avec inversion) - Les repas - La fête

TEXT BOOKS:

A1 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator

HOD

U18HSEN102	ENGLISH I	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept: Mrs. SHEEBA - English				

COURSE OBJECTIVES:- :- To use English effectively for study purpose and enable the learner to communicate appropriately in real life situation.

	COURSE OUTCOMES (COs)
CO1	Remember and recall the words according to the given context.
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarizes the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O1	PSO2	PS O3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓							
4	**Approval**	Academic Council Meeting							

Unit-I POETRY **9**

Lucy Gray -William Wordsworth – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Ulysses -Alfred Lord Tennyson** - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **The**

Road Not Taken – **Robert Frost** - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT-II – ONE ACT PLAYS **9**

The Boy Comes Home - A.A.Milne – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Referee - W.H.Andrews and Geoffrey Dearmer** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT -III SHORT STORIES **9**

The Unicorn in the Garden – **James Thurber** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Avenger** – **Anton Chekov** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT IV PROSE **9**

Six Thinking Hats - Edward de Bono – Author Biography - Self analysis technique, Summary; **My Early Days - Abdul Kalam** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **I Have a Dream (Speech) - Martin Luther King** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT V **9**

Introduction to Basics of Communication – Definitions – Types – Listening, Speaking, Reading & Writing

TEXT BOOKS:

1. Six Thinking Hats by Edward de Bono, Little Brown and Company, 1985
2. My Early Days by Abdul Kalam, October 7, 2013

REFERENCE BOOKS:

1. Strings of Gold (Part- II) Edited by Prof. Jasbir Jain (MacMillan), 2007
2. Basic Communication Skills for Technology by Rutherfoord (Dorlig Kindersly), 2007
3. English for Professionals A Practice Book of Communication Skills in English by Dr.Miglani (Vayu Education of India), 2010.

Course Coordinator **HOD**

U18MCPH101	**CORE 1- PROPERTIES OF MATTER AND ACOUSTICS**	L	T	P	C
	Total contact Hours-60	3	1	0	4
	Prerequisite- Science / Mathematics Studied in Higher Secondary Studies				
	Course Designed by-Department of Physics				

COURSE OBJECTIVES:-

To understand the properties of matter for liquid , solids, gases and study of ultra sound

COURSE OUTCOMES (COs)

CO1	Remembering the basics of stress, strain, elastic constant, surface tension and viscosity
CO2	To learn the oscillation of time period using beam and microscope
CO3	Evaluate the raising of capillary in different types of experiments
CO4	Understand the flow of water and kerosene using viscosity of liquid and co-efficient
CO5	Observe the sound topics include intensity of noise pollution and decibel using frequency
CO6	Understand the production and application of ultrasonic sound

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	**PSO3**
2	CO1	H	M								
	CO2	M	H								
	CO3	H	M						H		
	CO4	H	H								
	CO5	M	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
				✓	✓					

4	Approval	Academic Council Meeting

UNIT –I ELASTICITY **12**

Hooke's Law – Stress – Strain - Elastic constants – Expressions for Poisson's ratio interms of elastic constants – workdone in stretching and twisting a wire – twisting couple on a cylinder – rigidity modulus by static torsion – torsional pendulum – rigidity modulus and moment of inertia.

UNIT –II BENDING OF BEAMS **12**

Cantilever – expression for bending moment – expression for depression – cantilever oscillations – Expression for time period – Experiment to find Young's modulus – Non uniform bending – Experiment to determine Young's modulus by Koenig's method – uniform bending – expression for elevation – experiment to determine Young's modulus using microscope.

UNIT -III SURFACE TENSION (12 HOURS) **12**

Definition and dimensions of surface tension – Excess of pressure over curved surfaces – Angle of contact - Capillary raise- Variation of surface tension with temperature – Jaegar's experiment.

UNIT - IV VISCOSITY AND LOW PRESSURE (12HOURS) **12**

Streamlined motion – Turbulent motion – Coefficient of viscosity and its dimension – Rate of flow of liquid in a capillary tube – Poiseuilles' formula – Experiment to determine the coefficient of viscosity of liquid. Production and measurement of low pressure – Grades' molecular pump – Knudsen's absolute gauge – Detection of leakage.

UNIT -V WAVES AND OSCILLATIONS **12**

Simple harmonic motion - combination of two SHMs in a straight line – at right angles – Lissajous's figures – free, damped, forced oscillations and resonance – intensity and loudness of sound – intensity level – decibel – noise pollution.

UNIT - VI ULTRASONICS **12**

Production of Ultrasonic – piezo electric crystal method – magnetostriction method – applications- Acoustics of buildings – reverberation – Absorption coefficient – Sabine's formula – Acoustics aspects of halls and auditoriums.

TEXT BOOKS:

1. D.S Mathur- Elements Of Properties Of Matter: S.Chand And Co
2. Brij Lal And N. Subrahmanyam- Properties Of Matter :- S.Chand And Co (2003)
3. N.Subrahmanyam And Brij Lal- A Text Book Of Sound: Vikas Publishing House (Second Revised Edition- 1995)

BOOKS FOR REFERENCE:

1. H.R Gulati- Fundamental Of General Properties Of Matter- R.Chand And Co- Fifth Edition (1977)
2. N.K Bajaj- The Physics Of Waves And Oscillations- Tata Mcgraw-Hill (1988)
3. A.P French- Vibration And Waves- Mit Introductory Physics- Arnold-Heinmann India (1973)
4. Satya Prakash And Akash Saluja- Oscillations And Waves- Pragati Prakashan (2002)

Course Coordinator **HOD**

U18MCPH102	**CORE 2 - HEAT AND THERMODYNAMICS**	L	T	P	C
	Total contact Hours-60	3	1	0	4
	Prerequisite- Science / Mathematics Studied in Higher Secondary Studies				
	Course Designed by-Department of Physics				

COURSE OBJECTIVES:-

To understand the thermodynamics ,concept of energy and specific heat capacity of solids, liquids and gases

COURSE OUTCOMES (COs)

CO1	Analyze the temperature and specific heat capacity of solid, liquid and gases
CO2	Evaluation about transmission of heat and radiation black body radiation
CO3	Understand the Kinetic theory of gases and Vander Waals force
CO4	To learn the Law of thermodynamic and adiabatic process
CO5	Understand the concept of entropy, energy and Kelvin effect
CO6	Knowledge of theory and practical concepts of thermal conductivity and thermodynamics

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	M	H								
	CO3	H	M								
	CO4	H	H								
	CO5	M	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/
				✓	✓					
4	Approval	Academic Council Meeting								

UNIT –I INTRODUCTION TO HEAT 12

Definitions – Newton's law of cooling – specific heat of a liquid calendar and Barne's continuous flow method – two specific heats of a gas – specific heat of a gas by Joly's differential steam calorimeter – Regnault's method – Dulong and Petit's law – variation of specific heat ad atomic heat with temperature.

UNIT –II TRANSMISSION OF HEAT 12

Conduction – Co-efficient of the thermal conductivity – Cylindrical flow of heat – determination of thermal conductivity of rubber and bad conductor – Lee's disc method. Conduction – Radiation – Black body – Wein's Law - Raleigh – Jean's Law – Stefan's law – Experimental Determination of Stefan's constant – Mathematical derivation of Stefan's law

UNIT -III KINETIC THEORY OF GASES 12

Maxwell's law of distribution of molecular velocities – Experimental verification – equilibrium speed distribution of velocities. Mean free path – transport phenomena – diffusion – viscosity and thermal conduction of gases – Vander walls equation – relation between Vander Wall's constant and critical constants.

UNIT IV LAWS OF THERMODYNAMICS 12

First law of thermodynamics – Isothermal and Adiabatic process – gas equation during an adiabatic process – Work done an adiabatic expansion of gas – equation of an adiabatic curve – isothermal processes – Determination of γ by Clement and Desorme's method – second law of thermodynamics – Carnot's engine- Working efficiency – Carnot's refrigerator – Carnot's Theorem.

UNIT –V CONCEPT OF ENTROPY 12

Entropy Change in entropy in a reversible process and irreversible process – temperature entropy diagram – Entropy of a perfect gas – increase of entropy in any irreversible process – Thermo dynamics functions – Maxwell's thermodynamics relations and applications – Joule – Kelvin effect (theory)- Claussius and Clapeyron equation.

BOOKS FOR STUDY

1. Thermal Physics, R. Murugesan, I Edi, 2002
2. Heat & Thermodynamics, Brijlal & N. Subramaniam
3. Heat – M. Narayanamurthi and N. Nagaratnam

REFERENCE BOOKS

1. Heat and Thermodynamics – Zemansky and R.H. Dcltanann
2. Heat and Thermodynamics – D.S. Mathur, S. Chand & Co, Edi 2002.
3. Heat and Thermodynamics – Agarwal, Singhal, Sathyaprakash
4. Thermal Physics – H.C. Saxena and Agarwal

Course Coordinator HOD

U18NCMA105	ALLIED MATHEMATICS –I	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Computer Science / Mathematics Studied in Higher Secondary Studies				
	Course Coordinator -Department of Mathematics				

COURSE OBJECTIVES:-

To identify methods appropriate for solving problems. Apply methods to specific problems.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Equivalence Relation and properties
CO2	Understand the concept of Cayley - Hamilton theorem.
CO3	Apply the formulae in Hyperbolic and inverse hyperbolic functions.
CO4	Analyze the algorithm for its complexity and performance.
CO5	Evaluate data maxima and minima of functions of two variables.
CO6	Create an real time application reciprocal equation.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO 6	PO7	PS O1	PS 02	PS O3
2	CO1	H	M						H		
	CO2	M	H								
	CO3	H	M								
	CO4	H	H								
	CO5	M	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)		Any other	Project/Term Paper/ Seminar/ Internship(PR)
				✓	✓						
4	Approval	Academic Council Meeting									

UNIT – I:SET THEORY **12**

Sets, Subsets, Equal Sets, Universal Sets, Finite and Infinite Sets, Operation on Sets, Union, Intersection and Complements of Sets, Cartesian Product, Cardinality of Sets, Equivalence Relation and properties,Composite of functions, Simple Applications.
Chapter 2: Section 2.1 to 2.15.
Chapter 3: Section 3.1 to 3.9.
Chapter 4: Section 4.1 to 4.32.

UNIT- II: **MATRICES** **12**

Symmetric, Skew-Symmetric, Orthogonal, Hermetian, Skew-Hermetian and Unitary matrices.Eigen values and Eigen-vectors, Cayley-Hamilton theorem (without proof) – verification- Computation of inverse of matrix using Cayley - Hamilton theorem.
Chapter 4, Section 4.1.1 to 4.1.6, 4.5, 4.5.2, 4.5.3.

UNIT- III: **THEORY OF EQUATIONS** **12**

Polynomial equations with real coefficients, irrational roots, complex roots, symmetric functions of roots, transformation of equation by increasing or decreasing roots by a constant, reciprocal equation.Newton's method to find a root approximately - simple problems.
Chapter 3, Section 3.1 to 3.4.1

UNIT IV: **TRIGONOMETRY** **12**

Expansions of sin(nθ) and cos(nθ) in a series of powers of sinθ and cosθ - Expansions of$sin^n\theta$, $cos^n\theta$, $tan^n\theta$ in a series of sines, cosines and tangents of multiples of "θ" - Expansions of sinθ, cosθ and tanθ in a series of powers of "θ" – Hyperbolic and inverse hyperbolic functions - Logarithms of complex numbers. Chapter 6, Section 6.1 to 6.5

UNIT V: **DIFFERENTIAL CALCULUS** **12**

Successive differentiation, n^{th}derivatives, Leibnitz theorem (without proof) and applications, Jacobians, Curvature and radius of curvature in Cartesian co-ordinates, maxima and minima of functions of two variables, Lagrange's multipliers - Simple problems

TEXT BOOK:

1. Chapter 1, Section 1.1 to 1.3.2 and 1.4.3 Content and treatment as in Allied Mathematics Volume I and II by P. Duraipandian and S. Udayabaskaran, S. Chand Publications

Book for Reference:

1. S. Narayanan and T.K. ManickavasagamPillai – Ancillary Mathematics, S. Viswanathan Printers, 1986, Chennai.

2. Allied Mathematics by Dr. A. Singaravelu.

CourseCoordinator **HOD**

U18MCPH1L1	**CORE 3 - GENERAL LAB 1**	L	T	P		C
	Total contact Hours-30	0	0	4		2
	Prerequisite- Science / Mathematics Studied in Higher Secondary Studies					
	Course Designed by-Department of Physics					

COURSE OBJECTIVES:-

To gain the practical knowledge of measuring tools, bending of beams, time period of pendulum and surface tension of different liquids

COURSE OUTCOMES (COs)

CO1	Handling of basic practical tools such verinyre, screw gauge and microscope
CO2	Developing technical skills
CO3	Understand the concept of material science.
CO4	Understand the equations with real coefficients of different modules
CO5	To gain the knowledge of instrumentation techniques
CO6	Verification of laws and concepts of physics

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO1	PSO2
2	CO1	H	M						H		
	CO2	M	H								
	CO3	H	M								
	CO4	H	H								
	CO5	M	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
				✓	✓					
4	Approval	Academic Council Meeting								

LIST OF EXPERIMENTS

1. Young's modulus – Non-uniform bending – Pin & microscope
2. Young's modulus – Uniform bending – Optic lever
3. Rigidity modulus – Torsional pendulum (without identical masses)
4. Rigidity modulus and moment of inertia – Torsional pendulum (With identical masses)
5. Surface tension and interfacial surface tension – drop weight method
6. Coefficient of viscosity of liquid – Graduated burette (radius of capillary tube by Mercury pellet method)
7. Sonometer – Verification of laws and frequency of tuning fork

Course Coordinator **HOD**

U18HSTA201	□□□□□- II	L	T	P	C	
	Total Contact Hours – 45	3	0	0	3	
	Prerequisite course – +2 Level Tamil					
	Course Coordinator Name& Department :□□□□□□□. □. □□□□□□□□□ □□□□ &□□□□□□□□□□□					

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U18HSHI201	Française	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Hindi as second language in Grade 12				
	Course Coordinator Name & Department:- Dr. K. MustakHusaain / Department of Hindi				

COURSE OBJECTIVES: -

To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)	
CO1	Remember of Ramayana In Sabari part
CO2	Understand the historical stories
CO3	Apply the concept of translation
CO4	Analyzeand develop the letter writing skills
CO5	Evaluateand develop the speaking skills
CO6	Create knowledge in letter writing and speaking skills

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L-indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

UNIT I **09**

MODERN POETRY - SHABARI

UNIT II **09**

ONE ACT PLAY - EKANKI SANKALAM

UNIT III **09**

TRANSLATION - HINDI – ENGLISH ONLY

UNIT IV **09**

LETTER WRITING - Leave letter - Job Application - Ordering books - Letter to Publisher - Personal letter

UNIT V **09**

CONVERSATION - Doctor & Patient - Teacher & Student - Storekeeper & Buyer - Two Friends - Booking clerk & Passenger at Railway station – Auto rickshaw driver and passenger.

Text Books:

By Naresh Mehtha,Veerendra Kumar Mishra

Reference Books:

UNIT 1 – Publisheres - LokbharathiPrakashan ,1 Floor, DuebariBuilding,Mahathma Gandhi Marg,
Allahabad – 1.
UNIT II – Publishers – Vani Prakasam, New Delhi-110002
UNIT III – Publishers – Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator

HOD

U18HSFR201	Française	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – French as second language in Grade 12				
	Course Coordinator Name & Department:- Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES :-

Présenter aux élèves la complexité de la grammaire et comment la surmonter avec des règles simples.

COURSE OUTCOMES (COs)

CO1	Être capable d'interpréter la langue.
CO2	Se familiariser avec les approches méthodologiques de l'étude des textes littéraires et culturels, telles que la lecture attentive, la contextualisation socio-historique et la théorie littéraire et culturelle.
CO3	Acquérir une maîtrise avancée du français parlé et écrit.
CO4	Encourager le développement de compétences en linguistique, en traduction et en études comparatives.
CO5	Se souvenir de l'anatomie des conjugaisons au passé.
CO6	Pour évaluer le texte donné de manière critique et améliorer les compétences en communication.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L-indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

UNIT I -Quelle journee! 9

La Conjugaison pronominale -L'imperatif -L'expression de la quantite (peu-in peu de-quelque – etc.)

UNIT II - Qu'on est bien ici ! **9**

Prepositions et adverbs de lieu - Verbs experimant un deplacement (employ des prepositions)
Le lodgement/la localisation/ l'orientation/l'etat physique/le temps qu'il fait

UNIT III -En se detend? **9**

L'imparfait-Emplois du passé compose et de l'imparfait-Expression de la duree-L'enchainement des idees (alors, donc, mais) /Le sens reciproque

UNIT IV- On s'appelle? **9**

Les pronoms complements direct -Les pronoms compliments indirects de personne -c'est/ il est-Imperatif des verbs avec pronoms-La fornation des mots

UNIT V Un bon conseil ! **9**

Expression du deroulement de l'action--passe recent--Present progressif-future proche-Les phrases rappotrees- La place de l'adjectif- La proposition relative finale avec -qui

TEXT BOOKS:

A1 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

U18HSEN202	**ENGLISH II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept.: Mr.S.KUMARESAN - English				

COURSE OBJECTIVES:- To have a better understanding of the English language skills and its implementation it in day to day life activities.

	COURSE OUTCOMES (COs)
CO1	Remember and recall the concepts of English language
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarize the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L-indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O	PSO2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L						H		
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								

4	**Approval**	Academic Council Meeting

UNIT 1: PROSE **9**

The Refugee – **K.A. Abbas** – Author Biography – Plot – Theme - Summary - Critical

analysis;
The Lion and the Lamb – **Leonard Clark** – Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2: POETRY **9**

The Solitary Reaper – **William Wordsworth** – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Gift** – **Alice Walker**- Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT 3: SHORT STORIES **9**

The Fortune -Teller – **Karel Capek** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **The Postmaster** – **Rabindranath Tagore** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 4: ONE-ACT PLAYS **9**

The Death Trap – **Saki (H.H. Munro)** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **The Dear Departed**: **A Comedy in One-Act – Stanley Houghton**- Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 5: GRAMMAR **9**

Communicative Grammar - Seeking and giving information – statements and questions Being informal – phrasal verbs, Expressing ability, possibility, etc – Modals and other devices

TEXT BOOKS:

1. The Death Trap by Saki, The Novels and Plays of Saki, 2001
2. Pooja Khanna, "English Communication", S.CHAND Publishing, 2016
3. Rabindranath Tagore, "The Postmaster", Penguin India, 2000

REFERENCE BOOKS:

1. K.A.Abbas Suresh Kohli, "An Evening in Calcutta", HarperCollins, 2015
2. Stanley Houghton, "Five one act plays", Alpha Edition, 2019
3. Edited Prof. Jasbir Jain, "Strings of Gold (Part- II)", MacMillan, 2016

Course Coordinator **HOD**

		L	T	P	C
U18MCPH201	**CORE 5 - MECHANICS**				
	Total contact Hours-60	3	1	0	4
	Prerequisite- Science / Mathematics Studied in Higher Secondary Studies				
	Course Coordinator - Department of Physics				

COURSE OBJECTIVES:-To understand the Mechanics, dynamics, solid, pressure, energy and machine.

COURSE OUTCOMES (COs)

CO1	Understand the basics of mass, velocity, particle and pendulum.
CO2	Analyze the hydrodynamics and hydrostatics
CO3	Evaluate the Atwood machine, D'Alembert principle
CO4	Understand the concepts of dissipative force and simple pendulum.
CO5	Develop the knowledge about Hamiltonian function and central force field.
CO6	Knowledge of theory and practical concepts different types of mechanical systems

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L-indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	M	H								
	CO3	H	M								
	CO4	H	H								
	CO5	M	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
				✓	✓					

4	Approval		Academic Council Meeting

UNIT -I IMPULSE AND IMPACT IMPULSE 12

Impact – Laws of impact – direct impact and oblique impact between two smooth spheres – loss of kinetic energy – motion of two interacting bodies – reduced mass. Rigid body dynamics -Compound pendulum – theory – equivalent simple pendulum – reversibility of centers of oscillation and suspension – determination of g and k – center of mass – velocity and acceleration of centre of mass – determination of motion of individual particle – system of variable mass.

UNIT -II CENTRE OF GRAVITY AND CENTRE OF PRESSURE 12

Centre of gravity of solid and hollow tetrahedron, solid and hollow hemisphere – Centre of pressure – vertical rectangular lamina – vertical triangular lamina.

UNIT –III HYDRODYANAMICS AND HYDROSTATICS 12

Hydrodynamics Equation of continuity of flow –Venturimeter – Euler's equation of unidirectional flow – Torricelli's theorem – Bernoulli's theorem and its applications-Atmospheric pressure and its variation with altitude

UNIT – IV CLASSICAL MECHANICS 1 12

Mechanics for a system of particles – constraints – Generalized co-ordinates – transformation equations – configuration space – principle of virtual work – D'Alembert's Principle – Lagrange's equations for systems containing dissipative forces – Applications of Lagrange's equations – Atwood's machine – Simple pendulum.

UNIT-V CLASSICAL MECHANICS 2 12

Hamiltonian function – Hamilton's equation – Physical significance of Hamiltonian function – Application of Harmilton's equations – motion of a particle in central force field- Compound pendulum linear harmonic oscillator.

TEXT BOOKS

1. Mechanics and mathematical methods by R Murugeshan, S Chand & Co. Pvt. Ltd., New Delhi, 1990
2. Elements of mechanics by Gupta
3. Dynamics by Naranamurthi, National Publishing company, Chennai.
4. Classical Mechanics by Gupta Kumar and Sharma,
5. Classical Mechanics by B D Gupta and Sathya Prakash, Kedar Nath Ram Nath & Co.,

REFERENCE FOR BOOKS

1. Mechanics by D S Mathur
2. Classical Mechanics by Goldstein, Narosa

Course Coordinator HOD

U18MCPH202	**CORE 5 - OPTICS**	L	T	P	C
	Total contact Hours-60	3	1	0	4
	Prerequisite- Science / Mathematics Studied in Higher Secondary Studies				
	Course Coordinator - Department of Physics				

COURSE OBJECTIVES:-To understand the interference, diffraction, polarization of light using different optical tools and their applications

COURSE OUTCOMES (COs)

CO1	Understand the geometrical optics using prism, lenses and optical tools etc.,
CO2	Analyze the Airwedge and Michelson's interferometer
CO3	Understand the diffraction, grating, telescope and microscope and their applications
CO4	Understand the polarizer, analayzer and optical activities
CO5	Knowledge of Laser-ruby laser, He-Ne laser
CO6	Knowledge of theory and practical concepts different types of optical systems

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M								
	CO2	M	H								
	CO3	H	M								
	CO4	H	H								
	CO5	M	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
				✓	✓					

4	Approval		Academic Council Meeting

UNIT –I GEOMETRICAL OPTICS 12

Spherical aberration in lenses - methods of minimizing spherical aberration - condition for minimum spherical aberration in the case of two lenses separated by a distance - Chromatic aberration in lenses - Condition for achromatism of two thin lenses (in and out of contact) - Dispersion produced by a thin prism - Achromatic prisms - Combination of prisms to produce - Dispersion without deviation - Deviation without dispersion.

UNIT –II INTERFERENCE 12

Analytical treatment of interference - expression for intensity - condition for maxima and minima in terms of phase and path difference - Airwedge - determination of diameter of thin wire - test for optical flatness - Haidinger's fringes - Michelson's interferometer - theory - applications - determination of wavelength; thickness of thin transparent material and resolution of interferometer.

UNIT –III DIFFRACTION 12

Fresnel diffraction – diffracti hourson at a circular aperture and narrow wire. Fraunhoffer diffraction - single slit - double slit - (simple theory). Plane diffraction grating - missing order - overlapping spectra - maximum number of orders - Determination of wavelengths using grating - normal incidence - oblique incidence (theory). Dispersive power of a grating. Rayleigh's criterion for resolution - limit of resolution of the eye - resolving power of Telescope and microscope - resolving power of prism and grating - Difference between resolving power and Dispersive power.

UNIT –IV POLARISATION 12

Double refraction - Nicol prims -polarizer and analyzer - Huygen's explanation of double refraction in uniaxial crystals - Dichroism - polaroids and their uses - Double image polarizing prisms - Quarter wave plate and Halfwave plate - plane, elliptically and circularly polarized light- production and detection - Babinet's Compensator - optical Activity - Fresnel's explanation of optical activity - specific rotatory power - determination using Laurent's half shade polarimeter.

UNIT –V SPECTROSCOPY 12

Introduction to spectroscopy - Electromagnetic spectrum - characterization of electromagnetic radiation - quantization of energy - regions of the spectrum – classification of molecules – microwave spectroscopy – rigid rotator - vibrational spectroscopy – harmonic oscillator - Raman effect - experimental set up - Characteristics of Raman lines - Laser - Ruby laser - He-Ne, CO2 laser construction and working - application of laser.

TEXT BOOKS

1. A Text book of Optics by Subrahmanyam N., Brij Lal and M.N. Avadhanulu, S.Chand & Co., New Delhi (2006).
2. Optics by Khanna D.R. & Gulati H.R., S.Chand & Co., New Delhi (1979).
3. Optics and Spectroscopy by R.Murugeshan and Kiruthiga Sivaprasath, S. Chand & Co., New Delhi (2006).
4. Molecular structure and spectroscopy by Aruldhas, Prentice Hall, New Delhi (2005).

BOOKS FOR REFERENCE

1. Fundamentals of Physics, by D.Halliday, R. Resnick and J. Walker, Wiley, 6th Edition, New York (2001).
2. Optics by Ajay Ghatak, Tata McGraw-Hill publishing Co. Ltd., New Delhi (1998).
3. Spectroscopy by Gurdeep Chatwal, Sham Anand, Himalaya Publishing House (1990).

Course Coordinator HOD

U18NCMA205	ALLIED MATHEMATICS –II	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Computer Science / Mathematics Studied in Higher Secondary Studies				
	Course Coordinator Department of Mathematics				

COURSE OBJECTIVES:-

To identify methods appropriate for solving problems. Apply methods to specific problems.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Partial Differential Equations
CO2	Understand the concept of Bernoulli's formula
CO3	Apply suitable data Vector differential operator∇
CO4	Analyze the algorithm inverse Laplace transforms
CO5	Evaluate data structures Stoke's and Green's theorems
CO6	Create an real time application of surface and volume integrals

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	M	H								
	CO3	H	M								
	CO4	H	H								
	CO5	M	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
				✓	✓					

4	Approval		47th Academic Council Meeting

UNIT-I: **DIFFERENTIAL EQUATIONS** **12**

Ordinary Differential Equations: second order non- homogeneous differential equations with constant coefficients of the form ay" +by'+ cy = X where X is of the form e^x cosx and e^x sinx
Partial Differential Equations: Formation, complete integrals and general integrals, four standard types and solving Lagrange's linear equation P p +Q q= R

Chapter 5, Section 5.2
Chapter 6, Section 6.1 to 6.4

UNIT-II: **INTEGRAL CALCULUS** **12**

Bernoulli's formula, simple problems, Fourier series for functions in $(\propto, \propto+2\pi)$ – Applications.
Chapter 2, Section 2.7 and 2.9
Chapter 4, Section 4.1 to 4.2

UNIT-III: **LAPLACE TRANSFORMS** **12**

Laplace transformations of standard functions and simple properties, inverse Laplace transforms, Application to solution of linear differential equations up to 2nd order- simple problems.
Chapter 7, Section 7.1.1 to 7.1.4 and 7.2 to 7.3

UNIT – IV: **VECTOR DIFFERENTIATION** **12**

Introduction, Scalar point functions, Vector point functions, Vector differential operator ∇ , Gradient, Divergence, Curl, Solenoidal, irrotational, identities. Chapter 8, Section 8.1 to 8.4.4

UNIT – V: VECTOR INTEGRATION **12**

Line, surface and volume integrals, Gauss, Stoke's and Green's theorems (without proofs)-Simple problems.
Chapter 8, Section 8.5 to 8.6.3

TEXT BOOK:

1. Content and treatment as in Allied Mathematics Volume I and II by P. Duraipandian and S. Udayabaskaran, S. Chand Publications

Books for Reference:

1. S. Narayanan and T.K. ManickavasagamPillai – Ancillary Mathematics, S. Viswanathan Printers, 1986, Chennai.

2. Allied Mathematics by Dr.A.Singaravelu

Course Coordinator **HOD**

		L	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
U18HSCH201	Prerequisite course –Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. G. Gurumoorthy / Chemistry				

COURSE OBJECTIVES :-

To make the students learn about the science from the basic and understood all theoretical background with all concepts thoroughly to protect the habitat of biotic and abiotic ecosystem.

COURSE OUTCOMES (COs)

CO1	Remember the fundamental concept of environmental impact and importance of natural Resources
CO2	Understand about the Ecosystem, Biodiversity and its conservation
CO3	Understand the various environmental pollution, effects and prevention.
CO4	Apply the environmental legislations and environmental production act.
CO5	Apply the human rights, value education, environment and human health: women and child welfare, public awareness
CO6	Analyze the local area, local polluted site and local simple ecosystem.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L	H			H		H		
	CO2	H	L	H			H				
	CO3	H	L	H			H				
	CO4	H	L	H			H				
	CO5	H	L	H			H				
	CO6	H	L	H			H				

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								
4	Approval		Academic Council Meeting							

Unit – I: Introduction to Environmental Sciences: Natural Resources: 6

Environmental sciences – relevance – significance – public awareness – forest resources – water resources – mineral resources – food resources – conflicts over resource sharing – exploitation – land use pattern – environmental impact – fertilizer – pesticide Problems - case studies.

Unit – II: Exosystem, Biodiversity and its conservation: 6

Ecosystem – concept – structure and function – producers, consumers and decomposers – food chain – food web – ecological pyramids – energy flow – forest, grassland, desert and aquatic ecosystem – definition – genetic, species and ecosystem diversity – biodiversity –

definition – genetic, species and ecosystem diversity – values and uses of biodiversity – biodiversity at global, national (india) and local levels – hotspots, threats to biodiversity – conservation of biodiversity – insitu and ex-situ.

Unit – III: Environmental Pollution and Management 6

Environmental pollution – causes – effects and control measures of air, water , marine, soil, solid waste. Thermal, nuclear pollution and disaster management – floods, earth quake, cyclone and land slides, role of individuals in prevention of pollution – pollution case studies.

Unit – IV: Social issues – Human population: 6

Urban issues – energy – water conservation – environmental ethics – global warming – resettlement and rehabilitation issues – environmental legislations – environmental production act. 1986 – air, water, wildlife and forest B.C.A.: syllabus (CBCS) conservation act - population growth and explosion – human rights and value education – environmental health – HIV/AIDS – role of it in environment and human health – women and child welfare – public awareness – case studies.

Unit – V: Field Work: 6

Visit to a local area / local polluted site / local simple ecosystem – report submission.

Text Book:

1. K. Kumarasamy, A. Alagappa Moses and M. Vesanthy, Environmental Studies,2004, Bharathidasan University Pub, 1, Trichy.
2. Y. K. Singh, Environmental Science, 2006, New Age International (P) Limited, New Delhi.
3. DivyaAgarwal and Manoj K. Agarwal, Environmental Science, 2014, Astral International Pvt. Ltd,New Delhi.

Reference book:

1. Rajamannar, 2004, Environmental Studies, EVR College Pub, Trichy.
2. S. Kalavathy, (ED.) 2004, Environmental Studies, Bishop Heber College Pub.Trichy.
3. G. TylerMiller, Scott Spoolman, 2018, Environmental science, 16th edition.

Course Coordinator **HOD**

U18HSBC202	VALUE EDUCATION	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary level				
	Course Coordinator Name &Department:- Ms. G. Vinothini, Commerce				

- **COURSE OBJECTIVES**
- To enable the students to understand the Social values.
- To provide knowledge on the features forlife.
- To acquire the knowledge on Humanrights.
- To impart the knowledge on Environment and Ecologicalbalance.
- To educate the knowledge on Socialevils..

COURSE OUTCOMES (COs)

CO1	Recall the basic concept of human values, Social Value role of medias, Self-introspection – Self esteem
CO2	Understand the duties and responsibilities of individuals and role of media
CO3	Apply Salient features for life, : Truth, commitment,, honesty and integrity, forgiveness and love and also positive creative thinking
CO4	Demonstrate Universal declaration of Human rights, peace and nonviolence – Dr. APJ Abdul Kalam's ten points for enlightened citizenship.
CO5	Analyze living and nonliving environmental balance, Ecological balance and conservations and enrichment
CO6	Manipulate the awareness on Corruption, crime, terrorism, Alcoholism, Drug addiction, Dowry

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	M					H		
	CO2	H	H	H		L					
	CO3	M	H	M	M						
	CO4	H	M	L							
	CO5	H	H	M			M				
	CO6	M	M	L							

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓					✓			

	Approval	Academic Council Meeting

UNITI **6**

Value education: Definition- relevance to present day – concept of human values – self introspection – Self esteem- duties and responsibilities of individuals- Social values- role of media in value building.

UNIT II **6**

Salient features for life: Truth, commitment,, honesty and integrity, forgiveness and love, empathy and ability to sacrifice, care, unity and inclusiveness, Team work- positive creative thinking.

UNIT III **6**

Human rights: Universal declaration of Human rights- human rights violation – National integration – peace and non violence – Dr. APJ Abdul Kalam's ten points for enlightened citizenship

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UNIT IV **6**

Environment and Ecological balance: Interdependent of all being – living and non living – the binding of man and nature – Environmental conservations and enrichment.

UNIT V **6**

Social evils : Corruption – cyber crime, terrorism, Alcoholism, Drug addiction, Dowry – Domestic violence – untouchability – female infanticide – atrocities against women – How to tackle them.

TEXTBOOK

1. N. Arumugam, S. Mohana, Lr. Palkani- value based education- Saras Publication,2009
2. DN Ghose, Value Education- dominant publishers,2005
3. M.G. Chitakra, Education and Human values, A.P.H Publishing Corporation. NewDelhi

REFERENCE BOOKS

1) For Life, for the future: Reserves and Remains – UNESCOPublications.
2) Values, A Vedanta kesari presentations, Sri Ramakrishna Math,Chennai
3) Values for Excellence in Life Compiled by then Curriculum Development Cell Thiagarajar College, Madurai, in collaboration with the Education wing, Brahma Kumaris, Madura

CourseCoordinator **HOD**

U18MCPH2L1	**CORE 6 - GENERAL LAB II**	L	T	P	C
	Total contact Hours-30	0	0	4	2
	Prerequisite- Science / Mathematics Studied in Higher Secondary Studies				
	Course Coordinator - Department of Physics				

COURSE OBJECTIVES:-

To gain the practical knowledge of measuring tools, bending of beams, time period of pendulum and surface tension of different liquids

COURSE OUTCOMES (COs)

CO1	Applying theoretical knowledge in practical experiments
CO2	Developing technical skills to collect data and analyze the results
CO3	Understand the internal properties of given material
CO4	To resolve the equations, data's and graphs with real-time experiments
CO5	To gain the knowledge of instrumentation techniques
CO6	To acquire fundamental laws and concepts of physics

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	M	H								
	CO3	H	M								
	CO4	H	H								
	CO5	M	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)	
								✓			
4	Approval		Academic Council Meeting								

LIST OF EXPERIMENTS

1. Sonometer – Relative Density of a solid and liquid
2. Specific heat capacity of a liquid – Newton's law of cooling
3. Specific heat capacity of liquid – Method of mixtures (Half-time correction)
4. Focal length, Power, R and refractive index of a long focus convex lens
5. Focal length, Power, R and refractive index of a concave lens
6. Spectrometer – refractive index of a liquid
7. Potentiometer – Internal resistance

Course Coordinator **HOD**

U18HSTA301	□□□□□– III	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department :□□□□□□□. □. □□□□□□□□□ □□□□ &□□□□□□□□□□□				

COURSE OBJECTIVES : □□□ □□□□□□ □□□□□□□	
COURSE OUTCOMES (COs)	
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U18HSHI301	Française	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Hindi as second language in Grade 12				
	Course Coordinator Name & Department:- Dr. K. MustakHusaain / Department of Hindi				

COURSE OBJECTIVES: -

To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)	
CO1	Remember of Ramayana in Panchavati part
CO2	Understand the history of Hindi literature
CO3	Apply the concept of Hindi grammatical speech
CO4	Analyze and develop the translation skills
CO5	Evaluate and develop the unseen passage skills
CO6	Create the skills in Hindi language

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L-indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

POETRY - PANCHAVATI

UNIT II **09**

HISTORY OF HINDI LITERATURE - Aadi Kaal and Bhakthi Kaal - general knowledge of the trends of the difference streams

UNIT III **09**

ALANKAR – Anupras – Yamak - Slesh - VakrokthiUpama – Rupak – Drishtanth - Virodhabas.

UNIT IV **09**

TRANSLATION - HINDI – ENGLISH

UNIT V **09**

COMPREHENSION

Text Books:

By MaithilisharanGupt, AnuvadhAbhyas – III

Reference Books:

Publisheres - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator **HOD**

U18HSFR301	Française	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – French as second language in Grade 12				
	Course Coordinator Name & Department:- Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES :-

Développer les aspects techniques de la langue et des nuances grammaticales variées pour interpréter le sujet.

COURSE OUTCOMES (COs)

CO1	Transmettre les différents aspects qui composent la langue.
CO2	Pour apprendre certains faits, procédures, pratiquer certaines structures grammaticales et pratiquer des stratégies de communication.
CO3	Pour apprendre la culture des natifs de la langue.
CO4	Analyser les différences entre la grammaire de base et avancée.
CO5	Se souvenir de l'interdépendance entre les conjugaisons
CO6	Comprendre les restrictions grammaticales.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L-indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval	Academic Council Meeting

UNIT I Vivement demain! **9**

Le future- La comparaison des qualities, des quantities et des actions

UNIT II Le Tu as du boulot? **9**

Le pronom (en)-Le pronom (Y)-Expression de la condition

UNIT III -Qu'en pensez - vous? 9

Le subjonctif (employ lie a quelques verbs)- Expression de la quantite (poids et mesure-evaluation-restriction)

UNIT IV - C'est tout un programme! 9

Les propositions relatives introduites par (qui, que, ou)-Les adverbs (place, formation des adverbs en-ment)-
La forme ((en + participle present))

UNIT V On se retrouve ! 9

Emploi et conjugaison des quatre temps de l'indicatif quatre temps de l'indicatif:--passe recent--Present -Passe compose-
Imparfait et future

TEXT BOOKS:

A2 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator HOD

U18HSEN302	**ENGLISH- III**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept: Mrs. B.JANUA SHERLY – English				

COURSE OBJECTIVES:- To enhance the reading, writing, listening and speaking of the English language skills..

	COURSE OUTCOMES (COs)
CO1	Remember and recollect the value of LSRW skills.
CO2	Understand the competence of the four modes of language skills.
CO3	Apply the grammatical concepts and the correct usage of the English language.
CO4	Analyze their personality traits and develop interpersonal skills for a better career in life
CO5	Evaluate the knowledge and write resume official letters and reports
CO6	Create and develop their ability as critical thinkers and readers.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O1	PSO 2	PS O3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								

4	**Approval**	Academic Council Meeting

UNIT 1 - LISTENING SKILLS **9**

Types of Listening (Theory / Definition) - Tips for Effective Listening -Academic Listening (Lectures) - Listening to Radio and Television

UNIT 2 - TELEPHONE SKILLS **9**

Basics of Telephone communication -How to handle calls- telephone manners -Leaving a message -Making

requests -Greeting and Leave Taking over phone (etiquette) - Handling the situations especially trouble shooting Teleconference - handling Tele interviews for Call Centers

UNIT 3 - WRITING SKILLS **9**

Standard Business letter - Report writing- Email drafting and Etiquettes - Preparing Agenda and writing minutes for meetings - Making notes on Business conversations

UNIT 4 - CAREER SKILLS **9**

Applying for job -Cover letters -Resume and Effective Profiling - Interviews - Group discussions

UNIT 5 – PERSONAL SKILLS **9**

Empathy (Understanding third person's point of view) -Intrapersonal skills -Interpersonal skills- Problem solving

TEXT BOOKS:

1. Improve Your IELTS Listening and Speaking Skill by Barry Cusack, 2007

2. Roche Marc, "Advanced English Writing Skills: Master class for English Language, Roche Publishing ESL, 2019

REFERENCE BOOKS:

1. Frederick H. Wentz, "A Workbook to Develop Skills For Employment", Create space Independent Pub,2012

2. S. P. Dhanavel, "English and Soft Skills", Orient Black Swan, First edition, 2010

U18NETA301	□□□□□□□□□□□□□□□□- I	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department :□□□□□□□□. □.□□.□□□□□□□□□ &□□□□□□□□□□□□				

COURSE OBJECTIVES : □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□	
COURSE OUTCOMES (COs)	
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Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	H						M	M	M
	CO2	M	H								
	CO3	M	H								
	CO4	M	H								
	CO5	M	H								
	CO6	M	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
							✓			
4	Approval		Academic Council Meeting							

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U18NETA302	□□□□□□□□□□□□□□ – I	L	T	P	C
	Total Contact Hours – 30	4	0	0	4
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department :□□□□□□□□. □□.□□□□□□□□ □□□□□□□□ &□□□□□□□□□□□□				

COURSE OBJECTIVES : □□□□□□□□□□□□□□

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U18MCPH301	CORE 7 - ELECTRICITY AND MAGNETISM	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Science / Mathematics Studied in Higher Secondary Studies				
	Course Coordinator –Department of Physics				

COURSE OBJECTIVES:- To understand the concepts of Electrical and magnetic properties and study about various laws, circuits and analysis of different techniques

COURSE OUTCOMES (COs)

CO1	Remembering Faradays law and thermoelectric effects
CO2	Understand the different combinations of electronic components and their circuit analysis
CO3	Apply suitable ideas of magnetic effects on Helmholtz galvanometer
CO4	Analyze the different types of induction coils
CO5	Evaluate the problems of electromagnetic circuits
CO6	To know about Maxwell's equations and electromagnetic wave propagation in various medium

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M								
	CO2	M	H								
	CO3	H	M								
	CO4	H	H								
	CO5	M	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
								✓		

4	Approval	Academic Council Meeting

UNIT - I CHEMICAL EFFECTS OF ELECTRIC CURRENT 12

Faraday's laws of Electrolysis - ionic velocities and mobilities. Calculation and experimental determination of ionic mobilities - transport number. Thermoelectricity- Peltier effect - Experimental determination of Peltier coefficient - Thomson coefficient - experimental determination of Thomson coefficient - application of thermodynamics to a thermocouple and connected relations - thermoelectric diagram and uses.

UNIT -II DC AND AC CIRCUITS 12

Growth and decay of current in a circuit containing resistance and inductance - growth and decay of charge in a circuit containing resistance and capacitor - growth and decay of charge in an LCR circuit - condition for the discharge to be oscillatory - frequency of oscillation - network analysis - Thevenin and Norton's Theorems. AC Circuits :AC Voltage and current - Power factor and current values in and AC circuit containing LCR circuit - series and Parallel resonant circuits - AC motors - single phase, three phase - star and delta connections - electric fuses - circuit breakers.

UNIT -III MAGNETIC EFFECT OF ELECTRIC CURRENT 12

Biot and Savart's law - magnetic field intensity due to a solenoid carrying current - effect of iron core in a solenoid - Helmholtz galvanometer - moving coil ballistic galvanometer - theory - damping correction - determination of the absolute capacity of a condenser using B.G.

UNIT-IV ELECTROMAGNETIC INDUCTION AND ITS APPLICATIONS 12

Faraday's laws of electromagnetic induction - inductor and inductance - determination of self-inductance of a coil using Anderson method - mutual inductance - experimental determination of absolute mutual inductance - coefficient of coupling - Earth inductor - uses of eartmeasurement of horizontal component of the earth's magnetic field - measurement of vertical component of earth's magnetic field - calibration of B.G. - Induction coil and its uses.

UNIT –V MAXWELL'S EQUATIONS AND ELECTROMAGNETIC THEORY 12

Basic equations - types of currents - vaccum displacement current - Maxwell's equations -Maxwell's equations in free space - electromagnetic waves in free space - propagation of electromagnetic wave in a non-conducting medium - Hertz Experiment - energy density of e.m. wave - Poynting's theorem - energy per unit volume.

TEXT BOOKS

1. Electricity & Magnetism by M.Narayanamurthy & N.Nagarathnam, NPC pub.,Revised edition.
2. Electricity and Magnetism by Brijlal and Subrahmanyam; S.Chand & Co., New Delhi, (2000).
3. Electricity & Magnetism by D.Chattopadhyay and P.C. Rakshit, Books and Allied (P) Ltd. (2001).
4. Fundamentals of electricity and magnetism by B.D. Dugal and C.L. Chhabra, 24 Shobanlal Nagin, S. Chand & Co., 5th edition, New Delhi (2005).
5. Electricity and Magnetism by R. Murugeshan, S.Chand & Co., New Delhi, (2008).

BOOKS FOR REFERENCE

1. Electricity & Magnetism by K.K.Tewari, S.Chand & Co., New Delhi, (2002).
2. Introduction to Electrodynamics by D.J.Griffiths, Printice Hall of India., 3rd Edition, New Delhi (2003).
3. Fundamentals of Physics, D.Halliday, R.Resnick and J.walker, Wiley, 6th Edition, New York (2001).

Course Coordinator **HOD**

U18NCPS302	ALLIED CHEMISTRY- I	L	T	P		C
	Total Contact Hours - 60	3	1	0		4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies					
	Course Coordinator- Department of Chemistry					

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)

CO1	Gain the knowledge about the properties and uses of Fuels and Fertilizer
CO2	Understand about the theoretical concepts of polymer and its uses
CO3	Apply its properties and uses of Conventional energy sources
CO4	Analyze the detail about the state of matters and its importance
CO5	Evaluate the importance of chemical kinetics
CO6	Create the real time applications of Chemistry in day today life.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	H						H		
	CO2	M	H								
	CO3	M	M								
	CO4	M	H								
	CO5	H	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
				✓	✓					

4	Approval		Academic Council Meeting

UNIT – I **12**

Atomic radii, ionic radii, ionization energy or ionization potential - electron affinity - electronegativity. Fuel gases – water gas - producer gas - LPG gas – gobar gas - natural gas. Fertilizers – NPK and mixed fertilizers- micronutrients and their role in plant life – bio fertilizers. Soap and detergents – an elementary idea about preparation and manufacture – cleaning action of soap and detergents. Atomic weight - molecular weight – molarity – molality - equivalent weight -normality - mole fraction - common ion effect.

UNIT – II: Polymers 12

Polymers –definition- polymerization – types – addition and condensation polymerization – Plastics - classification – preparation, properties and uses of PVC, Teflon, nylon-6,6- PET. Rubber- vulcanization of rubber - synthetic rubbers – butyl rubber - SBR - composites – definition - types polymer matrix composites –FRP.

UNIT – III **12**

Petroleum products and Polynuclear aromatic hydrocarbons - Coal tar –distillation products – petroleum fractionation – cracking – synthetic petrol – Fischer tropsch synthesis – octane number – cetane number– flash point – fire point –aniline point- anti-knocking agents. Benzene – resonance and resonance energy - effect of substituents in benzene – electrophile, nucleophile. Naphthalene – anthracene and phenanthrene structures only.

UNIT – IV **12**

Solid state, Energetics and Phase rule - Typical crystal lattices – unit cell - elements of symmetry - Bragg's equation – Weiss indices - Miller indices, simple, body centered and face centered cubes. Review of first law of thermodynamics – state and path functions – need for the second law – Carnot's cycle and thermodynamic scale of temperature – spontaneous and non spontaneous processes – entropy. Phase, component, degrees of freedom, phase rule definition - one component system – water.

UNIT – V

Chemical equilibrium and Chemical kinetics - Criteria of homogeneous and heterogeneous equilibria - decomposition of HI, $CaCO3$ and PCl_5. Order of reactions and their determinations (first order and second order only) activation energy - effect of temperature on reaction rate..Catalysis – types and mechanism of catalytic reactions, industrial applications.

REFERENCES :

1. Principles of Inorganic Chemistry, B.R.Puri, L.R.Sharma, ShobanLalNagin Chand & Co.
2. Text Book of Inorganic Chemistry, P.L.Soni, Mohan Katyal, Sultan Chand & Sons.
3. Industrial Chemistry, B.K.Sharma, Goel Publishing House.
4. A Textbook of Environmental Chemistry and Pollution Control, S.S. Dara, S.Chand& Co Ltd.
5. Text Book of Organic Chemistry, P.L.Soni, H.M.Chawla, Sultan Chand & Sons.
6. Text Book of Physical Chemistry, P.L.Soni, O.P.Dharmara, U.N. Dash, Sultan Chand & Sons.
7. Principles of Physical Chemistry, B.R.Puri, L.R.Sharma, M.S.Pathania, ShobanLal Nagin Chand & Co.

Course Coordinator **HOD**

U18MCPH3L1	**CORE 8 - GENERAL LAB III**	L	T	P		C
	Total contact Hours-30	0	0	4		2
	Prerequisite- Science / Mathematics Studied in Higher Secondary Studies					
	Course Coordinator - Department of Physics					

COURSE OBJECTIVES:-To learn the practical knowledge and interpretation of various experiments aspects

COURSE OUTCOMES (COs)

CO1	Applying theoretical knowledge in practical experiments
CO2	Developing technical skills to collect data and analyze the results
CO3	Understand the internal properties of given material
CO4	To resolve the equations, data's and graphs with real-time experiments
CO5	To gain the knowledge of instrumentation techniques
CO6	To acquire fundamental laws and concepts of physical properties

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M								
	CO2	M	H								
	CO3	M	M						H		
	CO4	H	H								
	CO5	M	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)		Any other	Project/Term Paper/ Seminar/ Internship(PR)
				✓	✓						

4	Approval	Academic Council Meeting

LIST OF EXPERIMENTS

1. Young's modulus - cantilever - depression - (Static method)-(Scale and telescope)
2. Young's modulus - cantilever oscillations - (Dynamic method)
3. Rigidity modulus - Static torsion
4. Compound pendulum - g and k
5. Sonometer - A.C. Frequency - Steel and Brass wires 30
6. Melde's string - frequency, Relative Density of a solid and liquid
7. Thermal conductivity of a bad conductor - Lee's disc method

Course Coordinator **HOD**

U18NCPS3L2	ALLIED CHEMISTRY LAB - I	L	T	P	C
	Total Contact Hours - 48	0	0	4	2
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator -Department of Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)

CO1	Gain the knowledge about the basic of volumetric analysis
CO2	Understand about the theoretical concepts of chemistry Practical's
CO3	Apply and know about its importance in Industrial Process
CO4	Analyze the detail about practical importance to be aware of the concepts from the basis.
CO5	Evaluate the importance of handling and precision of experimental skills
CO6	Create the real time applications of Chemistry in day today life.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	H								
	CO2	M	H								
	CO3	M	M								
	CO4	H	M								
	CO5	H	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
				✓	✓					
4	Approval	Academic Council Meeting								

VOLUMETRIC ANALYSIS

ACIDIMETRY AND ALKALIMETRY

1. Strong acid Versus Strong Base
2. Weak acid Versus Strong base.
3. Determination of hardness of water
4. Estimation of HCl – standard oxalic acid.

IODOMETRY

1. Estimation of copper using thiosulphate
2. Estimation of $K_2Cr_2O_7$
3. Estimation of $KMnO_4$using thiosulphate

PERMANGANOMETRY

1. Estimation of ferrous sulphate – Standard FAS.
2. Estimation of oxalic acid – Standard oxalic acid.

TEXT BOOKS:

1. Vogel, A.I. A Textbook of Quantitative Inorganic Analysis, ELBS. 1978
2. Ahluwalia, V.K. & Aggarwal, R. Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis, University Press (2000).
3. Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co.: New Delhi (2011).
4. Garland, C. W.; Nibler, J. W. & Shoemaker, D. P. Experiments in Physical Chemistry 8th Ed.; McGraw-Hill: New York (2003).

REFERENCE BOOKS:

1. Halpern, A. M. & McBane, G. C. Experimental Physical Chemistry 3rd Ed.; W.H. Freeman & Co.: New York (2003).
2. Mann, F.G. & Saunders, B.C. Practical Organic Chemistry, Pearson Education (2009)
3. Furniss, B.S.; Hannaford, A.J.; Smith, P.W.G.; Tatchell, A.R. Practical Organic Chemistry, 5th Ed., Pearson (2012)
4. Ahluwalia, V.K. & Dhingra, S. Comprehensive Practical Organic Chemistry: Qualitative Analysis, University Press (2000).

Course Coordinator **HOD**

U18HSTA401	□□□□□- IV	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department :□□□□□□□. □. □□□□□□□□□ □□□□ &□□□□□□□□□□□				

COURSE OBJECTIVES : □□	
COURSE OUTCOMES (COs)	
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U18HSHI401	Française	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Hindi as second language in Grade 12				
	Course Coordinator Name & Department:- Dr. K. Mustak Husaain / Department of Hindi				

COURSE OBJECTIVES: -

To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)	
CO1	Rememberthe skills of the leadership
CO2	Understand and develop the skills to overcome the mistake
CO3	Apply the concept of Hindi essay writing
CO4	Analyzeand develop the translation skills
CO5	Evaluate the unseen passage skills
CO6	Create and develop the Hindi language skills

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

UNIT I **09**

DRAMA – Andher Nagari

UNIT II **09**

NOVEL - GABAN - Premchand

UNIT III **09**

GENERAL ESSAY

UNIT IV **09**

TRANSLATION - HINDI – ENGLISH

UNIT V **09**

COMPREHENSION

Text Books:

ByBharathendu Harischandra**,** Veerendra Kumar Mishra, Anuvadh Abhyas – III

Reference Books:

UNIT 1 - Publisher–Vani Prakashan, New Delhi – 110 002.

UNIT II – Publisher - Rajkamal Prakashan, New Delhi – 110 002

UNIT III – Aadarsh Nibnandh, Vinodh Pustak Mandir, Hospital Road, Agra -282002

UNIT IV - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

UNIT V - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator **HOD**

U18HSFR401	Française	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – French as second language in Grade 12				
	Course Coordinator Name &Department:- Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES :-

Initier les étudiants aux niveauxavancés de la langue.

COURSE OUTCOMES (COs)

CO1	Pour apprendre la culture des natifs de la langue dans la configuration avancée.
CO2	Comprendre la structure grammaticaleintégraleenfrançais.
CO3	Encourager le développement de compétencesenlinguistique
CO4	Évaluerl'ensemble des compétencesorales et écrites
CO5	Se souvenir de la construction du langage
CO6	Pour améliorer la maîtriseavancée de la langue

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval	Academic Council Meeting									

UNIT I Vousplaisantez! **9**

Le conditionnel present -expression de l'hypothese-demandes polies-suggestions et conseils

UNIT II On s'entend bien! **9**

Les constructions du discours rapport-Les constructions (faire + verbe)-et (laisser + verb)

UNIT III A vos risqué et perils! **9**

Le subjonctif Present- La construction passive pourmetreenvaleurl'object direct de l' action

UNIT IV C'est tout un programme! **9**

Les pronom possessives -Les adjectifs et les pronomsindefinis-Les pronomdemonstratifs:
Les constructions --celui+de

UNIT V C'est la fete ! **9**

Les fornes de l'appreciation : trop/ pas assez –si-Les constructions verbe+verbes

TEXT BOOKS:

A2 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator **HOD**

U18HSEN402	ENGLISH- IV	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept. :Ms.E.REKHA - English				

COURSE OBJECTIVES:- To focus on the balanced development of the English language communication skills.

COURSE OUTCOMES (COs)

CO1	Remember the basic concepts of English literature
CO2	Understand the importance of the English language.
CO3	Apply the themes and values by comprehending the given text.
CO4	Analyse the grammar and the literary texts.
CO5	Evaluate the characters and the genre prescribed.
CO6	Create comprehensive essays efficiently.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O1	PSO2	PS O3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Eng Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								

4	**Approval**	Academic Council Meeting

UNIT 1 - PROSE **9**

Lalajee – Jim Corbett – Author Biography – Plot – Theme - Summary - Critical analysis; **Face of Judas** – Bonnie Chamberlin - Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2 - POETRY **9**

Laugh and Be Merry – **John Masefield** – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Matilda** - **Hilaire Belloc**- Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis.

UNIT 3: SHORT STORIES **9**

Hunchback Sundari – **C.Raja Gopalachari** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Eyes Are Not There** - **Ruskin Bond**- Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT 4: ONE-ACT PLAYS **9**

Macbeth Soliloquy – **Out, Out, Brief Candle** - **Shakespeare** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **Julius Ceasar** - **Anthony's Funeral Speech** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT 5: FUNCTIONAL ENGLISH **9**

Wh – Questions - Pattern – Active and Passive voice – usage of passive voice – structure of passive verb; Modal verbs – Tenses.

TEXT BOOKS:

1. Corbett, "My India", Rupa Publications India Pvt. Ltd., 2018
2. Stories of Innocent by C.Rajagopalachari, Bharathiya Vidya Bhavan, 2009
3. Shakespeare, "Macbeth", Macmillan Publisher, 2014

REFERENCE BOOKS:

1. Shakespeare – The Complete Work; Wilco Publishing House, Mumbai, India. 2005
2. Hilaire Belloc, "Matilda", Random House UK, 1994

Course Coordinator **HOD**

U18NETA401	□□□□□□□□□□□□□□□- II	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department :□□□□□□□□. □.□□.□□□□□□□□□ &□□□□□□□□□□□□				

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	Total Contact Hours – 30	2	0	0	2
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Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
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U18MCPH401	CORE 9 - NUCLEAR AND PARTICLE PHYSICS	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Science / Mathematics Studied in Higher Secondary Studies				
	Course Coordinator –Department of Physics				

COURSE OBJECTIVES:-

To understand the concepts of Electricity and magnetism with application of laws, circuits and analysis of different experiments

COURSE OUTCOMES (COs)

CO1		Remembering basics of nuclear structure and radioactivity
CO2		Understand the different types accelerators and detectors
CO3		To gain knowledge about nuclear reactions
CO4		Analyze the different types radioactivity
CO5		Evaluate the problems of nuclear models and particle physics
CO6		Applying the learned models to understand nuclear reactions

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO 6	PO7	PS O 1	PS O2	PS O3
2	CO1	H	M								
	CO2	M	H								
	CO3	H	M						H		
	CO4	H	H								
	CO5	M	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
				✓	✓					
4	Approval		Academic Council Meeting							

UNIT –I GENERAL PROPERTIES OF NUCLEI 12

Nuclear size, charge, mass-determination of nuclear radius-mirror nucleus method-mass defect and binding energy-packing fraction - nuclear spin - magnetic dipole moment - electric quadrupole moment-nuclear models-liquid drop model-Weizacker semi-empirical mass formula shell model and magic numbers-collective model-nuclear forces-meson theory of nuclear force (qualitative).

UNIT –II RADIOACTIVITY 12

Natural radioactivity-law of disintegration-half life and mean life period-units of radioactivity-transient and secular equilibrium-radiocarbon dating-age of earth - alpha rays characteristics-Geiger Nuttal law - α-ray spectra-Gamow's theory of α-decay (qualitative study)beta rays-characteristics-beta ray spectra-neutrino hypothesis-violation of parity conservation experimental verification with Co60-gamma rays and internal conversion-nuclear isomerism.

UNIT -III RADIATION DETECTORS AND PARTICLE ACCELERATORS 12

Ionisation chamber-G.M. Counter-quenching and resolving time-scintillation counter photo multiplier tube – thermos luminescence – thermo luminescence dosimetry (TLD) - Linear accelerator-cyclotron-synchrocyclotron, betatron.

UNIT - IV NUCLEAR REACTIONS **12**

Conservation laws-nuclear reaction Kinematics-Q-value-threshold energy - artificial radioactivity-radioisotopes and its uses-classification of neutrons-nuclear fission-chain reaction - critical mass and size-nuclear reactor-breeder reactor - transuranic elements-nuclear fusion thermonuclear reactions-sources of stellar energy.

UNIT –V ELEMENTARY PARTICLES 12

Classification of elementary particles fundamental interaction-elementary particle quantum numbers - isospin and strangeness - conservation laws and symmetry-basic ideas about quark-quark model.

TEXT BOOKS

1. Atomic and Nuclear Physics by N. Subrahmanyam and Brijlal, S Chand & Co., New Delhi(1996).
2. Nuclear Physics by Tayal D.C., Himalaya Publishing House, Mumbai(2006).
3. Nuclear Physics by R.C.Sharma, K.Nath & Co., Meerut (2000) 4. Nuclear Physics by Irving Kaplan, Narosa Publishing house, New Delhi.

BOOKS FOR REFERENCE

1. Nuclear Physics by R.R.Roy and B.P.Nigam, New Age International (P) Ltd., New Delhi (1997).
2. Fundamentals of Elementary Particle Physics by Longo, Mc Graw-Hill.
3. Nuclei and Particles by Serge., W.A. Benjamin, USA

Course Coordinator **HOD**

U18NCPS402	**ALLIED CHEMISTRY– 1I**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator –Department of Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)	
CO1	Gain the knowledge about the importance and uses of aquatic system
CO2	Understand about the theoretical concepts of carbohydrates and proteins
CO3	Apply its properties and uses of solvent systems
CO4	Analyze the detail about the state of colloids and its importance
CO5	Evaluate the importance of electrochemistry and its role
CO6	Create the real time applications of Chemistry in day today life.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	**PSO 1**	PSO2	PSO3
2	CO1	H	H								
	CO2	M	H								
	CO3	H	M								
	CO4	M	M								
	CO5	H	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
						✓				

4	Approval		47th Academic Council Meeting

Unit – I Water Treatment:

Introduction – Characteristics – alkanity – types of alkanity and determination – hardness – types and estimation by EDTA method; Domestic water treatment – disinfection methods (chlorination, ozonation , UV treatment) – Boiler feed water – requirements – disadvantages of using hard water in boilers – internal conditioning (calgon and carbonate conditioning methods) – external conditioning – demineralization process – desalination and reverse osmosis.

Unit – II Carbohydrates and Proteins:

Classification – glucose and fructose – preparation and properties – elucidation of structure of glucose – configuration of glucose – Fisher and Haworth cyclic structures. Sucrose – manufacture and properties – starch and cellulose – properties and uses. Amino acids and proteins - amino acids – classification based on structure and essential and non-essential amino acids – preparation and properties – proteins – classification based on physical properties and biological functions.

Unit – III

Inductive effect – relative strength of aliphatic mono carboxylic acid and aliphatic amines. Resonance – conditions for resonance - consequences of resonance – resonance energy - basic property of aniline and acidic property of phenol – hyper conjugation – consequences of hyper conjugation – heat of hydrogenation - bond length and dipole moment - steric effect – steric accelerated reaction and steric inhibited reaction - Types of solvents – polar - non-polar – their dissolving nature

Unit – IV - Colloidal Chemistry:

Introduction : Types of Colloidal system – classification of colloids. Preparation of colloidal solution – dispersion method (mechanical and electrical)– condensation method (oxidation and reduction) Properties of colloidal system: colligative, optical, electrical and Brownian movement - **Emulsions**: Emulsifiers – types of emulsion - **Gels**: Gelation - preparations of gels – elastic and non – elastic gels. Applications of colloids.

Unit – V - Electrochemistry:

Introduction; Conductors, Electrode potential Measurement of single electrode potential, ion selective electrodes – electro chemical series and applications. pH and buffer - importance of pH and buffers in living systems – pH determination by Colorimetric and Potentiometric methods. Specific and equivalent conductivities – their determination – effect of dilution on conductivity. Ostwald's dilution law, Kohlrausch's law, conductivity measurements, Conductometric titrations.

TEXT BOOKS:

1. Principles of Inorganic Chemistry, B.R.Puri, L.R.Sharma, Shoban Lal Nagin Chand & Co.
2. Text Book of Organic Chemistry, P.L.Soni, H.M.Chawla, Sultan Chand & Co
3. Principles of Physical Chemistry, B.R.Puri, L.R.Sharma, M.S.Pathania, Shoban Lal Nagin Chand & Co.

REFERENCES :

1. Text Book of Inorganic Chemistry, P.L.Soni, Sultan Chand & Sons.
2. A Textbook of Environmental Chemistry and Pollution Control, S.S. Dara, S.Chand & Co Ltd.
3. Text Book of Physical Chemistry, P.L.Soni, O.P.Dharmara, U.N. Dash, Sultan Chand & Sons.

Course Coordinator **HOD**

U18MCPH4L1	CORE 10 - GENERAL LAB IV	L	T	P	C
	Total contact Hours-30	0	0	4	2
	Prerequisite- Science / Mathematics Studied in Higher Secondary Studies				
	Course Coordinator - Department of Physics				

COURSE OBJECTIVES:-

To gain the knowledge of advanced scientific experiments with hands on experience of spectrometer, Ballistic galvanometer and deflection magnetometer

COURSE OUTCOMES (COs)

CO1	Applying gained scientific knowledge in practical experiments
CO2	Developing practical skills to find resolution of spectrometers and data analysis
CO3	Understand the optical properties of given gratings and prisms
CO4	To resolve the data graphs with real-time experiments
CO5	To gain the knowledge of instrumentation techniques
CO6	To acquire advanced scientific knowledge from different experiments

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO 3	PO4	PO 5	PO6	PO7	PS O 1	P S O 2	PS O3
2	CO1	M	M								
	CO2	H	M								
	CO3	H	H								
	CO4	M	H						H		
	CO5	H	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓ ✓					

4	Approval		Academic Council Meeting

LIST OF EXPERIMENTS

1. Spectrometer - μ of a glass prism - i-d Curve
2. Air wedge - Thickness of a wire
3. m and BH - deflection mangetometer Tan C position and vibration magnetometer
4. Carey Foster bridge - Temperature coefficient of resistance of a coil
5. Potentiometer - Calibration of low range voltmeter
6. Figure of merit of galvanometer (Miror Galvanometer or Table Galvanometer)
7. C.R.O. Study of wave forms - Lissajou's figures - frequency determination
8. Study of resistors, Choke, capacitors and transformer
9. Construction of battery eliminator - various voltages - with filter circuit and IC voltage regulator.

Course Coordinator **HOD**

U18NCPS4L2	ALLIED CHEMISTRY LAB - II	L	T	P	C
	Total Contact Hours - 48	0	0	4	2
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator - Department of Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)

CO1	Gain the knowledge about the basic of organic salt analysis
CO2	Understand about the theoretical concepts of chemistry Practical's
CO3	Apply and know about its importance in Industrial Process
CO4	Analyze the detail about practical importance to be aware of the concepts from the basis.
CO5	Evaluate the importance of handling and precision of experimental skills
CO6	Create the real time applications of Chemistry in day today life.

Mapping of Course Outcomes with Program outcomes (POs) (H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO2	PS O3
2	CO1	H	H						H		
	CO2	M	H								
	CO3	M	M								
	CO4	M	H								
	CO5	H	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)		
							✓					

4	Approval		Academic Council Meeting

ORGANIC ANALYSIS

A STUDY OF REACTIONS OF THE FOLLOWING ORGANIC COMPOUNDS:

1. Carbohydate
2. Amide
3. Aldehyde
4. Ketone
5. Acid
6. Amine
7. Phenol

The students may be trained to perform the Specific reactions like

Test for element (nitrogen only),

Aliphatic or aromatic, Saturated or unsaturated and functional group present and record their observation

TEXT BOOKS:

1. Vogel, A.I. A Textbook of Quantitative Inorganic Analysis, ELBS. 1978
2. Ahluwalia, V.K. & Aggarwal, R. Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis, University Press (2000).
3. Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co.: New Delhi (2011).
4. Garland, C. W.; Nibler, J. W. & Shoemaker, D. P. Experiments in Physical Chemistry 8th Ed.; McGraw-Hill: New York (2003).

REFERENCE BOOKS:

1. Halpern, A. M. & McBane, G. C. Experimental Physical Chemistry 3rd Ed.; W.H. Freeman & Co.: New York (2003).
2. Mann, F.G. & Saunders, B.C. Practical Organic Chemistry, Pearson Education (2009)
3. Furniss, B.S.; Hannaford, A.J.; Smith, P.W.G.; Tatchell, A.R. Practical Organic Chemistry, 5th Ed., Pearson (2012)
4. Ahluwalia, V.K. & Dhingra, S. Comprehensive Practical Organic Chemistry: Qualitative Analysis, University Press (2000).

Course Coordinator **HOD**

U18MCPH501	**CORE 11 - RELATIVITY AND QUANTUM MECHANICS**	**L**	**T**	**P**		**C**
	Total Contact Hours - 60	3	1	0		4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies					
	Course Coordinator Name & Department:- – Dr. S.Anandhi / Physics					

COURSE OBJECTIVES:- To acquire sufficient knowledge in Properties of matter waves, Wave equation, Schrodinger equation and applications, Operator formalism and Relativity.

COURSE OUTCOMES (COs)

CO1	Understand the basic terms in Quantum Mechanics
CO2	To Learn about the principles of quantum particles
CO3	Apply basics to construct and solve one particle equation.
CO4	To develop problem solving methods that will include mathematical as well as numerical computations and solutions
CO5	To design and construct particle equation in the free and bound states as well as to analyze and interpret the results.
CO6	To understand the fundamentals and concepts in the special theory of relativity

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PS O3
2	CO1	H	H						H		
	CO2	H	H								
	CO3	M	M								
	CO4	M	H								
	CO5	H	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	Project/Term Paper/ Seminar/ Internship (PR)
				✓	✓						
4	Approval	Academic Council Meeting									

UNIT –I RELATIVITY **12**

Frames of reference - Galilean transformation - Michelson - Morley experiment - Postulates of special theory of relativity - Lorentz transformation - length Contraction - time dilation - Relativity of simultaneity - addition of velocities - variation of mass with velocity – Mass energy relation - Elementary ideas of general relativity.

UNIT -II WAVE NATURE OF MATTER **12**

Phase and group velocity - wave packet - expression of De Brogile's wave length - Davisson and Germer's experiment - G.P.Thompson's experiment - Electron microscope - Heisenberg's uncertainty principle and its consequences.

UNIT - III SCHRODINGER EQUATION **12**

Inadequacy of classical mechanics - Basic postulates of quantum mechanics - Schrodinger equation - Properties of wave function - Probability interpretation of wave function - linear operators - self adjoint operators - expectation value - eigenvalues and eigenfunctions - commutativity and compatibility.

UNIT -IV ANGULAR MOMENTUM IN QUANTUM MECHANICS **12**

Orbital angular momentum operators and their commutation relations - separation of three dimensional Schrodinger equation into radial and angular parts - Elementary ideas of spin angular momentum of an electron - Pauli matrices.

UNIT –V SOLUTIONS OF SCHRODINGER EQUATION **12**

Free particle solution - Particle in a box - Potential well of finite depth (one dimension) - linear harmonic oscillator - rigid rotator and hydrogen atom.

TEXT BOOKS

1.A Text book of Quantum mechanics by P.M.Mathews and S.Venkatesan, Tata McGraw - Hill, New Delhi(2005).

.Quantum Mechanics by V.K.Thankappan, New Age International (P) Ltd. Publishers, New Delhi(2003). 25

3.Quantum mechanics by K.K.Chopra and G.C. Agrawal, Krishna Prakasam Media (P) Ltd., Meerut First Edition(1998).

4.Modern Physics by R. Murugeshan and Kiruthiga Sivaprasath, S. Chand & Co.,(2008)

BOOKS FOR REFERENCE:

1. Mechanics and Relativity by Brijlal Subramanyam, S.Chand & Co., New Delhi,(1990).

2. Concepts of modern physics by A.Beiser. Tata McGraw - Hill, 5thedition, New Delhi(1997).

3. Introduction to quantum mechanics by Pauling and Wilson, McGraw – Hill.

4. Quantum mechanics by A.Ghatak and Loganathan, Macmillan India Pvt. Ltd.

Course Coordinator **HOD**

U18MCPH502	CORE 12 - BASIC ELECTRONICS	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. S.Anandhi / Physics				

COURSE OBJECTIVES:- Understand the basic concepts of current electricity, electronics and digital electronics

COURSE OUTCOMES (COs)

CO1	To understand the basic concepts of construction and working of electronic devices and optical fibers
CO2	To Learn about the principles of electronics circuits
CO3	Apply the knowledge to understand the working of special types of diodes
CO4	Understand the principles of modulation and demodulation
CO5	To design and construct the electronic circuit and solve the mathematical equations.
CO6	Apply the knowledge to understand the working of amplifiers, oscillators and multivibrators

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PS O1	PS O2	PS O3
2	CO1	H	H								
	CO2	H	H								
	CO3	M	M						H		
	CO4	M	H								
	CO5	H	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
				✓	✓					

4	Approval	Academic Council Meeting

UNIT -II SEMICONDUCTOR **12**

Bandgap - forbidden energy gap - valence and conduction bands, pure semiconductor - Law of mass action, Impurity in semiconductors - energy band diagram and fermi level - PN junction barrier voltage across the junction.

UNIT -II TRANSISTOR AMPLIFIER **12**

Transistor – different modes of operations – CB mode & CE mode - Two port representation of a transistor - h parameter - AC equivalent circuit using h parameters - analysis of an amplifier using h parameters common emitter only - expression for current gain, voltage gain, input impedance, output impedance and power gain - RC coupled amplifier - frequency response - analysis of low, mid and high frequency regions - classification of amplifiers - class A power amplifier – push pull, class B power amplifier - emitter follower.

UNIT - III FEEDBACK OSCILLATORS **12**

Feedback in amplifiers - effect of negative feedback - concept of feedback – Barkhuesen condition - oscillators - phase shift and Wien's bridge oscillators - expression for frequency of oscillation and condition for oscillation in each case.

UNIT –IV WAVE SHAPING CIRCUITS AND MULTIVIBRATORS **12**

Clipping and clamping circuits - biased clipper - integrating and differentiating circuits - RC time constant - Multivibrators - astable, monostable and bistable multivibrator - using transistors.

UNIT –V SPECIAL SEMICONDUCTOR DEVICES AND APPLICATIONS **12**

Field effect transistor (FET) - characteristics - FET amplifier - Unijunction transistor (UJT) - characteristics - saw tooth generator - VVR action - relaxation oscillator - frequency of oscillation - SCR characteristics - SCR as a switch - SCR rectifier.

BOOKS FOR STUDY

1.Hand Book of Electronics by Gupta and Kumar - Pragati Prakashan – Meerut(2002).
2.Principles of Electronics by V.K. Mehta, Rohit Mehta S. Chand & Co.(2006).
3.Electronics by M. Arul Thalapathi, Comptek Publishers (2005).
4.Elements of Electronics by M.K.Bagde and Singh S.P., S. Chand & Co., New Delhi(1990).
5.Applied Electronics by A. Subramanyam – National Publishing Co.(1997) 15

BOOKS FOR REFERENCE

1.Electronic Devices by Mittal.G.K G.K. Publishers Pvt. Ltd., (1993).
2. Basic Electronics by B.L. Theraja, S. Chand & Co., (2008).
3. Solid State Electronics by Ambrose and Vincent Devaraj, Meera Publication.
4.Applied Electronics by R.S. Sedha, S. Chand & Co.(1990).

Course Coordinator **HOD**

U18MCPH503	CORE 13 - MATHEMATICAL PHYSICS	T	P	C
	Total Contact Hours - 60	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies			
	Course Coordinator Name & Department:- – Dr. S.Anandhi / Physics			

COURSE OBJECTIVES:- To understand the Mathematical physics the matrics, vectors, special function

COURSE OUTCOMES (COs)

CO1	Understand to the Degrees of freedom ,momentum force, compound pendulum.
CO2	Understand the Hamilton's function and phase space
CO3	Understand the special functions beta functions, gamma function.
CO4	Understand the matrices, transpose matrices,Cayley Hamilton's function.
CO5	Understand the vector problem, Stokes theorem.
CO6	Learn about the Hamiltonian and specialfunction of mathematical derivation .

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PS O1	PS O2	PS O3
2	CO1	H	H								
	CO2	H	H								
	CO3	M	M								
	CO4	M	H								
	CO5	H	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
				✓	✓					

4	Approval	Academic Council Meeting

UNIT -I CLASSICAL MECHANICS – I **12**

Constraints and Degrees of Freedom – Generalized coordinates – Generalized displacement – Velocity – Acceleration – Momentum – Force – Potential Energy – D'Alembert's Principle – Lagrangians equation from D'Alembert's principle – Application of Lagrange's equation of motion to Linear Harmonic Oscillator, Simple Pendulum and Compound Pendulum.

UNIT –II CLASSICAL MECHANICS – II **12**

Phase Space – Hamiltonian function – Hamiltonian Principle – Hamilton's canonical equations of motion- Physical significance of H – Applications of Hamiltonian equations of motion to Simple Pendulum, Compound Pendulum and Linear Harmonic Oscillator.

UNIT- III SPECIAL FUNCTIONS **12**

Definition – The Beta function – Gamma function – Evaluation of Beta function – Other forms of Beta function – Evaluation of Gamma function – Other forms of Gamma function - Relation between Beta and Gamma functions – Problems.

UNIT –IV MATRICES **12**

Introduction – special types of Matrices – Transpose of a Matrix – The Conjugate of a Matrix – Conjugate Transpose of a Matrix – Symmetric and Anti symmetric – Hermitian and skew Hermitian – Orthogonal and Unitary Matrices – Properties – Characteristics equation – Roots and characteristics vector – Diagonalization of matrices – Cayley – Hamilton theorem – Problems

UNIT –V VECTOR CALCULUS **12**

Operator – Divergence – Second derivative of Vector functions or fields – The Laplacian Operator – Curl of a Vector – Line Integral – Line Integral of a Vector field around an infinitesimal rectangle – Curl of Conservative field – Surface Integral – Volume Integral (without problem) – Gauss's Divergence theorem and it's proof in the simple problems – Stoke's and its proof with simple problems.

TEXT BOOKS

1. Mathematical Physics B D Gupta
. Mathematical Physics Rajput
3. Classical Mechanics Gupta Kumar & Sharma

BOOKS FOR REFERENCE

Mathematical Physics K N Pillai
5. Mathematical Physics Sathiya Prakash
6. Mathematical Physics H K Dass 7. Mathematical Physics Gupta Kumar & Sharma

Course Coordinator **HOD**

U18MEPH011	MAJOR ELECTIVE - ASTROPHYSICS	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. S.Anandhi / Physics				

COURSE OBJECTIVES:- To acquire sufficient knowledge in space and astronomy, solar systems etc.,

COURSE OUTCOMES (COs)

CO1	Understand the study about Big bang theory ,
CO2	Reminder the basic ideas of gravity
CO3	Detail changes which are observed when viewing the sky daily, weekly, monthly, annually and longer period of time and demonstrate an understanding of the reasons behind any observed changes.
CO4	Describe the features of objects in the Solar System (i.e. Sun, planets, moons, asteroids, comets, planetary interiors, atmospheres, etc.) giving details of similarities and differences between these objects;
CO5	Detail the main features and formation theories of the various types of observed galaxies, in particular the Milky Way;.
CO6	Learn about the various theories of stars

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PS O1	PS O2	PS O3
2	CO1	H	H								
	CO2	H	H						H		
	CO3	M	M								
	CO4	M	H								
	CO5	H	H								
	CO6	H	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
				✓	✓					
4	Approval	Academic Council Meeting								

UNIT – I EARLIEST ASTRONOMY AND SPACE **12**

Origin – Earliest Astronomy (2500 – 100 BC) – Pythagorean Spherical Earth – Aristotle's Earth as Centre – Copernicus Theory – Kepler's Law – Galileo's observations – Newton's Synthesis.

UNIT – II SPACE **12**

Introduction – Habble's Law – Big bang theory – Shape of Universe – Expanding universe in space – Galaxies – Types of Galaxies – Spiral, Elliptical and Irregular Galaxies – Clusters of Galaxies – Milky Way – Quasars.

UNIT – III STARS **12**

Birth of Stars – Colour and Age – Life of Stars – Red giant stars – With dwarf star – Neutron Star – Black hole – Supernovae – Constellations - Zodiac.

UNIT – IV SOLAR SYSTEM **12**

Introduction – Sun – Structure of Sun – Nuclear reactions in sun – Sun spot and solar flares – Earth – Structure of earth – Atmosphere – Moon and its structure – Inner planets – Outer planets – Astroids – Meteors – Meteorites - Comets.

UNIT – V SPACE DISTANCE, UNITS AND CO-ORDINATES **12**

Cislunar space – Translunar space – Inter planetary distance – Interesteller space – Inter galactic space – Light Year – Astronomical Unit – Astronomical Map. Astronomical Systems – Astronomical co-ordinates – Celestial Sphere – Celestial Equators – Celestial Poles - Celestic.

TEXT BOOKS

1. Hewish. A / Physics of the universe / CSIR publication, New Delhi, 1992.
2. Biman Basu / Inside Stars / CSIR Publication, New Delhi, 1992. Biman Basu / Cosmic Vistas / National Book Trust of India, 2002.
3. Krishnasamy K.S. / Astro Physics a modern perspective / New Age International / New Delhi. Murugesan. R / Modern Physics / S. Chand & Co. / New Delhi, 2003.

BOOKS FOR REFERENCE

1. Mohan Sundara Rajan / Space today / National Book Trust of Indi, 2000.
2. William K. Hartmann / The Cosmic Voyage through time and space / Wads worth Publishing company, Californi, 1990.

Course Coordinator **HOD**

U18MEPH012	MAJOR ELECTIVE - MATERIAL SCIENCE	T	P	C
	Total Contact Hours - 60	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies			
	Course Coordinator Name & Department:- – Dr. S.Anandhi / Physics			

COURSE OBJECTIVES:- The aim of this course is to introduce the students to electron theory of solids and different types of materials based on their properties

COURSE OUTCOMES (COs)

CO1	Understand the basic concepts of conductors ,dielectric
CO2	Apply an idea of dielectric and magnetism which are essential tools in problem solving.
CO3	Understand the basic laws of magnetism .
CO4	Analyze and solve the problems based on electron theory of solids and for different materials
CO5	To design and construct particle equation in the free and bound states as well as to analyze and interpret the results.
CO6	To execute the applications of the superconductors

Mapping of Course Outcomes with Program outcomes (POs) (H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PS O1	PS O2	PS O3
2	CO1	H	H								
	CO2	H	H								
	CO3	M	M						H		
	CO4	M	H								
	CO5	H	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
				✓	✓					
4	Approval	Academic Council Meeting								

UNIT –I ENGINEERING MATERIALS - CHEMICAL BONDING 12

Classification of engineering materials - levels of structure - structure-property relationship in materials stability and metastability - Bond energy - bond type and bond length - Ionic and covalent bonding secondary bonding - variation in bonding character and properties.

UNIT -II- ELEMENTARY CRYSTALLOGRAPHY 12

Space lattice - basis - unit cell - Bravais lattice - Miller indices - symmetry elements of a crystalline solid - symmetry groups - X-ray diffraction and Bragg's law - powder method - Crystal imperfections - point imperfections - geometry of dislocation -edge and screw dislocation - Burger's vector.

UNIT –III MECHANICAL BEHAVIOUR OF MATERIALS 12

Elastic behaviour - atomic model of elastic behaviour -Young's modulus - Poisson's ratio - Shear modulus - bulk modulus - The modulus as a parameter in design - rubber like elasticity - Plastic deformation - the tensile stress-strain curve.

UNIT -IV NON DESTRUCTIVE TESTING 12

Radiographic methods - Photoelastic method - magnetic methods - electrical methods Ultrasonic methods - Equipments used for NDT - metallurgical microscope - electron microscope - scanning electron microscope (SEM).

UNIT –V MAGNETIC MATERIALS AND DIELECTRIC MATERIALS 12

Terminology and classification - magnetic moments due to electron spin - ferro magnetism the domain structure - soft and hard magnetic materials. Polarization - electronic, ionic, orientation and space charge polarization - temperature and frequency effects - electric breakdown - ferroelectric materials – Pyro electric materials – Peizo electric materials

TEXT BOOKS:-

1. Raghavan V- Materials Science and Engineering a first course, III Ed., Presences Hall of India (pact) ltd , 1990.
2. Structural M., Materials Science, Anuradha agencies & pubblishers, 1990.

BOOKS FOR REFERENCE:-

1. Kittel C., Introduction to Solid State Physics, V11 Ed, Wiley Eastern
2. Manchandra VK., A text book of Materials Science, New India Publishing House, 1992.

Course Coordinator **HOD**

U18MEPH013	MAJOR ELECTIVE - NANO SCIENCE AND NANOTECHONOLOGY	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator - Department of Physics				

COURSE OBJECTIVES:- To learn and study about the Processing and Properties of Nanostructured, nanoparticles, etc.,

COURSE OUTCOMES (COs)

CO1	To learn about the basic of material science with special, emphasize on nanomaterials
CO2	To know about processes in handling polymers and nanostructured materials
CO3	Tounderstand various forms of nanomaterials and polymers for special applications
CO4	Understand Metal/Ceramic Powder synthesis methods for composite
CO5	Understand and learn about the charectrization techniques and basics of non-linear optical property
CO6	Understand the environmental impact of nanostructured materials

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PS O1	PS O2	PS O3
2	CO1	H	H								
	CO2	H	H								
	CO3	M	M						H		
	CO4	M	H								
	CO5	H	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
				✓	✓					

4	Approval	Academic Council Meeting

UNIT - I BASICS OF NANOSCIENCE **12**

Nano revolution of the 20thcentury - Difference between bulk and nanoscale materials and their significance - Properties at the nanoscale - Optical property Magnetic property and electronic property - Size dependent behavior – Scaling Mechanical properties of Nano materials and Chemical properties ofNanoparticles.

UNIT –II CLASSES OF NANOMATERIALS **12**

Metals and Semiconductor Nanomaterials - Quantum dots - Nano wells – Nano ribbons and Nano Wires - Bucky balls - Carbon nanotubes - Single walled and Multi walled CNT-Structure - Synthesis- Properties- Functionalization and applications - Fullerenes/Bucky Balls/ C60- Synthesis - Properties Functionalization
And application

UNIT - III SYNTHESIS OF NANOMATERIALS **12**

Wet Chemical Synthesis for Nanomaterials: Chemical and co-precipitation, Sol fundamentals-sol-gel synthesis of metal oxides, Micro emulsions or reverse micelles, Solvothermal, Microwave heating synthesis, Sonochemical synthesis, Electrochemical synthesis, Photochemical synthesis, Langmuirblodgett (LB) technique.

UNIT –IV CHARACTERIZATION TECHNIQUES **12**

Powder X-Ray Diffraction, Energy dispersive X-ray (EDX), X-ray photoelectron spectroscopy (XPS), Scanning electron microscope (SEM), Transmission electron microscope (TEM), Scanning tunnelling microscope (STM), Atomic force microscope (AFM), Scanning probe microscopy (SPM), UV-Visible absorption, Photoluminescence, Impedance measurement, IN characteristics, Vibrating sample magnetometer (VSM).

UNIT -V APPLICATIONS OF NANOTECHNOLOGY **12**

Nanotechnology in Energy systems - Electronics - Environment - Space and Aviation - Textiles - Food and Agriculture - Automotive Industry – Solar Technology - Chemical engineering - Building and Construction - Biotech and Biomedical Engineering - Pharmaceutical and drugs - Molecular Nanoelectronics Nanobots - Photonic crystals – NEMS(NANO ELECTRO MECHANICAL SYSTEM) device - Nanosensors and Devices.

TEXT BOOKS

1. Structure and properties of solid state materials – B. Viswanathan, Oxford: Alpha Science International, II Edition (2006).
2. Nano the essentials by T.Pradeep, Tata McGraw-Hill publishing company limited (2007).

BOOKS FOR REFERENCES:

1. Nanocomposite Science and Technology- Pulickel M. Ajayan, Linda S. Schadler, Paul V. Braun, Copyright © 2003 Wiley-VCH Verlag GmbH & Co. KGaA.
2. Nanoparticles: from theory to application- G.Schmidt, Wiley Weinheim (2004).
3. Nanotechnology principle and practices by Sulabha K.Kulkarni, Capital publishing company (2007), India.
4. Encyclopedia of materials characterization-C.Rechard Brundle, Charles A.Evans, ButterworthHeinemann publishers (1992).
5. Introduction to nanotechnology by Charles P.Poole, Frank J. Owens, John Wiley & Sons publication (2003).

Course Coordinator **HOD**

U18MCPH5L1	CORE 14 - GENERAL LAB V	L	T	P	C
	Total Contact Hours - 30	0	0	4	2
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. S.Anandhi / Physics				

COURSE OBJECTIVES:- To make the students learn about the physics from the basic and understood all technical background with all concepts understands thoroughly

COURSE OUTCOMES (COs)

CO1	Apply knowledge of mathematics and physics fundamentals and an instrumentation to arrive solution for various problems.
CO2	Understand the application side of the experiments
CO3	Use of basic laws to study the spectral properties and optical properties of the given prism and grating. .
CO4	Understand the usage of basic laws and theories to determine various properties of the materials given.
CO5	Analyze the detail about practical importance to be aware of the concepts from the basis.
CO6	To understand the fundamentals and concepts in the physics practicals

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PO S1	PS O2	PS O3
2	CO1	H	H								
	CO2	H	H						H		
	CO3	M	M								
	CO4	M	H								
	CO5	H	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)		Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓						
4	Approval	Academic Council Meeting									

LIST OF EXPERIMENTS

1) Newton's rings – radius of curvature of lens
2) Spectrometer- i-d curve-Refractive index.
3) Spectrometer- i-i' curve- Refractive index.
4) Spectrometer- Small angled prism- Refractive index
5) EMF of a thermocouple- Potentiometer.
6) Field along the axis of a circular coil- Determination of Bh
7) Absolute determination of capacitance- BG.
8) Mutual Inductance- BG.
9) Kundt's tube – Longitudinal wave propagation

TEXT BOOKS

1. C.C Ouseph, G.Rangarajan- A Text Book of Practical Physics- S. Viswanathan Publisher-Part I (1990)
2. C.C Ouseph, C.Rangarajan, R.Balakrishnan- A Text Book of Practical Physics- S.Viswanathan Publisher-Part II (1996)

BOOKS FOR REFERENCE

1. S.L Gupta and V.Kumar- Practical Physics- Pragati Prakashan – 25th Edition (2002)

Course Coordinator **HOD**

U18MCPH5L2	CORE 15 - ELECTRONICS LAB I	L	T	P	C
	Total Contact Hours - 30	0	0	4	2
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. S.Anandhi / Physics				

COURSE OBJECTIVES:- It is aimed at exposing the under graduate students of the Physics department to the techniques of handling equipments, making error free measurements and error analysis..

COURSE OUTCOMES (COs)

CO1	Analyze the significance of laws involved in electric circuits
CO2	Understand the basics of operational amplifier
CO3	To learn about the basics to construct and solve the mathematical equation.
CO4	Apply the principles of electronics in day to life
CO5	To design and construct the electrical and electronics circuits and interpret the results.
CO6	Apply the characteristics of electronic devices in practicals

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PS O1	PS O2	PS O3
2	CO1	H	H								
	CO2	H	H						H		
	CO3	M	M								
	CO4	M	H								
	CO5	H	M								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)		Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓						
4	Approval	Academic Council Meeting									

LIST OF EXPERIMENTS

1. Logic Gates – AND - OR – NOT – NOR – NAND (using IC)
2. NAND gate as universal building
3. NOR gate as universal building
4. Characteristics of Transistor
5. Characteristics of Zener diode
6. Transistor – Hartley's Oscillator
7. Transistor – RC coupled

TEXT BOOKS

1. C.C Ouseph, G.Rangarajan- A Text Book of Practical Physics- S. Viswanathan Publisher-Part I (1990)
2. C.C Ouseph, C.Rangarajan, R.Balakrishnan- A Text Book of Practical Physics- S.Viswanathan Publisher-Part II (1996)

BOOKS FOR REFERENCE

1.S.L Gupta and V.Kumar- Practical Physics- Pragati Prakashan – 25th Edition (2002)

Course Coordinator **HOD**

U18MCPH602	CORE 16 - **DIGITAL ELECTRONICS**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. S.Anandhi / Physics				

COURSE OBJECTIVES:-. To study about the electronic circuits that are used to process and control digital signals.

COURSE OUTCOMES (COs)

CO1	Study about the numbersystem of base 2, 8, 16 and BCD-code (binary-coded decimal) calculations etc.,
CO2	Explain the principles of analog-to-digital (AD) - and digital-to-analog (DA) conversion,
CO3	Apply basics to construct and solve electronic arithmetic equations.
CO4	Excute the minimal sequential and combinational circuit that solves binary logical tasks,
CO5	Apply the characteristics of electronic devices in practicals
CO6	Apply the principles of electronics in day to life

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PS O1	PS O2	PS O3
2	CO1	H	H								
	CO2	H	H								
	CO3	M	M								
	CO4	M	H						H		
	CO5	H	H								
	CO6	M	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)		Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓						

4	Approval	Academic Council Meeting

UNIT -I FUNDAMENTAL DIGITAL ELECTRONICS 12

Number systems – binary – hexadecimal – Binary addition – subtraction (1's and 2's compliment method) – multiplication - division - BCD – Conversion — NOT operation – OR operation – AND operation – Boolean equations with Logic circuits – Boolean law & Theorems – Basic laws – OR, AND Double Inversion and Demorgan's theorems – Duality theorems – Sum of Product method – Truth table to Karnaugh Map – Pairs, Quads and Octets – Karnaugh simplification – Product of Sums method. NAND and NOR as universal building blocks.

UNIT –II COMBINATIONAL LOGIC CIRCUITS 12

Half adder, full adder, half subtractor and full subtractor – 4 bit adder/subtractor - decoder, encoder - multiplexer - demultiplexer.

UNIT –III SEQUENTIAL LOGIC CIRCUITS 12

R.S flip flop, D flip flop and JK flip flops - JK Master Slave flip flop - synchronous and ripple counters - BCD counter – Up/Down counters - shift registers - serial and parallel registers ring and twisted ring counter.– Asynchronous counter – Decoding gates – Synchronous counter – Mod 3 counter – Mod 5 counter – shift counter

UNIT IV OP-AMP BASIC APPLICATIONS 12

Characteristics parameters – differential gain – CMRR – Slew rate – bandwidth - applications – inverter, non-inverter, integrator, differentiator, summing, difference and averaging amplifier - solving simultaneous equations - comparator - square wave generator - Wien's bridge oscillator - Schmitt trigger

UNIT- V TIMER, DAC/ADC 12

Timer 555 - Internal block diagram and working - astable multivibrator - schmitt trigger. D/A converter - binary weighted method - A/D converter - successive approximation method.

TEXT BOOKS

1.Digital Principles and Application by Malvino Leach, Tata McGraw Hill, 4th Edition(1992). 2. Digital Fundamentals by Thomas L. Floyd, Universal Book Stall, New Delh(1998).
3. Introduction to Integrated Electronics by V.Vijayendran, S. Viswanathan (Printers and Publishers) Pvt. Ltd., Chennai(2005).
4.OP AMPs and Linear Integrated Circuits by Ramakant A. Gayakwad, Prentice Hall of India(1994).

BOOKS FOR REFERENCE

1.Digital Electronics by Practice Using Integrated Circuits - R.P.Jain - Tata McGraw Hill(1996).
2.Linear Integrated Circuits by D. Roy Choudhury and Shail Jain - New Age International (P) Ltd.(2003).
3.Electronics - Analog and Digital by I.J. Nagrath - Prentice - Hall of India, New Delhi(1999). 4.Integrated Electronics by J.Millman and C.Halkias, Tata McGraw Hill, New Delhi (2001)

Course Coordinator **HOD**

U18MCPH601	CORE 17 - SOLID STATE PHYSICS	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. S.Anandhi / Physics				

COURSE OBJECTIVES:- To learn about the matter from an atomic view point. Topics covered include the structure, super conductivity and electrical properties of matter and its applications.

Course Outcome .

COURSE OUTCOMES (COs)

CO1	To study about the relationships between chemical bonding & crystal structure and their defects
CO2	Understand the basic properties of metals, insulators and semiconductors and their technological applications
CO3	Understand the basic concept in magnetic properties
CO4	Extend their knowledge in theoretical fundamentals of electron theory and super conductiv
CO5	Transfer their knowledge level from theoretical physical subjects towards the understanding of basic properties of solid state matter
CO6	To understand the fundamentals and concepts in solid state physics in the modern society

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PS O1	PS O2	PS OH
2	CO1	H	H								
	CO2	H	H						H		
	CO3	M	M								
	CO4	M	H								
	CO5	H	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)		Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓						
4	Approval	Academic Council Meeting									

UNIT -II CRYSTAL STRUCTURE **12**

Crystal lattice – primitive and unit cell – seven classes of crystal – Bravais Lattice – Miller Indices – Structure of crystals – simple cubic, hexagonal close packed structure, face centred cubic structure, body centred cubic structure – Sodium chloride structure, Zinc Blende structure, Diamond structure.

Unit -II DEFECTS IN SOLIDS **12**

X ray diffraction – Bragg's law in one dimension – Experimental methods – Laue Method, powder crystal method and rotating crystal method. Defects in solids - Point defects - Frenkel and schottky defects - Equilibrium concentrations - Line defects - Edge dislocation and screw dislocation - Surface defects - Grain boundary - Effects of Crystal imperfections.

UNIT -III CHEMICAL BONDS AND CRYSTALLOGRAPHY **12**

Interatomic forces - Different types of chemical bonds - Ionic bond - Cohesive energy of ionic Crystals and Madelung constant - Covalent bond - Metallic bond - Van der Waal's bond - Hydrogen bond. Superconductivity - General properties - Type I and II Superconductors - Meissner effect - BCS theory - applications of super conductors.

UNIT -IV DIELECTRIC PROPERTIES **12**

Dielectric materials - Polarization, susceptibility and dielectric constant - Local field or internal field - Clausius - Mossoti relation - Sources of polarizability - Electronic polarizability - lonic polarizability - Orientational polarizability - Frequency and temperature effects on polarization - Dielectric breakdown – Properties of different types of insulating materials.

UNIT –V MAGNETIC PROPERTIES **12**

Different types of magnetic materials - classical theory of diamagnetism (Langevin theory) - Langevin theory of paramagnetism - Weiss theory of paramagnetism - Heisenberg interpretation on internal field and quantum theory of ferromagnetism - Antiferromagnetism - Hard and soft magnetic materials.

TEXT BOOKS

1. Materials Science by M.Arumugam, Anuradha Agencies Publishers.(2002)
2. Solid State Physics by R L Singhal, Kedarnath Ram Nath & Co., Meerut (2003)
3. Introduction to Solid State Physics by Kittel, Willey Eastern Ltd(2003).
4. Materials Science and Engineering by V. Raghavan, Prentice Hall of India Private Limited, New Delhi(2004).

BOOKS FOR REFERENCE

1. Solid State Physics by S.O.Pillai, New Age International (P) Ltd., (2002).
2. Solid State Physics by A. J.Dekker, Macmillan India (1985).
3. Solid State Physics by HC Gupta, Vikas Publishing House Pvt. Ltd., New Delhi (2001).
Web Site: http://folk.uio.no//dragos//solid/fys230-Exerciser.html. http://www.physics.brocku.ca/courses/4p7d.

Course Coordinator **HOD**

U18MCPH603	CORE 18 - INSTRUMENTATION TECHNIQUE	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. S.Anandhi / Physics				

COURSE OBJECTIVES:- To Understand the knowledge of basic fundamentals and handling tecnieuqs etc.,.,

COURSE OUTCOMES (COs)

CO1	Understand the basics Of Instrumentation, Data Acquisition And Interpretation of Results
CO2	To learn about the technical vocabulary associated with biomedical Instrumentation
CO3	Apply basics to construct and solve one particle equation.
CO4	To develop problem solving methods that will include mathematical as well as numerical computations and solutions
CO5	Learn about the static and dynamic performance characteristics for instrumentation systems
CO6	Understand the uses of various instruments in medicine

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PS O1	PS O2	PS O3
2	CO1	H	H								
	CO2	H	H								
	CO3	M	M						H		
	CO4	M	H								
	CO5	H	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)		Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓						
4	Approval	Academic Council Meeting									

UNIT – I ELECTRICAL INSTRUMENTATION **12**

AC bridges – Measurement of Inductance by Maxwell's Inductance Bridge – Measurement of Capacitance by De Saulty's Bridge – Measurement of Mutual Inductance by carry Foster bridge – ac differential voltmeter – dc differential voltmeter – Analog multimeter.

UNIT – II ELECTRONIC INSTRUMENTATION **12**

Analog to Digital converters – Dual slop ADC and Successive approximation ADC – Digital counter (four bit) – Digital voltmeter – Digital Frequency Meter – Digital Multimeter – Digital Thermometer.

UNIT – III ANALYTICAL INSTRUMENTATION **12**

CRO – measurement of time period and frequency – Distortion analyzer – Wave analyzer – Spectrum analyzer – IR spectrometer – UV spectrometer – Fast Fourier Transform (FFT) analyzer – Ultrasound scanner.

UNIT – IV BIO-MEDICAL INSTRUMENTATION **12**

Bioelectric potentials – resting and action potential – Half cell potential – surface needle and micro electrodes – principle, description, function and recording of ECG, EMG and EEG artificial pace maker – simulators – heart lung machine – kidney machine – pH meter – laser blood flow meter.

UNIT –V MATERIAL SCIENCE INSTRUMENTATION **12**

Strain gauge and measurement of strain – Measurement of pressure using electrical transducer – Measurement of seismic vibration using seismic transducer – Piezo – electric accelerometer – Measurement of temperature using semiconductor device – Radiation measurement by GM counter.

TEXT BOOKS

1. Arumugam M / Biomedical instrumention / Anuradha Publications, Kumbakonam / 2011.
2. Sawhney A K / A course in Electrical and Electronics Measuremens and Instrumentation / Dhanpat Rai & Co., Delhi / 2003.
3. Alan S Morris / Measurement & Instrumentation Principles / Elsevier / 2006.

Anand M.M.S. / Electronics Instruments and Instrumentation Technology / PHI, New Delhi / 2006.

Course Coordinator **HOD**

U18MEPH021	MAJOR ELECTIVE - BASIC MATHEMATICS	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. E. Thirumal / Physics				

COURSE OBJECTIVES:- To introduce basic mathematical topics necessary to understand and appreciate various physics laws with derivations.

COURSE OUTCOMES (COs)

CO1	To remember basic mathematics such vectors, scalars, inner products, dot products and matrices
CO2	To gain knowledge about differential equations
CO3	Understand the different type of coordination systems.
CO4	To learn the basic of matrices and their transpose systems
CO5	To resolve the vector problems and different type of products
CO6	To introduce the tensors and probability theorems

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PS O1	PS O2	PS O3
2	CO1	H	H								
	CO2	H	H								
	CO3	M	M						H		
	CO4	M	H								
	CO5	H	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)		Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓						
4	Approval	Academic Council Meeting									

Unit – I: Vector Analysis **12**

Definition of vectors – scalar and vector product – triple products – gradient, divergence, curl – vector integration.

Unit – II: Curved coordinates, Tensors **12** Orthogonal coordinates – differential vector operators: gradient, divergence, curl – special coordinate systems: rectangular, spherical, cylindrical – tensors of rank two – contraction, direct product – quotient rule.

Unit – III: Linear Algebra **12**

Determinants – matrices – inner product, direct product – orthogonal matrices

Unit – IV: Ordinary Differential Equations **12**

First order equation – second order homogeneous equation – Wronskian – second solution – inhomogeneous equation.

Unit-V: Probability **12**

Definition – basic theorems – permutation and combination – method of counting – random variables.

Text Books

1. G. B. Arfken and H.J. Weber, Mathematical Methods for Physicists, 5th edition, Academic Press (2001).
2. E. Kreyszig, Advanced Engineering Mathematics, 8th edition, John Wiley & Sons Inc. (1999).
3. Mathematical Methods in the Physical Sciences, 3rd edition, Mary L. Boas, Wiley-India (2011).
4. M. D. Greenberg, Advanced Engineering Mathematics, 2nd Edition, PHI, NJ, 1998

Reference Books

1. L.A. Pipes and L.R. Harvill, Applied Mathematics for Engineers and Physicists, McGraw-Hill (1970).

Course Coordinator **HOD**

U18MEPH022	MAJOR ELECTIVE - ENERGY RESOURCES	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. S.Anandhi / Physics				

COURSE OBJECTIVES:- To learn and study about the Renewable and Non-Renewable energy, and environmental aspects,

COURSE OUTCOMES (COs)

CO1	Explain the principles that underlie the ability of various natural phenomena to deliver solar energy
CO2	Outline the technologies that are used to harness the power of solar energy
CO3	Discuss the positive and negative aspects of solar energy in relation to natural and human aspects of the environment.
CO4	To study about the conventional and non-conventional energy
CO5	Understand and learn about the Geothermal thermal energy
CO6	Understand the environmental impact of other forms of energy

Mapping of Course Outcomes with Program outcomes (POs) (H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	H						H		
	CO2	H	H								
	CO3	M	M								
	CO4	M	H								
	CO5	H	H								
	CO6	H	H								

3	Category	Humanities & Social	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Electiv	Non-Major	Open Elective (OE)		Any other	Project/Term Paper/ Seminar/ Internship
					✓						
4	Approval	Academic Council Meeting									

UNIT -I CONVENTIONAL ENERGY SOURCES **12**

Worlds reserve - commercial energy sources and their availability – various forms of energy – renewable and conventional energy system – comparison – Coal, oil and natural gas – applications – Merits and Demerits

UNIT -II SOLAR ENERGY RENEWABLE ENERGY SOURCES **12**

Solar energy – nature and solar radiation – components – solar heaters – crop dryers – solar cookers – water desalination (block diagram) Photovoltaic generation – merits and demerits

UNIT -III ENERGY FUNDAMENTALS **12**

Biomass energy – classification – photosynthesis – Biomass conversion process

UNIT -IV BIOMASS UTILIZATION **12**

Gobar gas plants – wood gasification – advantages & disadvantages of biomass as energy source

UNIT -V OTHER FORMS OF ENERGY SOURCES **12**

Geothermal energy – wind energy – Ocean thermal energy conversion – energy from waves and tides (basic ideas)

TEXT BOOKS

1. G.D.Rai, Non- Conventional Energy Sources, Kanna Publishers, IVth Edn., 15th Reprint, 2005.

REFERENCE BOOKS

1. “Renewable energy sources and emerging Technologies”, by D.P. Kothari, K.C. Singal & Rakesh Ranjan, Prentice Hall of India pvt. Ltd., New Delhi. 2008.
2. “Renewable Energy sources and their environmental impact” – S.A. Abbasi and Nasema Abbasi PHI Learning Pvt. Ltd., New Delhi, 2008.

Course Coordinator **HOD**

U18MEPH023	MAJOR ELECTIVE - APPLIED ELECTRONICS	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. S.Anandhi / Physics				

COURSE OBJECTIVES:- Understand the basic concepts of current electricity, electronics and digital electronics

COURSE OUTCOMES (COs)

CO1	To understand the basic concepts of construction and working of electronic devices and optical fibers
CO2	To Learn about the principles of electronics circuits
CO3	To design and analyze the clocked synchronous and asynchronous
CO4	To design and analyze the clocked synchronous and asynchronous
CO5	To design and construct the electronic circuit and solve the mathematical equations.
CO6	Apply the knowledge to understand the working of amplifiers, oscillators and multivibrators

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PS O1	PS O2	PS O3
2	CO1	H	H								
	CO2	H	H						H		
	CO3	M	M								
	CO4	M	H								
	CO5	H	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)		Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓						
4	Approval	Academic Council Meeting									

UNIT – I SPECIAL DEVICES AND APPLICATIONS FET **12**

Characteristics – parameter FET as amplifier – FET as VVR – MOSFET – Depletion and enhancement – UJT characteristics – UJT as relaxation oscillator – SCR characteristics – SCR as half wave rectifier and full wave rectifier. SCR as static current switch – Firing of SCR using UJT.

UNIT – II OPERATIONAL AMPLIFIER AND APPLICATIONS OPAMP **12**

Parameters – Inverting and Non-inverting amplifier – gain – Miller effect – Virtual ground – Offset voltage – offset current – PSRR – CMRR. OPAMP – Sign and Scale changer – adder, subtractor and averager – Integrator and differentiator – DC voltage follower – ac voltage follower.

UNIT – III OTHER APPLICATION OF OPAMP OPAMP **12**

Logarithmic amplifier – antilogarthmic amplifier – Logarithmic multiplier – Logarithmic divider. Comparator – Schmitt trigger – astable multivibrator – monostable multivibrator – Bistable multivibrator.

UNIT – IV 555 TIMER AND PLL **12**

555 block diagram and work monostable operation – Astable operation – Schmitt trigger. Phase – Locked Loops (PLL): Basic principles – Phase Detector. Comparator – Analog phase detector – Digital phase detector – voltage controlled oscillator (VCO).

UNIT – V D/ A AND A/D CONVERTER **12**

Weighted resistor D/A converter – 4-bit R-2R ladder DAC – Analog to Digital converter – Stair case ADC – tracking or servo ADC – Successive approximation ADC – Flash ADC Duel slope ADC.

Course Coordinator **HOD**

U18MCPH6L1	CORE 19 - ELECTRONICS LAB II	L	T	P	C
	Total Contact Hours - 30	0	0	4	2
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. S.Anandhi / Physics				

COURSE OBJECTIVES:- To make the students learn about the physics from the basic and understood all technical background with all concepts understands thoroughly

COURSE OUTCOMES (COs)

CO1	Execute the basic circuits to create amplifier circuits, oscillator, regulated power supplies etc.,
CO2	Understand the given concepts and its physical significance
CO3	Apply the characteristics of electronic devices in practicals.
CO4	Understand about the significance of laws involved in electric circuit
CO5	Apply and know about its importance in electronics and mechanical in mathematical Process
CO6	Analyze the detail about practical importance to be aware of the concepts from the basis.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PS O1	PS O2	PS O3
2	CO1	H	H								
	CO2	H	H								
	CO3	M	M						H		
	CO4	M	H								
	CO5	H	H								
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)		Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓						
4	Approval	Academic Council Meeting									

LIST OF EXPERIMENTS

1) Colpitt Oscillator – transistor
2) Cathode Ray Oscilloscope
3) IC regulated power supply
4) ASM programs – Add & subtract (all modes of addressing) - µP 8085
5) programs – multiply & divide (all modes of addressing) - µP 8085
6) Verification of DeMorgan theorem
7) Solving simultaneous equations – Op-amp IC 741.

TEXT BOOKS

1. C.C Ouseph, G.Rangarajan- A Text Book of Practical Physics- S. Viswanathan Publisher-Part I (1990)
2. C.C Ouseph, C.Rangarajan, R.Balakrishnan- A Text Book of Practical Physics- S.Viswanathan Publisher-Part II (1996)

BOOKS FOR REFERENCE

1.S.L Gupta and V.Kumar- Practical Physics- Pragati Prakashan – 25th Edition (2002)

Course Coordinator **HOD**

U18EEPH6P1	**PROJECT (DISSERTATION AND VIVA-VOCE)**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	0	0	20	10
	Prerequisite course – Science / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department: -Dr.S.Anandhi/Physics				

COURSE OBJECTIVES:-To make the students understand the importance of experimental and theoretical analysis and to educate and train the students to write the scientific papers.

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COURSE OUTCOMES (COs)

CO1	List out the concept and objectives, nature, types and methods of project.
CO2	To develop a scientific approach in solving problems related to physics
CO3	To Practice the research design, and methodology
CO4	To study the characterization and synthesized material
CO5	Measure the major findings, suggestions and conclusion
CO6	Design the model for project report.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	H						H		
	CO2	M	H								
	CO3	H	H								
	CO4	H	M								
	CO5	H	H								
	CO6	M	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)		Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓						
4	Approval	Academic Council Meeting									

PROJECT (DISSERTATION AND VIVA-VOCE) **10**

Topics in Projects will be assigned to each group of students by the staff coordinator guiding the project. The project work is to be carried out at the department or any other organization approved by the staff coordinator and the HoD. Review meeting will be conducted once in a month. Viva Voce presentation will be conducted by the HoD, internal examiner and the staff coordinator guiding the project.

	Marks
Dissertation	**150**
Viva- Voce Examination	**50**

Course Coordinator **HOD**

U18SEBC001	BUSINESS PROCESS OUTSOURCING-MANAGEMENT	L	T	P	C
	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name& Department:-Ms. J.Saranya/Commerce & Economics				

COURSE OBJECTIVES:-

- To familiarize the students with the basic fundamentals of BPO.
- To impart knowledge on type of BPO and call centers .
- To enable the students onthe conceptHealthcare BPO & Transaction BPO.
- To peep into the concept of Human Resource BPO and the career opportunities in BPO.

COURSE OUTCOMES(COs)

CO1	Describe the basic fundamentals of BPO.
CO2	Discuss and develop the awareness about Types of BPOs and Call Centers
CO3	Identify the concept of Health care BPOs
CO4	Examine the concept of Transaction BPOs
CO5	Develop the confidence in Human Resource BPO and career opportunities in BPOs
CO6	Formulate the Types of Transaction Processing BPO in India

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H							H		
	CO2				H						
	CO3			H							
	CO4		M								
	CO5	M									
	CO6		H								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT-I **6**

Business Process Outsourcing– Basics – Benefits of BPO– BPO companies in India.

UNIT-II **6**

BPO Industry – Employment Opportunities– types of BPO – Call centers– Types of Call Centers– Issues and Problems.

UNIT-III **6**

Health Care-BPO - Structure of foreign Health Care sector– Future Trends and Threats.

UNIT-IV **6**

Transaction Processing BPO– Elements of Back Office services– Types of Transaction Processing BPO in India.

UNIT-V **6**

Human Resource BPO-Reasons for outsourcing HR– Activities involved in HR BPO– HR Outsourcing Trends– Carrier in HR BPO.

Text Books:

1. John K. Holvey, Borboro Murphy Melby, Business Process Outsourcing–Wiley Publisher-2007
2. SarikaKulkarni –Business Process Outsourcing–Jai co Publishing house – 2005
3. .RickL.Click, Thomas N.Duening,BusinessProcess Outsourcing–John Willey &sons,Publisher 2004

Reference Books:

1. Deepak Shikapur – BPO DIGEST– Ameya (Inspiring books) – 2004.
2. Clifton – System analysis for business data processing– Prentice hall Publications.
3. Anandkumar, V. &Biswas, S., 2008. Business Process Outsourcing, Sage Publications Pvt. Ltd

Course Coordinator **HOD**

U18SEBC002	CUSTOMER RELATIONSHIP MANAGEMENT	L	T	P	C
	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name& Department:-Ms. R.Priya/Commerce & Economics				

COURSE OBJECTIVES:-

- To familiarize the students with the basic fundamentals of CRM.
- To impart knowledge about process and importance of CRM.
- To enable the students on the concept to technological solutions to CRM.
- To expose the student on Trends and challenges in CRM.

COURSE OUTCOMES(COs)

CO1	Recognize the Familiarize with the basic fundamentals of CRM.
CO2	Demonstrate the Can develop awareness about process and importance of customer retention
CO3	Practice to be aware of the concept of technological applications in CRM.
CO4	Correlate respond to the concept of CRM software solutions forB2C and B2B markets
CO5	Validate the Develop confidence on trends and challenges
CO6	Design the Customer Data base and Information Systems

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO	PO4	PO5	PO6	PO7	PS O1	PS O2	PSO3
2	CO1	H		H					H		
	CO2	H									
	CO3	H		H							
	CO4		H								
	CO5	H		H							
	CO6		H		M						

3	Category	Humanities &Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core(PC)	Core Elective (CE)	Non-Major Elective(NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT–I **6**

Customer Relationship Management Introduction - Meaning and Definition - Importance – Benefits and difficulties of CRM.

UNIT–II **6**

CRM Processand Implementation Introduction-customer Retention- Customer satisfaction-Importance of customer retention-CRM processorB2B markets

UNIT–III **6**

Technological Support in CRM Introduction-Types of Technological Applications in CRM.

UNIT–IV **6**

Customer Databases and Information Systems –CRM SoftwareSolutions for B2C and B2B Markets .

UNIT–V **6**

E-CRM – Emerging Trend in CRM Introduction - Challenges involved in formulating and implementing-CRM strategies.

TEXT BOOKS:

1. Balasubramaniyan.K,Essence of customers relationship management, learn tech press
2. Jagdish N Sheth, AtulParvatiyar, G Shainesh –customers relationship management-McGraw Hill Publisher, 2000
3. Roger. J Baranand Robert J. Galka-customers relationship management ,Routledge publisher 2013

REFERENCE BOOKS:

1. M.Peerumohamed, customer relationship management, Vikas publications
2. Kaushikmukerjee, customer relationship management PHI
3. customerrelationshipmanagement G Shainesh&.Jagdish N Sheth

Course Coordinator **HOD**

U18SEBC003	ENTREPRENEURIAL DEVELOPMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Commerce / Mathematics Studied in Higher Secondary Studies.				
	Course Coordinator Name & Department :-Mr.G.Santhoshkumar / Commerce				

COURSE OBJECTIVE: -

- To familiarizethestudentswiththe basic fundamentals ofEntrepreneurship.
- To impartknowledge on Projectidentification,selection and formulation.
- To enablethestudents onthe conceptoftypes oforganization.
- To peepinto the conceptofcommercialbanks.
- To enablethestudents onthe conceptofwomenentrepreneurs

COURSE OUTCOMES (COs)

CO1	Underlinethe CharacteristicsOfEntrepreneur–EntrepreneurandIntrapreneur
CO2	Explain theIdentification– Selection ofthe Project
CO3	Apply Selection ofTypes of Organization– Sole Proprietorship- Partnership Joint Stock Company
CO4	Appraise toInstitutional financeto entrepreneurs
CO5	Estimatethe FactorsInfluencing TheChoiceOfOrganization
CO6	Develop theRole and Problems of Women Entrepreneurs

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	-	-	-	-	-	-			H
	CO2	-	H	-	-	-	M	H			
	CO3	-	H	-	-	-	M	M			
	CO4	M	-	-	-	-	M	M			
	CO5	-	-	-	-	-	-	-			
	CO6	-	-	H	-	-	-	-			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT-I **6**

Meaning OfEntrepreneur – EntrepreneurandIntrapreneur– Qualities OfEntrepreneur– Characteristics OfEntrepreneur – TypesOfEntrepreneur –Function OfAn Entrepreneur

UNIT-II **6**

ProjectIdentification– Selection ofthe Project– Project Formulation–Preparation OfProject Report.

UNIT-III **6**

Selection ofTypes OfOrganization – Sole Proprietorship-Partnership Joint Stock Company– Factors Influencing TheChoiceOfOrganization.

UNIT– IV **6**

Institutional financeto entrepreneurs- commercial banks–IDBI,IFCI,ICICI,IRBI, SFC, DICs, SIDC, SIDBIAnd EXIMBank

UNIT– V **6**

Women Entrepreneurs – Role – Problems of Women Entrepreneurs – Suggestions ForDevelopment Of Women Entrepreneurs

TEXT BOOKS:

1. C.B. Gupta, Entrepreneurship Developmentin India–Sultan Chand
2. S.S. Khanka, EntrepreneurshipDevelopment, S. Chand&Co., New Delhi.
3. Gupta C. Band SrinivasanN. P Entrepreneurship Development, Sultan Chand&Sons, New Delhi

REFERENCE BOOKS:

1. P. Sarvanavel, E Entrepreneurship Development,EssPee Kay Publishing House
2. JaswerSingh Saini, Entrepreneurship Development, Deep and Deep Publication,New Delhi
3. Jayashree Suresh, Entrepreneurship Development-MarghamPublication, Chennai

CourseCoordinator **HOD**

U18SEBC004	HUMAN RESOURCE MANAGEMENT	L	T	P	C
	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	CourseCoordinatorName&Department:-Ms. R.Velanganni/Commerce & Economics				

COURSE OBJECTIVES:-

- TolearntheimportanceofHR.
- Toimpartknowledge and importantfactorsinHR.
- To enable the students onthe needs and methods oftraining.

COURSE OUTCOMES(COs)

CO1	Identify theImportance of Human Resource and objectives.
CO2	Describe the Human Resource Planning
CO3	Practice to Sources of Recruitment-Selection– Steps in Selection
CO4	Analyze Needs of training– Methods of Training
CO5	Evaluate the Process and Methods of Performance Appraisal
CO6	Formulate the Qualities of Personnel Manager

Mapping of CourseOutcomeswith Program outcomes (POs)(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO 3	PO4	PO5	PO6	PO7	PS O 1	PS O 2	PSO 3
2	CO1	H	M	-	-	-	-	-	H		
	CO2	M	H	-	-	-	-	-			
	CO3	H	M	-	-	-	-	-			
	CO4	H	M	-	-	-	-	-			
	CO5	H	M	-	-	M	-	-			
	CO6	H	M	-	-	-	-	-			

3	Category	Humanities &Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core(PC)	CoreElective (CE)	Non-Major Elective(NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	AcademicCouncilMeeting								

UNIT-I **6**

Definition – ImportanceofHuman Resource– Objectives– Qualities of Personnel Manager.

UNIT-II **6**

Human ResourcePlanning– Importance factors– Steps in HR Planning.

UNIT-III **6**

Recruitment– Objectives– Sources of Recruitment-Selection – Steps in Selection.

UNIT-IV **6**

Training – Definition– Needs of training – Methods of Training– On thejobtraining– Off the job

Training.

UNIT-V **6**

PerformanceAppraisal-Objectives – Process– Methods of PerformanceAppraisal.

TEXT BOOKS:

1. L.M. Prasad– Human ResourceManagement– S. Chand &Sons– 2013.
2. C.B. Mamoria, S.V. Gankar– Personnel Management – Himalaya Pub.– 2012.
3. A.M. Sharma, Human ResourceManagement, HimalayaPublishingHouse, 2005

REFERENCE BOOKS

1. S.S. Khanka–Human ResourceManagement– S. Chand Ltd.– 2007
2. Gary Dessler–Human ResourceManagement– PrenticeHall– 8thEdition –2000.

3.A Handbook of Human Resource Management Practice,2012.

U18SEBC005	MARKETING MANAGEMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	CourseCoordinator Name & Department:- G.Santhoshkumar/ Commerce & Economics				

COURSE OBJECTIVES :-

- To understand thefundamentals ofmarketing and its role.
- To examine the factorsinfluencing buying behavior.
- To enablethestudents topromote advertising andits salesscope

COURSE OUTCOMES (COs)

CO1	State the Fundamentals of Marketing– Role of Marketing.
CO2	Describe the Factors influencing buying behavior
CO3	Interpret the Marketing segmentation– Needs-Types of segmentation
CO4	Compare to New product development process– Product life cycle
CO5	Revise the Awareness of consumer rights in the market place
CO6	Collect the Advertising– Scope of Advertising

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1		H						H		
	CO2	M	H	M							
	CO3	H			M						
	CO4					M					
	CO5	H		M							
	CO6		H			M					

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval		Academic Council Meeting

UNIT-I **6**

Marketing-Definition– Fundamentals of Marketing– Role ofMarketing–Relationship of marketing with other functional areas–Marketing Mix

UNIT– II **6**

Buyer Behaviour – Buying motives– Factors influencingbuying behavior-Marketing segmentation– Needs-Types of segmentation

UNIT-III **6**

TheProduct– Characteristics– Benefits– Classifications– New product development process– Product life cycle – Branding– Packaging

UNIT-IV **6**

Physical Distribution-Importance-Various kinds of Marketing Channels– Distribution Problems-Awareness of consumer rights in themarket place.

UNIT-V **6**

Advertising – ScopeofAdvertising – Personal selling– Direct selling and Sales Promotions.

TEXT BOOKS:

1. BerkovizKerinHontleyRudelivs, MARKETING, New York, McgrawHill Publications.
2. GonyArmstrong, Philip Kotler, Marketing anIntroduction, Pearson Education Asia.
3. Philip Kotler, Marketing Management (Millennium ed.,)NewDelhi, PrenticeHallofIndia(P) Ltd.

ReferenceBooks:

1. RajanSaxena, MarketingManagement, 2nd edition, New Delhi, Tata McgrawHillPublishingCo.Ltd.
2. V.S. Ramasamy and S. Namakumari, Marketing Management, Planning,Implementation& control, New Delhi, Macmillan

3. Chisnall, P.M. (1997) Marketing Research, Fifth Edition, London: McGraw-Hill.

Course Coordinator **HOD**

U18SEBC006	OFFICE MANAGEMENT	L	T	P	C
	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name& Department:-Dr. M.Sankar /Commerce & Economics				

COURSE OBJECTIVES:-

- To peep into the concept, importance of office management.
- To impart knowledge on features and classification of Communication.
- To expose handling correspondence and market registers

COURSE OUTCOMES(COs)

CO1	Record the Concept and Importance of Office and Office Management.
CO2	Report the Arrangement and adjustment : Furniture, allotment of seats
CO3	Apply to Handling of correspondence and market registers
CO4	Experiment the preparation and play of manuals and charts
CO5	Select the Office staff –Selection-training-Supervision
CO6	Summarise Office Accommodation and Environment

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H							H		
	CO2				H						
	CO3		H								
	CO4		M								
	CO5			H							
	CO6						H				
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT I **6**

Introduction – Concept and Importance of Office and Office Management-Office Accommodation and Environment-Reception: Importance, shape and size, control

UNIT II **6**

Communication: Feature, classification, barriers -Arrangement and adjustment: Furniture, allotment of seats, chambers, cabins rooms etc .

UNIT III **6**

Handling of correspondence and market registers, filling forms and stationery- Office Machines - Kind of office machines.

UNIT IV **6**

Use of machines, installing, handling, maintenance–Manuals and charts-Advantages of office manuals charts - preparation and play of manuals and charts.

UNITV **6**

Office staff– Selection-training -Supervision-span of supervision

TEXT BOOK:

1. Ghosh&Agarwal, Office Management, S.Chand&Company– New Delhi
2. R.S.N. Pillai, Bagavathi, Office Management, S.Chand&Company – New Delhi,2013
3. Dr.R.K. Chopra, PriyankaGauriOffice Management, Himalaya Publishing House, 2017

REFERENCE BOOKS:

1. G.S. Sudha, General Management, PustakPrakashan,NewDelhi
2. Rajendrapaul,ModernCommunication &Techniques, S.Chand&Company–New Delhi
3. v. Balachandran, Office Management, Tata Mcgraw-hill education,2009

Course Coordinator **HOD**

U18SEBC007	RETAIL MARKETING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. J. Saranya, Commerce				

COURSE OBJECTIVES:-

- To familiarize the functions and types ofRetailing.
- To impart knowledge on Retail consumer behavior and itstypes.
- To expose the student on promoting sales, public relation andadvertising.

COURSE OUTCOMES (COs)

CO1	Recall the Characteristics - Functions of retailing - Types of Retailing
CO2	Express the - Retail Consumer buying behavior and types
CO3	Schedule the Retail Organization Structure
CO4	Categorize to Factors affecting store lay out
CO5	Assess the Sales promotion - Advertising
CO6	Point out the Retail Marketing Mix

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	H						H		
	CO2		H	H		M					
	CO3	H					M				
	CO4		H								
	CO5	H	H	M							
	CO6	H	M					M			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval	Academic Council Meeting

UNIT-I **6**

Retailing – Definition – Importance – Characteristics - Functions of retailing - Types of Retailing

UNIT-II **6**

Retail Marketing Mix - Retail Consumer buying behavior and types – Segmentation - Types of segmentation

UNIT-III **6**

Retail Organization Structure-Major Functional Areas-Careers in Retailing

UNIT-IV **6**

Store layout-Types of lay out-Factors affecting store lay out

UNIT-V **6**

Sales promotion - Advertising - Public Relation - Personal selling

TEXT BOOKS:

1) George E.Belch and Michael A.Belch, Advertsing and Promotion, McGraw HillCompany
2) Ronald, Karen Whitehillking,andJ.Thomas Russell, Kleppner's Advertising Procedure, Pearson Education International, PrenticeHall
3) A. Siva Kumar, Retail Marketing, Anurag Jain for Excel Books, 2007.

REFERENCE BOOKS:

1) Malcolm Sullivan, Denn's Adcock, Retail Marketing, S.Chand Publishers, 2002.
2) Gupta, Advertising and Sales Promotion, EPHPublisher
3) Sarangi, Advertising and Sales Promotion, AsianBooks

CourseCoordinator **HOD**

U18SEBC008	SALESMANSHIP ANDADVERTISING	L	T	P	C
	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	CourseCoordinator Name&Department:-Ms. S.Binapani/ Commerce & Economics				

COURSE OBJECTIVES:-

- To understandtheimportance, role,objectiveofadvertising.
- To impartknowledge onimportanceofsalesmanship

To analyzethetypesofadvertising and its benefits

COURSE OUTCOMES(COs)

CO1	Define the objectives of Advertising.
CO2	Classify thetypes of Advertising-Commercial and Non-Commercial Advertising
CO3	Discover Advertising benefits and criticism
CO4	Explain the importance of salesmanship
CO5	Computethe Qualities andResponsibilities ofsales managers
CO6	Examine thetypes of salesorganization-Sales management job

Mapping of CourseOutcomes with Program outcomes (POs)
(H/M/Lindicates strengthof correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	H						H		
	CO2	H									
	CO3		M								
	CO4	H		M							
	CO5										
	CO6	H	H								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT-I **6**

Definition-Importance-Role ofAdvertising-Nature-Objectivesand Scopeof Advertising

UNIT-II **6**

Types of Advertising-Commercial and Non-Commercial Advertising-Primary demand and selective demand advertising

UNIT-III **6**

Advertising-benefits and criticism-Media selection-measuring advertising effectiveness

UNIT-IV **6**

Introduction to thesalesmanship-Importanceof salesmanship-training andcompensating sales men

UNIT-V **6**

Qualities and Responsibilities ofsales managers-Types of sales organization-Sales management job

TEXT BOOKS:

1. GeorgeE.BelchandMichael A.Belch, Advertsingand Promotion, McGraw Hill Company
2. Ronald, KarenWhitehillking,andJ.Thomas Russell, Kleppner's Advertising Procedure, PearsonEducation International, PrenticeHall.
3. P. Saravanavel& S. Sumathi, advertising and salesmanship Marghampublications,

REFERENCE BOOKS

1)Sarangi, Advertising and Sales Promotion, Asian Books
2. Gupta, Advertising and Sales Promotion, EPHPublisher.
.3. A Handbook of Human Resource Management Practice,2012.

CourseCoordinator **HOD**

U18SEEN001	**SOFT SKILLS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite – Higher Secondary Level				
	Course coordinator name & Dept: Mrs. B.CAROLINE– English				

COURSE OBJECTIVES:- To effectively complement the already existing Hard Skills so that the combination becomes a winning blend that could project the candidate's true worth in proper perspective.

COURSE OUTCOMES (COs)

CO1	Remember the personal as well as professionals goals of the students
CO2	Understand the manners during professional meetings
CO3	Apply the right reasons of stress
CO4	Analyze the importance of communication skills
CO5	Evaluate the excellence in both personal and professional life
CO6	Create the Growth & development of soft skills
Category	OE

Mapping of Course Outcomes with Program outcomes (POs) (H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PS O2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L								
	CO4	H	L						H		

	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)		Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Project/Term Paper/ Seminar/ Internship (PR)	
									✓		
4	Approval	47th Academic Council Meeting									

UNIT I Soft Skills **6**

Introduction to soft skills

Types of soft skills

Developing positive attitude, forming values and self confidence

UNIT II Interpersonal skills **6**

Developing interpersonal relationship, team building, table manners, organizing meetings, stress and time management

UNIT- III Communication Skills **6**

Types of communication ,Art of listening ,Art of reading ,Art of writing,Art of speaking

UNIT IV Corporate Skills **6**

Presentation skills, developing body language, practicing etiquette, and mannerism, dress for success

UNIT V Placement Skills **6**

Personal interviews, writing resume/ CV- interviews skills career planning, public speak in motivation skills and personality

Text books

1. S.P.Danavel, English and Communication for Students of Science and Engineering.
2. Murali Krishna Moishra, Communication Skills for Engineers.

Reference

1. Developing the leader within you John C. Maxwell.
2. Meena. K and V. Ayothi (2013) A Book on development of soft skills (soft skills: A road map to success), P.R. publishers & Distributors, no. B-20&21,v.m.m. complex, Chatiram bus stand, tiruchirappalli.-620002

	COMPUTER APPLICATION	**L**	**T**	**P**	**C**
U18SESC001	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- N.Mathimagal & BCA				

COURSE OBJECTIVES:-

The learner will have the knowledge about the basic operations of a computer system, computer applications software, input, and output and storage devices.

COURSE OUTCOMES (COs)

CO1	Define the Characteristics, History, Classification, Personal Computers and Applications.
CO2	Demonstrate understanding of the basic operations of a computer system.
CO3	Explain the principles of operations of computer systems used in a particular application, specifically in terms of the systems' hardware and software components.
CO4	Discuss the various types of Processors, Input and Output devices, OS & DOS command.
CO5	Identify the suitable Storage Devices and Software's to solve the problem.
CO6	Use computer applications software to solve problems.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L						H		
	CO2	H	L								
	CO3	H	-								
	CO4	H	L								
	CO5	M	-								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Brief History of Development of Computers, Computer System Concept, Computer System Characteristics, Capabilities and Limitations, Types of Computers-Personal Computer (PCs) - IBM PCs, Types of PCs- Desktop, Laptop, Notebook, Palmtop, etc. Basic Components of a Computer System - Control Unit, ALU, Input/ Output Unit- Memory, Storage Fundamentals - Primary Vs Secondary memory.

UNIT II **6**

Input Devices: Keyboard, Mouse, Joystick, Scanners, Digital Camera, MICR,OCR, OMR, ,

Light pen, Touch Screen.

UNIT III **6**

Output Devices: Monitors - Characteristics and types of monitor, Size, Resolution, Refresh Rate, Dot Pitch, Video Standard - VGA, SVGA, XGA etc. Printers - Daisy wheel, Dot Matrix, Inkjet, Laser. Plotter, Sound Card and Speakers.

UNIT IV **6**

Various Storage Devices - Magnetic Disks, Hard Disk Drives, Floppy, Disks, Optical Disks

UNIT V **6**

Computer Software, Need, Types of Software - System software, Application software System Software - Operating System, Compiler, Assemblers, Interpreter.

TEXT BOOKS

1. Computers Today by S.K. Basandra- Galgotia Publications,First Edition Oct 1987.
2. Elementary Computer Application by Dr.ReetaKumari , ArchanaKumari ,First Edition Oct 2019.
3. Computer Fundamentalsby PritiSinha, Pradeep K., Sinha,Third Edition, McGraw-Hill 2018.

REFERENCE BOOKS

1. Fundamentals of Information Technology, Aalexis Leon & Mathews Leon- Vikas Publishing House- New Delhi dos Quick Reference by Rajeev Mathur- GalgotiaPublications.
2. Basic Computer Course Made Simple, Satish Jain/Shalini Jain/M.Geetha ,Pearson, Sep2018.
3. Computer Basic , G. Manjunath,Pearson, Sep2019.
4. Computer Basics: For a Literate Living, Bittu KumarMcGraw hill, Sep2018.

Course Coordinator **HOD**

U18SESC002	MULTIMEDIA	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- N.Mathimagal & BCA				

COURSE OBJECTIVES:-

The learner will have the knowledge about the principles of different types of media and able to identify the proper applications of multimedia, how multimedia can be used in various application areas, and evaluate the appropriate multimedia systems and develop effective multimedia applications.

COURSE OUTCOMES (COs)

CO1	Gain knowledge of basic concepts of multimedia
CO2	Analyze the multimedia application problems.
CO3	Discuss the Video capturing, Sound capturing, editing concepts.
CO4	Identify the basic multimedia design principles.
CO5	Demonstrate the multimedia system and Design Process
CO6	Test real time application using a multimedia concept.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	M	L								
	CO3	H	-								
	CO4	H	L								
	CO5	M	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Multimedia Fundamentals: Concept of multimedia, Fundamental criteria for the design of a multimedia presentation, Multimedia Application Goals & Objectives, opportunities in multimedia production.

UNIT II **6**

Role of multimedia-development of team members, avoiding problems in planning a multimedia application.

UNIT III **6**

Multimedia Building Blocks: Text, Graphics, Video capturing, Sound capturing, editing.

UNIT IV **6**

Basic design principle: proximity, visual hierarchy, Symmetry, Asymmetry, Repetition, unity, Contrast, dynamics, Emphasis, Multimedia Authoring tools.

UNIT V **6**

Design, Development and evaluation of multimedia a system, Development of user interface design, Design Process.

TEXT BOOKS

1. John Villamil, Casanova, Louis Molina, "An introduction tomultimedia".
2. Mohammad Dastbaz, "Designing Interactive MultimediaSystems".
3. "Multimedia: Making it Work" , Tay Vaughan, Ninth Indian Edition.

REFERENCE BOOKS

1. Stephen McGloughlin, "Multimedia on theweb".
2. "Fundamentals of Multimedia", Pearson Education International.
3. "Multimedia: Computing Communications & Applications", Ralf Steinmetz, Pearson Education.
4. Bohdan O. Szuprowicz, "MultimediaNetworking".

Course Coordinator **HOD**

U18SESC003	**ADVANCED EXCEL**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Ramya & BCA				

COURSE OBJECTIVES: -

Learners able to understand the basic concept of excel and use various functions in Excel Sheet.

COURSE OUTCOMES (COs)

CO1	Identify the different components of the Excel worksheet

CO2	Construct formulas to manipulate numeric data in an Excel Worksheet
CO3	Change the appearance of an Excel spreadsheet
CO4	Use the functions that are stored in Excel.
CO5	Differentiate between formulas and functions in Excel.
CO6	Access and manipulate data using the database functions of Excel.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO 2	PSO3
2	**CO1**	H	-						H		
	CO2	H	L								
	CO3	M	-								
	CO4	M	-								
	CO5	H	L								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	

4	Approval	Academic Council Meeting

UNIT I **6**

Uses of Advance Excel Formulas -VLOOKUP, HLOOKUP, SUMIF, SUMIFS, SUMPRODUCT, DSUM, COUNTIF, COUNTIFS, IF, IFERROR, ISERROR, ISNA, ISNUMBER, ISNONTEXT, OR, AND, SEARCH, INDEX, MATCH etc

UNIT II **6**

Various Methods and Uses of IF Conditions , Usage of "IF" Conditions? , Creation of Multiple IF Conditions in One Cell , Use the IF Conditions with the Other Advance Functions, How to use nested IF statements in Excel with AND, OR Functions Sorting, Data Forms, Adding Data Using the Data Form, Finding Records Using Criteria

UNIT **6**

Filtering Data, AutoFilter, Totals and Subtotals, Row, Various Methods of Filter and Advance Filter options , Creating and Updating Sub totals , Various Method of Sorting Data ,Creating, Formatting and Modifying Chart.

UNIT IV **6**

Customizing the Quick Access Tool Bar , Managing Windows ,Multiple Windows , Splitting Windows.

UNIT V **6**

Various Methods and Options of Pivot Table, Using the Pivot Table Wizard, Changing the Pivot Table Layout, Subtotal and Grand total Options, Formatting, and Grouping items

TEXT BOOKS:

1. Jordan Goldmeler, "Advanced Excel Essentials" ,APress, 2015 edition.
2. Excel Basics Book by Ian Lamont.
3. Excel for Beginners – M.L. Humphery.

REFERENCE BOOKS:

1. John Walkenbach, "Microsoft Excel 2013 Bible",Wiley Publications,2013.
2. Excel Formulas and Functions For Dummies Book by Ken Bluttman and Peter G. Aitken.
3. Advanced Excel Essentials Book by Jordan Goldmeier.
4. Excel 2019 Bible Book by John Walkenbach, Michael Alexander, and Richard Kusleika

Course Coordinator **HOD**

	WEB DESIGNING	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2

U18SESC004	Prerequisite course – Higher Secondary Level
	Course Coordinator Name & Department:- V.Ramya & BCA

COURSE OBJECTIVES: -

To gain knowledge in basic web designing concepts.

COURSE OUTCOMES (COs)

CO1	Define the web basics and server side scripting.
CO2	Execute the HTML coding and linking process.
CO3	Analyze the hyperlinks and special characters.
CO4	Relate the Embedded Style Sheets & Linking External Style Sheets.
CO5	Use the backgrounds and user style sheets.
CO6	Test real time application using web designing concept.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L							H	
	CO2	M	L								
	CO3	H	-								
	CO4	H	-								
	CO5	H	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Introduction - The Internet in Industry and Research - Evolution of the Internet and World Wide Web - Web Basics – Client Side Scripting versus Server Side Scripting.

UNIT II **6**

Introduction – First HTML example – Headings – Linking - Images, alt Attribute, Void Elements.

UNIT **6**

Using Images as Hyperlinks-Special Characters and Horizontal Rules – Lists – Tables.

UNIT IV **6**

Introduction - Inline Styles - Embedded Style Sheets - Linking External Style Sheets

UNIT V **6**

Backgrounds - Element Dimensions - Box Model and Text Flow - Drop-Down Menus - User Style Sheets.

TEXT BOOKS

1. Paul Deitel, Harvey Deitel, Abbey Deitel, "Internet & World Wide Web: How To Program", 5th Edition, Pearson Publication, 2012.
2. Jennifer Niederst Robbins, "Learning Web Design", Fourth Edition, O'Reilly Media, 2012.
3. Thomas Michaud, "Foundations of Web Design, Introduction to HTML & CSS", Pearson Publication, 2014.

REFERENCE BOOKS

1. Bayross, "Web Enable Commercial Application Development Using HTML, DHTML, JavaScript, Perl CGI", BPB Publications.
2. T. A Powell, "Complete Reference HTML (Third Edition)", TMH, 2002.
3. HTML & CSS: Design and Build Web Sites Book by Jon Duckett.
4. Learning Web Design Book by Jennifer Niederst Robbins.

Course Coordinator **HOD**

U18SESC005	**PHOTOSHOP**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Brindha & BCA				

COURSE OBJECTIVES: -

Learners can apply methods to specific 3D Images and to identify various designs appropriate for Animation.

COURSE OUTCOMES (COs)	
CO1	Gain knowledge to Create and save Images in fundamental computer applications
CO2	Define the title bar, menu bar, option bar, image title bar in photo shop program.
CO3	Examine Zooming & Panning an Image while Working with Images.
CO4	Analyze Color manipulations & Working with Toolbox
CO5	Compare the Working with layers.
CO6	Relate real time application using 3D image and Animation.

Mapping of Course Outcomes with Program outcomes (POs) (H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low												
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**		**PO5**		**PO6**	**PO 7**	**PS O1**	**PS O2**	**PS O3**
2	**CO1**	H	-								H		
	CO2	H	L										
	CO3	M	-										
	CO4	H	L										
	CO5	H	-										
	CO6	H	-										
3	Category	Humanities & Social Studies (HS)		Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)		
										✓			
4	Approval	Academic Council Meeting											

UNIT I **6**

Introduction to Adobe photoshop, Getting started with photoshop, creating and saving a document in photoshop, page layout and background.

UNIT II **6**

Photoshop program window-title bar, menu bar, option bar, image window, image title bar, status bar, ruler, palettes, toolbox, screen modes, saving files, reverting files, closing files.

UNIT III **6**

Images: working with images, image size and resolution, image editing, color modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids-Cropping & Straightening an Image, image backgrounds, making selections.

UNIT IV **6**

Working with toolbox: working with pen tool, save and load selection-working with erasers-working with text and brushes-Color manipulations: color modes- Levels – Curves - Seeing Color accurately - Patch tool

UNIT V **6**

Layers: Working with layers- layer styles- opacity-adjustment layers.

TEXT BOOKS

1. Reema Thareja , “Fundamentals of Computers”, Oxford University Press.
2. Photoshop: Beginner's Guide for Photoshop - Digital Photography, Photo Editing, Color
3. Adobe Creative Team, “Adobe Photoshop Classroom in a Book”.

REFERENCE BOOKS

1. Adobe Creative Team, “Adobe Photoshop Classroom in a Book”.
2. Adobe Photoshop CC For Dummies.
3. Adobe Photoshop CC for Photographers 2018.
4. Photoshop CC Essentials for Photographers.

Course Coordinator **HOD**

U18SESC006	FLASH	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Brindha & BCA				

COURSE OBJECTIVES: -

Learners can identify methods appropriate for Basic Animation and apply methods to design with flash.

COURSE OUTCOMES (COs)

CO1	Define working with flash, drawing with flash using Animation tools and Mixer.
CO2	Classify working with multiple objects, importing color palettes
CO3	Analyze Basic animation and working in the timeline,
CO4	Identify Frames, key frames, deleting, copying and reversing frames
CO5	Organize the Shape tweening and shape hinting in motion
CO6	Apply methods to design with flash

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	M	-								
	CO5	H	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	

4	Approval	Academic Council Meeting

UNIT I **6**

Working with flash, drawing with flash, drawing with the pencil, modifying lines, drawing with the pen, the oval and rectangle tools, free transform tool, envelope modifier, the brush tool, using the mixer.

UNIT II **6**

Adding custom colors to color palette, importing color palettes, working with multiple objects, grouping objects.

UNIT III **6**

Basic animation and working in the timeline, the timeline, movie properties.

UNIT IV **6**

Frames vs. key frames, deleting, copying, and reversing frames, frame-by-frame vector animation, Animation on an image.

UNIT V **6**

Shape tweening , shape hinting , Shape tweening text , edit multiple frames , animating gradients, basic motion tweening.

TEXT BOOKS:

1. Nick Vandome ,"FLASH 5 in easy steps", ,Dreamtech press,2001
2. Tattoo Lettering Book Reference Flash Book (Volume 2) Spiral-bound – jan 2001 by Various Artists
3. The Flash Book: How to fall hopelessly in love with your flash, and finally start taking the type of images you bought it for in the first place Kindle Edition by Scott Kelby-2013

REFERENCE BOOKS:

1. E A Vander Veer &Chris Graver, "Flash CS3",Orelly Publications,2009.
2. Nick Vandome ,"FLASH 5 in easy steps", ,Dreamtech press,2010
3. Thiagharajan and Anbumani, "Flash MX 2004", Tata McGraw Hill, NewDelhi.
4. Laurie Ulrich Fuller and Robert C. Fuller, "Photoshop CS3 Bible", Willey India Pvt.Ltd.,2017.
5. V. K. Jain, "Multimedia and Animation Paperback", 1st Edition, 1 January 2019.

Course Coordinator **HOD**

U18SESC007	**COMPUTER HARDWARE AND NETWORKING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi / CS				

COURSE OBJECTIVES :-

Learners familiar with the basic concepts of Microprocessor, Controller, Server and to demonstrate the traditional imperative design of CPUs, cards, PCs and BIOS.

COURSE OUTCOMES (COs)

CO1	Define the structure of Micro Processor and PCs and CPUs
CO2	State the structure of PC architecture and the study of various PCs
CO3	Describe the basics of Processor
CO4	Study the CPU, Chips, Processor and Controllers
CO5	Examine the working of Internal Components cards and Higher Level Processor
CO6	Relate the Backups, Switches Routers, BIOS, Floppy Disk and zip Driver

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	-						H		
	CO2	H	L								
	CO3	H	L								
	CO4	M	-								
	CO5	H	L								
	CO6	M	-								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
									✓		
4	Approval	Academic Council Meeting									

UNIT I **6**

Microprocessor System - Introduction of System overview, Introduction to Processors, Memory Interfacing, Interfacing I/O Devices, Interfacing Data Converters, Display Interface, Serial I/O and Data Communication, Higher level Processors.

UNIT II **6**

Introduction to PC Architecture Study of PC-AT/ATX System, Pentium, Core, Core 2 Cord, Core 2 Duo, I3, I5, I7.

UNIT III **6**

Processor Basics of Processor and CPU Block Diagram of Computer and Computer Generation Motherboards, Chipset and Controllers, BIOS and the Boot Process, Computer Memory.

UNIT IV **6**

Internal Components IDE and SATA Devices: Hard Disk Drive and CD/DVDs Drives, SCSI Devices, Floppy Disk, Zip Drive, Backup Drive, Expansion Cards- LAN Card, IDE Card , VGA and SVGA Cards, Sound Card, Interface Cards, I/O cards, Video Cards, USB Card, Fire-Wire Cards, Internal Ports, Cables and Connector Types.

UNIT V **6**

Introduction of Network Cable like UTP, STP, Fiber Optics, Hub, Unmanageable Switch, Manageable Switch, Router, Modem, Wi-Fi, Access Point, PCI Wireless Card, USB Wireless Device, Print Server, USB Network Sharer, Backup Device, Server Hardware etc.

TEXT BOOKS

1. Ramesh Gaonkar, "Microprocessor Architecture Programming and Application with the 8085", Penram International Publication.
2. Troubleshooting, Maintaining and Repairing PCs Stephen J Bigelow Tata MCGraw Hill Publication 2004
3. Computer Networks Andrew S.Tanenbaum Prentice-Hall of India, New Delhi 2002

REFERENCE BOOKS

1. M.L. Gupta, "Electronics and Radio Engineering", Dhanpat rai & Sons, New Delhi.
2. B. Govinda rajalu, "PC AND CLONES Hardware, Troubleshooting and Maintenance", Tata Mc-graw-Hill Publication.
3. Stephen J. Bigelow, "PC Troubleshooting and Repair", Dream tech Press, New Delhi.
4. Data Communication and networking Behrouz A.Forouzan Tata Mc-Graw Hill, New Delhi 2006
5. Data and Computer Communications William Stallings Prentice-Hall of India Eighth Edition.

Course Coordinator **HOD**

U18SESC008	**COMPUTER PROGRAMMING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi/ CS				

COURSE OBJECTIVES :-

Learners will be familiar with the programming language C, Algorithm, and Design the

flowchart and implement the programs using the concept such as Functions, Pointers and Strings.										
COURSE OUTCOMES (COs)										
CO1	Apply and Write the clear, structure and Looping of elementary C programs.									
CO2	Explain algorithmic thinking and apply it to programming.									
CO3	Describe problem-solving techniques.									
CO4	Ability to use C with Various operators Expressions and Decision making control.									
CO5	Write Code using Arrays with single dimensions, Two dimensions and Multidimensional and Various Strings operations									
CO6	Examine programs using Functions, Pointers, Structures and Union									
Mapping of Course Outcomes with Program outcomes (POs) (H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low										
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**
2	**CO1**	H	-						H	
	CO2	H	L							
	CO3	H	L							
	CO4	H	-							
	CO5	M	L							
	CO6	H	-							
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Generation and Classification of Computers, Basic organization of a Computer, Number System, Binary, Decimal, Conversion, Problems.

UNIT II **6**

Algorithm, Pseudo code, Flow Chart, Problem formulation, Problem solving , Introduction to "C" programming, Fundamentals, Structure of C Program , compilation and linking processes, Constants, Variables, Data Types.

UNIT III **6**

Expressions using operators in C, Managing input and output operations, Decision making and Branching, Looping Statements.

UNIT IV **6**

Arrays, Initialization, Declaration, One Dimensional and Two Dimensional Arrays, String, String Operations, String Arrays.

UNIT V **6**

Function, Definition of Function, Declaration of Function, Recursion, pointers, pointer and arrays, Structure data type, Structure definition, Structure declaration, Structure within a structure, Union, Storage classes, Pre-processor directives.

Text Books

1. Anita Goel and Ajay Mittal, "Computer Fundamentals and programming in C", Dorling Kindersley (India) Pvt Ltd., Pearson Education in South Asia 2011.
2. PradipDey, ManasGhosh, "fundamentals of computing and programming in c", First edition, Oxford University Press, 2009.
3. Yashavant P. Kanethar, "Let Us C", BPB Publications, 2011.

Reference Books

1.Byron S Gottfried," Programming with C",Schaum'sOutlines,2nd Edition,Tata McGraw-Hill 2006.

2.Dromey R.G., "How to Solve it by Computer", Pearson Education, Fourth Reprint, 2007.

3.Kernighan., B.W and Ritchie, D.M, " The C Programming Language", Second Edition, Pearson Education, 2006.

Course Coordinator **HOD**

U18SESC009	**OFFICE AUTOMATION TOOLS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi / CS				

COURSE OBJECTIVES :-

Learners will create an awareness among the application of computers and information technology.

COURSE OUTCOMES (COs)

CO1	State the basic skills and practices for MS –DOS.
CO2	Gain the knowledge of MS WORD.
CO3	Analysis the power point presentation concepts.
CO4	Discuss the EXCEL and formula processing.

CO5	Use the PowerPoint template.										
CO6	Applying the computer excel formula.										
Mapping of Course Outcomes with Program outcomes (POs) (H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	**CO1**	H	L						H		
	CO2	H	-								
	CO3	M	-								
	CO4	M	-								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
									✓		
4	Approval	Academic Council Meeting									

UNIT I **6**

Text Manipulations- font size, style, color. Alignment- left, right and justify, paragraph alignment, Usage of Numbering, Bullets, Footer and Headers, Usage of Spell check, and Find & Replace, Text Formatting, Picture insertion and alignment.

UNIT II **6**

Insertion – Table, chart, clip art, shapes, borders. Creation of documents, saving of documents, using templates, Creation templates, Mail Merge Concepts, Copying Text & Pictures from Excel.

UNIT III **6**

Creating of Excel sheet, Cell Editing, Usage of Formulae and Built-in Functions, File Manipulations, Data Sorting, Worksheet Preparation, Drawing Graphs, Usage of Auto Formatting.

UNIT IV **6**

Start power point, Create blank presentation, Selecting slide layout , Insert new slide, Editing presentation , Designing and formatting presentation , Change font, font color, size, style of text, Bullet and numbering, Slide design, layout, change background , preparing slide show presentation.

UNIT V **6**

Inserting Clip arts and Pictures, Frame movements, Insertion of new slides.Preparation of Organization Charts, Presentation using Wizards, Usage of design templates, working with tables, graphics and animation, working with graphs and organization charts.

TEXT BOOKS:

1. Joyce Cox, Joan Lambert and Curtis Fryc, "Step by Step Microsoft Office Professional 2010", Microsoft press edition.
2. Ralph T.Reilly, "The Handbook of Office Automation", iUniverse Publications,2012.
3. Learning of MS –Office 2007 – Ramesh Bangia
4. 2007 Microsoft Office System and Your Windowsbased PC – Window Vista
5. Microsoft Office Professional 2010 Step by Step Paperback – 1 January 2010 by Cox Et Al

REFERENCE BOOKS:

1. Microsoft office word 2007 Torben large frandsen
2. Microsoft office word 2008 Stephen moffat
3. Microsoft office word 2010 Advance – Gay B.Shelly
4. Microsoft Office 2010 by Bittu Kumar
5. Learning Microsoft Word 2010 by Bangia Ramesh

Course Coordinator **HOD**

U18SEMA001	QUANTITATIVE APTITUDE – I	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Number Series with its applications.
CO2	Understand the concept of Data Interpretation
CO3	Apply suitable algorithms in Loss & Discount
CO4	Analyze the Rates, Time and Distance
CO5	Evaluate problems Simple Interest
CO6	Create an real time application compounds and mixtures

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT I NUMBER SYSTEM **6**

Numbers, Number Series, Number Theory, Arithmetic & Geometric Ratio

UNIT II STATISTICS
6

Average, Ages, Data Interpretation.

UNIT III PERCENTAGE AND APPLICATIONS **6**

Percentage, Profit, Loss & Discount, Simple Interest, Compound Interest

UNIT IV TIME
6

Rates, Time and Distance, Train Problems, Boats and Streams, Time and Work.

UNIT V RATIO AND PROPORTION **6**

Allegations of compounds and mixtures.

Text Books:

1. Aggarwal.R.S(2018) "Quantitative Aptitude" by, S.Chand Publications.

2. Aggarwal.R.S(2018) "A modern approach to Logical approach" by, S.Chand Publications.

3. AbhijitGuha, (2014) "Quantitative Aptitude for competitive examinations" by Tata McGraw-HillPublications.

Reference Books:

1.AbhijitGuha, "Quantitative Aptitude"- Mc Graw Hills Publishers.

2. Aggarwal.R.S(2018) "A modern approach to Logical approach" by, S.Chand Publications.

3. RS Aggarwal, (2018) "A Modern Approach to Verbal & Non-Verbal Reasoning",S. Chand Publications.

CourseCoordinator **HOD**

U18SEMA002	QUANTITATIVE APTITUDE – II	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Inverse, Compound equation.
CO2	Understand the circular arrangement.
CO3	Apply suitable direction of Permutations and combinations test.
CO4	Analyze the Heights and Distance
CO5	Evaluate problems on Simple Interest
CO6	Create a real time application of Date and time.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	
4	Approval		Academic Council Meeting							

UNIT I SOLVING ABILITY
6

Simple equations –Variation-Direct, Inverse, Compound

UNIT II PROBABILITY
6

Problems on Linear and circular arrangement.

UNIT III REASONING ABILITY
6

Coding and decoding – Direction Permutations and combinations test- Lateral reasoning-Blood relations-Paragraph based puzzles.

UNIT IV TRIGONOMETRY
6

Heights and Distance.

UNIT V CLOCKS AND CALENDERS
6

Interpretation of Date and time.

Text Books:

1. Aggarwal.R.S(2018) "Quantitative Aptitude" by, S.Chand Publications.

2. Aggarwal.R.S(2018) "A modern approach to Logical approach" by, S.Chand Publications.

3. AbhijitGuha, (2014) "Quantitative Aptitude for competitive examinations" by Tata McGraw-HillPublications.

Reference Books:

1.AbhijitGuha, "Quantitative Aptitude"- Mc Graw Hills Publishers.

2. Aggarwal.R.S(2018) "A modern approach to Logical approach" by, S.Chand Publications.

3. RS Aggarwal, (2018) "A Modern Approach to Verbal & Non-Verbal Reasoning",S.Chand Publications.

CourseCoordinator **HOD**

U18SEMA002	REGRESSION ANALYSIS WITH SPSS	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Ms.S.Kavitha /Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge Qualitative Variable on Nominal Scale, Ranked.
CO2	Understand the Deleting and Rearranging Items from the Viewer
CO3	Apply suitable direction Permutations and combinations test.
CO4	Analyze the Pie Chart, Scatter Plot and Dot plots
CO5	Evaluate data questionnaire Analysis
CO6	Create an real time application and test of hypotheses

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/Lindicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	
4	Approval		Academic Council Meeting							

Unit 1: Introduction **6**

Observations and Variables, Quantitative or Measurement Variable on Interval Scale, Qualitative Variable on Nominal Scale, Ranked Variable on Ordinal Scale.

Unit 2: SPSS Data File **6**

Opening a Data File in SPSS – Variable View, Data View, Entering Data into the Data Editor, Saving the Data File. Editing and Manipulating Data: Inserting a New Variable, Rearranging the Order of

Variable in the Variable View, Deleting and Rearranging Items from the Viewer. Usage of Data, Transform, Analyse and Graphs menus – Editing and copying and printing SPSS output – Importing Data from Excel File.

Unit 3:Descriptive Statistics with SPSS 6

Charts and Graphs: Simple Bar charts, Pie Chart, Scatter Plot and Dot plots, Line graphs, Histogram.

Unit 4: Correlation and Regression Analysis with SPSS 6

Simple correlation (Karl Pearson's Method) - Rank correlation (Spearman's method) – Simple linear regression equation, Scatter plot and line of best fit – Questionnaire Analysis (Uni-variate and Bi- variate tables) – Chi square test with SPSS for independence of Attributes.

Unit 5: correlation and Testing of Hypothesis 6

Partial and multiple correlation coefficients. Simple linear regression model: Description of data model - Estimation and test of hypotheses.

Books for Study:

1. AnanthiSheshasayee and Sheshasayee, G, (2003), Computer Applications in Business and Management, Margham Publications, Chennai.

2. Rajathi, A. and Chandran, P. (2010), SPSS for you, MJP Publishers, Chennai.

3. Chatterjee, S and Price, B (1977), Regression Analysis by Example, John Wiley and Sons,

New York

4. Kapoor, V. K and Gupta, S. C (2002), Fundamentals of Mathematical Statistics, Sultan

Chand and Sons, New Delhi.

Books for Reference:

1. Singh, V. P. and Singh, M. (1998), MS-Excel, Megabyte Series, Asian Publishers, New Delhi.

2. Andy Field (2006), Discovering Statistics Using SPSS, SAGE Publications, London.

3. Johnston, J (1972), Econometric Methods, McGraw-Hill Pvt. Ltd, New York.

4. Draper, N. R and Smith, H (1998), Applied Regression Analysis, 3rd edition, John Wiley and Sons, USA.

CourseCoordinator **HOD**

Syllabus- B.Sc- Statistics

SEMESTER I

S.No.	CATEGORY	SUB. CODE	SUBJECT	TCH	L	T	P	C
THEORY								
1.	HS	U18HSTA101/ U18HSFR101/ U18HSHI101	Tamil / French/ Hindi	5	3	0	0	3
2.	HS	U18HSEN102	English	5	3	0	0	3
3.	MC	U18MCSA101	Introductory Statistics	5	3	1	0	4
4.	MC	U18MCSA102	Descriptive Statistics	5	3	1	0	4
5.	NC	U18NCMA106	Allied Statistics-I	5	3	1	0	4
PRACTICAL								
6.	NC	U18MCSA1L1	Major Pratical-1	4	3	1	0	2
Total				29	18	4	0	20

SEMESTER II

S.No.	CATEGORY	SUB. CODE	SUBJECT	TCH	L	T	P	C
THEORY								
1.	HS	U18HSTA201/ U18HSFR201/ U18HSHI201	Tamil / French/ Hindi	4	3	0	0	3
2.	HS	U18HSEN202	English	4	3	0	0	3
3.	MC	U18MCSA201	Actuarial Statistics	5	3	1	0	4
4.	MC	U18MCSA202	Probability and Random variables Allied Statistics-II	4	3	1	0	4
5.	NC	U18NCMA206	Allied Statistics-II	5	3	1	0	4
6	HS	U18HSCH201	Environmental Studies	2	2	0	0	2
7	HS	U18HSBC202	Value Education	2	2	0	0	2
PRACTICAL								
8.	NC	U18MCSA2L1	Major Practical -2	4	3	1	0	2
Total				30	22	4	0	24

SEMESTER III

S.No.	CATEGORY	SUB. CODE	SUBJECT	TCH	L	T	P	C
THEORY								
1.	HS	U18HSTA301/ U18HSFR301/ U18HSHI301	Tamil / French/ Hindi	4	3	0	0	3
2.	HS	U18HSEN302	English	5	3	0	0	3
3.	MC	U18MCSA301	Distribution Theory	5	3	1	0	4
4.	MC	U18MCSA302	Numerical Analysis	4	3	1	0	4
5.	NC	U18NCSA301	Managerial Economics	5	3	1	0	4
6	NME	U18NETA301	Non Major Elective I – for those who studied Tamil under Part I a) Basic Tamil for other language students	2	2	0	0	2
		U18NETA302	b) Special Tamil for those who studied Tamil upto 10th +2 but opt for other languages in degree programme					
PRACTICAL								
7	NC	U18MCSA3L1	Major practical –III	4	3	1	0	2
Total				29	20	4	0	22

SEMESTER IV

S.No.	CATEGORY	SUB. CODE	SUBJECT	TCH	L	T	P	C
THEORY								
1.	HS	U18HSTA401/ U18HSFR401/ U18HSHI401	Tamil / French/ Hindi	4	3	0	0	3
2.	HS	U18HSEN402	English	4	3	0	0	3
3.	MC	U18MCSA401	Theory of Estimation	5	3	1	0	4
4.	MC	U18MCSA402	Testing of Hypotheses	4	3	1	0	4
5.	NC	U18NCSC403	Programming in C	5	3	1	0	4
6	NME	U18NETA401	Non Major Elective II – for those who studied Tamil under Part I Basic Tamil for other language students	2	2	0	0	2
		U18NETA402	Special Tamil for those who studied Tamil upto10th +2 but opt for other languages in degree programme.					
7.	SBE		Skill Based Eelective 1	2	2	0	0	2
PRACTICAL								
8.	NC	U18NCSC4L1	Allied Practical- I (Programming in C)	4	0	0	4	2
Total				30	19	3	4	24

SEMESTER V

S.No.	CATEGORY	SUB. CODE	SUBJECT	TCH	L	T	P	C
THEORY								
1.	MC	U18MCSA501	Design of Experiments	4	3	1	0	4
2.	MC	U18MCSA502	Sampling Theory	5	3	1	0	4
3.	MC	U18MCSA503	Real Analysis	4	3	1	0	4
4.	MC	U18MCSA504	Statistical Quality Control	5	3	1	0	4
5.	NC	U18MESA011	Major Elective – I Operations research	4	3	1	0	4
6	SBE		Skill Based Eelective 2	2	2	0	0	2
7	SBE		Skill Based Eelective 3	2	2	0	0	2
PRACTICAL								
8.	MC	U18MCSA4L1	Major Practical – IV	4	3	1	0	2
Total				30	22	6	0	26

SEMESTER VI

S.No.	CATEGORY	SUB. CODE	SUBJECT	TCH	L	T	P	C
THEORY								
1.	MC	U18MCSA601	Applied Statistics	5	3	1	0	4
2.	MC	U18MCSA602	Stochastic Process	5	3	1	0	4
3.	MC	U18MCSA603	Matrix Algebra	5	3	1	0	4
4.	ME	U18MESA023	Major Elective – II Elementary Number theory	4	3	1	0	4
PRACTICAL								
5.	EE	U18EESA6P1	Mini project		0	0	20	10
6	HS	U18HSCA6L1	Extension Activities	2	0	0	2	1
Total				21	12	4	22	27

LIST OF ELECTIVES

MAJOR ELECTVES: I

Sub Code	Sub Name	No. of periods per week			C
		L	T	P	
U18MESA011	**OPERATION RESEARCH**	3	1	0	4
U18MESA012	**BIO – STATISTICS**	3	1	0	4
U18MESA013	**DISCRETE MATHEMATICS**	3	1	0	4

MAJOR ELECTVES: II

Sub Code	Sub Name	No. of periods per week			C
		L	T	P	
U18MESA021	**SPECIAL FUNCTIONS**	3	1	0	4
U18MESA022	**ASTRONOMY**	3	1	0	4
U18MESA023	**ELEMENTARY NUMBER THEORY**	3	1	0	4

LIST OF SKILL BASED ELECTIVES
Choose any three courses – one in semester IV & two in semester V

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18SEBC001	Business Process Outsourcing – Management	2	2	0	0	2
2	U18SEBC002	Customer Relationship Management	2	2	0	0	2
3	U18SEBC003	Entrepreneurial Development	2	2	0	0	2
4	U18SEBC004	Human Resource Management	2	2	0	0	2
5	U18SEBC005	Marketing Management	2	2	0	0	2
6	U18SEBC006	Office Management	2	2	0	0	2
7	U18SEBC007	Retail Marketing	2	2	0	0	2
8	U18SEBC008	Salesmanship and Advertising	2	2	0	0	2
9	U18SEEN001	Soft Skills	2	2	0	0	2
10	U18SESC001	Computer Application	2	2	0	0	2
11	U18SESC002	Multimedia	2	2	0	0	2
12	U18SESC003	Advanced Excel	2	2	0	0	2
13	U18SESC004	Web Designing	2	2	0	0	2
14	U18SESC005	Photoshop	2	2	0	0	2
15	U18SESC006	Flash	2	2	0	0	2
16	U18SESC007	Computer Hardware and Networking	2	2	0	0	2
17	U18SESC008	Computer Programming	2	2	0	0	2
18	U18SESC009	Office Automation Tools	2	2	0	0	2
19	U18SEMA001	Quantitative and Aptitude Reasoning -I	2	2	0	0	2
20	U18SEMA002	Quantitative and Aptitude Reasoning-II	2	2	0	0	2
21	U18SEMA003	Regression Analysis with SPSS	2	2	0	0	2

SEMESTER-I

U18HSTA101	பாடத்தின்பெயர் :**தமிழ்**- I	**L**	**T**	**P**	**C**
	மொத்தவகுப்புநேரம்- 45	3	0	0	3
	முன்நிபந்தனைபடிப்பு-+ 2				
	பாடநெறிஒருங்கிணைப்பாளர் : முனைவர். த. கிறிஸ்டல்ரெஜி&தமிழ்த்துறை				

பாடத்தின்நோக்கம்:- இருபதாம்நூற்றாண்டுஇலக்கியத்தைஅறியச்செய்தல்

பாடத்தின்விளைவுகள்(பா.வி.) [COURSE OUTCOMES (COs)]

CO1	பாரதியார், பாரதிதாசன், கவிமணிஆகியோரின்மரபுக்கவிதைகளைஅறிவர்
CO2	கண்ணதாசன், அப்துல்ரகுமான், நா.முத்துக்குமார்ஆகியோரின்புதுக்கவிதைகளைஅறிவர்
CO3	இருபதாம்நூற்றாண்டுஉரைநடைகட்டுரைகளைஅறிவர்
CO4	இருபதாம்நூற்றாண்டுசிறுகதைக்கலையின்நுட்பத்தைஅறிவர்
CO5	இக்காலஇலக்கியவரலாற்றைப்பற்றிஅறிவர்
CO6	இருபதாம்நூற்றாண்டுஇலக்கியத்தைப்பற்றிஅறிவர்

பாடத்தின்விளைவுகளுடன்(Cos) பாடநெறிமுடிவுகளை(POs) வரைபடமாக்குதல் (1/2//3 தொடர்புகளின்வலிமையைக்குறிக்கிறது)
3- அதிகபட்சம், 2- நடுத்தரம், 1- குறைந்தபட்சம்

1	COs/Pos	PO 1	2	3	4	5	6	7		PS O	PS O
2	CO1	3	3	3	1	3	1	3			
	CO2	3	3	3	2	3	1	3			
	CO3	3	2	2	2	3	1	2			
	CO4	3	3	3	1	3	1	3			
	CO5	3	2	2	2	3	1	2			
	CO6	3	2	3	2	3	1	3			
3	Category	Humanities & Social Studies (HS)		Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/
		✓									
4	**Approval**	Academic Council Meeting									

அலகு**1** **9**

மரபுக்கவிதைகள்**:**

பாரதியார் - தேசியகீதங்கள்- தமிழ்நாடு- செந்தமிழ்நாடு, தமிழ்

பாரதிதாசன்- தமிழ்- இன்பத்தமிழ், எங்கள்தமிழ்

கவிமணிதேசிகவிநாயகம்பிள்ளை- வாழ்க்கைத்தத்துவங்கள், வாழ்க்கைநிலையாமை

அலகு**2** **9**

புதுக்கவிதைகள்**:**

கண்ணதாசன்- அழுகை, பிறப்பின்வருவதுயாதெனக்கேட்டேன்!

அப்துல்ரகுமான்- கல்லின்காயம், பாருக்குள்ளேநல்லநாடு

நா.முத்துக்குமார்- வளர்தலும்வளர்தல்நிமித்தமும், கைநீட்டினால்தண்ணீர்வரும்குழாய்

அலகு**3** **9**

கட்டுரைகள்**:**

திரு.வி.கலியாணசுந்தரனார்- பாஷைவளர்வதெப்படி

அறிஞர்அண்ணா- வீட்டிற்கோர்புத்தகசாலை

வ.சுப. மாணிக்கம்- தேசியமறைதிருக்குறள்

அலகு**4** **9**

சிறுகதைகள்**:**

வ.வே.சு. ஐயர்- குளத்தங்கரைஅரசமரம்- 'தமிழ்ச்சிறுகதையின்தந்தை- தமிழின்முதல்சிறுகதை'

மௌனி- அழியாச்சுடர்- 'தமிழ்ச்சிறுகதையின்திருமூலவர்'

புதுமைப்பித்தன்- காஞ்சனை- 'தமிழ்ச்சிறுகதையின்மன்னன்'

அலகு**5** **9**

இக்காலஇலக்கியவரலாறு**:**

இருபதாம்நூற்றாண்டுகவிதைஇலக்கியவரலாறு

இருபதாம்நூற்றாண்டுஉரைநடைஇலக்கியவரலாறு

இருபதாம்நூற்றாண்டுசிறுகதைஇலக்கியவரலாறு

பார்வைநூல்கள்**:**

1. தி.சா.ராஜு, "பாரதியார்கவிதைகள்", வானவில்பிரசுரம், 1977
2. கோமுகிசுப்பிரமணியன், "பாரதிதாசன்கவிதைகள்", அருள்சுடர்பதிப்பகம், 2014
3. சி.தேசிகவிநாயகம்பிள்ளை, "கவிமணிகவிதைகள்", பூம்புகார்பதிப்பகம், 2011
4. கண்ணதாசன், "கவிஞர்கண்ணதாசன்கவிதைகள்", கண்ணதாசன்பதிப்பகம், 2012
5. அப்துல்ரகுமான், "கவிக்கோகவிதைகள்', நேஷனல்பப்ளிஷர்ஸ், 2013
6. நா.முத்துக்குமார், "நா.முத்துக்குமார்கவிதைகள்- அனாஆவன்னா, பட்டாம்பூச்சிபதிப்பகம், 2016
7. டி.என்.இராமச்சந்திரன், "திரு.வி.க.வின்தேசபக்தன்கட்டுரைகள்", புவனேஸ்வரிபதிப்பகம், 2001
8. அண்ணா, 'சொற்பொழிவுகளின்தொகுப்பு-வீட்டிற்கோர்புத்தகசாலை', முத்தமிழ்நிலையம், 2008
9. ந.வேலுசாமி, "திருக்குறளைஏன்இந்தியாவின்தேசியநூலாகஅறிவிக்கவேண்டும்?" ,CoralPublisher, 2017
10. வ.வே.சு.ஐயர், "குளத்தங்கரைஅரசமரம்", வ.உ.சி.நூலகம், 2007
11. மௌனி, "மௌனிபடைப்புகள்", காலச்சுவடுபதிப்பகம், 2010
12. புதுமைப்பித்தன், "காஞ்சனை", அன்னம்பதிப்பகம், 2013
13. சு.ஆனந்தன், "தமிழ்இலக்கியவரலாறு", பாரிநிலையம், 2018

CourseCoordinator **HOD**

	FRENCH	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3

U18HSFR101	Prerequisite course – Grade 12
	Course Coordinator Name & Department:-Ms. Tushita Naidu K /Département De Française

COURSE OBJECTIVES:-

To introduce students to basic principles and practice of oral and written communication.

COURSE OUTCOMES (COs)

CO1	To understand the basics of the language.
CO2	To analyze the sentence patterns and form the grammar.
CO3	To learn the basics of grammar along with its principles.
CO4	To remember the anatomy of conjugations.
CO5	To create dialogs and conversation on their own within the language & to practice oral and written skills.
CO6	To remember the necessary rules of the language

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	2	1	1	1	3		
	CO2	3	3	3	1	2	1	3		
	CO3	3	3	3	1	3	1	3		
	CO4	3	3	3	1	1	1	3		
	CO5	3	3	3	3	1	1	3		
	CO6	3	3	3	2	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I - Vouscomprenez **9**

Alphabets - French Accents - Les Nombres – Pronunciations.

UNIT II Au travail! **9**

Masculine Singular and Feminine singular - Conjugaison des verbes (present tense) -
Les articles définis.

UNIT III En se detend? **9**

Conjugaison (faire-aller-venir-Vouloir-Pouvoir-Devoir

UNIT IV Racontez-moi **9**

La date et l'heure – les saisons – les couleurs

UNIT V Bon voyage! **9**

Adjectifs demonstratives - Adjectifs possessives - Les Voyages / les transport-Bon appétit!-Article partitif - Emploi des articles - Interrogation (Forme avec inversion) - Les repas - La fête

TEXT BOOKS:

A1 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator **HOD**

	HINDI	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3

U18HSHI101	Prerequisite course – Grade 12
	Course Coordinator Name & Department:-Mrs Rani Selvan / Hindi

COURSE OBJECTIVES:-

To understand , read, write and speak Hindi language with grammatical.

COURSE OUTCOMES (COs)

CO1	Remember the behavior
CO2	Understand the importance of money by story
CO3	Apply the concept of Hindi grammar
CO4	Analyze the usage of translation from English to Hindi
CO5	Evaluatethe unseen passage to answer the questions
CO6	Create the knowledge in Hindi Language

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	3	1	1	1	3		
	CO2	3	3	2	2	2	2	3		
	CO3	3	3	2	1	2	1	3		
	CO4	3	3	2	1	1	2	3		
	CO5	3	2	2	1	1	1	3		
	CO6	2	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I **09**

NAVEEN GADYA CHAYANIKA – 2 - Bholaram ka jeev - Mehamaan se Bhagavaanbachaaye - NumberovaliThijori –Kaffan - Gunda

UNIT II **09**

NON DETAILED TEXT: KAHANI KUNJ - Stories: 6 – 10 only

UNIT III **09**

GRAMMAR: SHABDA VICHAR ONLY - NOUN, PRONOUN, ADJECTIVE, VERB, TENSE, CASE ENDINGS - Theoretical & Applied

UNIT IV **09**

TRANSLATION - English – Hindi only - ANUVADH ABHYAS – III - 1 – 15 Lessons Only

UNIT V **09**

COMPREHENSION - 1 Passage from ANUVADH ABHYAS – III (16 – 30)

TEXT BOOKS:

UNIT 1 - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017
UNIT II - Govind Prakashan, SadharBagaar, Mathura, Uttar Pradesh – 281001 - Editor: Dr V.P. Amithab
UNIT III - Vyakaran Pradeep by Ramdev - Hindi Bhavan,36, Tagor Town, Allahabad – 211002.
UNIT IV - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017.
UNIT V - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017

CourseCoordinator **HOD**

	ENGLISH-I	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3

U18HSEN102	Prerequisite course – + 2 level English
	Course Coordinator : Mrs.M.SHEEBA& Department of English

COURSE OBJECTIVES:-To understand the power of knowledge about LRSW(i.e.) listening, reading speaking and writing, and various forms of literature.

COURSE OUTCOMES (COs)

CO1	Rememberthe authors of the prescribed literature
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarizes the prescribed literature
CO6	Create critical essays by evaluating the literary techniques and devices used
Category	HS

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	2	3	3	3	3	2	2		
	CO2	2	2	3	3	3	3	2		
	CO3	3	2	2	2	2	2	2		
	CO4	3	3	3	3	3	3	3		
	CO5	2	2	2	2	2	2	2		
	CO6	2	2	3	2	2	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/
		✓								
4	**Approval**	Academic Council Meeting								

UNIT-I POETRY **9**

Lucy Gray -William Wordsworth– Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis; **Ulysses-Alfred Lord Tennyson** -Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis; **The Road Not Taken** – **Robert Frost** -Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis

UNIT-II – ONE ACT PLAYS **9**

The Boy Comes Home-A.A.Milne– Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Referee- W.H.Andrews and Geoffrey Dearmer** -Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT -III SHORT STORIES **9**

The Unicorn in the Garden – **James Thurber** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Avenger** – **Anton Chekov** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT IV PROSE **9**

Six Thinking Hats- Edward de Bono–Author Biography - Self analysis technique, Summary; **My Early Days-Abdul Kalam** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis;**I Have a Dream (Speech) -Martin Luther King**- Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT V **9**

Introduction to Basics of Communication – Definitions – Types – Listening, Speaking, Reading& Writing

TEXT BOOKS:

1. Six Thinking Hats by Edward de Bono, Little Brown and Company,1985
2. My Early Days by Abdul Kalam,October 7,2013

REFERENCE BOOKS:

1. Strings of Gold (Part- II) Edited by Prof. Jasbir Jain (MacMillan),2007
2. Basic Communication Skills for Technology by Rutherfoord(DorligKindersly),2007
3. English for Professionals A Practice Book of Communication Skills in English by Dr.Miglani (Vayu Education of India),2010.

CourseCoordinator **HOD**

U18MCSA101	**INTRODUCTORY STATISTICS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4

	Prerequisite course –Mathematics Studied in Higher Secondarystudies
	Course Coordinator Name &Department: -Dr.P.Sumathi/Mathematics

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on statistical methods, Essentials of sampling, attributes and association of attributes.

COURSE OUTCOMES (COs)

CO1	Understand to developStatistical methods
CO2	To Know the Essentials of sampling.
CO3	To Know the concept of Pictorial Representation of data-Types
CO4	Understand the usage of Formulation of discrete and continuous frequency distribution
CO5	Understand Attributes and association of attributes.
CO6	Understand the concept of sampling.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	2	3		
	CO2	3	3	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	2	2	1	1	1	2	3		
	CO6	3	3	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I DEFINITION OF STATISTICS **12**

Meaning and definition of Statistics, importance and scope of Statistics, functions of Statistics and limitations Statistics.

UNIT IIDIAGRAMMATIC REPRESENTATIONS OF DATA **12**

Diagrammatic representations of data - Bar diagrams - simple, component, multiple and percentage. Graphic representations - Frequency curve, frequency polygon.

UNIT IIIMEASURES OF CENTRAL TENDENCY **12**

Measures of Central Tendency – Arithmetic Mean, Median, Mode, Geometric Mean and Harmonic Mean derivation of their properties, Merits and Demerits and problems.

UNIT IVSKEWNESS **12**

Skewness - concept, measures of Skewness – Karl Pearson's and Bowley's coefficient of skewness.

Moments – Raw and Central. Kurtosis - Concept and measures. Problems.

UNIT VREGRESSION **12**

Regression - Definitions, Types and Properties of Regression coefficient (statement and proof). Regression lines and its properties, uses and problems.

TEXT BOOK:

1. Gupta S.C., and V.K.Kapoor, "Fundamental of Mathematical Statistics". - Sultan Chand & Sons, New Delhi. (2013)

REFERENCE BOOK:

Gupta S.P, "Statistical Methods", Sultan Chand & Sons, New Delhi. (1995).
Hogg, RV and Craig, AT "An Int to Mathematical Statistics" 6thEdn. Pearson Education Pub. New Delhi. (2009)

Course Coordinator **HOD**

U18MCSA102	DESCRIPTIVE STATISTICS	L	T	P	C
	Total Contact Hours – 60	3	1	0	4

	Prerequisite course –Mathematics Studied in Higher Secondary studies
	Course Coordinator Name & Department: -Ms.P.S.Sharmila/Mathematics

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on limitation on statistics, skewness, kurtosis and regression lines.

COURSE OUTCOMES (COs)

CO1	Understand to develop the concept of frequency polygon
CO2	Understand to developlimitations of Statistics.
CO3	Understand to develop the concept of central tendency.
CO4	To Know the usage of Skewness - concept, measures of Skewness
CO5	Understand the Regression lines
CO6	To Know the concept of frequency curve.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	1	2	3		
	CO2	3	2	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	3	2	1	1	1	2	3		
	CO6	3	2	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I DEFINITION OF STATISTICS **12**

Meaning and definition of Statistics, importance and scope of Statistics, functions of Statistics and limitations of Statistics.

UNIT IIDIAGRAMMATIC REPRESENTATIONS OF DATA **12**

Diagrammatic representations of data - Bar diagrams - simple, component, multiple and percentage. Graphical representations - Frequency curve, frequency polygon.

UNIT IIIMEASURES OF CENTRAL TENDENCY **12**

Measures of Central Tendency – Arithmetic Mean, Median, Mode, Geometric Mean and Harmonic Mean - derivation of their properties, Merits and Demerits and problems.

UNIT IVSKEWNESS **12**

Skewness - concept, measures of Skewness – Karl Pearson’s and Bowley’s coefficient of skewness.

Moments – Raw and Central. Kurtosis - Concept and measures. Problems.

UNIT VREGRESSION **12**

Regression - Definitions, Types and Properties of Regression coefficient (statement and proof). Regression lines and its properties, uses and problems.

TEXT BOOK:

1. Gupta S.C., and V.K.Kapoor, "Fundamental of Mathematical Statistics". - Sultan Chand & Sons, New Delhi. (2013)

REFERENCE BOOK:

Gupta S.P, "Statistical Methods", Sultan Chand & Sons, New Delhi. (1995)
Hogg, RV and Craig, AT "An Int to Mathematical Statistics" 6thEdn. Pearson Education Pub. New Delhi. (2009)

Course Coordinator **HOD**

U18NCMA106	ALLIED STATISTICS-I	L	T	P	C

Total Contact Hours – 60	3	1	0	4
Prerequisite course –Mathematics Studied in Higher Secondary studies				
Course Coordinator Name & Department: - Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on summation of series, Cayley Hamilton theorem, polynomial equations with real coefficients hyperbolic and inverse hyperbolic equations.

COURSE OUTCOMES (COs)

CO1	Understand to developSummation of series - simple problems
CO2	Understand the Cayley-Hamilton theorem
CO3	To Know the concept of Polynomial equations with real coefficients
CO4	Understand the usage of Hyperbolic and inverse hyperbolic functions
CO5	Understand Inverse Laplace Transform (usual types)
CO6	To Know the concept of Laplace Transform.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	1	2	3		
	CO2	3	2	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	3	2	1	1	1	2	3		
	CO6	3	2	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
						✓				
4	Approval	Academic Council Meeting								

UNIT IALGEBRA and NUMERICAL METHODS: 12

ALGEBRA: Summation of series - simple problems.

NUMERICAL METHODS: Operators E,Δ,∇ difference tables; Newton-Raphson method; Newton's forward and backward interpolation formulae for equal intervals, Lagrange's interpolation formula.
Chapter 2, Section 2.1.3, 2.2, 2.2.1, 2.3, 2.3.3
Chapter 3, Section 3.4.1 and Chapter 5, Section 5.1 and 5.2.

UNIT II MATRICES: 12

Symmetric, Skew-Symmetric, Orthogonal, Hermitian, Skew-Hermitian andUnitary matrices. Eigen values and Eigen-vectors, Cayley-Hamilton theorem (without proof) – verification- Computation of inverse of matrix using Cayley - Hamilton theorem.
Chapter 4, Section 4.1.1 to 4.1.6, 4.5, 4.5.2, 4.5.3.

UNIT III THEORY OF EQUATIONS: 12

Polynomial equations with real coefficients, irrational roots, complex roots, symmetric functions of roots, transformation of equation by increasing or decreasing roots by a constant, reciprocal equation. Newton's method to find a root approximately - simple problems.
Chapter 3, Section 3.1 to 3.4.1

UNIT IV TRIGONOMETRY: 12

Expansions of sin(nθ) and cos(nθ) in a series of powers of sinθ and cosθ - Expansions of$sin^n\theta$, $cos^n\theta$, $tan^n\theta$ in a series of sines, cosines and tangents of multiples of "θ" - Expansions of sinθ, cosθ and tanθ in a series of powers of "θ" – Hyperbolic and inverse hyperbolic functions - Logarithms of complex numbers. Chapter 6, Section 6.1 to 6.5

UNIT V LAPLACE TRANSFORMS: 12

Laplace Transform; Inverse Laplace Transform (usual types); Convolution theorem; Applications of Laplace Transform to solution of first order linear differential equations.

TEXT BOOK:

1. Chapter 1, Section 1.1 to 1.3.2 and 1.4.3 Content and treatment as in Allied Mathematics Volume I and II by P. Duraipandian and S. Udayabaskaran, S. Chand Publications

REFERENCE BOOK:

1. S. Narayanan and T.K. Manickavasagam Pillai – Ancillary Mathematics, S. Viswanathan Printers, 1986, Chennai.

2. Allied Mathematics by Dr. A. Singaravelu.

Course Coordinator **HOD**

	MAJOR PRACTICAL I	L	T	P	C

U18MCSA1L1	Total Contact Hours – 30	3	1	0	2
	Prerequisite course –Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department: - Ms. P.S.Sharmila/Mathematics				

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on continuous frequency distribution,quartiles,deciles and percentiles and moments ,skewness and kurtosis.

COURSE OUTCOMES (COs)

CO1	Understand to developFormulation of continuous frequency distribution
CO2	Understand the Quartiles, Deciles and Percentiles
CO3	The gain the concept of Moments, Skew ness and Kurtosis
CO4	Understand the usage of Regression equations
CO5	Understand Multiplication of matrices
CO6	Understand to developFormulation of continuous frequency distribution

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	1	2	3		
	CO2	3	2	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	3	2	1	1	1	2	3		
	CO6	3	2	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
						✓				
4	Approval	Academic Council Meeting								

UNIT I

Formulation of continuous frequency distribution (SPSS output)

UNIT II

Measures of Central tendency:

a. Calculation of Mean, Median, Mode, Harmonic mean, Geometric mean,
b. Quartiles, Deciles and Percentiles

UNIT III

Measures of Dispersion:

a. Calculation of range and quartile deviation
b. Mean deviation about mean, median and mode
c. Standard deviation, variance and coefficient of variation
d. Moments, Skew ness and Kurtosis
e. Association of attributes.

UNIT IV

Coefficient of Correlation andRegression:

a. Karl Pearson's coefficient of correlation (Raw and Grouped data)
b. Spearman's Rank correlation
c. Regression equations

UNIT V

Matrices:

a. Multiplication of matrices
b. Adjoint and Inverse of a matrix of order upto [4x4]
c. Rank of a matrix
d. Solution of linear equations
e. Characteristic roots and vectors
f. Reduction of quadratic forms

Course Coordinator **HOD**

SEMESTER-II

U18HSTA201	**தமிழ்**- II	**L**	**T**	**P**	**C**
	மொத்தவகுப்புநேரம்- 45	3	0	0	3
	முன்நிபந்தனைபடிப்பு - + 2				
	பாடநெறிஒருங்கிணைப்பாளர் : முனைவர். த. கிறிஸ்டல்ரெஜி&தமிழ்த்துறை				

பாடத்தின்நோக்கம்:- சிற்றிலக்கியம்மற்றும்சமயஇலக்கியத்தைஅறியச்செய்தல்

பாடத்தின்விளைவுகள்(பா.வி.) [COURSE OUTCOMES (COs)]

CO1	தூது,பள்ளு,குறவஞ்சிஎன்றசிற்றிலக்கியSங்கள்பற்றிஅறிவர்
CO2	சைவஇலக்கியமானதேவாரம், திருவாசகம், அற்புதத்திருவந்தாதிப்பற்றிஅறிவர்
CO3	வைணவஇலக்கியமானநாலாயிரதிவ்யப்பிரபந்தம்பற்றிஅறிவர்
CO4	பௌத்த, இசுலாம், கிறித்துவசமயஇலக்கியங்களைப்பற்றிஅறிவர்
CO5	சிற்றிலக்கியம்மற்றும்சமயஇலக்கியவரலாறுபற்றிஅறிவர்
CO6	சிற்றிலக்கியம் , சமயஇலக்கியம்பற்றியதெளிவானஅறிவைப்பெறுவர்

பாடத்தின்விளைவுகளுடன்(Cos) பாடநெறிமுடிவுகளை(POs)
வரைபடமாக்குதல்(1/2//3 தொடர்புகளின்வலிமையைக்குறிக்கிறது)
3- அதிகபட்சம், 2- நடுத்தரம், 1- குறைந்தபட்சம்

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	2	3	2	3	1	2		
	CO2	3	2	3	2	3	1	2		
	CO3	3	2	3	2	3	1	2		
	CO4	3	2	3	2	3	1	3		
	CO5	3	2	3	2	3	1	2		
	CO6	3	2	3	2	3	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/
		✓								
4	**Approval**	Academic Council Meeting								

அலகு**1** **9**

அழகர்கிள்ளைவிடுதூது - 1 - 20

முக்கூடற்பள்ளு - நாட்டுவளம் - 21,22,25,26,35

திருக்குற்றாலக்குறவஞ்சி - குறத்திமலைவளம்கூறுதல் - 1 - 5

அலகு**2** **9**

அற்புதத்திருவந்தாதி - 1 - 5

தேவாரம் - திருவெண்காட்டுப்பதிகம் - திருஞானசம்பந்தர் - 1 - 10

திருவாசகம் - திருச்சாழல் - மாணிக்கவாசகர் - 1 - 10

அலகு**3** **9**

நாலாயிரதிவ்யப்பிரபந்தம் - முதல்திருமொழி - பெரியாழ்வார் - 1 - 10

நாலாயிரதிவ்யப்பிரபந்தம் - திருப்பாவை - ஆண்டாள் - 1 - 10

நாலாயிரதிவ்யப்பிரபந்தம் - திருமாலை - தொண்டரடிப்பொடிஆழ்வார் - 1 - 5

அலகு**4** **9**

ஆசியஜோதி - கருணைக்கடல் - அறவுரைகூறுதல் - 1 - 10
பராபரக்கண்ணி - குணங்குடிமஸ்தான்சாகிபு - 1 - 20
இயேசுகாவியம் - பாடுகளின்பாதை - கண்ணதாசன்

அலகு**5** **9**

சிற்றிலக்கியவரலாறு- சமயஇலக்கியவரலாறு

பார்வைநூல்கள்**:**

1. கதிர்முருகு, "அழகர்கிள்ளைவிடுதூது", சாரதாபதிப்பகம், 2011
2. கதிர்முருகு, "முக்கூடற்பள்ளுமூலமும்உரையும்", சாரதாபதிப்பகம், 2017
3. புலியூர்க்கேசிகன், "திருக்குற்றாலக்குறவஞ்சி", செண்பகாபதிப்பகம், 2010
4. தமிழமுதன், "அற்புதத்திருவந்தாதி", பாரிநிலையம், 2011
5. சோ.கந்தசாமி"பன்னிருதிருமுறை", உலகத்தமிழாராய்ச்சிநிறுவனம், 2008
6. த.கோவேந்தன், "நாலாயிரத்திவ்யப்பிரபந்தம்மூலமும்எளியஉரையும்", சாரதாபதிப்பகம், 2015
7. கமலாமுருகன், "ஆசியஜோதிமூலமும்உரையும்", சாரதாபதிப்பகம், 2012
8. கமலாமுருகன், "பராபரக்கண்ணிமூலமும்உரையும்", சாரதாபதிப்பகம், 2013
9. கண்ணதாசன், "இயேசுகாவியம்", கண்ணதாசன்பதிப்பகம், 2014
10. சு.ஆனந்தன், "தமிழ்இலக்கியவரலாறு", பாரிநிலையம், 2018

CourseCoordinator **HOD**

U18HSFR201	**FRENCH**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department: -Ms. Tushita Naidu K /Département De Française				

COURSE OBJECTIVES: - To introduce students to the complexity of the grammar and how to overcome it with simple rules.	
COURSE OUTCOMES (COs)	
CO1	To being able to interpret the language.
CO2	To familiarize with methodological approaches in the study of literary and cultural texts, such as close reading, socio-historical contextualization, and literary and cultural theory.
CO3	To obtain advanced proficiency in spoken and written French.
CO4	To encourage the development of skills in linguistics, translation, and comparative studies.
CO5	To remember the anatomy of conjugations in past tense.
CO6	To evaluate the given text critically and enhance communication skills.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	2	1	1	1	3		
	CO2	3	3	3	1	2	1	3		
	CO3	3	3	3	1	2	1	3		
	CO4	3	3	3	1	1	2	3		
	CO5	3	3	3	3	1	1	3		
	CO6	3	3	2	3	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I -Quelle journee! 9

La Conjugaisonpronominale -L'imperatif -L'expression de la quantite (peu-in peu de- quelque – etc.)

UNIT II - Qu'onest bien ici ! 9

Prepositions et adverbs de lieu - Verbs experimant un deplacement (employ des prepositions)
Le lodgement/la localisation/ l'orientation/l'etat physique/le temps qu'il fait

UNIT III -En se detend? 9

L'imparfait-Emplois du passé compose et de l'imparfait-Expression de la duree-L'enchainement des idees (alors, donc, mais) /Le sensreciproque

UNIT IV- On s'appelle? 9

Les pronoms complements direct -Les pronoms compliments indirects de personne -c'est/ il est-Imperatif des verbs avec pronoms-La fornation des mots

UNIT V Un bon conseil ! 9

Expression du deroulement de l'action--passe recent--Present progressif-future proche-Les phrases rappotrees- La place de l'adjectif- La proposition relative finale avec -qui

TEXT BOOKS:

A1 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator HOD

U18HSHI201	**HINDI**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department:-Mrs Rani Selvan / Hindi				

COURSE OBJECTIVES:-
To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)

CO1	Remember of Ramayana In Sabari part
CO2	Understand the historical stories
CO3	Apply the concept of translation
CO4	Analyzeand develop the letter writing skills
CO5	Evaluateand develop the speaking skills
CO6	Create knowledge in letter writing and speaking skills

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	2	2	1	3		
	CO4	3	3	2	1	1	2	3		
	CO5	2	3	2	1	1	1	3		
	CO6	3	3	3	2	3	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I **09**
MODERN POETRY - SHABARI

UNIT II **09**
ONE ACT PLAY - EKANKI SANKALAM

UNIT III **09**
TRANSLATION - HINDI – ENGLISH ONLY

UNIT IV **09**
LETTER WRITING - Leave letter - Job Application - Ordering books - Letter to Publisher - Personal letter

UNIT V **09**
CONVERSATION - Doctor & Patient - Teacher & Student - Storekeeper & Buyer - Two Friends - Booking clerk & Passenger at Railway station – Auto rickshaw driver and passenger.

Text Books:
By Naresh Mehtha,Veerendra Kumar Mishra

Reference Books:

UNIT 1 – Publisheres - LokbharathiPrakashan ,1 Floor, DuebariBuilding,Mahathma Gandhi Marg, Allahabad – 1.

UNIT II – Publishers – Vani Prakasam, New Delhi-110002

UNIT III – Publishers – Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator **HOD**

U18HSEN202	**ENGLISH II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator:Mr.S.KUMARESAN& Department of English				

COURSE OBJECTIVES:- To know the themes of literary texts and understand the language skills and how to implement it in day to day life activity	
COURSE OUTCOMES (COs)	
CO1	Rememberthe authors of the prescribed literature
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarizes the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.
Category	HS

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	2	3	2	3	2	2	3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	2	2	2	3	3	3		
	CO4	2	2	2	2	3	3	3		
	CO5	2	2	2	2	2	2	2		
	CO6	3	3	3	2	2	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	**Approval**	Academic Council Meeting								

UNIT 1: PROSE **9**

The Refugee – **K.A. Abbas** – Author Biography – Plot – Theme - Summary - Critical analysis; **The Lion and the Lamb** – **Leonard Clark**–Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2: POETRY **9**

The Solitary Reaper – **William Wordsworth**– Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis; **Gift** – **Alice Walker**- Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis

UNIT 3: SHORT STORIES **9**

The Fortune-Teller – **Karel Capek**– Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **The Postmaster** – **Rabindranath Tagore** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 4: ONE-ACT PLAYS **9**

The Death Trap – **Saki (H.H. Munro)**– Author Biography – Plot – Theme - Summary - Character analysis -

Critical analysis; **The Dear Departed**: **A Comedy in One-Act – Stanley Houghton**- Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 5: GRAMMAR **9**

Communicative Grammar- Seeking and giving information – statements and questions
Being informal – phrasal verbs, Expressing ability, possibility, etc – Modals and other devices

TEXT BOOKS:

1. The Death Trap by Saki, The Novels and Plays of Saki,2001
2. Pooja Khanna, "English Communication", S.CHAND Publishing,2016
3. Rabindranath Tagore, "The Postmaster", Penguin India, 2000

REFERENCE BOOKS:

1. K.A.AbbasSuresh Kohli, "An Evening in Calcutta", HarperCollins, 2015
2. Stanley Houghton, "Five one act plays", Alpha Edition, 2019
3. Edited Prof. Jasbir Jain, "Strings of Gold (Part- II)", MacMillan, 2016

CourseCoordinator **HOD**

U18MCSA201	**ACTUARIAL STATISTICS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Mathematics Studied in Higher Secondary studies				

	Course Coordinator Name & Department: - Ms. P.S.Sharmila/Mathematics

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on permutation and combinations, classification of annuity construction of mortality tables.

COURSE OUTCOMES (COs)

CO1	Understand to developPermutation and combinations.
CO2	To Know the Classification of annuity
CO3	To gain the concept of Construction of mortality tables
CO4	Understand the usage of Life assurance and life annuity values
CO5	Understand Net premium for assurance and annuity plans
CO6	Understand the concept of life tables

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	1	2	3		
	CO2	3	2	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	3	2	1	1	1	2	3		
	CO6	3	2	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I PROBABILITY THEORY **12**

Probability theory: Mathematical and statistical definition - Properties – Addition and multiplication theorems - Permutation and combinations.Principles of Compound Interest: Compound interest - Compound amount - Nominal and effective rates - Discount and discounted values - Varying rates of interest - Equation of values and equated time of payment.

UNIT II ANNUITY **12**

cation of annuity - Annuity certain present and accumulated values of immediate annuity - Deferred annuity certain - Annuity due - Perpetuities and variable annuities.

UNIT III MORTALITY **12**

Mortality: Mortality experience - Mortality tables – Construction of mortality tables - Stationary populations - Expectation of life.

UNIT IV LIFE ASSURANCE AND LIFE ANNUITY VALUE 12

Life assurance and life annuity values:Life assurance - General classifications of life assurance premium - Assurance benefits - Types of assurance benefits – Endowment - Pure endowment - Whole life assurance and increasing assurance.Life annuities – Present values of immediate annuities and annuity due - Temporary immediate annuity - Deferred temporary annuity - Increasing annuity – Increasing temporary life annuity.

UNIT V NET PREMIUM FOR ASSURANCE AND ANNUITY PLANS 12

Net premium for assurance and annuity plans: Natural premium – Level annual premium – Mathematical expressions for level annual premium under various assurance plans - Net premium - Annuity plans – Immediate annuities and deferred annuities.

TEXT BOOK:

1. Mathematical Basis of Life Assurance (IC-81) (2000), Published by insurance institute of India, Bombay. (Chapter 1 and 2 for unit I, Chapter 4 for unit II, Chapter 5 for unit III, Chapters 8, 9 and 10 for unit IV and Chapters 11 and 12 for unit V).

2.Shaillaja R Deshmuk (2009), Actuarial Statistics an introduction using R, University Press, India.

REFERENCE BOOK:

1. Frenk Ayres, J. R (1983), **Theory and Problems of Mathematics of Finance**, Schaum's outlineseries, McGraw-Hill book Company, Singapore.

2. Benjamin and pollard, J. H (1980), **Analysis of Mortality and other Actuarial Statistics**, second edition, Heinemann, London.

3. Gupta, S. C and Kapoor, V. K (2001), **Fundamentals of Applied Statistics,** Sultan Chand and sons, New Delhi.

Course Coordinator HOD

U18MCSA202	**PROBABILITY AND RANDOM VARIABLES**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Mathematics Studied in Higher Secondary studies				

	Course Coordinator Name & Department: - Ms.L.Radhika/Mathematics

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on random experiments sample space, Pair – wise independence and complete independence, Variance, Covariance and their properties

COURSE OUTCOMES (COs)

CO1	Understand to develop Random Experiments and Sample Space
CO2	Understand the Pair-wise independence and complete independence
CO3	To gain the concept of Discrete and continuous random variables
CO4	To Know the usage of c Variance, Covariance and their properties
CO5	Understand Schwartz Inequality and its applications
CO6	Understand the concept of stochastic independence

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	1	2	3		
	CO2	3	2	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	3	2	1	1	1	2	3		
	CO6	3	2	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I RANDOM EXPERIMENTS AND SAMPLE SPACE 12

Random Experiments and Sample Space - Types of events: Exhaustive, Mutually exclusive, Equally likely and Independent events - Basic theorems on probability using axiomatic approach - Addition theorem on probability for ***n*** events - Boole's Inequality - Conditional probability- Multiplication theorem on probability for ***n*** events.

UNIT II PAIR-WISE INDEPENDENCE AND COMPLETE INDEPENDENCE 12

Pair-wise independence and complete independence - Extended axiom of addition of probability and the axiom of continuity - Bayes theorem and its applications – Bayes theorem for future events.

UNIT III RANDOM VARIABLES 12

Random variables: Discrete and continuous random variables - Probability function and probability density function - Bivariate random variables: Joint probability density function - Marginal and conditional density functions - Stochastic independence.

UNIT IV MATHEMATICAL EXPECTATION **12**

Mathematical expectation - Variance, Covariance and their properties - Moment generating function and its properties - Cumulant generating function - Characteristic function.

UNIT V SCHWARTZ INEQUALITY AND ITS APPLICATIONS **12**

Schwartz Inequality and its applications - Chebyshev's Inequality and its applications - Marginal and conditional expectations - Conditional variances - Correlation - Relationship between unconditional and conditional expectations.

(The concepts specified in the Units 1, 3, and 4 have to be discussed with examples).

TEXT BOOK:

1. Gupta, S. C and Kapoor, V. K (2002), **Fundamentals of Mathematical Statistics**, Sultan Chand and Sons, New Delhi.

REFERENCE BOOK:

1. Hogg, R. V and Craig, A. T (2002), **Introduction to Mathematical Statistics**, Pearson Education, New Delhi.
2. Saxena, H. C (1968), **Statistical Inference**, Sultan Chand and Sons, New Delhi.

Course Coordinator **HOD**

U18NCMA206	ALLIED STATISTICS –II	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Mathematics Studied in Higher Secondary studies				

	Course Coordinator Name & Department: - Ms.S.Kavitha/Mathematics

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on scalar point functions, Line, surface and Volume integrals.

COURSE OUTCOMES (COs)

CO1	Understand to develop non- homogeneous differential equations
CO2	To Know the Scalar point functions
CO3	Understand the concept of Scalar point functions
CO4	Understand the usage of Line, surface and volume integrals
CO5	Understand theDistance of a plane from a point
CO6	To gain the concept of homogeneous equations

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	1	2	3		
	CO2	3	2	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	3	2	1	1	1	2	3		
	CO6	3	2	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
						✓				
4	Approval	Academic Council Meeting								

UNIT I ORDINARY DIFFERENTIAL EQUATIONS 12

Second order non- homogeneous differential equations with constant coefficients of the form ay" +by'+ cy = X where X is of the form e^x, sin x, cos x , X^2 , $e^{\propto x}$cos βx and $e^{\propto x}$sin βx .

UNIT II INTEGRAL CALCULUS 12

Bernoulli's formula, simple problems, Fourier series for functions in $(\propto, \propto+2\pi)$, Half range sine and cosine series.
Chapter 2, Section 2.7 and 2.9
Chapter 4, Section 4.1 to 4.2

UNIT III VECTOR DIFFERENTIATION: 12

Introduction, Scalar point functions, Vector point functions, Vector differential operator∇ Gradient, Divergence, Curl, Solenoidal, irrotational, identities. Chapter 8, Section 8.1 to 8.4.4

UNIT IV VECTOR INTEGRATION: **12**

Line, surface and volume integrals, Gauss, Stoke's and Green's theorems (without proofs)-Simple problems.
Chapter 8, Section 8.5 to 8.6.3

UNIT V ANALYTICAL GEOMETRY: **12**

Coordinates in space-Direction cosines of a line in space-angle between lines in space – equation of a plane in normal form. Angle between planes – Distance of a plane from a point.

Chapter 1: Sec 1.5 to 1.9, Chapter II Sec 2.1 to 2.3, Pages : 10-31.
Chapter 2: Sec 2.4 to 2.8 pages : 32-47 of [1].

TEXT BOOK:

1.Content and treatment as in Allied Mathematics Volume I and II by P. Duraipandian and S. Udayabaskaran, S. Chand Publications

REFERENCE BOOK:

1. S. Narayanan and T.K. Manickavasagam Pillai – Ancillary Mathematics, S. Viswanathan Printers, 1986, Chennai.

2. Allied Mathematics by Dr. A. Singaravelu
3. P.Duraipandian& others- Analytical Geometry 3 Dimensional – Edition.

Course Coordinator **HOD**

U18MCSA2L1	MAJOR PRACTICAL – II	L	T	P	C
	Total Contact Hours – 60	3	1	0	2
	Prerequisite course –Mathematics Studied in Higher Secondary studies				

	Course Coordinator Name & Department: - Dr.P.Sumathi/Mathematics

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on class equation, solvability of groups , finite abelian groups, linear transformations, real quadratic.

COURSE OUTCOMES (COs)

CO1	Understand the Fitting of discrete distributions and testing the goodness of fit
CO2	Understand the Fitting of continuous distributions and testing goodness of fit
CO3	Understand the Estimation of parameters by the method of moments and maximum likelihood
CO4	Understand the Derivation of confidence intervals
CO5	Understand theTest of Hypothesis
CO6	Understand the Non-parametric methods

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	1	2	3		
	CO2	3	2	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	3	2	1	1	1	2	3		
	CO6	3	2	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
						✓				
4	Approval	Academic Council Meeting								

1) Fitting of discrete distributions and testing the goodness of fit:
   a. Binomial distribution
   b. Poisson distribution
   c. Geometric distribution
   d. Negative Binomial distribution

2) Fitting of continuous distributions and testing goodness of fit:
   a. Normal distribution (Using Area and Ordinate methods)
   b. Exponential Distribution

3) Estimation of parameters by the method of moments and maximum likelihood for
   a. Binomial distribution
   b. Poisson distribution
   c. Normal distribution

4) Derivation of confidence intervals for the parameters of
    a. Binomial distribution
    b. Poisson distribution
    c. Exponential distribution
    d. Normal distribution

5) Test of Hypothesis:
    a. Power of the test
    b. Test of significance
        i. Mean
        ii. Difference of means and variance
        iii. Equality of two variances from normal distribution
        iv. Test of significance of correlation coefficients

6) Non-parametric methods:
    a. Sign test
    b. Signed rank test
    c. Median test
    d. Mann Whitney U-test
    e. Wald – Wolfowitz run test
    f. Test of randomness of sample

Course Coordinator **HOD**

U18HSCH201	**ENVIRONMENTA STUDIES**	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course –Higher Secondary studies				
	Course Coordinator Name & Department:- – Mrs. S. Vinitha / Chemistry				

COURSE OBJECTIVES:- To make the students learn about the science from the basic and understood all theoretical background with all concepts thoroughly to protect the habitat of biotic and abiotic ecosystem.										
COURSE OUTCOMES (COs)										
CO1	Gain the knowledge about the environmental impact and importance of natural Resources									
CO2	Understand about the Ecosystem, Biodiversity and its conservation									
CO3	Apply its properties and uses of Hydrocarbons and Alkynes									
CO4	Analyze the impact of population and Urbanization to affect the system of habitat loss									
CO5	Evaluate the Social issues by our conservation act									
CO6	Create the organic environmental approach to protect our habitat for the next generation.									
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low										
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	3	3	3	1	1	3		
	CO2	3	3	1	2	2	3	3		
	CO3	3	2	2	2	3	2	3		
	CO4	3	2	3	1	1	3	3		
	CO5	2	3	3	2	3	1	3		
	CO6	3	3	2	2	3	3	3		
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	Approval	47th Academic Council Meeting								

Unit – I: Introduction to Environmental Sciences: Natural Resources: 6

Environmental sciences – relevance – significance – public awareness – forest resources – water resources – mineral resources – food resources – conflicts over resource sharing – exploitation – land use pattern – environmental impact – fertilizer – pesticide Problems - case studies.

Unit – II: Exosystem, Biodiversity and its conservation: 6

Ecosystem – concept – structure and function – producers, consumers and decomposers –food chain – food web – ecological pyramids – energy flow – forest, grassland, desert and aquatic ecosystem – definition – genetic, species and ecosystem diversity – biodiversity – definition – genetic, species and ecosystem diversity – values and uses of biodiversity – biodiversity at global, national (india) and local levels – hotspots, threats to biodiversity –conservation of biodiversity – insitu and ex-situ.

Unit – III: Environmental Pollution and Management 6

Environmental pollution – causes – effects and control measures of air, water , marine, soil, solid waste. Thermal, nuclear pollution and disaster management – floods, earth quake, cyclone and land slides, role of individuals in prevention of pollution – pollution case studies.

Unit – IV: Social issues – Human population: 6

Urban issues – energy – water conservation – environmental ethics – global warming – resettlement and rehabilitation issues – environmental legislations – environmental production act. 1986 – air, water, wildlife and forest B.C.A.: syllabus (CBCS) conservation act - population growth and explosion – human rights and

value education – environmental health – HIV/AIDS – role of it in environment and human health – women and child welfare – public awareness – case studies.

Unit – V: Field Work: **6**

Visit to a local area / local polluted site / local simple ecosystem – report submission.

Text Book:

1. K. Kumarasamy, A. Alagappa Moses and M. Vesanthy, 2004, Environmental Studies, Bharathidasan University Pub, 1, Trichy.

Reference book:

1. Rajamannar, 2004, Environmental Studies, EVR College Pub, Trichy.
2. S. Kalavathy, (ED.) 2004, Environmental Studies, Bishop Heber College Pub., Trichy.

Course Coordinator **HOD**

U18HSBC202	**VALUE EDUCATION**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary level				

	Course Coordinator Name & Department:- Ms. G. Vinothini, Commerce

COURSE OBJECTIVES:-

- To enable the students to understand the Social values.
- To provide knowledge on the features for life.
- To acquire the knowledge on Human rights.
- To impart the knowledge on Environment and Ecological balance.
- To educate the knowledge on Social evils.

COURSE OUTCOMES (COs)

CO1	List out the Formation and Essential Elements of Contract.
CO2	Determine the Self esteem, duties and responsibilities of individuals, Social values
CO3	Apply to create peace and non violence and Dr. APJ Abdul Kalam's ten points for Enlightened citizenship
CO4	Determine the Environment and Ecological balance
CO5	Measure the Knowledge on Environmental conservations and enrichment
CO6	Formulate the awareness on Corruption, crime, terrorism, Alcoholism, Drug addiction, Dowry

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	1	2	3	2		
	CO2	3	2	3	2	1	3	3		
	CO3	3	1	2	2	3	3	1		
	CO4	2	3	3	3	3	1	3		
	CO5	3	2	3	2	2	1	3		
	CO6	2	2	3	3	3	3	1		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I **6**

Value education: Definition- relevance to present day – concept of human values – self introspection – Self esteem- duties and responsibilities of individuals- Social values- role of media in value building.

UNIT II **6**

Salient features for life: Truth, commitment,, honesty and integrity, forgiveness and love, empathy and ability to sacrifice, care, unity and inclusiveness, Team work- positive creative thinking.

UNIT III **6**

Human rights: Universal declaration of Human rights- human rights violation – National integration – peace and non violence – Dr. APJ Abdul Kalam's ten points for enlightened citizenship

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UNIT IV **6**

Environment and Ecological balance: Interdependent of all being – living and non living – the binding of man and nature – Environmental conservations and enrichment.

UNIT V **6**

Social evils : Corruption – cyber crime, terrorism, Alcoholism, Drug addiction, Dowry – Domestic violence – untouchability – female infanticide – atrocities against women – How to tackle them.

TEXT BOOK

1. N. Arumugam, S. Mohana, Lr. Palkani- value based education- Saras Publication, 2009
2. DN Ghose, Value Education- dominant publishers, 2005
3. M.G. Chitakra, Education and Human values, A.P.H Publishing Corporation. New Delhi

REFERENCE BOOKS

1) For Life, for the future: Reserves and Remains – UNESCO Publications.
2) Values, A Vedanta kesari presentations, Sri Ramakrishna Math, Chennai

Course Coordinator **HOD**

SEMESTER-III

U18HSTA301	**தமிழ்**- III	**L**	**T**	**P**	**C**
	மொத்தவகுப்புநேரம்- 45	3	0	0	3
	முன்நிபந்தனைபடிப்பு- + 2				
	பாடநெறிஒருங்கிணைப்பாளர்: முனைவர். த. கிறிஸ்டல்ரெஜி&தமிழ்த்துறை				

பாடத்தின்நோக்கம்:- காப்பியஇலக்கியம்மற்றும்நீதிஇலக்கியத்தைஅறியச்செய்தல்

பாடத்தின்விளைவுகள்(பா.வி.) [COURSE OUTCOMES (COs)]

CO1	ஐம்பெரும்காப்பியங்களில்சிலப்பதிகாரம், மணிமேகலை, சீவகசிந்தாமணிபற்றிஅறிவர்
CO2	பிற்காலகாப்பியங்களில்கம்பராமாயணம், தேம்பாவணி, சீறாப்புராணம்பற்றிஅறிவர்
CO3	முக்காலநீதிஇலக்கியங்களில்திருக்குறள், நாலடியார், இனியவைநாற்பதுபற்றிஅறிவர்
CO4	பிற்காலநீதிஇலக்கியங்களில்மூதுரை, நன்னெறி, ஆத்திசூடிபற்றிஅறிவர்
CO5	காப்பியம்மற்றும்நீதிஇலக்கியவரலாற்றைப்பற்றிஅறிவர்
CO6	காப்பியம், நீதிஇலக்கியம்பற்றியதெளிவானஅறிவைப்பெறுவர்

பாடத்தின்விளைவுகளுடன்(Cos) பாடநெறிமுடிவுகளை(POs)
வரைபடமாக்குதல்(1/2//3 தொடர்புகளின்வலிமையைக்குறிக்கிறது)
3- அதிகபட்சம், 2-நடுத்தரம், 1- குறைந்தபட்சம்

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	1	2	3	3	1	3		
	CO2	3	1	1	3	3	1	3		
	CO3	3	1	1	3	3	1	3		
	CO4	3	1	2	3	3	1	3		
	CO5	3	1	2	3	3	1	3		
	CO6	3	1	1	3	3	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/
		✓								
4	**Approval**	Academic Council Meeting								

அலகு1 **9**

சிலப்பதிகாரம் -இளங்கோவடிகள்- அடைக்கலக்காதை - 115-148, 201-219
மணிமேகலை - சீத்தலைச்சாத்தனார்-ஆபுத்திரன்திறம்அறிவித்தகாதை-1 - 115
சீவகசிந்தாமணி - திருத்தக்கத்தேவர்- குணமாலையார்இலம்பகம் - 851 - 860

அலகு2 **9**

கம்பராமாயணம்- **கம்பர்**- அயோத்தியகாண்டம்- கங்கைப்படலம் - 10
தேம்பாவணி - வீரமாமுனிவர்- நாட்டுப்படலம் - 10
சீறாப்புராணம் -உமறுப்புலவர்-நுபூவத்துக்காண்டம்-மானுக்குப்பிணைநின்றபடலம்- 1- 10

அலகு3 **9**

திருக்குறள் - திருவள்ளுவர்- கல்வி - 1 - 10
நாலடியார் - பொருட்பால் - நட்பாராய்தல் - 1 - 10
இனியவைநாற்பது - பூதஞ்சேந்தனார் - 1 – 10

அலகு4 **9**

மூதுரை - அவ்வையார் - 1- 10
நன்னெறி - சிவப்பிரகாசர் - 8,12,18,24,39
புதியஆத்திசூடி - பாரதியார் - 1- 25

அலகு5 **9**

காப்பியஇலக்கியவரலாறு- நீதிஇலக்கியவரலாறு

பார்வைநூல்கள்:

1. சு.ஆனந்தன், "தமிழ்இலக்கியவரலாறு", பாரிநிலையம், 2018
2. ந.மு.வேங்கடசாமிநாட்டார், "சிலப்பதிகாரம்மூலமும்உரையும்", ராமையாபதிப்பகம், 2010
3. புலியூர்க்கேசிகன், "மணிமேகலைமூலமும்உரையும்", சாரதாபதிப்பகம், 2017
4. ஆசிரியர்குழு, "சீவகசிந்தாமணிமூலமும்உரையும்", சாரதாபதிப்பகம், 2015
5 அ.ச.ஞானசம்பந்தன், "கம்பராமாயணம்மூலமும்உரையும்", நியூசெஞ்சுரிபுக்ஹவுஸ், 2010
6. வீரமாமுனிவர், "தேம்பாவணிமூலமும்உரையும்", சாரதாபதிப்பகம், 2014
7. செய்குத்தம்பிபாவலர், "சீறாப்புராணம்மூலமும்உரையும்", யுனிவர்சல்பப்ளிஷர்ஸ், 2010
8. கலைஞர்மு.கருணாநிதி, "திருக்குறள்கலைஞர்உரை", திருமகள்நிலையம், 2010
9. பத்மதேவன், "நாலடியார்மூலமும்உரையும்", கற்பகம்புத்தகாலயம், 2010
10. தமிழ்ப்பிரியன், "இனியவைநாற்பதுமூலமும்.உரையும்", கற்பகம்புத்தகாலயம், 2007
11. ந.மு.வேங்கடசாமிநாட்டார், "மூதுரைபதவுரையும்பொழிப்புரையும்", ராதாபதிப்பகம், 2010
12. கதிர்முருகு, "நன்னெறிமூலமும்உரையும்", சாரதாபதிப்பகம், 2016
13. அ.சீனிவாசன், "பாரதியின்புதியஆத்திச்சூடி: ஒருவிளக்கவுரை" , 1999

U18HSFR301	**FRENCH**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department: -Ms. Tushita Naidu K /Département De Française				
COURSE OBJECTIVES: - To develop the technical aspects of the language and varied grammatical nuances to interpret the subject matter.					
COURSE OUTCOMES (COs)					
CO1	To impart the various aspects that makeup the language.				

CO2	To learn some facts, procedures, practice certain grammatical structures, and practice communicative strategies.
CO3	To learn the culture of the language natives.
CO4	To analyse the differences between the basic and advanced grammar.
CO5	To remember the interlink between the conjugations
CO6	To understand grammatical strictures.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	2	1	1	1	3		
	CO2	3	3	3	3	2	1	3		
	CO3	3	3	3	1	3	1	3		
	CO4	2	3	3	1	1	1	3		
	CO5	3	3	3	1	1	2	3		
	CO6	3	3	3	2	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I Vivementdemain! **9**

Le future- La comparaison des qualities, des quantities et des actions

UNIT II Le Tu as du boulot? **9**

Le pronom (en)-Le pronom (Y)-Expression de la condition

UNIT III -Qu'enpensez - vous? **9**

Le subjonctif (employ lie a quelques verbs)- Expression de la quantite (poids et mesure-evaluation-restriction)

UNIT IV - C'est tout un programme! **9**

Les propositions relatives introduites par (qui, que, ou)-Les adverbs (place, formation des adverbs en-ment)-La forme ((en + participle present))

UNIT V On se retrouve ! **9**

Emploi et conjugaison des quatre temps de l'indicatif quatre temps de l'indicatif:--passe recent--Present - Passe compose-Imparfait et future

TEXT BOOKS:

A2 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator **HOD**

U18HSHI301	**HINDI**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department:-Mrs Rani Selvan / Hindi				
COURSE OBJECTIVES:- To understand and improve the skills in the Language of Hindi					
COURSE OUTCOMES (COs)					
CO1	Remember of Ramayana in Panchavati part				

CO2	Understand the history of Hindi literature
CO3	Apply the concept of Hindi grammatical speech
CO4	Analyzeand develop the translation skills
CO5	Evaluate and develop the unseen passage skills
CO6	Create the skills in Hindi language

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	3	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	2	1	3	1	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I **09**
POETRY - PANCHAVATI

UNIT II **09**
HISTORY OF HINDI LITERATURE - Aadi Kaal and Bhakthi Kaal - general knowledge of the trends of the difference streams

UNIT III **09**
ALANKAR – Anupras – Yamak- Slesh - VakrokthiUpama – Rupak – Drishtanth - Virodhabas.

UNIT IV **09**
TRANSLATION - HINDI – ENGLISH

UNIT V **09**
COMPREHENSION

Text Books:
By MaithilisharanGupt, AnuvadhAbhyas – III

Reference Books:
Publisheres - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator **HOD**

U18HSEN302	**ENGLISH- III**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator : Mrs.B.JANUA SHERLY& Department of English				
COURSE OBJECTIVES:-To enable them to realize the value of language, communicate effectively and develop career skills.					
COURSE OUTCOMES (COs)					
CO1	Remember the value of LSRW skills.				

CO2	Understand the language skills and know the accuracy of writing skill
CO3	Apply the significance and learn how to write resume, official letters and reports
CO4	Analyze their personality traits and develop interpersonal skills for a better career in life
CO5	Evaluate the knowledge and write resume official letters and reports
CO6	Create differentiate various official letters and reports and the language to be used in E-mails, Business letters etc.
Category	HS

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	3	3	3	3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	2	3	3	2	2	3		
	CO4	2	2	2	2	2	2	2		
	CO5	3	3	2	2	2	3	3		
	CO6	3	3	3	3	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	**Approval**	Academic Council Meeting								

UNIT 1-LISTENING SKILLS **9**

Types of Listening (Theory / Definition) -Tips for Effective Listening -Academic Listening (Lectures) - Listening to Radio and Television

UNIT 2-TELEPHONE SKILLS **9**

Basics of Telephone communication -How to handle calls- telephone manners -Leaving a message -Making requests -Greeting and Leave Taking over phone (etiquette) - Handling the situations especially trouble shooting Teleconference - handling Tele interviews for Call Centers

UNIT 3-WRITING SKILLS **9**

Standard Business letter - Report writing- Email drafting and Etiquettes - Preparing Agenda and writing minutes for meetings - Making notes on Business conversations

UNIT 4 -CAREER SKILLS **9**

Applying for job -Cover letters -Resume and Effective Profiling - Interviews - Group discussions

UNIT 5 –PERSONAL SKILLS 9

Empathy(Understanding of someone else points of view) -Intrapersonal skills -Interpersonal skills- Problem solving

TEXT BOOKS:

1. Improve Your IELTS Listening and Speaking Skill by Barry Cusack,2007

2. Roche Marc, "Advanced English Writing Skills: Masterclass for English Language, Roche Publishing ESL, 2019

REFERENCE BOOKS:

1. Frederick H. Wentz, "A Workbook to Develop Skills For Employment", Createspace Independent Pub,2012

2. S.P.Dhanavel, "English and Soft Skills", Orient BlackSwan, First edition, 2010

CourseCoordinator **HOD**

U18MCSA301	**DISTRIBUTION THEORY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department: - Ms.P.S.Sharmila/Mathematics				
COURSE OBJECTIVES: - To introduce the concepts and develop working knowledge on class equation, solvability of groups , finite abelian groups, linear transformations, real quadratic forms					

COURSE OUTCOMES (COs)	
CO1	To develop Probability distribution function and its Properties
CO2	Understand the Continuous distributions
CO3	To gain the concept of Continuous distributions
CO4	Understand the usage of Derivation of their density functions and their properties
CO5	Understand Poisson distribution as a limiting case of Binomial
CO6	To Know the convergence of distribution

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	2	3		
	CO2	3	3	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	2	2	1	1	1	2	3		
	CO6	3	3	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I PROBABILITY DISTRIBUTION FUNCTION AND ITS PROPERTIES 12

Probability distribution function and its Properties - Points of infinite discontinuity of probability distribution functions - Derivations of probability density functions of transformations of one-dimensional random variables - Derivations of probability density functions only with respect to sum, difference, product and quotient of two-dimensional random variables.

UNIT II DISCRETE DISTRIBUTIONS 12

Discrete distributions: Binomial, Trinomial and Multinomial distributions and their properties - Poisson, Negative Binomial and Geometric distributions and their properties.

UNIT III C 12

c: Normal, Uniform, Exponential and their properties.

UNIT IVSAMPLING DISTRIBUTIONS 12

Sampling distributions : Chi-square, Student's t and F distributions - Derivation of their density functions and their properties.

UNIT V- LIMITING DISTRIBUTIONS **12**

Basic Central Limit Theorem (statement only) - Limiting distributions : Poisson distribution as a limiting case of Binomial - Poisson distribution as a limiting case of Negative Binomial distribution - Convergence of Binomial, Poisson, Gamma and Chi-square distribution to Normal distribution using Moment generating function, Limiting form of t distribution - Convergence of F distribution to Chi-square distribution.

TEXT BOOK:

1. Gupta, S. C and Kapoor, V. K (2002), **Fundamentals of Mathematical Statistics**, Sultan Chand and Sons, New Delhi.

REFERENCE BOOK:

1. Hogg, R. V and Craig, A. T (2002), Introduction to Mathematical Statistics, Pearson Education Asia, India.

Course Coordinator **HOD**

U18MCSA302	**NUMERICAL ANALYSIS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department: - Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on class equation, solvability of groups, finite abelian groups, linear transformations, real quadratic forms..

COURSE OUTCOMES (COs)	
CO1	Understand to develop Properties of operators E and Δ
CO2	Understand the Central differences interpolation formulae
CO3	Gain the concept of Numerical differentiation by Newton's Forward
CO4	To Know the usage of Numerical Integration- Trapezoidal Rule
CO5	Understand the Numerical Solution of ordinary differential equations
CO6	To equip the students on the knowledge of modified methods

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	2	3		
	CO2	3	3	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	2	2	1	1	1	2	3		
	CO6	3	3	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I FINITE DIFFERENCES **12**

Finite differences – Introduction, Properties of operators E and Δ - Estimation of one or more missing values, Newton's Forward, Backward (for equal intervals) and Lagrange's Formulae.

UNIT II INTERPOLATION **12**

Central differences interpolation formulae - Gauss forward, Gauss Backward Stirling's and Bessel's formulae.

UNIT III NUMERICAL DIFFERENTIATION **12**

Numerical differentiation by Newton's Forward and Newton's Backward, Gauss Forward, Gauss Backward and Bessel's formulae (up to 2nd order).

UNIT IV NUMERICAL INTEGRATION **12**

Numerical Integration- Trapezoidal Rule, Simpson's $1/3^{rd}$ Rule, Simpson's $3/8^{th}$ Rule and Weddle's rules.

UNIT VNUMERICAL SOLUTION **12**

Numerical Solution of ordinary differential equations - Taylor series method, Euler's Method, Modified Euler method and Fourth order Runge-Kutta Method.

TEXT BOOK:

1.Sastry.S.S., "Introduction Methods of Numerical Analysis", Prentice –Hall of India, 3rd Edition.(2000)

REFERENCE BOOK:

1.E.Balagusamy, "Numerical Methods", Tata McGraw Hill Publishing Company Limited, New Delhi.(2004)
2. Kandasamy.P, K.Thilagavathy, and K.Gunavathy, "Numerical Methods" S.Chand& Co, New Delhi (2007)
3. Dixit J.B. "Numerical Methods". University Science Press, New Delhi, (2010).

Course Coordinator **HOD**

U18NCSA301	**MANAGERIAL ECONOMICS DEMOGRAPHY – I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department: - Ms.P.S.Sharmila/Mathematics				

COURSE OBJECTIVES: - To introduce the concepts and develop working knowledge on class equation, solvability of groups , finite abelian groups, linear transformations, real quadratic forms	
COURSE OUTCOMES (COs)	
CO1	Understand to develop Sources of health statistics
CO2	Understand the Method of collecting demographic data
CO3	To gain the concept of Measures of Fertility
CO4	Understand the usage of Demography: Population growth – Age
CO5	Understand Population growth and change
CO6	To Know concept of geometric progression method

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	2	3		
	CO2	3	3	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	2	2	1	1	1	2	3		
	CO6	3	3	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
						✓				
4	Approval	Academic Council Meeting								

UNIT I HEALTH STATISTICS **12**

Health Statistics: Introduction – Utilization of basic data - Sources of health statistics -Problems in the collection of sickness data - Measurements of sickness - Hospital statistics- The international classification of diseases.

UNIT IIDEMOGRAPHIC DATA **12**

Sources of Demographic data - Method of collecting demographic data : Census, Registration and Survey methods – Extent of under registration - Measures of mortality rates : Crude Death Rate - Specific death rate – Infant mortality rate - Neonatal mortality rate - Foetal death rate - Maternal mortality rate – Causes of death - Direct and indirect standardization of death rates.

UNIT IIIMEASURES OF FERTILITY **12**

Measures of Fertility: Crude Birth Rate (CBR) - General and specific fertility rates - General Marital Fertility Rate (GMFR) - Age specific fertility rate - Total fertility rate - Gross reproduction rate - Net reproduction rate – Life tables - Uses of life tables.

UNIT IVDEMOGRAPHY **12**

Demography: Population growth - Age and sex composition - Dependency ratios.

UNIT VPOPULATION GROWTH AND CHANGE **12**

Population growth and change: Introduction – Population estimation - The method of natural increase - The arithmetic progression method - The geometric progression method - Linear growth curve - Modified exponential curve - Gompertz curve - Logistic curve.

TEXT BOOK:

1. Sundar Rao, P. S. S and Richard, J (1999), **An Introduction to Bio-Statistics**, Prentice Hall of India, New Delhi.
2. Gupta, S. C and Kapoor, V. K (2001), **Fundamentals of Applied Statistics,** Sultan Chand and sons, New Delhi.
3. Baskar, D. Misra (2000), **An introduction to the Study of Population**, South Asian Publishers Pvt. Ltd.

Course Coordinator **HOD**

U18MCSA3L1	**MAJOR PRACTICAL – III**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	3	1	0	2

	Prerequisite course –Mathematics Studied in Higher Secondary studies
	Course Coordinator Name & Department: - Ms.L.Radhika/Mathematics

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on class equation, solvability of groups , finite abelian groups, linear transformations, real quadratic forms.

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COURSE OUTCOMES (COs)	
CO1	Understand to develop Formulation of an LPP
CO2	Understand the Testing for Optimality using MODI method
CO3	To know the concept of Hungarian Algorithm
CO4	Understand the usage of Sequencing Problem
CO5	Understand the Determination of Floats
CO6	To gain the Knowledge on Critical Path

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	2	3		
	CO2	3	3	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	2	2	1	1	1	2	3		
	CO6	3	3	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
						✓				
4	Approval	Academic Council Meeting								

I. Operations Research

1) Linear Programming Problems:
    a) Formulation of an LPP
    b) Graphical Method of Solution
    c) Simplex Method
    d) Big-M method
    e) Two-Phase Method
    f) Duality
2) Transportation Problems:

a) Initial Basic Feasible Solutions by
North West Corner Rule, Least Cost Method and

Vogel's Approximation Method

b) Testing for Optimality using MODI method

3) Assignment Model:
   a) Hungarian Algorithm
4) Sequencing Problem:
   a) **n** jobs through two machines
   b) **n** jobs through three machines
   c) **n** jobs through **m** machines
5) Game theory:
   a) Saddle point strategy
   b) Algebraic Method of solving a 2 X 2 game
   c) Dominance Property
   d) Graphical solution for 2 X n and m X 2 games
   e) Solving game using Linear Programming Method
6) PERT and CPM:
   a) Determination of Floats and Critical Path
   b) Determination of Mean and Variance and hence PERT.

II. Sampling Theory

1) Simple random sampling and Estimates
2) Stratified random sampling and Estimates
3) Optimum and proportional allocations
4) Systematic sampling and Estimates
5) Single stage Cluster sampling

III. Regression Analysis

1) Calculation of partial and multiple correlation coefficients
2) Fitting of multiple regression equations
3) Testing goodness of fit

* A minimum of 40 exercises to be done covering all the above topics.

Course Coordinator **HOD**

U18NETA301	பாடத்தின்பெயர்:**அடிப்படைத்தமிழ்- I**	**L**	**T**	**P**	**C**
	மொத்தவகுப்புநேரம்- 30	2	0	0	2
	முன்நிபந்தனைபடிப்பு- + 2				
	பாடநெறிஒருங்கிணைப்பாளர்: திருமதி. அ.கோ.ஸ்ரீதேவி&தமிழ்த்துறை				

பாடத்தின்நோக்கம்:- தமிழ்மொழியினைப்பயிற்றுவித்தல்	
பாடத்தின்விளைவுகள்(பா.வி.) [COURSE OUTCOMES (COs)]	
CO1	தமிழ்எழுத்துக்களில்உயிர்எழுத்துக்களைஅறிவர்
CO2	தமிழ்எழுத்துக்களில்மெய்எழுத்துக்களைஅறிவர்
CO3	தமிழில்எண்கள், நாட்கள்பற்றிஅறிவர்
CO4	தமிழ்மாதங்கள்பற்றிஅறிவர்
CO5	உறவுமுறைபெயர்களைப்பற்றிஅறிவர்
CO6	தமிழ்மொழியைஅறியாதவர்கள்தமிழைஎழுதபடிக்கத்தெரிந்துகொள்வர்

பாடத்தின்விளைவுகளுடன்(Cos) பாடநெறிமுடிவுகளை(POs)
வரைபடமாக்குதல்(1/2//3 தொடர்புகளின்வலிமையைக்குறிக்கிறது)
3- அதிகபட்சம், 2- நடுத்தரம், 1- குறைந்தபட்சம்

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	1	3	1	1	1	1	2		
	CO2	1	3	1	1	1	1	2		
	CO3	1	3	1	1	1	1	2		
	CO4	1	3	1	1	1	1	2		
	CO5	1	3	1	1	1	1	2		
	CO6	1	3	1	1	1	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/
							✓			
4	**Approval**	Academic Council Meeting								

அலகு**1** **10**
தமிழ்எழுத்துக்களைஅறிமுகம்செய்தல்- உயிர்எழுத்துக்கள், மெய்எழுத்துக்கள்
அலகு**2** **10**
குறில், நெடில்எழுத்துக்கள், வல்லினம், மெல்லினம், இடையினம்
அலகு**3** **10**
எண்கள்- ஒன்றுமுதல்ஐம்பதுவரை, பத்துஇலக்கஎண்கள், நூறுஇலக்கஎண்கள், ஆயிரயிலக்கஎண்கள்
தமிழில்நாட்கள், தமிழ்மாதங்கள், ஆங்கிலமாதங்கள்
உறவுமுறைபெயர்கள்- பெயர்சொற்கள்- வினைச்சொற்கள்
பார்வைநூல்கள்**:**
1. என்.ஹெச்.எம், "தமிழ்எழுத்துகள்", புரோடிஜிதமிழ், 2009
2. அருணா, "என்சுவடிவாய்பாடு", அருணாபப்ளிகேசன்ஸ்

U18NETA302	**சிறப்புத்தமிழ் – I**	**L**	**T**	**P**	**C**
	மொத்தவகுப்புநேரம்- 30	2	0	0	2
	முன்நிபந்தனைபடிப்பு- + 2				
	பாடநெறிஒருங்கிணைப்பாளர்: முனைவர். ஜெ.அந்தோணிஜெயஷீலா&தமிழ்த்துறை				

பாடத்தின்நோக்கம்:- தமிழர்நாகரீகம்பண்பாடுபற்றிஅறியச்செய்தல்	
பாடத்தின்விளைவுகள்(பா.வி.) [COURSE OUTCOMES (COs)]	
CO1	பழங்காலதமிழரின்சமூகஅமைப்பைப்பற்றிஅறிவர்
CO2	பண்டைத்தமிழர்திருமணமுறைநல்லறம்- குடும்பவாழ்வுபற்றிஅறிவர்
CO3	பண்டைத்தமிழரின்கல்வி, வானியல்அறிவுபற்றிஅறிவர்
CO4	தமிழரின்உணவு, உடை, உறையுள்- சங்ககாலவிழாக்கள்பற்றிஅறிவர்
CO5	பண்டைத்தமிழரின்கல்வி, வானியல்அறிவுபற்றிஅறிவர்
CO6	தமிழர்நாகரீகம்பண்பாடுபற்றிஅறிவர்

பாடத்தின்விளைவுகளுடன்(Cos) பாடநெறிமுடிவுகளை(POs)
வரைபடமாக்குதல்(1/2//3 தொடர்புகளின்வலிமையைக்குறிக்கிறது)
3- அதிகபட்சம், 2- நடுத்தரம், 1- குறைந்தபட்சம்

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	2	3	2	3	1	3		
	CO2	3	2	3	2	3	1	3		
	CO3	3	2	3	2	3	1	3		
	CO4	3	2	3	2	3	1	3		
	CO5	3	2	3	2	3	1	3		
	CO6	3	2	3	2	3	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/
							✓			
4	**Approval**	Academic Council Meeting								

அலகு**1** **10**
நாகரிகமும்பண்பாடும்- சங்ககாலத்துஅரசியல்நிலை- சங்ககாலத்தொழிற்பிரிவினரும்சமூகஅமைப்பும்- மகளிர்நிலை

அலகு**2** **10**
பண்டைத்தமிழர்திருமணமுறைநல்லறம்- குடும்பவாழ்வுபற்றியதமிழர்கொள்கை- பண்டையத்தமிழரின்உணவு, உடை, உறையுள்- சங்ககாலவிழாக்கள்

அலகு**3** **10**
பண்டைத்தமிழரின்கல்விநிலை- பண்டைத்தமிழரின்வானியல்அறிவு- பண்டைத்தமிழரின்விளையாட்டும்பொழுதுபோக்கும்- மருத்துவக்கலை

பாடநூல்**:**
1. அ.தட்சிணாமூர்த்தி, "தமிழர்நாகரிகமும்பண்பாடும்",ஐந்திணைப்பதிப்பகம், 2017

பார்வைநூல்கள்:
1. ஞா.தேவநேயப்பாவாணர், "பண்டைத்தமிழர்நாகரிகமும்பண்பாடும்", பூம்புகார்பதிப்பகம், 2017
2. கேகேபிள்ளை, "தமிழகவரலாறுமக்களும்பண்பாடும்", உலகத்தமிழாராய்ச்சிநிறுவனம், 2015

Course Coordinator **HOD**

SEMESTER IV

U18HSTA401	**தமிழ்**- IV	**L**	**T**	**P**	**C**
	மொத்தவகுப்புநேரம்- 45	3	0	0	3
	முன்நிபந்தனைபடிப்பு- + 2				
	பாடநெறிஒருங்கிணைப்பாளர்: முனைவர். த. கிறிஸ்டல்ரெஜி&தமிழ்த்துறை				

பாடத்தின்நோக்கம்:- சங்கஇலக்கியத்தைப்பற்றிஅறியச்செய்தல்	
பாடத்தின்விளைவுகள்(பா.வி.) [COURSE OUTCOMES (COs)]	
CO1	எட்டுத்தொகையில்நற்றிணை, குறுந்தொகை, கலித்தொகைஇலக்கியங்களைஅறிவர்
CO2	எட்டுத்தொகையில்புறநானூறு, பதிற்றுப்பத்துஇலக்கியங்களைஅறிவர்
CO3	பத்துப்பாட்டுஇலக்கியத்தில்பொருநராற்றுப்படை, பெரும்பாணாற்றுப்படைபற்றிஅறிவர்
CO4	பத்துப்பாட்டில்நெடுநல்வாடை, பட்டினப்பாலை, முல்லைப்பாட்டுபற்றிஅறிவர்
CO5	எட்டுத்தொகை, பத்துப்பாட்டுஇலக்கியவரலாற்றைஅறிவர்
CO6	சங்கஇலக்கியத்தைப்பற்றியஉயரியசிந்தனையைப்பெறுவர்

பாடத்தின்விளைவுகளுடன்(Cos) பாடநெறிமுடிவுகளை(POs)
வரைபடமாக்குதல்(1/2//3 தொடர்புகளின்வலிமையைக்குறிக்கிறது)
3- அதிகபட்சம், 2- நடுத்தரம், 1- குறைந்தபட்சம்

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	2	1	1	3	1	3		
	CO2	3	2	1	1	3	1	3		
	CO3	3	2	2	1	3	1	3		
	CO4	3	2	1	1	3	1	3		
	CO5	3	2	2	1	3	1	3		
	CO6	3	2	1	1	3	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/
		✓								
4	**Approval**	Academic Council Meeting								

அலகு**1** **9**

நற்றிணை	-	10, 110, 129
குறுந்தொகை	-	8, 25, 32
கலித்தொகை	-	6, 37, 51

அலகு**2** **9**

புறநானூறு	-	89, 109, 204
பதிற்றுப்பத்து	-	42,46,49(5ம்பத்து)

அலகு**3** **9**

பொருநராற்றுப்படை	-	151 - 213
பெரும்பாணாற்றுப்படை	-	5 - 15,
	-	170 - 184

அலகு**4** **9**

நெடுநல்வாடை	-	1 - 25
பட்டினப்பாலை	-	106 - 158
முல்லைப்பாட்டு	-	1 - 28

அலகு**5** **9**

எட்டுத்தொகைவரலாறு- பத்துப்பாட்டுவரலாறு

பார்வைநூல்கள்**:**

1. வேங்கடராமன், "நற்றிணைமூலமும்உரையும்", உ.வே.சாநூல்நிலையம்,2013
2. புலியூர்க்கேசிகன், "குறுந்தொகைமூலமும்உரையும்", சாரதாபதிப்பகம், 2010
3. புலியூர்க்கேசிகன், "கலித்தொகைமூலமும்உரையும்", சாரதாபதிப்பகம், 2015
4. புலியூர்க்கேசிகன், "புறநானூறுமூலமும்உரையும்", சாரதாபதிப்பகம், 2010
5. ஔவைசு.துரைசாமிப்பிள்ளை, "பதிற்றுப்பத்துமூலமும்உரையும்", சாரதாபதிப்பகம், 2008
6. கதிர்முருகு, "பத்துப்பாட்டுமூலமும்உரையும்", சாரதாபதிப்பகம், 2010
7. ச.வே.சுப்ரமணியம், "சங்கஇலக்கியம்", மணிவாசகர்பதிப்பகம், 2006

Course Coordinator **HOD**

U18HSFR401	**FRENCH**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department: -Ms. Tushita Naidu K /Département De Française				
COURSE OBJECTIVES: - To introduce students to the advanced levels of the language.					
COURSE OUTCOMES (COs)					
CO1	To learn the culture of the language natives in advanced setup.				
CO2	To understand the integral grammar structure in French.				
CO3	To encourage the development of skills in linguistics				

CO4	To evaluate the Oral and Written skill set
CO5	To remember the language construction
CO6	To enhance advanced fluency in language

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	3	1	1	1	3		
	CO2	3	3	3	1	2	2	3		
	CO3	3	3	3	1	3	1	3		
	CO4	3	3	3	1	1	1	3		
	CO5	3	3	3	2	1	2	3		
	CO6	3	3	3	1	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I Vousplaisantez! **9**

Le conditionnel present -expression de l'hypothese-demandes polies-suggestions et conseils

UNIT II On s'entend bien! **9**

Les constructions du discours rapport-Les constructions (faire + verbe)-et (laisser + verbe)

UNIT III A vos risqué et perils! **9**

Le subjonctif Present- La construction passive pour metreenvaleurl'object direct de l' action

UNIT IV C'est tout un programme! **9**

Les pronom possessives -Les adjectifs et les pronomsindefinis-Les pronomdemonstratifs:
Les constructions --celui+de

UNIT V C'est la fete ! **9**

Les fornes de l'appreciation : trop/ pas assez –si-Les constructions verbe+verbes

TEXT BOOKS:

A2 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator **HOD**

U18HSHI401	HINDI	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department:-Mrs Rani Selvan / Hindi				
COURSE OBJECTIVES:- To understand and improve the skills in the Language of Hindi					
COURSE OUTCOMES (COs)					
CO1	Rememberthe skills of the leadership				
CO2	Understand and develop the skills to overcome the mistake				
CO3	Apply the concept of Hindi essay writing				

CO4	Analyzeand develop the translation skills
CO5	Evaluate the unseen passage skills
CO6	Create and develop the Hindi language skills

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	1	1	3		
	CO2	3	3	1	2	2	1	3		
	CO3	3	3	2	1	3	1	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	2	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I **09**
DRAMA – Andher Nagari

UNIT II **09**
NOVEL - GABAN - Premchand

UNIT III **09**
GENERAL ESSAY

UNIT IV **09**
TRANSLATION - HINDI – ENGLISH

UNIT V **09**
COMPREHENSION

Text Books:

ByBharathenduHarischandra**,**Veerendra Kumar Mishra, AnuvadhAbhyas – III

Reference Books:

UNIT 1 - Publisher–Vani Prakashan, New Delhi – 110 002.
UNIT II – Publisher - RajkamalPrakashan, New Delhi – 110 002
UNIT III – AadarshNibnandh, VinodhPustak Mandir, Hospital Road, Agra -282002
UNIT IV - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17
UNIT V - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator **HOD**

U18HSEN402	**ENGLISH- IV**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator :Ms.E.REKHA& Department of English				
COURSE OBJECTIVES:- To understand the literature, and there by improve their language and communication skills					
COURSE OUTCOMES (COs)					
CO1	Remember the basic concepts of English literature				
CO2	Understand the literature and beauty of language				

CO3	Apply the themes and values by executing the comprehensive ability in Reading.
CO4	Analyse the grammar and the literary texts.
CO5	Evaluate the characters and the genre prescribed.
CO6	Create comprehensive essays efficiently.
Category	HS

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	2	2	2	3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	2	2	2	2	2	2		
	CO4	3	3	3	2	2	2	2		
	CO5	3	3	3	2	2	2	2		
	CO6	2	2	2	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Eng Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	**Approval**	Academic Council Meeting								

UNIT 1 - PROSE **9**

Lalajee – Jim Corbett – Author Biography – Plot – Theme - Summary - Critical analysis; **Face of Judas**– Bonnie Chamberlin - Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2 - POETRY **9**

Laugh and Be Merry– **John Masefield** – Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis; **Matilda - Hilaire Belloc**- Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis.

UNIT 3: SHORT STORIES **9**

Hunchback Sundari – **C.RajaGopalachari** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Eyes Are Not There- Ruskin Bond**-Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT 4: ONE-ACT PLAYS **9**

Macbeth Soliloquy – **Out, Out, Brief Candle - Shakespeare** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **Julius Ceasar - Anthony's Funeral Speech** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT 5: FUNCTIONAL ENGLISH **9**

Wh – Questions - Pattern – Active and Passive voice – usage of passive voice – structure of passive verb; Modal verbs – Tenses.

TEXT BOOKS:

1. Corbett, "My India", Rupa Publications India Pvt. Ltd., 2018
2. Stories of Innocent by C.Rajagopalachari,BharathiyaVidya Bhavan,2009
3. Shakespeare, "Macbeth",Macmillan Publisher,2014

REFERENCE BOOKS:

1. Shakespeare – The Complete Work; Wilco Publishing House, Mumbai, India. 2005
2. Hilaire Belloc, "Matilda", Random House UK, 1994

CourseCoordinator **HOD**

U18MCSA401	**THEORY OF ESTIMATION**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department: - Dr.P.Sumathi/Mathematics				

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on class equation, solvability of groups , finite abelian groups, linear transformations, real quadratic forms.

COURSE OUTCOMES (COs)

CO1	Understand to develop the problem of estimation of population characteristics

CO2	Understand the Condition for MVB estimators to exists
CO3	Gain the concept of Consistent estimators
CO4	Understand the usage of Completeness
CO5	To know the bounded completeness of class of pdfs
CO6	Understand Definition of confidence intervals

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	2	3		
	CO2	3	3	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	2	2	1	1	1	2	3		
	CO6	3	3	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT IPROBLEM OF ESTIMATION OF POPULATION CHARACTERISTICS 12

The problem of estimation of population characteristics - Definition of Estimator - Properties of a good estimator - Definition of Unbiased Estimator - Bias of an estimator - The relation between the mean square error and variance of an estimator - Asymptotically unbiased estimator - Minimum Variance Unbiased estimator - Uniqueness of MVU Estimator.

UNIT IIINFORMATION FUNCTION 12

The information function and its importance - The Rao-Cramer Inequality for the variance of an unbiased estimator and its importance - MVB estimators - Condition for MVB estimators to exist.

UNIT III CONSISTENT ESTIMATORS 12

Consistent estimators - Properties of consistent estimators - Sufficient condition for an estimator to be consistent - Moment estimators and Maximum Likelihood estimators - Properties of Maximum Likelihood estimators (without proof).

UNIT IV COMPLETENESS AND BOUNDED COMPLETENESS OF CLASS OF PDFS 12

Completeness and bounded completeness of class of pdfs - Definition of sufficient statistic and complete sufficient statistics - The factorization theorem on sufficient statistic - The Rao–Blackwell

theorem and its applications - The Lehman-Scheffe theorem - Simple problems on Lehman-Scheffe theorem.

UNIT V INTERVAL ESTIMATION **12**

Interval Estimation : Definition of confidence intervals - Construction of confidence interval for the population mean when the variance is known and the construction of confidence interval for the population variance when the mean is known, in the case of univariate normal distribution - Construction of confidence interval for the difference of means of two independent normal populations having common unknown variance - Derivation of confidence intervals for the ratio of variances of two independent normal populations.

TEXT BOOK:

1. Gupta, S. C and Kapoor, V. K (2002), **Fundamentals of Mathematical Statistics**, Sultan Chand and Sons, New Delhi.
2. Hogg, R. V and Craig, A. T (2002), **Introduction to Mathematical Statistics,** Pearson Education Asia, India.
3. Mood, A. M, Graybill, F. A and Boes, D. C (1998), **Introduction to the Theory of Statistics**, McGraw-Hill, New York.

REFERENCE BOOK:

1. Saxena, H. C (1985), **Statistical Inference**, Sultan Chand and Sons, New Delhi.
2. Bansilal and Arora (1989), **New Mathematical Statistics**, Satya prakashan, New Delhi.

Course Coordinator **HOD**

U18MCSA402	**TESTING OF HYPOTHESES**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department: - Ms.L.Radhika/Mathematics				

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on class equation, solvability of groups, finite abelian groups, linear transformations, real quadratic forms.

COURSE OUTCOMES (COs)

CO1	Understand to develop Hypothesis: Simple and composite hypotheses

CO2	To Know the Critical regions and sufficient statistics
CO3	To gain the concept of Likelihood Ratio Test (LRT)
CO4	Understand the usage of One-tailed and two-tailed tests
CO5	Understand Sign test for one sample
CO6	Understand Sign test for 2 samples

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	2	3		
	CO2	3	3	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	2	2	1	1	1	2	3		
	CO6	3	3	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I HYPOTHESIS **12**

Hypothesis: Simple and composite hypotheses – Null hypothesis and alternative hypothesis – Test - Critical region – Type I error and Type II error – Power of the test – Steps involved in solving testing statistical hypothesis – Most Powerful Test – Neymann–Pearson Lemma – Simple applications.

UNIT II POWERFUL TESTS

12

Most Powerful Tests: Randomized test for the parameters of binomial and Poisson distributions – Critical regions and sufficient statistics – Uniformly Most Powerful Tests – Power function and power curve – UMP tests for the parameters of univariate binomial, Poisson, normal and exponential distributions.

UNIT III LIKELIHOOD RATIO TEST **12**

Likelihood Ratio Test (LRT): Definition of LRT - Properties of LRT tests (Statements only) – LRT for the mean and LRT of the variance of univariate normal population – Test for equality of means of 2 independent univariate normal populations with common unknown variance – Test for equality of variances of 2 independent univariate normal populations.

UNIT IVTESTS OF SIGNIFICANCE **12**

Tests of significance (procedures only): One-tailed and two-tailed tests – Tests of significance of mean, Difference of means, Variance, Equality of two variances of univariate normal distributions and correlation coefficient.

Test of independence of attributes - Homogeneity of variances of normal distributions – Homogeneity of correlation coefficients.

UNIT V NON-PARAMETRIC METHODS 12

Non-parametric methods: Sign test for one sample and 2 samples – Signed ranked test for one sample and 2 samples – Median test – Mann-Whitney–Wilcoxon U–test – Wald - Wolfowitz Run test – Test of Randomness of a sample.

TEXT BOOK:

1. Gupta, S. C and Kapoor , V. K (2002), **Fundamentals of Mathematical Statistics**, Sultan Chand and Sons, New Delhi (Relevant Chapters and Sections only).

REFERENCE BOOK:

1. Hogg, R. V and Craig, A. T (2002), **Introduction to Mathematical Statistics**, Pearson Education Asia, India.
2. Mood, A. M, Graybill, F. A and Boes, D. C (1998), **Introduction to the Theory of Statistics**, McGraw-Hill, New York.

Course Coordinator **HOD**

U18NCSC403	**Programming in 'C'**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Computer Science / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:-P,Jennifer/C.S				
COURSE OBJECTIVES:- To introduce the concepts and develop working knowledge on introduction to C,Control structures, Function arguments - Static and register variables, Arrays and. Strings, File Access.					
COURSE OUTCOMES (COs)					
CO1	Understand the concept of Introduction to C, variables, Data types – Declarations.				

CO2	Understand the Expression and Conditional Expressions, Control structures
CO3	Understand the concept of Arrays and. Strings.
CO4	Understand the usage of Structures and functions, Arrays of structures, Fields.
CO5	Understand the concept of File Access, Random access.
CO6	Understand and write simple programs based on the concepts.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **12**

Introduction to C, vnariables, Data types - Declarations, Type conversions, increment and decrement operators, Bitwise, Logical and Assignment operators.

UNIT II **12**

Expression and Conditional Expressions, Control structures, If-Else, SWITCH, WHILE, FOR and DO WHILE Loop structures. Break continue, GO o's and Label Statements. Function, function returning, Non-integers. Function arguments - Static and register variables.

UNIT III **12**

Arrays and. Strings - Array Declaration Multi dimensional Arrays Strings / Character Arays, Array initialization - Pointers and Addresses. Pointers and Arrays - Pointer to functions.

UNIT IV **12**

Structures and functions, Arrays of structures, Fields, Unions - type definition standard input and output - formatted output - output - Access to the standard library.

UNIT V **12**

File Access, File handling in C - File discriptions - Error handling - 'Low level i/o - Read and Write'. Open, Create, Close, Unlink - Random Access - seek and 1 seek.

TEXT BOOKS:

1. Kapoor, V.K. and Gupta, S.P. (1978): Fundamentals of applied statistics, Sultan Chand & Sons. Gupta, R.C.(1974): Statistical Quality Control.

2. Montgomery, D.C. (1983): Introduction to Statistical Quality Control, John Waley& Sons.

3. Ekambaram, S K. (1963): Statistical basis of Acceptance sampling, Asia Publishing House.

REFERENCE BOOKS:

1.R. Kruse C.L. Tondo and B. Leung, "Data Structures and Program design in C", Second Edition,PHI,1997.
2.Horowitz, S. Sahni, and S. Rajasekaran, "Computer Algorithms", Galgotia Pub. Pvt. Ltd.,1998.

CourseCoordinator **HOD**

U18NCSC4L1	**ALLIED PRACTICAL 1 (PROGRAMMING IN C)**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	**0**	**0**	**4**	**2**
	Prerequisite course – Computer Science / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.K.Rajakumari / CS				
COURSE OBJECTIVES :-Learners will be familiar with programming in C concepts and develop working knowledge in C language.					
COURSE OUTCOMES (COs)					

CO1	Implement the basic concept of programming in C Structure.
CO2	Perform the sum of series and mathematical calculations
CO3	Apply the concept of Arrays for Ascending and Descending order
CO4	Develop the program for Matrix Operations.
CO5	Implement recursive functions for Fibonacci series
CO6	Develop the program using String manipulations &Pointers.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	1	1	1	3		
	CO2	3	2	2	2	2	2	3		
	CO3	3	2	3	1	3	1	3		
	CO4	3	2	2	2	1	2	2		
	CO5	3	2	2	1	2	1	3		
	CO6	3	3	3	2	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

* SECOND ALLIED COURSE II - – COMPUTER SCIENCE (C Programming Lab)

S.NO	LIST OF PROGRAMS
1.	Solution of a Quadratic Equation (all cases)
2.	Sum of Series (sine, cosine, ex)
3.	Coversion of Number System (Decimal to Binary, Decimal to Octal)
4.	Largest, Smallest among 'n' numbers (Also use it to find the number of occurrences of a given number)
5.	Ascending and Descending order of numbers using Arrays.
6.	Sorting of names in Alphabetical order.
7.	Matrix Operations (Addition, Subtraction, Multiplication – use Functions.
8.	Finding factorials, generating Fibonacci Numbers using recursive functions.

9.	String manipulations without using string functions (String length, String Comparison, String Concatenation, Palindrome Checking, Counting words and lines in String – use function Pointers).

Course Coordinator **HOD**

U18NETA401	**அடிப்படைத்தமிழ்- II**	**L**	**T**	**P**	**C**
	மொத்தவகுப்புநேரம்- 30	2	0	0	2
	முன்நிபந்தனைபடிப்பு- + 2				
	பாடநெறிஒருங்கிணைப்பாளர்: திருமதி. அ.கோ.ஸ்ரீதேவி&தமிழ்த்துறை				

பாடத்தின்நோக்கம்:- தமிழ்மொழியினைப்பயிற்றுவித்தல்	
பாடத்தின்விளைவுகள்(பா.வி.) [COURSE OUTCOMES (COs)]	
CO1	எழுத்துக்கள்மூலம்சொற்கள்அமைப்பதைப்பற்றிஅறிவர்
CO2	சொற்கள்மூலம்வாக்கியம்அமைப்பதைப்பற்றிஅறிவர்
CO3	எழுத்துக்களைஇணைத்தல், சரியானசொற்களால்வாக்கியம்அமைப்பதைப்பற்றிஅறிவர்
CO4	வினாவுக்குரியவிடையளித்தல்பற்றிஅறிவர்
CO5	தன்விவரப்பட்டியல்தயாரிப்பதுபற்றிஅறிவர்
CO6	தமிழ்மொழியைஅறியாதவர்கள்தமிழைஎழுதபடிக்கத்தெரிந்துகொள்வர்

பாடத்தின்விளைவுகளுடன்(Cos) பாடநெறிமுடிவுகளை (POs)
வரைபடமாக்குதல்(1/2//3 தொடர்புகளின்வலிமையைக்குறிக்கிறது)
3- அதிகபட்சம், 2- நடுத்தரம், 1- குறைந்தபட்சம்

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	1	3	1	1	1	1	2		
	CO2	1	3	1	1	1	1	2		
	CO3	1	3	1	1	1	1	2		
	CO4	1	3	1	1	1	1	2		
	CO5	1	3	1	1	1	1	2		
	CO6	1	3	1	1	1	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/
							✓			
4	**Approval**	Academic Council Meeting								

அலகு**1** **10**
எழுத்துக்களைஒழுங்குபடுத்திச்சொற்களாக்குதல்- சொற்களைக்கொண்டுவாக்கியம்அமைத்தல்

அலகு**2** **10**
இனமில்லாதவற்றைஎடுத்துஎழுதுதல்- விடுபட்டஎழுத்துக்களைஇணைத்தல்- சரியானவாக்கியமாகமாற்றுதல்

அலகு**3** **10**
வினாவுக்குரியவிடையளித்தல்- தன்விவரப்பட்டியல்தயாரித்தல்- ஆங்கிலப்பகுதியைத்தமிழாக்குதல்

CourseCoordinator **HOD**

Sub. Code: **U18NETA402**	பாடத்தின்பெயர்:**சிறப்புத்தமிழ் – II**	**L**	**T**	**P**	**C**
	மொத்தவகுப்புநேரம்- 30	2	0	0	2
	முன்நிபந்தனைபடிப்பு- + 2				
	பாடநெறிஒருங்கிணைப்பாளர்: முனைவர். ஜெ.அந்தோணிஜெயஷீலா&தமிழ்த்துறை				

பாடத்தின்நோக்கம்:- நாட்டுப்புறஇலக்கியத்தைப்பற்றிஅறியச்செய்தல்	
பாடத்தின்விளைவுகள்(பா.வி.) [COURSE OUTCOMES (COs)]	
CO1	நாட்டுப்புறப்பாடல்கள்பற்றிஅறியச்செய்தல்
CO2	விடுகதைகள்பற்றிஅறியச்செய்தல்
CO3	நம்பிக்கைகள்பற்றிஅறியச்செய்தல்
CO4	சமயவழிபாடுகள்பற்றிஅறியச்செய்தல்
CO5	பழமொழிகள்பற்றிஅறியச்செய்தல்
CO6	நாட்டுப்புறமருத்துவம்பற்றிஅறியச்செய்தல்

பாடத்தின்விளைவுகளுடன்(Cos) பாடநெறிமுடிவுகளை(POs)
வரைபடமாக்குதல்(1/2//3 தொடர்புகளின்வலிமையைக்குறிக்கிறது)
3- அதிகபட்சம், 2- நடுத்தரம், 1- குறைந்தபட்சம்

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	1	2	3	1	3	1	2		
	CO2	1	2	3	1	3	1	2		
	CO3	1	2	3	1	2	1	2		
	CO4	1	2	3	1	3	1	2		
	CO5	1	2	3	1	2	1	2		
	CO6	1	2	3	1	2	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/
							✓			
4	**Approval**	Academic Council Meeting								

அலகு**1** **10**
நாட்டுப்புறப்பாடல்கள்- தாலாட்டுப்பாடல்கள், குழந்தைப்பாடல்கள், விளையாட்டுப்பாடல்கள், தொழிற்பாடல்கள், காதல்பாடல்கள், கொண்டாட்டப்பாடல்கள்

அலகு**2** **10**
விடுகதைகள்- நம்பிக்கைகள்- சமயவழிபாடுகள்

அலகு**3** **10**
பழமொழிகள்- நாட்டுப்புறமருத்துவம்

பாடநூல்**:**
1. சு.சக்திவேல், "நாட்டுப்புறஇயல்ஆய்வு", மணிவாசகர்பதிப்பகம், 2015

பார்வைநூல்கள்**:**
1. சு.சண்முகசுந்தரம், "நாட்டுப்புறஇலக்கியவரலாறு", காவ்யாபதிப்பகம், 2017
2. நா. வானமாமலை, "தமிழர்நாட்டுப்பாடல்கள்", நியூசெஞ்சுரிபுக்ஹவுஸ், 2014
3. கி.வா. ஜகந்நாதன், "மலையருவி(நாடோடிப்பாடல்கள்)", அமுதநிலையம், 2012

CourseCoordinator **HOD**

SEMESTER V

U18MCSA501	**DESIGN OF EXPERIMENTS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department: - Ms.S.Kavitha/Mathematics				

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on class equation, solvability of groups, finite abelian groups, linear transformations, real quadratic forms.

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COURSE OUTCOMES (COs)	
CO1	Understand to develop Analysis of Variance
CO2	Understand the Estimation of missing values in RBD (one and two)
CO3	Understand the Estimation of missing values in LSD (one and two)
CO4	To Know the concept of definitions of contrast
CO5	To Know the concept of definitions of orthogonal contrast
CO6	Understand the usage of Confounding in factorial design

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	2	3		
	CO2	3	3	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	2	2	1	1	1	2	3		
	CO6	3	3	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I ANALYSIS OF VARIANCE **12**

Analysis of Variance: Definition and assumptions. Cochran's theorems (statement only) ANOVA - One way and Two-way classifications (with one observation per cell). Experimental error.

UNIT II DESIGN OF EXPERIMENT **12**

Design of Experiment: Need, terminology Randomization, Replication and Local control; Completely Randomized Design (CRD), Randomized Block Design (RBD), Latin Square Design (LSD) - Estimation of missing values in RBD and LSD (one and two).

UNIT III FACTORIAL EXPERIMENT **12**

Factorial experiment - main effects and interactions; definitions of contrast and orthogonal contrast; Analysis of 2^2 and 2^3 experiments.

UNIT IV CONFOUNDING IN FACTORIAL DESIGN **12**

Confounding in factorial design –Total Confounding and Partial confounding in 2^3 experiments.

UNIT VANALYSIS OF CO-VARIANCE 12

Analysis of co-variance for a one-way layout with one concomitant variable and an RBD with one concomitant variable.

TEXT BOOK:

1. S.C. Gupta and V.K. Kapoor (2013), "Fundamentals of Applied Statistics", Sultan Chand & Sons, New Delhi. [Units I & II]
2. Das, M.N. and Giri, N.C, (1997), Design and Analysis of Experiments, Wiley Eastern Ltd., New Delhi. [Units III to V]

REFERENCE BOOK:

1.Douglas Montgomery (2010), "Design and Analysis of Experiments", Wiley India, India.
2.Cochran.W.G. & G.M. Cox (1957), Experimental designs, Wiley International edition, India

Course Coordinator **HOD**

U18MCSA502	**SAMPLING THEORY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department: - Dr.P.Sumathi/Mathematics				

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on class equation, solvability of groups, finite abelian groups, linear transformations, real quadratic forms.

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COURSE OUTCOMES (COs)	
CO1	Understand to developPlanning of large-scale sample surveys
CO2	Understand the Properties of the estimates and their variances
CO3	To know the concept of Sampling proportions
CO4	Understand the concept of Sampling percentages
CO5	Understand the usage of Properties of the estimates and their variances
CO6	To Knowthe concept of systematic sampling

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	2	3		
	CO2	3	3	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	2	2	1	1	1	2	3		
	CO6	3	3	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT IPLANNING OF LARGE-SCALE SAMPLE SURVEYS 12

Planning of large-scale sample surveys – Methods of measurements – Questionnaire versus Schedule – The Frame – The Pretest – Integrated multi-subject survey – Operations required for survey analysis – Dangers of easy-to-use statistical packages – Sources of Non-sampling errors.

UNIT IIRANDOM SAMPLING 12

Simple random sampling - Properties of the estimates and theirvariances - The finite population correction - Estimation of thestandard error from a sample - Confidence limits - Random sampling with and without replacement.

UNIT IIISAMPLING PROPORTIONS AND PERCENTAGES 12

Sampling proportions and percentages – Qualitative characteristics - Variances of the sample estimates - The estimation of sample size - Inverse sampling - Sample size with more than one item.

UNIT IVSTRATIFIED RANDOM SAMPLING **12**

Stratified random sampling - Properties of the estimates and their variances - Optimum allocation in Stratified Sampling - Proportional allocation – Relative precision of Stratified random and simple random sampling - Stratified Sampling for proportions.

UNIT VSYSTEMATIC SAMPLING

Systematic Sampling - Variance of the estimated mean - Comparison of systematic with stratified random sampling - Populations with linear trend - Single-stage cluster sampling with clusters of equal sizes – Variance in terms of intra cluster correlation

12

TEXT BOOK:

William, G. Cochran (1977), **Sampling Techniques,** 3rd edition, Wiley Eastern Limited, New Delhi [Chapters 1, 2 (omit 2.11 to 2.16), 3 (omit 3.4 to 3.12), 4 (omit 4.7, 4.9 to 4.11), 5, 8 (omit 8.5, 8.7 to 8.13), 9 (omit 9.5 and 9.6)].

REFERENCE BOOK:

1.Parimal Mukhopadhyay (1998), **Theory and Methods of Survey Sampling**, Prentice Hall of India, New Delhi.

2.Rank Yates (1981), **Sampling Methods for Censuses and Surveys,** 4th edition, Charles Griffin and Company Limited, London.

Course Coordinator **HOD**

U18MCSA503	**REAL ANALYSIS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Mathematics Studied in Higher Secondary studies				

	Course Coordinator Name & Department: - Mr.V.Nandakumar/Mathematics

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on class equation, solvability of groups , finite abelian groups, linear transformations, real quadratic forms.

COURSE OUTCOMES (COs)

CO1	Understand to developSets and elements
CO2	To Know the Definition of a sequence and subsequence
CO3	Understand the concept of Operations on convergent sequences
CO4	To equip the usage of Convergence and divergence
CO5	To equip the usage of divergence
CO5	Understand Limit of a function on a real line

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	2	3		
	CO2	3	3	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	2	2	1	1	1	2	3		
	CO6	3	3	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT ISETS AND ELEMENTS **12**

Sets and elements; Operations on sets; functions; real valued functions; equivalence; countability; real numbers; least upper bounds.
Chapter 1 Section 1. 1 to 1.7

UNIT IIDEFINITION OF A SEQUENCE **12**

Definition of a sequence and subsequence; limit of a sequence; convergent sequences; divergent sequences; bounded sequences; monotone sequences;
Chapter 2 Section 2.1 to 2.6

UNIT IIIOPERATIONS ON CONVERGENT SEQUENCES **12**

Operations on convergent sequences; operations on divergent sequences; limit superior and limit inferior; Cauchy sequences.

Chapter 2 Section 2.7 to 2.10

UNIT IVCONVERGENCE AND DIVERGENCE **12**

Convergence and divergence; series with non-negative numbers; alternating series; conditional convergence and absolute convergence; tests for absolute convergence; series whose terms form a non-increasing sequence; the class 12.
Chapter 3 Section 3.1 to 3.4, 3.6, 3.7 and 3.10

UNIT VLIMIT OF A FUNCTION ON A REAL LINE **12**

Limit of a function on a real line; Metric spaces; Limits in metric spaces. Function continuous at a point on the real line, reformulation, Function continuous on a metric space.
Chapter 4 Section 4.1 to 4.3 Chapter 5 Section 5.1-5.3

TEXT BOOK:

1.Contents and Treatment as in "Methods of Real Analysis": Richard R. Goldberg (Oxford and IBH Publishing Co.)

REFERENCE BOOK:

1. Principles of Mathematical Analysis by Walter Rudin Mathematical Analysis Tom M Apostal

Course Coordinator **HOD**

U18MCSA504	**STATISTICAL QUALITY CONTROL**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Mathematics Studied in Higher Secondary studies				

	Course Coordinator Name & Department: -Ms.S.Kavitha/ Mathematics

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on Statistical Quality Control techniques, X Chart, P chart, Control chart for attributes, Double sampling plans, Variable sampling plans.

COURSE OUTCOMES (COs)

CO1	Understand to Statistical Quality Control techniques in Industry
CO2	Understand the Control chart for variables -
CO3	To Know the concept of Control chart for attributes.
CO4	Understand the usage of Acceptance of sampling plans for attributes
CO5	To familiarize the ATI curves for single and Double sampling plans
CO5	Understand the concept of Variable sampling plans
CO6	

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	2	3		
	CO2	3	3	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	2	2	1	1	1	2	3		
	CO6	3	3	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT INEED FOR STATISTICAL QUALITY CONTROL TECHNIQUE 12

Need for Statistical Quality Control techniques in Industry - Causes of Quality variation control charts - Use of the Shwhart - control chart - Specification and tolerance limits - 3 sigma limits - warning limits - application of theory of runs in quality control.

UNIT IICONTROL CHART FOR VARIABLES 12

Control chart for variables - X Chart - R chart - purpose of the charts - Basis of subgrouping - plotting X and R results - determining the trial control limits - Interpretation of control charts X and R

UNIT III CONTROL CHART FOR ATTRIBUTES 12

Control chart for attributes - purpose of the chart - P chart - np chart - construction of P and np chart - choice between chart for P and chart for np - construction of c-chart.

UNIT IVACCEPTANCE OF SAMPLING PLANS FOR ATTRIBUTES 12

Acceptance of sampling plans for attributes - Producer's risk and consumer's risk - concepts of AQL, LTPD, AOQ, AOQL, ATI and ASN - single, double and Multiples sampling plans - OC, AOQ, ATI curves for single and Double sampling plans.

UNIT VVARIABLE SAMPLING PLANS 12

Variable sampling plans - Sigma known and sigma unknown determination of n and k for one sided specification - OC curve.

TEXT BOOK:

1.Kapoor, V.K. and Gupta, S.P. (1978): Fundamentals of applied statistics, Sultan Chand & Sons.

2.Gupta, R.C.(1974): Statistical Quality Control.

3.Montgomery, D.C. (1983): Introduction to Statistical Quality Control, John Waley& Sons.

4.Ekambaram, S K. (1963): Statistical basis of Acceptance sampling, Asia Publishing House.

REFERENCE BOOK:

Grant, E, L. and Laven Worth, R.S.: Statistical Quality Control, McGraw Hill.

Course Coordinator **HOD**

U18MCSA4L1	**MAJOR PRACTICAL-IV**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	3	1	0	2
	Prerequisite course –Mathematics Studied in Higher Secondary studies				

	Course Coordinator Name & Department: - MATHEMATICS

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on Statistical Quality Control techniques, X Chart, P chart, Control chart for attributes, Double sampling plans, Variable sampling plans.

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COURSE OUTCOMES (COs)

CO1	Understand to Statistical Quality Control techniques in Industry
CO2	Understand the Control chart for variables -
CO3	To Know the concept of Control chart for attributes.
CO4	Understand the usage of Acceptance of sampling plans for attributes
CO5	To familiarize the ATI curves for single and Double sampling plans
CO5	Understand the concept of Variable sampling plans
CO6	

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	2	3		
	CO2	3	3	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	2	2	1	1	1	2	3		
	CO6	3	3	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

INEED FOR STATISTICAL QUALITY CONTROL TECHNIQUE 12

Need for Statistical Quality Control techniques in Industry - Causes of Quality variation control charts - Use of the Shwhart - control chart - Specification and tolerance limits - 3 sigma limits - warning limits - application of theory of runs in quality control.

CONTROL CHART FOR VARIABLES 12

Control chart for variables - X Chart - R chart - purpose of the charts - Basis of subgrouping - plotting X and R results - determining the trial control limits - Interpretation of control charts X and R

CONTROL CHART FOR ATTRIBUTES 12

Control chart for attributes - purpose of the chart - P chart - np chart - construction of P and np chart - choice between chart for P and chart for np - construction of c-chart.

ACCEPTANCE OF SAMPLING PLANS FOR ATTRIBUTES 12

Acceptance of sampling plans for attributes - Producer's risk and consumer's risk - concepts of AQL, LTPD, AOQ, AOQL, ATI and ASN - single, double and Multiples sampling plans - OC, AOQ, ATI curves for single and Double sampling plans.

VARIABLE SAMPLING PLANS 12

Variable sampling plans - Sigma known and sigma unknown determination of n and k for one sided specification - OC curve.

U18MESA011	**OPERATIONS RESEARCH**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Mathematics Studied in Higher Secondary studies				

	Course Coordinator Name & Department: - Dr.P.Sumathi/Mathematics

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on class equation, solvability of groups, finite abelian groups, linear transformations, real quadratic forms.

COURSE OUTCOMES (COs)

CO1	Understand to developLinear Programming Problem (LPP)
CO2	Understand the Graphical Solution of LPP
CO3	Understand the concept of Initial Basic Feasible Solution (IBFS)
CO4	Understand the usage of Balanced Assignment Problem
CO5	Understand the usage of Unbalanced Assignment Problem
CO6	Understand Sequencing Problem

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	2	3		
	CO2	3	3	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	2	2	1	1	1	2	3		
	CO6	3	3	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
						✓				
4	Approval	Academic Council Meeting								

UNIT I OPERATIONS RESEARCH **12**

Operations Research – Meaning, Nature, History, Scope and Limitations. Linear Programming Problem(LPP) – General Form, Standard form and Canonical form, Basic Solution, Basic Feasible solution, Optimum solution. Assumption and Mathematical Formulation of LPP

UNIT II GRAPHICAL SOLUTION OF LPP **12**

Graphical Solution of LPP – Unique and special cases – Simplex Method and Big-M Method.

UNIT IIITRANSPORTATION PROBLEM (T.P.) **12**

Transportation Problem (T.P.) – Meaning, Balanced and Unbalanced Transportation Problem. Initial Basic Feasible Solution (IBFS) – North-West Corner Rule(NWC), Least Cost Method(LCM) and Vogel's Approximation Method(VAM) and MODI method to solve an Transportation Problem. Maximization case in Transportation Problem.

UNIT IVASSIGNMENT PROBLEM(A.P.) **12**

Assignment Problem (A.P.) – Meaning, Balanced and Unbalanced Assignment Problem – Hungarian method to solve an Assignment Problem. Maximization case in Assignment Problem.

UNIT V SEQUENCING PROBLEM **12**

Sequencing Problem – Meaning, Procedure for solving sequencing problems - Processing 'n' jobs through two machines, Processing 'n' jobs through 'm' machines and Processing of two jobs through 'm' machines.

TEXT BOOK:

Kanti Swarup, Gupta,P.K.& Manmohan, "Operations Research", Sultan Chand &Sons, NewDelhi. [2013]

REFERENCE BOOK:

1.Taha, H.A., "An Introduction to Operations Research", PHI. [2008]

Course Coordinator **HOD**

SEMESTER VI

U18MCSA601	**APPLIED STATISTICS**	**L**	**T**	**P**	**C**

Total Contact Hours – 60	3	1	0	4
Prerequisite course –Mathematics Studied in Higher Secondary studies				
Course Coordinator Name & Department: - Dr.P.Sumathi/Mathematics				

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on class equation, solvability of groups , finite abelian groups, linear transformations, real quadratic forms.

COURSE OUTCOMES (COs)

CO1	Understand to developConstruction of index numbers
CO2	Understand the Analysis of time series
CO3	To Know the concept of Statistical Quality Control
CO4	Understand the usage of Natural tolerance limits and specification limits.
CO5	Understand the usage of specification limits.
CO6	Understand Acceptance sampling by attributes

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	2	3		
	CO2	3	3	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	2	2	1	1	1	2	3		
	CO6	3	3	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT IINDEX NUMBERS **12**

Index numbers: Definition – Construction of index numbers – Problems and limitations - Interpretation of index numbers - Errors in index numbers - Tests of index numbers - Chain index - Cost of living index - Uses of index numbers.

UNIT II INTRODUCTION TO TIME SERIES **12**

Introduction to time series - Analysis of time series - Uses of time series - Measurement of trend using various methods - Measurement of seasonal fluctuations by different methods - Merits and demerits of each method.

UNIT IIIAUTO-REGRESSION **12**

Auto-regression: Definition - First order auto-regression – Second Order Auto-regressive series - Variate difference method and its applications.

UNIT IV STATISTICAL QUALITY CONTROL **12**

Statistical Quality Control: Introduction to SQC - Uses, Tools, Process and Product Control - Control charts - Control charts for variables and attributes - Natural tolerance limits and specification limits.

UNIT VACCEPTANCE SAMPLING BY ATTRIBUTES **12**

Acceptance sampling by attributes: Rectifying inspection plans - Dodge and Romig rectifying sampling inspection plans - Single and double sampling plans for attributes - Single sampling versus Double sampling plans.

TEXT BOOK:

1. Gupta, S. C and Kapoor, V. K (2001), **Fundamentals of Applied Statistics**, Sultan Chand and Sons, New Delhi (Chapters: 1.0 to 1.8.1, 1.9. to 1.12.4, 2.1. to 2.4.5., 2.5. to 2.6., 2.7 to 2.7.2 and 2.9.1., 3.1. to 3.4, 3.6 to 3.6.3, 3.9 and 3.10.).

REFERENCE BOOK:

1. Frederick, E. Croxton, Dudley, J. Cowden and Sidney Klein, (1972) **Applied General Statistics,** Prentice Hall of India Pvt. Ltd, New Delhi.

Course Coordinator **HOD**

U18MCSA602	**STOCHASTIC PROCESSES**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4

	Prerequisite course –Mathematics Studied in Higher Secondary studies
	Course Coordinator Name & Department: - Ms.L.Radhika/Mathematics

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on class equation, solvability of groups , finite abelian groups, linear transformations, real quadratic forms

COURSE OUTCOMES (COs)

CO1	Understand to developSpecification of Stochastic processes
CO2	Understand the Chapman-Kolmogorov equation.
CO3	To Know the concept of Poisson Process
CO4	Understand the usage of Pure Birth Process – Yule-Fury process
CO5	Birth and Death Process – Immigration - Emigration processes.
CO6	Understand the Basic Elements in a queuing model

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	2	3		
	CO2	3	3	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	2	2	1	1	1	2	3		
	CO6	3	3	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT IELEMENTS OF STOCHASTIC PROCESSES **12**

Elements of Stochastic Processes – Notion of a Stochastic Process – Specification of Stochastic processes – Stationary Processes.

UNIT II MARKOV CHAINS **12**

Markov Chains – Definition and examples – Transition probability matrix – Order of a Markov Chain – Higher transition probabilities – Chapman-Kolmogorov equation.

UNIT III POISSON PROCESS **12**

Poisson Process – Postulates – Properties – Related distributions – exponential, uniform, geometric and negative binomial distributions.

UNIT IV PURE BIRTH PROCESS **12**

Pure Birth Process – Yule-Fury process – Birth and Death Process – Immigration - Emigration processes.

UNIT VQUEUING THEORY **12**

Queuing Theory: Basic Elements in a queuing model - Classification of queues – Details study of (M/M/1):(∞/FCFS) and (M/M/1): (N/FCFS) queues.

TEXT BOOK:

1. Medhi, J (1998), **Stochastic Processes**, Wiley Eastern Limited, India (Chapters 2 (2.1 – 2.3), 3 (3.1 – 3.2), 4 (4.1-4.2, 4.3.3, 4.3.4, 4.4).

REFERENCE BOOK:

1. Feller, W (1972), **Introduction to Probability Theory and its Applications, Volume I**, Wiley Eastern Ltd, New York.

2. Kapoor, V. K (2001), **Operations Research,** 7th edition**,** Sultan Chand and Sons, New Delhi.

Course Coordinator **HOD**

	MATRIX ALGEBRA	**L**	**T**	**P**	**C**

U18MCSA603					
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department: - Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES: -

To introduce the concepts and develop working knowledge on class equation, solvability of groups , finite abelian groups, linear transformations, real quadratic forms

COURSE OUTCOMES (COs)

CO1	Understand to developmatrices and their properties
CO2	Understand the Solutions of simultaneous equations using matrix inverse method
CO3	To Know the concept of Linear homogeneous equations
CO4	To Know the concept of non-homogeneous equations
CO5	Understand the usage of Characteristic Roots and Vectors
CO6	Understand Reduction of QFs to canonical forms

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	2	3		
	CO2	3	3	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	2	2	1	1	1	2	3		
	CO6	3	3	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I MATRIX ALGEBRA **12**

Matrix Algebra : Definition – Types of Matrices - Rectangular – Square – Null - Identity – Diagonal – Scalar - Triangular matrices - Algebra of Matrices : Addition - Scalar multiplication - Multiplication of matrices - Properties of Matrix addition - Multiplication – Conjugate matrices – Transpose and Transjugate matrices – Trace of a matrix – Symmetric, Skew-symmetric, Hermitian, Skew-Hermitian, Orthogonal, Unitary, Idempotent, Nilpotent matrices and their properties.

UNIT II ADJOINT AND INVERSE **12**

Adjoint and inverse: Adjoint matrices – Properties – Inverse of a matrix – Properties – Elementary transformations – Minor and cofactor of a matrix - Methods of finding inverse : Adjoint and elementary transformation methods - Matrix representation of a set of equations - Solutions of simultaneous equations using matrix inverse method

UNIT IIIRANK OF A MATRIX 12

Rank of a matrix: Definition– Normal form – Use of rank concepts – Linear homogeneous and non-homogeneous equations – Consistency of equations - Solutions for linear equations.

UNIT IVCHARACTERISTIC ROOTS AND VECTORS 12

Characteristic Roots and Vectors : Definition – Characteristic roots of Null, Identity, Scalar, Diagonal, Upper triangular, Lower triangular matrices – Characteristic roots of adjoint and inverse of a matrix – Properties of characteristic roots – Characteristic vectors and their Properties.

UNIT VQUADRATIC FORMS 12

Quadratic forms : Definition– Reduction of QFs to canonical forms – Congruent and Lagrange reductions – Index and Signature of QFs.Vector spaces : Definition – Examples – Simple algebraic properties of a vector space – Basis and Dimensions - Linear dependence of vectors

TEXT BOOK:

1. Gupta, S. C (1978), **An Introduction to Matrices**, Sultan Chand and Sons, New Delhi (chapters 1, 2, 4, 5(upto 5. 3. 6), 6, 7, 8(omit 8. 3. 1-8. 3. 4, 8. 6)).

2. Venkataraman, M. K (1999), **Linear Algebra**, The National Publishing Company, Chennai (for `Vector Spaces only) (Chapters 2(section 1, 2, 3) and 3 (section 1, 2, 6)).

REFERENCE BOOK:

1. Shanthi Naryanan (1993), **A Text Book Matrices**, Sultan and Chand and Sons, Delhi.

2. Hohn, F. E (1971), **Elementary Matrix Algebra, Second**Edition,Amerind Publishing Company, New Delhi.

Course Coordinator **HOD**

U18MESA023	ELEMENTARY NUMBER THEORY	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department: - Dr.P.Sumathi/Mathematics				

COURSE OBJECTIVES: -

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Understand the divisibility of primes
CO2	Understand the concept of congruences.
CO3	To know the concepts of quadratic residues.
CO4	Understand the concepts of Number theory.
CO5	Understand the simultaneous Linear equations
CO6	Understand the simultaneous Pythagorean Triangle.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	2	3		
	CO2	3	3	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	2	2	1	1	1	2	3		
	CO6	3	3	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I BINOMIAL THEOREM **12**

Introduction – divisibility- primes- The Binomial theorem
Chapter 1 Sections - 1.1 to 1.4

UNIT II CONGRUENCES **12**

Congruences, Solution of Congruences, Chinese Remainder Theorem- primitive roots and power Residues- Number Theory from an Algebric view point - Groups, rings and fields.
Chapter – 2 Sections 2.1 to 2.3, 2.8 (cor 2.42, Th 2.43 and cor 2.44 are omitted) - 2.10.- 2.11

UNIT III QUADRATIC RESIDUES **12**

Quadratic Residues, Quadratic reciprocity, The Jacobi Symbol
Chapter – 3 Sections 3.1 to 3.3

UNIT IV NUMBER THEORY **12**

Greatest Integer Function, Arithmetic function, The Mobius Inversion formula Combinational Number Theory
Chapter – 4 Sections 4.1 to 4.3 and 4.5

UNIT V LINEAR EQUATIONS **12**

The equation ax+by=c, Simultaneous Linear Equations, Pythagorean Triangle, Assorted examples. Chapter – 5 Sections 5.1 to 5.4 Content and treatment as **i**n

TEXT BOOK An introduction to the Theory of Numbers (Vth edition) by Ivan Niven, Herbert S. Zuckarman and Hugh L. Montgometry John Wiley & Sons, Inc.2001.

REFERENCE BOOKS:

1. Elementary theory of numbers, cy. Hsiung, Allied publishers, 1995.
2. Elementary Number Theory, Allyn and Bacon Inc., Boston, 1980.
3. Introduction to Analytic Number Theory, Tom. M. Apostol, Narosa Publishing House, New Delhi, 1989.

Course Coordinator **HOD**

	PROJECT (DISSERTATION AND VIVA-VOCE)	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	0	0	20	10

U18EESA6P1	Prerequisite course – Mathematics Studied in Higher Secondary studies
	Course Coordinator Name & Department: -Mr.V.Nandakumar/Mathematics

COURSE OBJECTIVES:-

To make the students understand the importance of experimental and theoretical analysis. Students can develop a Scientific approach in solving a problems related to Mathematics.

COURSE OUTCOMES (COs)

CO1	List out the concept and objectives, nature, types and methods of project.
CO2	Choose the process and steps involved in preparation of project work, research gap
CO3	Practice the research design, and methodology , sampling techniques & sampling design
CO4	Calculate the statistical tools in the project for data analysis
CO5	Measure the major findings, suggestions and conclusion
CO6	Design the model for project report.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	2	3		
	CO2	3	3	1	1	1	2	3		
	CO3	3	2	1	1	1	2	3		
	CO4	3	2	1	1	1	2	3		
	CO5	2	2	1	1	1	2	3		
	CO6	3	3	1	1	1	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
										✓
4	Approval	Academic Council Meeting								

PROJECT (DISSERTATION AND VIVA-VOCE) 10

The project topics are to be finalized to the students at the end of the second semester with a time schedule to carryout various stages of work. During the semester vocation, the data Collection may be commenced. The theme selected by each student for the Dissertation should be related to various problems and issues pertaining to Computer Application. Each candidate should submit three copies of dissertation as per the guidelines to the department concerned.

Marks

Dissertation	**150**

Viva- Voce Examination	**50**

Course Coordinator **HOD**

U18SEBC001	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. J. Saranya, Commerce				

COURSE OBJECTIVES:-

- To familiarize the students with the basic fundamentals of BPO.
- To impart knowledge on types of BPO and call centers .
- To enable the students on the concept Health care BPO & Transaction BPO.
- To peep into the concept of Human Resource BPO and the career opportunities in BPO

COURSE OUTCOMES (COs)

CO1	Underline the with the basic fundamentals of BPO.
CO2	Discuss the Can develop awareness about Types of BPOs and Call centres
CO3	Initiate to be aware of the concept of Health care BPOs
CO4	Identify the aware of the concept of Transaction BPOs
CO5	Evaluate Develop confidence in Human Resource BPO and career opportunities in BPOs
CO6	Formulate the Types of Transaction Processing BPO in India

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	1	2	3	1		
	CO2	2	1	3	2	3	3	3		
	CO3	1	3	1	3	3	3	1		
	CO4	3	3	3	1	3	1	3		
	CO5	3	3	3	2	2	1	2		
	CO6	2	1	3	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT-I: **6**

Business Process Outsourcing – Basics – Benefits of BPO – BPO companies in India.

UNIT-II: **6**

BPO Industry – Employment Opportunities – types of BPO – Call centers – Types of Call Centers – Issues and Problems.

UNIT-III: **6**

Health Care - BPO - Structure of foreign Health Care sector – Future Trends and Threats.

UNIT-IV: **6**

Transaction Processing BPO – Elements of Back Office services – Types of Transaction Processing BPO in India.

UNIT-V: **6**

Human Resource BPO - Reasons for outsourcing HR – Activities involved in HR BPO – HR outsourcing Trends – Carrier in HR BPO.

Text Books:

- John K. Holvey, Borboro Murphy Melby, Business Process Outsourcing – Wiley Publisher- 2007
- Sarika Kulkarni – Business Process Outsourcing – Jaico Publishing house – 2005
- .Rick L. Click, Thomas N. Duening, Business Process Outsourcing – John Willey & sons, Publisher , 2004

Reference Books:

1. Deepak Shikapur – BPO DIGEST – Ameya (Inspiring books) – 2004.
2. Clifton – System analysis for business data processing – Prentice hall Publications.

Course Coordinator **HOD**

	CUSTOMER RELATIONSHIP MANAGEMENT	L	T	P	C

U18SEBC002	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. R. Priya, Commerce				

COURSE OBJECTIVES:-

- To familiarize the students with the basic fundamentals of CRM.
- To impart knowledge about process and importance of CRM.
- To enable the students on the concept of technological solutions to CRM.
- To expose the student on Trends and challenges in CRM.

COURSE OUTCOMES (COs)

CO1	Recognise the Familiarize with the basic fundamentals of CRM.
CO2	Demonstrate the Can develop awareness about process and importance of customer retention
CO3	Practice to be aware of the concept of technological applications in CRM.
CO4	Correlate to respond to the concept of CRM software solutions for B2C and B2B markets
CO5	Validate the Develop confidence on trends and challenges
CO6	Design the Customer Databases and Information Systems

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	2	3	3	2	2	2		
	CO2	1	3	3	2	2	2	3		
	CO3	3	2	2	3	3	3	1		
	CO4	3	2	3	2	1	2	3		
	CO5	3	2	2	1	2	1	3		
	CO6	3	3	3	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT -I **6**

Customer Relationship Management Introduction - Meaning and Definition - Importance - Benefits and difficulties of CRM.

UNIT –II **6**

CRM Process and Implementation Introduction - customer Retention - Customer satisfaction - Importance of customer retention - CRM process for B2B markets

UNIT –III **6**

Technological Support in CRM Introduction - Types of Technological Applications in CRM.

UNIT –IV **6**

Customer Databases and Information Systems - CRM Software Solutions for B2C and B2B Markets

UNIT –V **6**

E-CRM – Emerging Trend in CRM Introduction - Challenges involved in formulating and implementing e-CRM strategies.

TEXT BOOKS:

1.Balasubramaniyan.K ,Essence of customers relationship management, learn tech press
2. Jagdish N Sheth, Atul Parvatiyar, G Shainesh - customers relationship management- McGraw Hill Publisher, 2000
3. Roger. J Baran and Robert J. Galka- customers relationship management, Routledge publisher 2013

REFERENCE BOOKS:

1.M.Peeru mohamed, customer relationship management, Vikas publications
2.Kaushik mukerjee, customer relationship management PHI

Course Coordinator **HOD**

U18SEBC003	ENTREPRENEURIAL DEVELOPMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2

	Prerequisite course – Higher Secondary Level
	Course Coordinator Name & Department:- Ms. S. Jayanthy , Commerce

COURSE OBJECTIVES:-

- To familiarize the students with the basic fundamentals of Entrepreneurship.
- To impart knowledge on Project identification, selection and formulation.
- To enable the students on the concept of types of organization.
- To peep into the concept of commercial banks.
- To enable the students on the concept of women entrepreneurs

COURSE OUTCOMES (COs)

CO1	Underline the Meaning Of Entrepreneur – Entrepreneur and Intrapreneur
CO2	Explain the Identification – Selection of the Project
CO3	Apply Selection of Types of Organization – Sole Proprietorship- Partnership Joint Stock Company
CO4	Appraise to Institutional finance to entrepreneurs
CO5	Estimate the Factors Influencing The Choice Of Organization
CO6	Develop the Role and Problems of Women Entrepreneurs

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	1	2	3	1		
	CO2	2	1	3	2	3	3	3		
	CO3	1	3	1	3	3	3	1		
	CO4	3	3	3	1	3	1	3		
	CO5	3	3	3	2	2	1	2		
	CO6	2	1	3	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT-I **6**

Meaning Of Entrepreneur – Entrepreneur and Intrapreneur – Qualities Of Entrepreneur – Characteristics Of Entrepreneur – Types Of Entrepreneur – Function Of An Entrepreneur

UNIT-II **6** Project

Identification – Selection of the Project – Project Formulation –Preparation Of Project Report

UNIT-III **6**

Selection of Types Of Organization – Sole Proprietorship- Partnership Joint Stock Company – Factors Influencing The Choice Of Organization.

UNIT – IV **6**

Institutional finance to entrepreneurs - commercial banks –IDBI, IFCI, ICICI, IRBI, SFC, DICs, SIDC, SIDBI And EXIM Bank

UNIT – V **6**

Women Entrepreneurs – Role – Problems of Women Entrepreneurs – Suggestions For Development Of Women Entrepreneurs

TEXT BOOKS:

1. C.B. Gupta, Entrepreneurship Development in India – Sultan Chand
2. S.S. Khanka, Entrepreneurship Development, S. Chand & Co., New Delhi.
3. Gupta C. B and Srinivasan N. P Entrepreneurship Development, Sultan Chand & Sons, New Delhi

REFERENCE BOOKS:

1. P. Sarvanavel, E Entrepreneurship Development, Ess Pee Kay Publishing House
2. Jaswer Singh Saini, Entrepreneurship Development, Deep and Deep Publication, New Delhi
3. Jayashree Suresh, Entrepreneurship Development- Margham Publication, Chennai

Course Coordinator **HOD**

U18SEBC004	HUMAN RESOURCE MANAGEMENT	L	T	P	C

	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. R. Velankanni, Commerce				

COURSE OBJECTIVES:-

- To learn the importance of HR.
- To impart knowledge and important factors in HR.
- To enable the students on the needs and methods of training.

COURSE OUTCOMES (COs)

CO1	Identify theImportance of Human Resource and objectives.
CO2	Describe the Human Resource Planning
CO3	Practice to Sources of Recruitment - Selection – Steps in Selection
CO4	Analyze Needs of training – Methods of Training
CO5	Evaluate the Process and Methods of Performance Appraisal
CO6	Formulate the Qualities of Personnel Manager

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	3	1	3	1		
	CO2	2	2	1	3	3	1	3		
	CO3	2	2	3	2	3	3	2		
	CO4	3	1	3	1	1	2	3		
	CO5	1	3	2	2	2	3	3		
	CO6	3	2	2	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT- I: **6**

Definition – Importance of Human Resource – Objectives – Qualities of Personnel Manager.

UNIT- II: **6**

Human Resource Planning – Importance factors – Steps in HR Planning.

UNIT- III: **6**

Recruitment – Objectives – Sources of Recruitment - Selection – Steps in Selection.

UNIT- IV: **6**

Training – Definition – Needs of training – Methods of Training – On the job training – Off the job Training.

UNIT- V: **6**

Performance Appraisal - Objectives – Process – Methods of Performance Appraisal.

TEXT BOOKS:

5. L.M. Prasad – Human Resource Management – S. Chand & Sons – 2013.
6. C.B. Mamoria, S.V. Gankar – Personnel Management – Himalaya Pub. – 2012.
7. A.M. Sharma, Human Resource Management, Himalaya Publishing House, 2005

REFERENCE BOOKS

1. S.S. Khanka – Human Resource Management – S. Chand Ltd. – 2007
2. Gary Dessler – Human Resource Management – Prentice Hall – 8th Edition – 2000.

Course Coordinator **HOD**

	MARKETING MANAGEMENT	L	T	P	C

U18SEBC005	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Dr. J. Anudevi, Commerce				

COURSE OBJECTIVES:-

- To understand the fundamentals of marketing and its role.
- To examine the factors influencing buying behavior.
- To enable the students to promote advertising and its sales scope

COURSE OUTCOMES (COs)

CO1	Underline the Fundamentals of Marketing – Role of Marketing .
CO2	Describe the Factors influencing buying behavior
CO3	Interpret the Marketing segmentation – Needs - Types of segmentation
CO4	Analyze to New product development process – Product life cycle
CO5	Revise the Awareness of consumer rights in the market place
CO6	Collect the Advertising – Scope of Advertising

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	3	2	3	1		
	CO2	2	3	3	2	3	3	3		
	CO3	1	3	1	3	2	3	3		
	CO4	3	2	3	1	3	1	2		
	CO5	3	3	2	3	2	1	2		
	CO6	2	1	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT-I: **6**

Marketing- Definition – Fundamentals of Marketing – Role of Marketing – Relationship of marketing with other functional areas – Marketing Mix

Unit – II **6**

Buyer Behaviour – Buying motives – Factors influencing buying behavior - Marketing segmentation – Needs - Types of segmentation

UNIT-III: **6**

The Product – Characteristics – Benefits – Classifications – New product development process – Product life cycle – Branding – Packaging

UNIT-IV: **6**

Physical Distribution - Importance - Various kinds of Marketing Channels – Distribution Problems- Awareness of consumer rights in the market place.

UNIT- V: **6**

Advertising – Scope of Advertising – Personal selling – Direct selling and Sales Promotions.

TEXT BOOKS:

1. BerkovizKerinHontleyRudelivs, MARKETING, New York, Mcgraw Hill Publications.
2. Gony Armstrong, Philip Kotler, Marketing an Introduction, Pearson Education Asia.
3. Philip Kotler, Marketing Management (Millennium ed.,) New Delhi, Prentice Hall of India (P) Ltd.

Reference Books:

1. Rajan Saxena, Marketing Management, 2nd edition, New Delhi, Tata Mcgraw Hill Publishing Co.Ltd.

2. V.S. Ramasamy and S. Namakumari, Marketing Management, Planning, Implementation & control, New Delhi, Macmillan

Course Coordinator **HOD**

	OFFICE MANAGEMENT	L	T	P	C

U18SEBC006	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Dr. M. Sankar,Commerce				

COURSE OBJECTIVES:-

- To peep into the concept, importance of office management.
- To impart knowledge on features and classification of Communication.
- To expose handling correspondence and market registers

COURSE OUTCOMES (COs)

CO1	Record theConcept and Importance of Office and Office Management.
CO2	Report the Arrangement and adjustment : Furniture, allotment of seats
CO3	Apply to Handling of correspondence and market registers
CO4	Experiment the preparation and play of manuals and charts
CO5	Select the Office staff – Selection- training - Supervision
CO6	Creates Office Accommodation and Environment

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	3	3	3	1	2	2		
	CO2	1	2	3	2	2	3	3		
	CO3	3	2	2	3	3	1	3		
	CO4	3	1	3	3	1	3	2		
	CO5	3	2	2	1	2	2	1		
	CO6	3	3	1	3	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

Unit I **6**

Introduction – Concept and Importance of Office and Office Management - Office Accommodation

and Environment -Reception : Importance, shape and size, control

Unit II **6**

Communication: Feature, classification, barriers - Arrangement and adjustment : Furniture, allotment of seats, chambers, cabins rooms etc .

Unit III **6**

Handling of correspondence and market registers, filling forms and stationery.
Office Machines - Kind of office machines.

Unit IV **6**

Use of machines, installing, handling, maintenance –Manuals and charts- Advantages of office manuals charts - preparation and play of manuals and charts.

Unit V **6**

Office staff – Selection- training - Supervision - span of supervision

TEXT BOOK:

1. Ghosh & Agarwal, Office Management, S.Chand& Company – New Delhi
2. R.S.N. Pillai, Bagavathi, Office Management, S.Chand& Company – New Delhi,2013
3. Dr.R.K. Chopra, Priyanka Gauri Office Management, Himalaya Publishing House, 2017

REFERENCE BOOKS:

1. G.S. Sudha, General Management, PustakPrakashan, New Delhi
2. Rajendra paul, Modern Communication & Techniques , S.Chand& Company – New Delhi

Course Coordinator **HOD**

	RETAIL MARKETING	L	T	P	C

U18SEBC007	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. J. Saranya, Commerce				

COURSE OBJECTIVES:-

- To familiarize the functions and types of Retailing.
- To impart knowledge on Retail consumer behavior and its types.
- To expose the student on promoting sales, public relation and advertising.

COURSE OUTCOMES (COs)

CO1	Underline the Characteristics - Functions of retailing - Types of Retailing
CO2	Express the - Retail Consumer buying behavior and types
CO3	Schedule the Retail Organization Structure
CO4	Categorize to Factors affecting store lay out
CO5	Assess the Sales promotion - Advertising
CO6	Creates the Retail Marketing Mix

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	2	3	3	2	3	2		
	CO2	2	1	3	2	3	3	3		
	CO3	3	3	1	3	3	3	2		
	CO4	3	3	3	3	1	2	2		
	CO5	2	3	2	3	2	2	1		
	CO6	3	2	3	1	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

Retailing – Definition – Importance – Characteristics - Functions of retailing - Types of Retailing

UNIT-II **6**

Retail Marketing Mix - Retail Consumer buying behavior and types – Segmentation - Types of segmentation

UNIT-III **6**

Retail Organization Structure-Major Functional Areas-Careers in Retailing

UNIT-IV **6**

Store layout-Types of lay out-Factors affecting store lay out

UNIT-V **6**

Sales promotion - Advertising - Public Relation - Personal selling

TEXT BOOKS:

1) George E.Belch and Michael A.Belch, Advertsing and Promotion, McGraw Hill Company
2) Ronald, Karen Whitehill king,andJ.Thomas Russell, Kleppner's Advertising Procedure, Pearson Education International, Prentice Hall
3) Prashant Chaudhary ,Retail Marketing in the Modern Age ,First Edition Saga Publication 2019

REFERENCE BOOKS:

1) Gupta, Advertising and Sales Promotion, EPH Publisher
2) Sarangi, Advertising and Sales Promotion, Asian Books

Course Coordinator **HOD**

U18SEBC008	SALESMANSHIP AND ADVERTISING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2

	Prerequisite course – Higher Secondary Level
	Course Coordinator Name & Department:- Ms. G. Anandhi Commerce

COURSE OBJECTIVES:-

- To understand the importance, role, objective of advertising.
- To impart knowledge on importance of salesmanship
  To analyze the types of advertising and its benefits

COURSE OUTCOMES (COs)

CO1	Repeat theNature-Objectives and Scope of Advertising.
CO2	Explain the Types of Advertising-Commercial and Non-Commercial Advertising
CO3	Interpret to Media selection-measuring advertising effectiveness
CO4	Correlate the training and compensating sales men
CO5	Judge the Qualities and Responsibilities of sales managers
CO6	Design the types of sales organization - Sales management job

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	3	1	3	1		
	CO2	2	2	1	3	3	1	3		
	CO3	2	2	3	2	3	3	2		
	CO4	3	1	3	1	1	2	3		
	CO5	1	3	2	2	2	3	3		
	CO6	3	2	2	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT-I **6**

Definition-Importance-Role of Advertising-Nature-Objectives and Scope of Advertising

UNIT-II **6**

Types of Advertising-Commercial and Non-Commercial Advertising-Primary demand and selective demand advertising

UNIT-III **6**

Advertising-benefits and criticism-Media selection-measuring advertising effectiveness

UNIT-IV **6**

Introduction to the salesmanship-Importance of salesmanship-training and compensating sales men

UNIT-V **6**

Qualities and Responsibilities of sales managers -Types of sales organization - Sales management job

TEXT BOOKS:

1. George E.Belch and Michael A.Belch, Advertsing and Promotion, McGraw Hill Company
2. Ronald, Karen Whitehill king,andJ.Thomas Russell, Kleppner's Advertising Procedure, Pearson Education International, Prentice Hall.
3. P. Saravanavel& S. Sumathi, advertising and salesmanship Margham publications,

REFERENCE BOOKS

1) Sarangi, Advertising and Sales Promotion, Asian Books
2. Gupta, Advertising and Sales Promotion, EPH Publisher

Course Coordinator **HOD**

	Subject name : SOFT SKILLS	**L**	**T**	**P**	**C**

Sub. code : **U18SEEN001**	Total Contact Hours – 30	2	0	0	2
	Prerequisite – Higher Secondary Level				
	Course coordinator name : Mrs.B.CAROLINE– Dept of English				

COURSE OBJECTIVES:- To impart students with the efficient knowledge of important events in through soft skills

COURSE OUTCOMES (COs)

CO1	Remember the personal as well as professionals goals of the students
CO2	Understand the manners during professional meetings
CO3	Apply the right reasons of stress
CO4	Analyze the importance of communication skills
CO5	Evaluate the excellence in both personal and professional life
CO6	Create the Growth & development of soft skills
Category	OE

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	3	3	3	3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	3	3	2	3	2	3		
	CO4	2	2	2	2	2	2	2		
	CO5	2	2	2	2	2	2	2		
	CO6	2	3	3	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT I Soft Skills **6**

Introduction to soft skills
Types of soft skills
Developing positive attitude, forming values and self confidence

UNIT II Interpersonal skills **6**

Developing interpersonal relationship, team building, table manners, organizing meetings, stress and time management

UNIT- III Communication Skills **6**

Types of communication

Art of listening
Art of reading
Art of writing
Art of speaking

UNIT IV Corporate Skills 6

Presentation skills, developing body language, practicing etiquette, and mannerism, dress for success

UNIT V Placement Skills 6

Personal interviews, writing resume/ CV- interviews skills career planning, public speak in motivation skills and personality

Text books

1. S.P.Danavel, English and Communication for Students of Science and Engineering.
2. Murali Krishna Moishra, Communication Skills for Engineers.

Reference

1. Developing the leader within you john C. Maxwell.
2. Meena. K and V. Ayothi (2013) A Book on development of soft skills (soft skills: A road map to success), P.R. publishers & Distributors, no. B-20&21,v.m.m. complex, Chatiram bus stand, tiruchirappalli.-620002

Course Coordinator **HOD**

U18SESC001	COMPUTER APPLICATION	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :-N.Mathimagal& BCA				

COURSE OBJECTIVES:-

Learners will be familiar with basic of computer application. Learners will understand the applications of computer & able to know about the operating systems.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in fundamental computer applications
CO2	Understand the concept of input device functions
CO3	Indentify the suitable input devices for application
CO4	Analyze the input and output devices and its processes
CO5	Evaluate data and storage devices for application
CO6	Create an real time application using a system software and application software

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									□	
4	Approval	Academic Council Meeting								

UNIT I **6**

Brief History of Development of Computers, Computer System Concept, Computer System Characteristics, Capabilities and Limitations, Types of Computers-Personal Computer (PCs) - IBM PCs, Types of PCs- Desktop, Laptop, Notebook, Palmtop, etc. Basic Components of a Computer System - Control Unit, ALU, Input/ Output Unit- Memory, Storage Fundamentals - Primary Vs Secondary memory.

UNIT II **6**

Input Devices: Keyboard, Mouse, Joystick, Scanners, Digital Camera, MICR,OCR, OMR, , Light pen, Touch Screen.

UNIT III **6**

Output Devices: Monitors - Characteristics and types of monitor, Size, Resolution, Refresh Rate, Dot Pitch, Video Standard - VGA, SVGA, XGA etc. Printers - Daisy wheel, Dot Matrix, Inkjet, Laser. Plotter, Sound Card and Speakers.

UNIT IV **6**

Various Storage Devices - Magnetic Disks, Hard Disk Drives, Floppy, Disks, Optical Disks

UNIT V **6**

Computer Software, Need, Types of Software - System software, Application software System Software - Operating System, Compiler, Assemblers, Interpreter.

TEXT BOOKS:

1. S.K. Basandra, "Computers Today", Galgotia Publications.
2. Alexis Leon & Mathews Leon, "Fundamentals of Information Technology", Vikas Publishing House, New Delhi.

REFERENCE BOOKS:

1. Rajeev Mathur, "Dos Quick Reference", Galgotia Publications.

CourseCoordinator **HOD**

U18SESC002	MULTIMEDIA	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :-N.Mathimagal& BCA				

COURSE OBJECTIVES:-

To understans the basic multimedia concepts and designing concepts

COURSE OUTCOMES (COs)

CO1	Gain knowledge in basic concepts of multimedia
CO2	Analyze the multimedia application problems.
CO3	Understand the Video capturing, Sound capturing, editing concepts.
CO4	Identify the basic multimedia design principles.
CO5	Evaluate the multimedia system and Design Process.
CO6	Create a real time application using a multimedia concept.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									□	
4	Approval	Academic Council Meeting								

UNIT I **6**

Multimedia Fundamentals: Concept of multimedia, Fundamental criteria for the design of a multimedia presentation, Multimedia Application Goals & Objectives, opportunities in multimedia production.

UNIT II **6**

Role of multimedia-development of team members, avoiding problems in planning a multimedia application.

UNIT III **6**

Multimedia Building Blocks: Text, Graphics, Video capturing, Sound capturing, editing.

UNIT IV **6**

Basic design principle: proximity, visual hierarchy, Symmetry, Asymmetry, Repetition, unity, Contrast, dynamics, Emphasis, Multimedia Authoring tools.

UNIT V **6**

Design, Development and evaluation of multimedia a system, Development of user interface design, Design Process.

TEXT BOOKS:

1. John Villamil, Casanova, Louis Molina, "An introduction tomultimedia".
2. Mohammad Dastbaz, "Designing Interactive MultimediaSystems"

REFERENCE BOOKS:

1. Bohdan O. Szuprowicz, "MultimediaNetworking".
2. Stephen McGloughlin, "Multimedia on theweb".

CourseCoordinator **HOD**

U18SESC003	ADVANCED EXCEL	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Ramya& BCA				

COURSE OBJECTIVES: -

To identify the various functions in Excel Sheet

COURSE OUTCOMES (COs)

CO1	Understand the advanced Excel formulas.
CO2	Evaluate IF conditions, AND, OR functions.
CO3	Analyze the advanced filter options.
CO4	Execute the multiple windows, splitting windows management.
CO5	Understand the pivot table methods.
CO6	Create a real time application by creating, modifying Excel sheet.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									□	
4	Approval	Academic Council Meeting								

UNIT I **6**

Uses of Advance Excel Formulas -VLOOKUP, HLOOKUP, SUMIF, SUMIFS, SUMPRODUCT, DSUM, COUNTIF, COUNTIFS, IF, IFERROR, ISERROR, ISNA, ISNUMBER, ISNONTEXT, OR, AND, SEARCH, INDEX, MATCH etc

UNIT II **6**

Various Methods and Uses of IF Conditions , Usage of "IF" Conditions? , Creation of Multiple IF Conditions in One Cell , Use the IF Conditions with the Other Advance Functions, How to use nested IF statements in Excel with AND, OR Functions Sorting, Data Forms, Adding Data Using the Data Form, Finding Records Using Criteria

UNIT III **6**

Filtering Data, AutoFilter, Totals and Subtotals, Row, Various Methods of Filter and Advance Filter options , Creating and Updating Sub totals , Various Method of Sorting Data ,Creating, Formatting and Modifying Chart.

UNIT IV **6**

Customizing the Quick Access Tool Bar , Managing Windows ,Multiple Windows , Splitting Windows.

UNIT V **6**

Various Methods and Options of Pivot Table, Using the Pivot Table Wizard, Changing the Pivot Table Layout, Subtotal and Grand total Options, Formatting, and Grouping items

TEXT BOOKS:

1. Jordan Goldmeler, “Advanced Excel Essentials” ,APress, 2015 edition.

REFERENCE BOOKS:

1. John Walkenbach, “Microsoft Excel 2013 Bible”,Wiley Publications,2013.

CourseCoordinator **HOD**

U18SESC004	WEB DESIGNING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Ramya& BCA				

COURSE OBJECTIVES: -

To gain knowledge in basic web designing concepts.

COURSE OUTCOMES (COs)

CO1	Understand the web basics and server side scripting.
CO2	Execute the HTML coding and linking process.
CO3	Analyze the hyper links and special characters.
CO4	Evaluate the Embedded Style Sheets & Linking External Style Sheets.
CO5	Create the backgrounds and user style sheets.
CO6	Create a real time application using web designing concept.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									□	
4	Approval	Academic Council Meeting								

UNIT I **6**

Introduction - The Internet in Industry and Research - Evolution of the Internet and World Wide Web - Web Basics – Client Side Scripting versus Server Side Scripting.

6

UNIT II

Introduction – First HTML example – Headings – Linking - Images, alt Attribute, Void Elements.

UNIT III **6**

Using Images as Hyperlinks-Special Characters and Horizontal Rules – Lists – Tables.

UNIT IV **6**

Introduction - Inline Styles - Embedded Style Sheets - Linking External Style Sheets

UNIT V **6**

Backgrounds - Element Dimensions - Box Model and Text Flow - Drop-Down Menus - User Style Sheets.

TEXT BOOKS:

1. Paul Deitel, Harvey Deitel, Abbey Deitel, "Internet & World Wide Web: How To Program", 5th Edition, Pearson Publication, 2012.

REFERENCE BOOKS:

1. Jennifer Niederst Robbins, "Learning Web Design", Fourth Edition, O'Reilly Media, 2012.
2. Thomas Michaud, "Foundations of Web Design, Introduction to HTML & CSS", Pearson Publication, 2014.
3. Bayross, "Web Enable Commercial Application Development Using HTML, DHTML, JavaScript, Perl CGI", BPB Publications.
4. T. A Powell, "Complete Reference HTML (Third Edition)", TMH, 2002.

CourseCoordinator **HOD**

U18SESC005	PHOTOSHOP	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Brindha& BCA				

COURSE OBJECTIVES: -

Learners can Apply methods to specific 3D Images and to identify various designs appropriate for Animation.

COURSE OUTCOMES (COs)

CO1	Gain knowledge to Create and save Images in fundamental computer applications
CO2	Understand the title bar, menu bar, option bar, image title bar in photo shop program.
CO3	Execute Zooming & Panning an Image while Working with Images.
CO4	Analyze Color manipulations & Working with Toolbox
CO5	Evaluate the Working with layers.
CO6	Create a real time application using 3D image and Animation.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									□	
4	Approval	Academic Council Meeting								

UNIT I **6**

Introduction to Adobe photoshop, Getting started with photoshop, creating and saving a document in photoshop, page layout and background.

UNIT II **6**

Photoshop program window-title bar, menu bar, option bar, image window, image title bar, status bar, ruler, palettes, toolbox, screen modes, saving files, reverting files, closing files.

UNIT III **6**

Images: working with images, image size and resolution, image editing, color modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids-Cropping & Straightening an Image, image backgrounds, making selections.

UNIT IV **6**

Working with toolbox: working with pen tool, save and load selection-working with erasers- working with text and brushes-Color manipulations: color modes- Levels – Curves - Seeing Color accurately - Patch tool

UNIT V **6**

Layers: Working with layers- layer styles- opacity-adjustment layers.

TEXTBOOKS:

1. Reema Thareja , "Fundamentals of Computers", Oxford University Press.

REFERENCE BOOKS:

1. Photoshop: Beginner's Guide for Photoshop - Digital Photography, Photo Editing, Color
2. Adobe Creative Team, "Adobe Photoshop Classroom in a Book".

CourseCoordinator **HOD**

U18SESC006	FLASH	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:-V.Brindha& BCA				

COURSE OBJECTIVES: -

Learners can identify methods appropriate for Basic Animation. Apply methods to design with flash.

COURSE OUTCOMES (COs)

CO1	Understand Working with flash, drawing with flash using Animation tools and Mixer.
CO2	Execute working with multiple objects, importing color palettes
CO3	Analyze Basic animation and working in the timeline,
CO4	Create Frames, key frames, deleting, copying and reversing frames
CO5	Evaluate the Shape tweening and shape hinting in motion
CO6	Apply methods to design with flash

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									□	
4	Approval	Academic Council Meeting								

UNIT I

6

Working with flash, drawing with flash, drawing with the pencil, modifying lines, drawing with the pen, the oval and rectangle tools, free transform tool, envelope modifier, the brush tool, using the mixer.

UNIT II **6**

Adding custom colors to color palette, importing color palettes, working with multiple objects, grouping objects.

UNIT III **6**

Basic animation and working in the timeline, the timeline, movie properties.

UNIT IV **6**

Frames vs. key frames, deleting, copying, and reversing frames, frame-by-frame vector animation, Animation on an image.

UNIT V **6**

Shape tweening , shape hinting , Shape tweening text , edit multiple frames , animating gradients, basic motion tweening.

TEXT BOOKS:

1. Nick Vandome ,"FLASH 5 in easy steps", ,Dreamtech press,2001

REFERENCE BOOKS:

1. E A Vander Veer &Chris Graver, "Flash CS3",Orelly Publications,2009.

CourseCoordinator **HOD**

U18SESC007	COMPUTER HARDWARE AND NETWORKING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi / CS				

COURSE OBJECTIVES :-

Learners familiar with the basic concepts of Microprosser,Controller, Server and to demonstrate the traditional imperative design of CPUs,cards,PCsand BIOS.

COURSE OUTCOMES (COs)

CO1	Design the structure of Micro Processor and PCs and CPUs
CO2	Understand the structure of PC architecture and the study of various PCs
CO3	Understand the Basics of Processor
CO4	Study the CPU,Chips,Processor and Controllers
CO5	Working with Internal Components cards and Higher Level Processor
CO6	Used to develop the Backups,SwitchesRouters,BIOS,Floppy Disk and zip Driver

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									□	
4	Approval	Academic Council Meeting								

UNIT I **6**

Microprocessor System - Introduction of System overview, Introduction to Processors, Memory Interfacing, Interfacing I/O Devices, Interfacing Data Converters, Display Interface, Serial I/O and Data Communication, Higher level Processors.

UNIT II **6**

Introduction to PC Architecture Study of PC-AT/ATX System, Pentium, Core, Core 2 Cord, Core 2 Duo, I3, I5, I7.

UNIT III **6**

Processor Basics of Processor and CPU Block Diagram of Computer and Computer Generation Motherboards, Chipset and Controllers, BIOS and the Boot Process, Computer Memory.

UNIT IV **6**

Internal Components IDE and SATA Devices: Hard Disk Drive and CD/DVDs Drives, SCSI Devices, Floppy Disk, Zip Drive, Backup Drive, Expansion Cards- LAN Card, IDE Card , VGA and SVGA Cards, Sound Card, Interface Cards, I/O cards, Video Cards, USB Card, Fire-Wire Cards, Internal Ports, Cables and Connector Types.

UNIT V **6**

Introduction of Network Cable like UTP, STP, Fiber Optics, Hub, Unmanageable Switch, Manageable Switch, Router, Modem, Wi-Fi, Access Point, PCI Wireless Card, USB Wireless Device, Print Server, USB Network Sharer, Backup Device, Server Hardware etc.

Text Books

1. Ramesh Gaonkar, "Microprocessor Architecture Programming and Application with the 8085", Penram International Publication.

Reference Books

1. M.L. Gupta, "Electronics and Radio Engineering", Dhanpat rai & Sons, New Delhi.
2. B. Govindarajalu, "PC AND CLONES Hardware, Troubleshooting and Maintenance", Tata Mc-graw-Hill Publication.
3. Stephen J. Bigelow, "PC Troubleshooting and Repair", Dream tech Press, New Delhi.

Course Coordinator **HOD**

U18SESC008	COMPUTER PROGRAMMING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi/ CS				

COURSE OBJECTIVES :-

Learners will be familiar with the Programming language C, identify the steps,Write the Algorithm,Design the flowchart and Implement the Programs for various Operations Functions,Pointers and Strings.

COURSE OUTCOMES (COs)

CO1	Apply and Write the clear, structure and Looping of elementary C programs.
CO2	Understand algorithmic thinking and apply it to programming.
CO3	Understand problem-solving techniques.
CO4	Ability to use C with Various operators Expressions and Decision making control.
CO5	Write Code using Arrays with single dimensions, Two dimensions and Multidimensional and Various Strings operations
CO6	create and develop programs using Functions, Pointers, Structures and Union

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									□	
4	Approval	Academic Council Meeting								

UNIT I **6**

Generation and Classification of Computers, Basic organization of a Computer, Number System, Binary, Decimal, Conversion, Problems.

UNIT II **6**

Algorithm, Pseudo code, Flow Chart, Problem formulation, Problem solving , Introduction to "C" programming, Fundamentals, Structure of C Program , compilation and linking processes, Constants, Variables, Data Types.

UNIT III **6**

Expressions using operators in C, Managing input and output operations, Decision making and Branching, Looping Statements.

UNIT IV **6**

Arrays, Initialization, Declaration, One Dimensional and Two Dimensional Arrays, String, String Operations, String Arrays.

UNIT V **6**

Function, Definition of Function, Declaration of Function, Recursion, pointers, pointer and arrays, Structure data type, Structure definition, Structure declaration, Structure within a structure, Union, Storage classes, Pre-processor directives.

Text Books

1. Anita Goel and Ajay Mittal, "Computer Fundamentals and programming in C", Dorling Kindersley (India) Pvt Ltd., Pearson Education in South Asia 2011.
2. PradipDey, ManasGhosh, "fundamentals of computing and programming in c", First edition, Oxford University Press, 2009.
3. Yashavant P. Kanethar, "Let Us C", BPB Publications, 2011.

Reference Books

1.Byron S Gottfried," Programming with C",Schaum'sOutlines,2nd Edition,Tata McGraw-Hill 2006.

2.Dromey R.G., "How to Solve it by Computer", Pearson Education, Fourth Reprint, 2007.

3.Kernighan., B.W and Ritchie, D.M, " The C Programming Language", Second Edition, Pearson Education, 2006.

Course Coordinator **HOD**

U18SESC009	Office Automation Tools	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi / CS				

COURSE OBJECTIVES :-

Learners will be familiar with the basic Office tools design that Work with Word,Excel,Power Point

COURSE OUTCOMES (COs)

CO1	Learn the text manipulations for word documents.
CO2	Understandthethetemplates and mail merge concepts.
CO3	Understandcellediting, formulae, built in functionsused in the Excel Sheet.
CO4	Usedthe power point slidedesigns and backgrounds.
CO5	Used to Createthe graphics and animations usingwizards.
CO6	Used to Create the Inserting Clipartsframes,Working with the Graphs and Charts

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									□	
4	Approval	Academic Council Meeting								

UNIT I **6**

Text Manipulations- font size, style, color. Alignment- left, right and justify, paragraph alignment, Usage of Numbering, Bullets, Footer and Headers, Usage of Spell check, and Find & Replace, Text Formatting, Picture insertion and alignment.

UNIT II **6**

Insertion – Table, chart, clip art, shapes, borders. Creation of documents, saving of documents, using templates, Creation templates, Mail Merge Concepts, Copying Text & Pictures from Excel.

UNIT III **6**

Creating of Excel sheet, Cell Editing, Usage of Formulae and Built-in Functions, File Manipulations, Data Sorting, Worksheet Preparation, Drawing Graphs, Usage of Auto Formatting.

UNIT IV **6**

Start power point, Create blank presentation, Selecting slide layout , Insert new slide, Editing presentation , Designing and formatting presentation , Change font, font color, size, style of text, Bullet and numbering, Slide design, layout, change background , preparing slide show presentation.

UNIT V **6**

Inserting Clip arts and Pictures, Frame movements, Insertion of new slides.Preparation of Organization Charts, Presentation using Wizards, Usage of design templates, working with tables, graphics and animation, working with graphs and organization charts.

Text Books

1. Joyce Cox, Joan Lambert and Curtis Fryc, "Step by Step Microsoft Office Professional 2010", Microsoft press edition.

Reference Books

1. Ralph T.Reilly, "The Handbook of Office Automation", iUniverse Publications,2012.

Course Coordinator **HOD**

U18SEMA001	QUANTITATIVE APTITUDE – 1	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES:-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Number Series with its applications.
CO2	Understand the concept of Data Interpretation
CO3	Apply suitable algorithms in Loss & Discount
CO4	Analyze the Rates,Time and Distance
CO5	Evaluate problemsSimple Interest
CO6	Create an real time application compounds and mixtures

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	1	1	2		
	CO2	2	3	1	2	2	1	2		
	CO3	3	2	2	3	2	2	3		
	CO4	3	3	3	2	2	2	3		
	CO5	2	3	2	1	3	2	2		
	CO6	3	3	3	1	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									☐	
4	Approval	Academic Council Meeting								

UNIT I NUMBER SYSTEM **6**

Numbers, Number Series, Number Theory, Arithmetic & Geometric Ratio

UNIT II STATISTICS **6**

Average, Ages, Data Interpretation.

UNIT III PERCENTAGE AND APPLICATIONS **6**

Percentage, Profit, Loss & Discount, Simple Interest, Compound Interest

UNIT IV TIME **6**

Rates,Time and Distance ,Train Problems, Boats and Streams, Time and Work.

UNIT V RATIO AND PROPORTION **6**

Allegations of compounds and mixtures.

Text Books

1. Aggarwal.R.S(2018) “Quantitative Aptitude” by, S.Chand Publications.

2. Aggarwal.R.S(2018) “A modern approach to Logical approach” by, S.Chand Publications.

Reference Books

1.Abhijit Guha, “Quantitative Aptitude”- Mc Graw Hills Publishers

2. Aggarwal.R.S(2018) “A modern approach to Logical approach” by, S.Chand Publications.

CourseCoordinator **HOD**

U18SEMA002	QUANTITATIVE APTITUDE-II	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES:-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Inverse, Compound equation.
CO2	Understand the circular arrangement.
CO3	Apply suitable direction of Permutations and combinations test.
CO4	Analyze the Heights and Distance
CO5	Evaluate problems on Simple Interest
CO6	Create an real time applicationof Date and time.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									☐	
4	Approval	Academic Council Meeting								

UNIT I SOLVING ABILITY **6**

Simple equations –Variation-Direct, Inverse, Compound

UNIT II PROBABILITY **6**

Problems on Linear and circular arrangement.

UNIT III REASONING ABILITY **6**

Coding and decoding – Direction Permutations and combinations test- Lateral reasoning-Blood relations-Paragraph based
puzzles.

UNIT IV TRIGONOMETRY **6**
Heights and Distance.

UNIT V CLOCKS AND CALENDERS **6**
Interpretation of Date and time.

Text Books
1. Aggarwal.R.S(2018) “Quantitative Aptitude” by, S.Chand Publications.

2. Aggarwal.R.S(2018) “A modern approach to Logical approach” by, S.Chand

Publications.

Reference Books
1.Abhijit Guha, “Quantitative Aptitude”- Mc Graw Hills Publishers

2. Aggarwal.R.S(2018) “A modern approach to Logical approach” by, S.Chand Publications.

CourseCoordinator **HOD**

U18SEMA003	REGRESSION ANALYSIS WITH SPSS	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms.S.Kavitha /Mathematics				

COURSE OBJECTIVES:-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge Qualitative Variable on Nominal Scale, Ranked.
CO2	Understand the Deleting and Rearranging Items from the Viewer
CO3	Apply suitable direction Permutations and combinations test.
CO4	Analyze the Pie Chart, Scatter Plot and Dot plots
CO5	Evaluate data questionnaire Analysis
CO6	Create an real time application and test of hypotheses

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									☐	
4	Approval	Academic Council Meeting								

Unit 1 : Introduction **6**

Observations and Variables, Quantitative or Measurement Variable on Interval Scale, Qualitative Variable on Nominal Scale, Ranked Variable on Ordinal Scale.

Unit 2 : SPSS Data File **6**

Opening a Data File in SPSS – Variable View, Data View, Entering Data into the Data Editor, Saving the Data File. Editing and Manipulating Data : Inserting a New Variable, Rearranging the Order of Variable in the Variable View,

Deleting and Rearranging Items from the Viewer. Usage of Data, Transform, Analyse and Graphs menus – Editing and copying and printing SPSS output – Importing Data from Excel File.

Unit 3:Descriptive Statistics with SPSS **6**

Charts and Graphs: Simple Bar charts, Pie Chart, Scatter Plot and Dot plots, Line graphs, Histogram .

Unit 4: Correlation and Regression Analysis with SPSS

Simple correlation (Karl Pearson's Method) - Rank correlation (Spearman's mthod) – Simple linear regression equation, Scatter plot and line of best fit – Questionnaire Analysis (Uni-variate and Bi- variate tables) – Chi square test with SPSS for independence of Attributes.

Unit 5: correlation and Testing of Hypothesis **6**

Partial and multiple correlation coefficients . Simple linear regression model : Description of data model - Estimation and test of hypotheses.

Books for Study :

1. AnanthiSheshasayee and Sheshasayee, G, (2003), **Computer Applications in Business and Management**, Margham Publications, Chennai.

2. Rajathi, A. and Chandran, P. (2010), SPSS for you, MJP Publishers, Chennai.

3. Chatterjee, S and Price, B (1977), **Regression Analysis by Example**, John iley and Sons, New York (Chapter 1,2,3 and relevant portions in chapters 4,5,6,7,8,9).

4. Kapoor, V. K and Gupta, S. C (2002), **Fundamentals of Mathematical Statistics**, Sultan Chand and Sons, New Delhi. (Chapter 10 only

Books for Reference :

1. Singh, V. P. and Singh, M. (1998), **MS-Excel**, Megabyte Series, Asian Publishers, New Delhi.

2. Andy Field (2006), **Discovering Statistics Using SPSS**, SAGE Publications , London.

3. Johnston, J (1972), **Econometric Methods**, McGraw-Hill Pvt. Ltd, New York.

4. Draper, N. R and Smith, H (1998), **Applied Regression Analysis,** 3rd edition, John Wiley and Sons, USA.

CourseCoordinator **HOD**

BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH
FACULTY OF ARTS & SCIENCE
DEPARTMENT OF VISUAL COMMUNICATION
CURRICULUM

I SEMESTER

S.NO.	CATEGORY	SUB. CODEE	SUBJECT	L	T	P	C
THEORY							
1.	HS	U18HSTA101	Part -1 :Tamil	3	0	0	3
		U18HSHI101	Part -1 :Hindi				
		U18HSFR101	Part -1 : French				
2.	HS	U18HSEN102	Part II : English	3	0	0	3
3.	MC	U18MCVC101	Introduction to Visual Literacy	3	1	0	4
4.	MC	U18MCVC102	Communication Skills	3	1	0	4
PRACTICAL							
5	MC	U18MCVC1L1	**Graphic Design I**	**1**	**0**	**3**	**2**
6.	NC	U18NCVC1L2	Drawing - I	0	0	4	2
Total Contact Hours: 30						**Total Credits: 18**	

U18HSTA101	□□□□□– I	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : □□□□□□□. □. □□□□□□□□□ □□□□&□□□□□□□□□□□				

COURSE OBJECTIVES : □□□ □□□□□□□□	
COURSE OUTCOMES (COs)	
CO1	பாரதியார், பாரதிதாசன், கவிமணிஆகியோரின்மரபுக்கவிதைகளைஅறிவர்
CO2	□□□□□□□□□□, □□□□□□□□□□□□□□□□, □□.□□□□□□□□□□□□□□□□ □□□□□□□□□□ □□□□□□□□□□□□□□□□ □□□□□□□
CO3	□□□□□□□□□ □□□□□□□□□□□ □□□□□□□ □□□□□□□□□□□ □□□□□□□
CO4	□□□□□□□□□ □□□□□□□□□□□ □□□□□□□□□□□□□□□□□ □□□□□□□□□□ □□□□□□□
CO5	□□□□□□□ □□□□□□□□ □□□□□□□□□□□ □□□□□□ □□□□□□□
CO6	□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ □□□□□□ □□□□□□□

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

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2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

UNIT I

09

NAVEEN GADYA CHAYANIKA – 2 - Bholaram ka jeev - Mehamaan se Bhagavaan bachaaye - Numberovali Thijori – Kaffan - Gunda

UNIT II **09**

NON DETAILED TEXT: KAHANI KUNJ - Stories: 6 – 10 only

UNIT III **09**

GRAMMAR: SHABDA VICHAR ONLY - NOUN, PRONOUN, ADJECTIVE, VERB, TENSE, CASE ENDINGS - Theoretical & Applied

UNITIV **09**

TRANSLATION - English – Hindi only - ANUVADH ABHYAS – III - 1 – 15 Lessons Only

UNIT V

COMPREHENSION - 1 Passage from ANUVADH ABHYAS – III (16 – 30)

TEXT BOOKS:

UNIT 1 - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017

UNIT II - Govind Prakashan, Sadhar Bagaar, Mathura, Uttar Pradesh – 281001 - Editor: Dr V.P. Amithab

UNIT III - Vyakaran Pradeep by Ramdev - Hindi Bhavan, 36, Tagor Town, Allahabad – 211002.

UNIT IV - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017.

UNIT V - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017

CourseCoordinator **HOD**

U18HSFR101	**FRENCH**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department:- Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES:-

To introduce students to basic principles and practice of oral and written communication.

COURSE OUTCOMES (COs)	
CO1	To understand the basics of the language.
CO2	To analyze the sentence patterns and form the grammar.
CO3	To learn the basics of grammar along with its principles.
CO4	To remember the anatomy of conjugations.

CO5	To create dialogs and conversation on their own within the language & to practice oral and written skills.
CO6	To remember the necessary rules of the language

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	2	1	1	1	3		
	CO2	3	3	3	1	2	1	3		
	CO3	3	3	3	1	3	1	3		
	CO4	3	3	3	1	1	1	3		
	CO5	3	3	3	3	1	1	3		
	CO6	3	3	3	2	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I - Vous comprenez **9**

Alphabets - French Accents - Les Nombres – Pronunciations.

UNIT II Au travail! **9**

Masculine Singular and Feminine singular - Conjugaison des verbes (present tense) - Les articles définis.

UNIT III En se detend? **9**

Conjugaison (faire-aller-venir-Vouloir-Pouvoir-Devoir)

UNIT IV Racontez-moi **9**

La date et l'heure – les saisons – les couleurs

UNIT V Bon voyage! **9**

Adjectifs demonstratives - Adjectifs possessives - Les Voyages / les transport-Bon appétit!- Article partitif - Emploi des articles - Interrogation (Forme avec inversion) - Les repas - La fête

TEXTBOOK:
A1 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator **HOD**

U18HSEN102	**ENGLISH I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept: Mrs. SHEEBA - English				

COURSE OBJECTIVES:- :- To use English effectively for study purpose and enable the learner to communicate appropriately in real life situation.

	COURSE OUTCOMES (COs)
CO1	Remember and recall the words according to the given context.
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved

CO5	Evaluate the characters and summarizes the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O1	PSO2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L						H		
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓							

4	**Approval**	Academic Council Meeting

UNIT-I POETRY **12**

Lucy Gray -William Wordsworth – biography –summary-annotation; **Ulysses**-Alfred Lord Tennyson - biography –summary-annotation **The Road Not Taken** – Robert Frost- biography – summary-annotation

UNIT-II – ONE ACT PLAYS **12**

The Boy Comes Home-A.A.Milne – character sketch – analysis - summary; **The Referee** - W.H.Andrews and Geoffrey Dearmer - characters sketch - summary

UNIT -III SHORT STORIES **12**

The Unicorn in the Garden – James Thurber-analysis-.summary- character sketch - moral; **The Avenger** – Anton Chekov - The Gift of the Magi-O.Henry- character sketch - analysis-summary –moral.

UNIT IV PROSE **12**

Six Thinking Hats - Edward de Bono – self analysis, **My Early Days**-Abdul Kalam self analysis-summary - **I Have a Dream** - Martin Luther King - self analysis – racism - summary

UNIT V

Introduction to Basics of Communication – Definitions – Types – Listening, Speaking, Reading & Writing

TEXT BOOKS:

Six Thinking Hats by Edward de Bono, Little Brown and Company, 1985
My Early Days by Abdul Kalam, October 7, 2013

REFERENCE BOOKS:

1. Strings of Gold (Part- II) Edited by Prof. Jasbir Jain (MacMillan), 2007
2. Basic Communication Skills for Technology by Rutherfoord (Dorlig Kindersly), 2007
3. English for Professionals A Practice Book of Communication Skills in English by Dr.Miglani (Vayu Education of India), 2010

CourseCoordinator **HOD**

U18MCVC101	**Introduction to Visual Literacy**	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2 With any Major				
	Course Designed by – Dept. of Visual Communication				

COURSE OBJECTIVES :-

Apply appropriate communication skills across settings, purposes, and audiences. Demonstrate knowledge of communication theory and application.

COURSE OUTCOMES (COs)	
CO1	Knowledge will be gained about Introduction & Definition of Communication
CO2	Knowledge will be gained about Levels of Communication
CO3	Knowledge will be gained about Stages of Communication
CO4	Knowledge will be gained about Elements of Design
CO5	Knowledge will be gained about Design Process
CO6	Knowledge will be gained about Introduction & Definition of Communication

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H	H	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT I Introduction to Communication **12**

Definition for Communication, Need for and the Importance of Communication. Communication as an Expression, Skill and Process - SMRC Model

UNIT II Communication as a process **12**

Message, Connotation & Denotation. Types of Communication. Levels of Communication.

Unit III Stages of Communication **12**

Stages of Interpersonal Communication. Communication Barriers. Advantages and Disadvantages of Group Communication. Advantages and Disadvantages of Interpersonal Communication.

Unit IV Elements of Design **12**

Elements of Design: Line, Shape, Space, Colour, Texture, Form, Etc. Principles of Design: Symmetry, Rhythm, Contrast, Balance, Mass/Scale, Etc. Design and Designers - Need, Role.

Unit V Design Process **12**

Colour Psychology and Theory (Some aspects) Optical / Visual Illusions. Various stages of Design process – Problem Identification, Search for solution, Refinement, Analysis, Decision making and Implementation.

Reference Books:

1. Visual Communications: Images with Messages – Lester.E, Thompson Learning (2000)
2. Pocket Guide to Colour with Digital Applications – Schildgen, Thompson Learning (1998)

Text Books:

1. Manual of Graphic Technique – Palmer, Astrgal Books (1982)
2. Visual Awareness - Palmer, Batsford (1972)

CourseCoordinator **HOD**

U18MCVC102	**Communication Skills**						**L**	**T**	**P**	**C**
	Total Contact Hours – 45						3	1	0	4
	Prerequisite course –+2 With any Major									
	Course Coordinator Name &Department :- VISUAL COMMUNICATION									
COURSE OBJECTIVES :- Learners will be familiar with the basic programming in C Language concepts.										
COURSE OUTCOMES (COs)										
CO1	Remember the basic structures of Data type, operators and statements									
CO2	Understand the Fundamentals of C programming.									
CO3	Choose the suitable loop statements and decision making statements to solve the problem.									
CO4	Use functions to apply for real time application									
CO5	Ability to code C using Array and Pointers									
CO6	Develop an application using files									
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low										
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2

	CO1	H	M						H	M
	CO2	H	M							
	CO3	H	M							
	CO4	H	M							
	CO5	H	M							
	CO6	H	M							
3	Category	Part 1 Tamil/Linguistic Study	Part II Linguistic English	Part III Core	Part III Substream	Part IV Basic/ Advanced Tamil/ EVS/VE/ SBE/ Soft Skill	Part III Project	Part V Extension Activity		
				✓						
4	Approval	Academic Council Meeting								

Unit I Interpersonal Communication 12

Interpersonal communication – Definition, Theories and Models-Transactional analysis etc.

Unit II Group Communication 12

Group communication – Definition, Theories and Models-Decision making process, leadership, team work communication patterns in group context

Unit III Public Communication 12

Public communication – Definition, Rhetoric Model, Persuasion Models.

Unit IV Non-Verbal Communication 12

Non-verbal Communication – Definition, Theories and Models, Types of non-verbal behavior Kinesics

Unit V Designing Messages for different audiences 12

Ideation and Creative Thinking - Lateral Thinking. Designing Messages for different audiences

REFERENCE BOOK

1. Communication Mosaics: An Introduction to the Field of Communication. Wood, Julia T, Wadsworth, 2001.

Text Book

1. Persuasion-Reception and Responsibility - Larson, Charles U; Wadsworth, 2001.

CourseCoordinator **HOD**

CODE No. U18MCVC1L1	**COURSE NAME : Graphic Design I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	1	0	3	2
	Prerequisite – +2 With any Major				
	Course Designed by – Dept of Visual Communication				

COURSE OBJECTIVES

UNIT – 1 : To learn about Dots and Lines of Different Thickness
UNIT – 2 : To learn about Curves and Shapes of Different Thickness
UNIT – 3 : To learn about Patterns and Distortion
UNIT – 4 : To learn about Lettering
UNIT – 5 : To learn about Fonts

Unit I	Dots and Lines of Different Thickness	Number of Hours: 6
Unit II	Curves and Shapes of Different Thickness	Number of Hours: 6
Unit III	Patterns and Distortion	Number of Hours: 6
Unit IV	Lettering	Number of Hours: 6
Unit V	Fonts	Number of Hours: 6

COURSE OUTCOMES (COs)	
CO1	Knowledge will be gained about Dots and Lines of Different Thickness
CO2	Knowledge will be gained about Curves and Shapes of Different Thickness
CO3	Knowledge will be gained about Patterns and Distortion
CO4	Knowledge will be gained about Lettering
CO5	Knowledge will be gained about Fonts
Category	MC
Approval	47th Academic Council Meeting

CODE No. U18NCVC1L2	COURSE NAME : Drawing I	L	T	P	C
	Total Contact Hours – 45	0	0	4	2
	Prerequisite – +2 With any Major				
	Course Designed by – Dept of Visual Communication				

COURSE OBJECTIVES

UNIT – 1 : To learn about Dots and Lines
UNIT – 2 : To learn about Geometrical Shapes and Overlapping
UNIT – 3 : To learn about Patterns and Surface Textures
UNIT – 4 : To learn about Overlapping Objects
UNIT – 5 : To learn about Light and Shade

Unit I	Dots and Lines	Number of Hours: 6
Unit II	Geometrical Shapes and Overlapping	Number of Hours: 6
Unit III	Patterns and Surface Textures	Number of Hours: 6
Unit IV	Overlapping Objects	Number of Hours: 6
Unit V	Light and Shade	Number of Hours: 6

COURSE OUTCOMES (COs)	
CO1	Knowledge will be gained about Dots and Lines
CO2	Knowledge will be gained about Geometrical Shapes and Overlapping
CO3	Knowledge will be gained about Patterns and Surface Textures
CO4	Knowledge will be gained about Overlapping Objects
CO5	Knowledge will be gained about Light and Shade
Category	NC
Approval	47th Academic Council Meeting

II SEMESTER

S. No.	CATEGORY	SUB. CODE	SUBJECT	L	T	P	C
THEORY							
1	HS	U18HSTA201	Part -1 :Tamil	3	0	0	3
		U18HSHI201	Part -1 :Hindi				
		U18HSFR201	Part -1 : French				
2	HS	U18HSEN202	Part-II: English	3	0	0	3
3	MC	U18MCVC201	Reporting, writing and Editing	3	1	0	4
4	MC	U18MCVC202	Advertising	4	1	0	4
5	HS	U18HSCH201	Environmental Studies	2	0	0	2
6	HS	U18HSBC202	Value Education	2	0	0	2

PRACTICAL							
7	MC	U18MCVC2L1	Graphic Design – II	0	0	4	2
8	NC	U18NCVC2L2	Drawing – II	0	0	4	2
Total Contact Hours: 30				**Total Credits: 22**			

U18HSTA201	□□□□□- II	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : □□□□□□□. □. □□□□□□□□□ □□□□ &□□□□□□□□□□□				
COURSE OBJECTIVES : □□□□□□□□□□□□

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

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3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								
4	Approval		Academic Council Meeting							

UNIT I **09**

MODERN POETRY - SHABARI

UNIT II **09**

ONE ACT PLAY - EKANKI SANKALAM

UNIT III **09**

TRANSLATION - HINDI – ENGLISH ONLY

UNIT IV **09**

LETTER WRITING - Leave letter - Job Application - Ordering books - Letter to Publisher - Personal letter

UNIT V **09**

CONVERSATION - Doctor & Patient - Teacher & Student - Storekeeper & Buyer - Two Friends - Booking clerk & Passenger at Railway station – Auto rickshaw driver and passenger.

Text Books:

By Naresh Mehtha,Veerendra Kumar Mishra

Reference Books:

UNIT 1 – Publisheres - Lokbharathi Prakashan ,1 Floor, Duebari Building,Mahathma Gandhi Marg, Allahabad – 1.

UNIT II – Publishers – Vani Prakasam, New Delhi-110002

UNIT III – Publishers – Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator **HOD**

U18HSFR201	FRENCH	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department: - Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES: -

To introduce students to the complexity of the grammar and how to overcome it with simple rules.

COURSE OUTCOMES (COs)

CO1	To being able to interpret the language.
CO2	To familiarize with methodological approaches in the study of literary and cultural texts, such as close reading, socio-historical contextualization, and literary and cultural theory.
CO3	To obtain advanced proficiency in spoken and written French.
CO4	To encourage the development of skills in linguistics, translation, and comparative studies.
CO5	To remember the anatomy of conjugations in past tense.
CO6	To evaluate the given text critically and enhance communication skills.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	2	1	1	1	3		
	CO2	3	3	3	1	2	1	3		
	CO3	3	3	3	1	2	1	3		
	CO4	3	3	3	1	1	2	3		
	CO5	3	3	3	3	1	1	3		
	CO6	3	3	2	3	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I -Quelle journee! **9**La Conjugaison pronominale -L'imperatif -L'expression de la quantite (peu-in peu de- quelque – etc.)

UNIT II - Qu'on est bien ici ! **9**
Prepositions et adverbs de lieu - Verbs experimant un deplacement (employ des prepositions) Le lodgement/la localisation/ l'orientation/l'etat physique/le temps qu'il fait

UNIT III -En se detend? **9**
L'imparfait-Emplois du passé compose et de l'imparfait-Expression de la duree-L'enchainement des idees (alors, donc, mais) /Le sens reciproque

UNIT IV- On s'appelle? **9**
Les pronoms complements direct -Les pronoms compliments indirects de personne -c'est/ il est-Imperatif des verbs avec pronoms-La fornation des mots

UNIT V Un bon conseil ! **9**
Expression du deroulement de l'action--passe recent--Present progressif-future proche-Les phrases rappotrees- La place de l'adjectif- La proposition relative finale avec -qui

TEXTBOOK: A1 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator **HOD**

U18HSEN202	**ENGLISH II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept.: Mr.S.KUMARESAN – English				

COURSE OBJECTIVES:- To have a better understanding of the English language skills and its implementation it in day to day life activities.

	COURSE OUTCOMES (Cos)
CO1	Remember and recall the concepts of English language
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarize the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.

Mapping of Course Outcomes with Program outcomes (Pos) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	Cos/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O	PSO2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L						H		
	CO4	H	L								
	CO5	H	L								

	CO6	H	L									
3	Category	Humanities & Social Studies (HS)		Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)	
		✓										
4	**Approval**	Academic Council Meeting										

UNIT 1: PROSE **12**

The Refugee – K.A. Abbas –suffering – summary – analysis.- criticism – character sketch; **The Lion and the Lamb** – Leonard Clark – summary – analysis.- criticism- characters.

UNIT 2: POEMS **12**

The Solitary Reaper – William Wordsworth –biography – summary – nature –annotation - explanation; **Gift** – Alice Walker- biography – summary – nature –annotation -explanation.

UNIT 3: SHORT STORIES **12**

The Fortune -Teller – Karel Capek – biography – summary – analysis – character sketch ; **The Postmaster** – Rabindranath Tagore – summary – analysis – character sketch.

UNIT 4: ONE-ACT PLAYS

The Death Trap – Saki (H.H. Munro) – biography- summary – analysis – character sketch; **The Dear Departed**: A Comedy in One-Act – Stanley Houghton- biography – summary – analysis - character sketch.

UNIT 5: GRAMMAR **12**

Communicative Grammar – Seeking and giving information – statements and questions Being informal – phrasal verbs, Expressing ability, possibility, etc – Modals and other devices Books Prescribed: Panorama: English for Communication by Board of Editors, Emerald.

TEXT BOOKS:

The Refugees by K.A.Abbas (A Short History of the English Novel by S. Diana Neill (Indian Reprint; Kalyani Publishers) 2001

The Death Trap by Saki, The Novels and Plays of Saki, 2001

REFERENCE BOOKS:

1. Strings of Gold (Part- II) Edited by Prof. Jasbir Jain (MacMillan), 2009
2. Ten Twentieth Century Indian Poets (ed. R. Parthasarathy), 2002
3. English Communication by S.CHAND Publishing, 2016

CourseCoordinator **HOD**

Code No U18MCVC201	**REPORTING,WRITING AND EDITING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2 With any Major				
	Course Designed by – Dept of Visual Communication				

COURSE OBJECTIVES :-

Learners understand reporting and various types of fundamental of writing and art of editing

	COURSE OUTCOMES (Cos)
CO1	Knowledge will be gained about Introduction of reporting
CO2	Knowledge will be gained about various types of reporting
CO3	Knowledge will be gained about the Fundamentals of writing
CO4	Knowledge will be gained about Editorial structuring
CO5	Knowledge will be gained about the Art of editing
CO6	Knowledge will be gained about the new different style of editing

Mapping of Course Outcomes with Program outcomes (Pos) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	Cos/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O	PSO2	PS O3
2	CO1	H	H	M							
	CO2	H	H	M							
	CO3	H	H	M					H	H	M
	CO4	H	H	M							

	CO5	H	H	M								
	CO6	H	H	M								
3	Category	Humanities & Social Studies (HS)		Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)	
						*						
4	**Approval**	Academic Council Meeting										

UNIT 1 INTRODUCTION TO REPORTING 12

Introduction to Reporting-Art of collecting News- Qualities or Characteristics of Reporters-Nose for News.

UNIT 2 ART OF INTERVIEWING 12

Art of Interviewing- Various types of reporting – In depth and Interpretative reporting-Investigative reporting

UNIT 3 FUNDAMENTALS OF WRITING HEADLINES 12

Fundamentals of writing Headlines- Creativity-Types of Headlines-Intro or Lead-Writing body copy-Importance of translation in Newspapers and Magazines

UNIT 4 EDITORIAL STRUCTURING 12

Editorial structuring-Analysis of facts-Various forms of Editorials- features form and contents-Types of features-Articles- Forms and Contents-Columns- Letters to the Editor-Reviews-Film, Book and Art and Literature

UNIT 5 ART OF EDITING 12

Art of Editing-Qualities of Editors and Sub-editors-Principles of copy Editing- Structuring the News-Different styles in Editing- Editing for Space.

REFERENCE BOOK:

1. The Complete Reporters, Julius Harris Macmillon, Newyork, 1981.
2. Professional Journalism, Kamath M.V.,Vikas Publications, 1980.

TEXT BOOK:

1. Beyond the Facts : A guide to the art of the Feature writing, Louis Alexnde, Gulf Publishing Company, 1982.
2. News Writing: from Lead to, Metz William Prentice Hall Inc., New Jersy, 1979.

CourseCoordinator **HOD**

Sub. Code: U20VSP303	**Subject Name : ADVERTISING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator : Mr.Arun mozhi varman, Assistant professor, Visual communication.				

COURSE OBJECTIVES :-

This course is designed as a comprehensive introduction to the principles and practices of advertising, with some attention to IBP. The course is designed for those students who wish to pursue a career in advertising. The primary objective of the course is to provide each student with the background and experience necessary to develop and implement marketing communication strategies.

COURSE OUTCOMES (COs)	
CO1	Knowledge will be gained about Advertising & Audience
CO2	Knowledge will be gained about Environment, Components
CO3	Knowledge will be gained about Advertising Management
CO4	Knowledge will be gained about Advertising campaign
CO5	Know the latest trends in advertising.
CO6	Gain knowledge in Audiovisual commercials.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**

2	CO1	H	M						H	H	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT I DEFINITION OF ADVERTISING 12

Definition, Nature & Scope of advertising, Types of Advertising.

UNIT II ADVERTISING & AUDIENCE 12

Based on target audience, geographic area. Corporate and Promotional Advertising. Web Advertising.

UNIT III ENVIRONMENT, COMPONENTS 12

Advertising agency – Structure of small, medium & big agencies, functions. Types of agencies – in-house, Independent, Full-service & Specialized. Legal aspects & ethical issues.

UNIT IV ADVERTISING MANAGEMENT 12

Client Brief, Account Planning, Creative Strategy and Brief, Communication Plan, Brand Management – Positioning, brand personality, brand image.

UNIT IV ADVERTISING CAMPAIGN 12

Conceptualization and Ideation, Translation of ideas into campaigns, Visualization Designing & Layout, Copy writing – Types of headlines, body copy base lines, slogans, logos, & trademarks. Story board. Advertising campaign-from conception to execution.

REFERENCE BOOKS

1. Advertising Theory and Practice – Fryburger and Rotzoll, AAITBS Publisher (1996)
2. Advertising Managers Hand book – Stansfied, Richard, UBBSPD Publishers

TEXT BOOK

1. Advertising Hand book – Mohan, Atlantis Publications
2. Advertising Management: Concepts and Cases – Tata McGraw – Hill Jewler, E, Thomson Learning (1998)

CourseCoordinator **HOD**

U20CYP401	**ENVIRONMENTA STUDIES**			**L**		**T**	**P**		**C**		
	Total Contact Hours - 30			2		0	0		2		
	Prerequisite course –Higher Secondary studies										
	Course Coordinator Name & Department:- – Dr. G. Gurumoorthy / Chemistry										
COURSE OBJECTIVES:- To make the students learn about the science from the basic and understood all theoretical background with all concepts thoroughly to protect the habitat of biotic and abiotic ecosystem.											
COURSE OUTCOMES (COs)											
CO1	Remember the fundamental concept of environmental impact and importance of natural Resources										
CO2	Understand about the Ecosystem, Biodiversity and its conservation										
CO3	Understand the various environmental pollution, effects and prevention.										
CO4	Apply the environmental legislations and environmental production act.										
CO5	Apply the human rights, value education, environment and human health: women and child welfare, public awareness										
CO6	Analyze the local area, local polluted site and local simple ecosystem.										
	Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low										
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L	H			H		H		
	CO2	H	L	H			H				
	CO3	H	L	H			H				
	CO4	H	L	H			H				
	CO5	H	L	H			H				

	CO6	H	L	H			H				
3	Category	Part 1 Tamil/Linguistic Study	Part II Linguistic English	Part III Core	Part III Substream	Part III Project	Part IV Basic/ Advanced Tamil/ EVS/VE/ SBE/ Soft Skill	Part V Extension Activity			
							✓				
4	Approval	Academic Council Meeting									

Unit – I: Introduction to Environmental Sciences: Natural Resources: 6

Environmental sciences – relevance – significance – public awareness – forest resources – water resources – mineral resources – food resources – conflicts over resource sharing – exploitation – land use pattern – environmental impact – fertilizer – pesticide Problems – case studies.

Unit – II: Exosystem, Biodiversity and its conservation: 6

Ecosystem – concept – structure and function – producers, consumers and decomposers –food chain – food web – ecological pyramids – energy flow – forest, grassland, desert and aquatic ecosystem – definition – genetic, species and ecosystem diversity – biodiversity – definition – genetic, species and ecosystem diversity – values and uses of biodiversity – biodiversity at global, national (india) and local levels – hotspots, threats to biodiversity –conservation of biodiversity – insitu and ex-situ.

Unit – III: Environmental Pollution and Management 6

Environmental pollution – causes – effects and control measures of air, water , marine, soil, solid waste. Thermal, nuclear pollution and disaster management – floods, earth quake, cyclone and land slides, role of individuals in prevention of pollution – pollution case studies.

Unit – IV: Social issues – Human population: 6

Urban issues – energy – water conservation – environmental ethics – global warming – resettlement and rehabilitation issues – environmental legislations – environmental production act. 1986 – air, water, wildlife and forest B.C.A.: syllabus (CBCS) conservation act – population growth and explosion – human rights and value education – environmental health – HIV/AIDS – role of it in environment and human health – women and child welfare – public awareness – case studies.

Unit – V: Field Work:
Visit to a local area / local polluted site / local simple ecosystem – report submission.

Text Book:

1. K. Kumarasamy, A. Alagappa Moses and M. Vesanthy, Environmental Studies, 2004, Bharathidasan University Pub, 1, Trichy.
2. Y. K. Singh, Environmental Science, 2006, New Age International (P) Limited, New Delhi.
3. Divya Agarwal and Manoj K. Agarwal, Environmental Science, 2014, Astral International Pvt. Ltd,New Delhi.

Reference book:

1. Rajamannar, 2004, Environmental Studies, EVR College Pub, Trichy.
2. S. Kalavathy, (ED.) 2004, Environmental Studies, Bishop Heber College Pub. Trichy.
3. G. TylerMiller, Scott Spoolman, 2018, Environmental science, 16th edition.

Course Coordinator **HOD**

U18HSBC202	**VALUE EDUCATION**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary level				
	Course Coordinator Name & Department:- Ms. G. Vinothini, Commerce				

- **COURSE OBJECTIVES**
- To enable the students to understand the Social values.
- To provide knowledge on the features forlife.
- To acquire the knowledge on Humanrights.
- To impart the knowledge on Environment and Ecologicalbalance.
- To educate the knowledge on Socialevils..

COURSE OUTCOMES (COs)	
CO1	Recall the basic concept of human values, Social Value role of medias, Self-introspection – Self esteem
CO2	Understand the duties and responsibilities of individuals and role of media
CO3	Apply Salient features for life, : Truth, commitment,, honesty and integrity, forgiveness and love and also positive creative thinking
CO4	Demonstrate Universal declaration of Human rights, peace and nonviolence – Dr. APJ Abdul Kalam's ten points for enlightened citizenship.
CO5	Analyze living and nonliving environmental balance, Ecological balance and conservations and enrichment
CO6	Manipulate the awareness on Corruption, crime, terrorism, Alcoholism, Drug addiction, Dowry

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	**PS**	**PSO2**	**PSO3**

									O1		
2	CO1	H	M	M					H		
	CO2	H	H	H		L					
	CO3	M	H	M	M						
	CO4	H	M	L							
	CO5	H	H	M			M				
	CO6	M	M	L							
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)	
		✓					✓				
	Approval	Academic Council Meeting									

UNITI **6**

Value education: Definition- relevance to present day – concept of human values – self introspection – Self esteem- duties and responsibilities of individuals- Social values- role of media in value building.

UNIT II **6**

Salient features for life: Truth, commitment,, honesty and integrity, forgiveness and love, empathy and ability to sacrifice, care, unity and inclusiveness, Team work- positive creative thinking.

UNIT III **6**

Human rights: Universal declaration of Human rights- human rights violation – National integration – peace and non violence – Dr. APJ Abdul Kalam's ten points for enlightened citizenship

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UNIT IV **6**

Environment and Ecological balance: Interdependent of all being – living and non living – the binding of man and nature – Environmental conservations and enrichment.

UNIT V **6**

Social evils : Corruption – cyber crime, terrorism, Alcoholism, Drug addiction, Dowry – Domestic violence – untouchability – female infanticide – atrocities against

women – How to tackle them.

TEXTBOOK

1. N. Arumugam, S. Mohana, Lr. Palkani- value based education- Saras Publication,2009
2. DN Ghose, Value Education- dominant publishers,2005
3. M.G. Chitakra, Education and Human values, A.P.H Publishing Corporation. NewDelhi

REFERENCE BOOKS

1) For Life, for the future: Reserves and Remains – UNESCOPublications.
2) Values, A Vedanta kesari presentations, Sri Ramakrishna Math,Chennai
3) Values for Excellence in Life Compiled by then Curriculum Development Cell Thiagarajar College, Madurai, in collaboration with the Education wing, Brahma Kumaris, Madura

CourseCoordinator **HOD**

CODE No.	COURSE NAME : GRAPHIC DESIGN II	L	T	P	C
U18MCVC2L1	Total Contact Hours – 30	0	0	4	2
	Prerequisite – +2 With any Major				
	Course Designed by – Dept of Visual Communication				

COURSE OBJECTIVES

UNIT – 1 : To learn about Logo design
UNIT – 2 : To learn about Letterhead
UNIT – 3 : To learn about Visiting Cards
UNIT – 4 : To learn about Brochures
UNIT – 5 : To learn about Print Advertisements – Black & White, Colour

UNIT I	**LOGO DESIGN**	6
UNIT II	**LETTERHEAD**	6
UNIT III	**VISITING CARDS**	6
UNIT IV	**BROCHURES**	6
UNIT V	**BLACK & WHITE, COLOUR**	6

COURSE OUTCOMES (COs)	
CO1	Knowledge will be gained about Logo design
CO2	Knowledge will be gained about Letterhead
CO3	Knowledge will be gained about Visiting Cards
CO4	Knowledge will be gained about Brochures
CO5	Knowledge will be gained about Print Advertisements – Black & White, Colour
Category	MC
Approval	47th Academic Council Meeting

CODE No. U18NCVC2L2	COURSE NAME :DRAWING – II	L	T	P	C
	Total Contact Hours – 45	0	0	4	2
	Prerequisite – +2 With Major				
	Course Designed by – Dept of Visual Communication				

COURSE OBJECTIVES

UNIT – 1 : To learn about Forms- humans, animals, birds,
UNIT – 2 : To learn about Live models
UNIT – 3 : To learn about Landscapes
UNIT – 4 : To learn about Monuments
UNIT – 5 : To learn about Still life

UNIT I	**FORMS - HUMANS, ANIMALS, BIRDS**	6
UNIT II	**LIVE MODELS**	6
UNIT III	**LANDSCAPES**	6
UNIT IV	**MONUMENTS**	6
UNIT V	**STILL LIFE**	**6**

COURSE OUTCOMES (COs)	
CO1	Knowledge will be gained about Forms- humans, animals, birds
CO2	Knowledge will be gained about Live models
CO3	Knowledge will be gained about Landscapes
CO4	Knowledge will be gained about Monuments
CO5	Knowledge will be gained about Still life
Category	NC
Approval	47th Academic Council Meeting

III SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	L	T	P	C
THEORY							
1	HS	U18HSTA301	Tamil - III	3	0	0	3
	HS	U18HSFR301	French - III				
	HS	U18HSHI301	Hindi - III				
2	HS	U18HSEN302	English - III	3	0	0	3
3	MC	U18MCVC301	Public Relations	3	1	0	4
4	MC	U18MCVC302	Media Organization	3	1	0	4
5	NME	U18NETA301	Non Major Elective II – for those who studied Tamil under Part I:**Basic Tamil** for other language students	2	0	0	2
		U18NETA302	**Special Tamil** for those who studied Tamil upto10th +2 but opt for other languages in degree programme.				
PRACTICAL							

6.	MC	U18MCVC3L1	Photography	**0**	0	4	2
7.	NC	U18NCVC3L2	Campaigning	**0**	0	4	2
Total Contact Hours: 30						**Total Credits: 20**	

U18HSTA301	□□□□□– III	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : □□□□□□□. □. □□□□□□□□□ □□□□ &□□□□□□□□□□□				

COURSE OBJECTIVES : □□□□□□□□□□□□

	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

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U18HSHI301	Hindi	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Hindi as second language in Grade 12				
	Course Coordinator Name & Department:- Dr. K. MustakHusaain / Department of Hindi				

COURSE OBJECTIVES: -

To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)

CO1	Remember of Ramayana in Panchavati part
CO2	Understand the history of Hindi literature
CO3	Apply the concept of Hindi grammatical speech
CO4	Analyze and develop the translation skills
CO5	Evaluate and develop the unseen passage skills
CO6	Create the skills in Hindi language

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								
4	Approval		Academic Council Meeting							

UNIT I **09**

POETRY - PANCHAVATI

UNIT II **09**

HISTORY OF HINDI LITERATURE - Aadi Kaal and Bhakthi Kaal - general knowledge of the trends of the difference streams

UNIT III **09**

ALANKAR – Anupras – Yamak - Slesh - Vakrokthi Upama – Rupak – Drishtanth - Virodhabas.

UNIT IV **09**

TRANSLATION - HINDI – ENGLISH

UNIT V **09**

COMPREHENSION

Text Books:

By Maithilisharan Gupt, Anuvadh Abhyas - III

Reference Books:

Publisheres - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator **HOD**

U18HSFR301	FRENCH	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department: - Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES: -

To develop the technical aspects of the language and varied grammatical nuances to interpret the subject matter.

COURSE OUTCOMES (COs)

CO1	To impart the various aspects that makeup the language.
CO2	To learn some facts, procedures, practice certain grammatical structures, and practice communicative strategies.
CO3	To learn the culture of the language natives.
CO4	To analyse the differences between the basic and advanced grammar.
CO5	To remember the interlink between the conjugations
CO6	To understand grammatical strictures.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	2	1	1	1	3		
	CO2	3	3	3	3	2	1	3		
	CO3	3	3	3	1	3	1	3		
	CO4	2	3	3	1	1	1	3		
	CO5	3	3	3	1	1	2	3		
	CO6	3	3	3	2	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I Vivement demain! **9**

Le future- La comparaison des qualities, des quantities et des actions

UNIT II Le Tu as du boulot? **9**

Le pronom (en)-Le pronom (Y)-Expression de la condition

UNIT III -Qu'en pensez - vous? **9**

Le subjonctif (employ lie a quelques verbs)- Expression de la quantite (poids et mesure-evaluation-restriction)

UNIT IV - C'est tout un programme!

Les propositions relatives introduites par (qui, que, ou)-Les adverbs (place, formation des adverbs en-ment)-
La forme ((en + participle present))

UNIT V On se retrouve ! **9**

Emploi et conjugaison des quatre temps de l'indicatif quatre temps de l'indicatif:--passe recent--Present -Passe compose-Imparfait et future

TEXT BOOKS:

A2 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator **HOD**

U18HSEN302	**ENGLISH- III**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept: Mrs. B.JANUA SHERLY – English				

COURSE OBJECTIVES:- To enhance the reading, writing, listening and speaking of the English language skills..

COURSE OUTCOMES (COs)	
CO1	Remember and recollect the value of LSRW skills.
CO2	Understand the competence of the four modes of language skills.
CO3	Apply the grammatical concepts and the correct usage of the English language.
CO4	Analyze their personality traits and develop interpersonal skills for a better career in life
CO5	Evaluate the knowledge and write resume official letters and reports
CO6	Create and develop their ability as critical thinkers and readers.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O1	PSO 2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L						H		
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								

4	**Approval**	Academic Council Meeting

UNIT 1-LISTENING SKILLS **12**

Types of Listening (Theory / Definition) - Tips for Effective Listening -Academic Listening (Lectures) - Listening to Radio and Television

UNIT 2-TELEPHONE SKILLS **12**

Basics of Telephone communication -How to handle calls- telephone manners -Leaving a message -Making requests -Greeting and Leave Taking over phone (etiquette) - Handling the situations especially trouble shooting Teleconference - handling Tele interviews for Call Centres

UNIT 3-WRITING SKILLS **12**

Standard Business letter - Report writing- Email drafting and Etiquettes - Preparing Agenda and writing minutes for meetings - Making notes on Business conversations

UNIT 4 -CAREER SKILLS **12**

Applying for job -Cover letters -Resume and Effective Profiling - Interviews - Group discussions

UNIT 5 –PERSONAL SKILLS **12**

Empathy (Understanding of someone else points of view) -Intrapersonal skills -Interpersonal skills- Problem solving

TEXT BOOKS:

Improve Your IELTS Listening and Speaking Skill by Barry Cusack, 2007

REFERENCE BOOKS:

1. A Workbook to Develop Skills For Employment by Frederick H. Wentz, 2001
2. English and Communication skills for students by S.P.Dhanavel .2009

CourseCoordinator **HOD**

U18MCVC301	**Public Relations**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Visual Communication / Advertising Studied in Semester II				
	Course Coordinator Name & Department :- Ms. A. Niramathi/VISCOM				

COURSE OBJECTIVES :-

Learners having knowledge in basics of Advertising can understand the functions of Public relations skills.

The purpose of this course is providing a clear understanding of the concepts that Public Relations.

COURSE OUTCOMES (COs)

CO1	Knowledge will be gained about Introduction to Public Relations
CO2	Knowledge will be gained about Researching the Publics
CO3	Knowledge will be gained about Relating to the Media
CO4	Knowledge will be gained about Public service announcements
CO5	Knowledge will be gained about Professional ethics & Career Opportunities

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L		H				H	H	H
	CO2	H	L		H						
	CO3	H	L		H						
	CO4	H	L		H						
	CO5	H	L		H						
	CO6	H	L		H						

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					

4	Approval		Academic Council Meeting

UNIT 1 INTRODUCTION TO PUBLIC RELATIONS 12

Defining Public Relations**,** The history of public relations in modern organizations**.** Market and audience research and analysis.

UNIT 2 CAMPAIGN DEVELOPMENT 12

Analyzing public opinion. Campaign development, image and text design, media relations.

UNIT 3 WRITING FOR MEDIA 12

writing for media Market surveys, writing for news releases. survey construction. Preparing survey questions prepare survey drafts

UNIT 4 PUBLIC SERVICE ANNOUNCEMENTS 12

Producing public service announcements. Conducting news conferences, and design web pages.

UNIT 5 CRISIS MANAGEMENT 12

Crisis management, and communication ethics. Professional ethics of Public Relations. Career opportunities in Public relations.

REFERENCE BOOKS

1. The Practice of Public Relations - Fraser ,P. Seitel

TEXT BOOK

1. Upper Saddle River, New Jersey: Prentice Hall, 1998.

CourseCoordinator **HOD**

U18MCVC302	MEDIA ORGANIZATION	L	T	P	C
	Total Contact Hours – 45	3	1	0	4
	Prerequisite course – Visual Communication / Communication Skill Studied in Semester I				
	Course Coordinator Name & Department :- Mr. V. Naveen/VISCOM				

COURSE OBJECTIVES:-

Learners having knowledge in basics of Advertising can understand the functions of Public relations skills.

The purpose of this course is providing a clear understanding of the concepts that Public Relations.

COURSE OUTCOMES (COs)

CO1	To learn about Media Organization and Design
CO2	To learn about Organizational Behavior
CO3	To learn about Economics of Media
CO4	To learn about Project Management in Media
CO5	To learn about Programming Strategies &Media Audience

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H			H				H	H	H
	CO2	H			H						
	CO3	H			H						
	CO4	H			H						
	CO5	H			H						
	CO6	H			H						
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT IMEDIA ORGANIZATION AND DESIGN 12

Media Organization and Design: Some Conceptual Issues. Media as Business and Social Institution. Media entrepreneurship, Greiner's Development Model of a company.

UNITII BEHAVIOUR IN MEDIA ORGANIZATION 12

Behavior in media Organization. Nature and Structure of different Media Organizations-AIR/DD, Private Satellite Channels, Production Houses, employment opportunities in Indian Media industry, Group Behavior, Innovation and Creativity, Culture of organization

UNIT III ECONOMICS OF MEDIA 12

Economics of Media- Relationship between supplier and buyer, Cost Factors, Market Factors, State of the Industry today.

UNIT IV PROJECT MANAGEMENT 12

Project Management in Media - Production. Project Planning, Production Strategies, Risk and Impact Assessment, Pre-production, Production Team, Project Specification, Project work plan, Sources of Funds, Budgeting. Project Responsibility, Production Process

UNIT V PROGRAMMING STRATEGIES 12

Programming Strategies, Audience Rating - Analyzing Programming and Audience Trends Marketing Programs and selling space and time. Project Management.

REFERENCE BOOK

Managing in the Media, Block et al – Focal Press, 2001

CourseCoordinator HOD

CODE No.	COURSE NAME : PRACTICALPHOTOGRAPHY	L	T	P	C
U18MCVC3L1	Total Contact Hours – 30	0	0	4	2
	Prerequisite – +2 With any Degree				
	Course Designed by – Dept of Visual Communication				

COURSE OBJECTIVES
UNIT – 1 : To learn about Landscape
UNIT – 2 : To learn about Photo feature, Photo Language & Environmental Exposure
UNIT – 3 : To learn about Sillhoutte and Freezing movement
UNIT – 4 : To learn about Panorama, Montage, Indoor and Industrial Photography
UNIT – 5 : To learn about Special effects

UNIT I LANDSCAPE (SCENIC, PEOPLE, BIRDS/ ANIMALS, MONUMENTS) 6

UNIT II PHOTO FEATURE, PHOTO LANGUAGE & ENVIRONMENTAL EXPOSURE 6

UNIT III SILLHOUTTE AND FREEZING MOVEMENT 6

UNIT IV PANORAMA, MONTAGE, INDOOR AND INDUSTRIAL PHOTOGRAPHY 6

UNIT V SPECIAL EFFECTS 6

COURSE OUTCOMES (COs)	
CO1	Knowledge will be gained aboutLandscape
CO2	Knowledge will be gained aboutPhoto feature, Photo Language & Environmental Exposure
CO3	Knowledge will be gained about Sillhoutte and Freezing movement
CO4	Knowledge will be gained about Panorama, Montage, Indoor and Industrial Photography
CO5	Knowledge will be gained about Special effects
Category	MC
Approval	47th Academic Council Meeting

CODE No.	COURSE NAME : CAMPAIGNING	L	T	P	C
U18NCVC3L2	Total Contact Hours – 60	0	0	4	2
	Prerequisite – +2 With any Degree				
	Course Designed by – Dept of Visual Communication				

COURSE OBJECTIVES
UNIT – 1 : Introduction to campaigning
UNIT – 2 : To learn about Print campaigning
UNIT – 3 : To learn about Outdoor campaigning
UNIT – 4 : To learn about Digital campaigning
UNIT – 5 : To learn about creating a record

UNIT I	**INTRODUCTION TO CAMPAIGNING**	**6**
UNIT II	**TO LEARN ABOUT PRINT CAMPAIGNING**	**6**
UNIT III	**TO LEARN ABOUT OUTDOOR CAMPAIGNING**	**6**
UNIT IV	**TO LEARN ABOUT DIGITAL CAMPAIGNING**	**6**
UNIT V	**TO LEARN ABOUT CREATING A RECORD**	**6**

COURSE OUTCOMES (COs)	
CO1	Knowledge will be gained about an introduction to campaigning
CO2	Knowledge will be gained about Print campaigning
CO3	Knowledge will be gained about Outdoor campaigning
CO4	Knowledge will be gained about Digital campaigning
CO5	Knowledge will be gained about creating a record
Category	NC
Approval	47th Academic Council Meeting

IVSEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	L	T	P	C
THEORY							
1.	HS	U18HSTA401	Tamil - IV	3	0	0	3
2.	HS	U18HSHI401	Hindi - IV				
3.	HS	U18HSFR401	French - IV				
	HS	U18HSEN402	English - IV	3	0	0	3
	MC	U18MCVC401	Elements of Film Studies	3	1	0	4
	MC	U18MCVC402	Media Ethics	3	1	0	4
	NC	U18NCVC403	Social Psychology	3	1	0	4
5.	NME	U18NETA401	Non Major Elective II – for those who studied Tamil under Part I:**Basic Tamil** for other language students	2	0	0	2
		U18NETA402	**Special Tamil** for those who studied Tamil upto10^{th} +2 but opt for other languages in degree programme.				
6	Soft skills	U18HSEN005		1	0	2	2
7	SBE	**U18SEBC003**	**Entrepreneurial development** Skill Based Elective-I	1	0	2	2
PRACTICAL							
7.	MC	U18MCVC4L1	Film Analysis	0	0	6	3
8.	NC	U18NCCA4L2	Computer Graphics	0	0	6	3
Total Contact Hours: 30				**Total Credits: 30**			

U18HSTA401	□□□□□- IV	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : □□□□□□□. □. □□□□□□□□□ □□□□ &□□□□□□□□□□□				

COURSE OBJECTIVES : □□

COURSE OUTCOMES (COs)

CO1	எட்டுத்தொகையில்நற்றிணை, குறுந்தொகை, கலித்தொகைஇலக்கியங்களைஅறிவர்
CO2	எட்டுத்தொகையில் புறநானூறு, பதிற்றுப்பத்து இலக்கியங்களை அறிவர்
CO3	பத்துப்பாட்டு இலக்கியத்தில் பொருநராற்றுப்படை, பெரும்பாணாற்றுப்படை பற்றி அறிவர்
CO4	□□□□□□□□□□□□□□□□ □□□□□□□□□□□□, □□□□□□□□□□□□□, □□□□□□□□□□□□□□□□ □□□□□ □□□□□□
CO5	□□□□□□□□□□□□, □□□□□□□□□□□□□□□ □□□□□□□□ □□□□□□□□ □□□□□□□
CO6	□□

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

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CO4	Analyzeand develop the translation skills
CO5	Evaluate the unseen passage skills
CO6	Create and develop the Hindi language skills

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								
4	Approval		Academic Council Meeting							

UNIT I **09**
DRAMA – Andher Nagari

UNIT II **09**
NOVEL - GABAN - Premchand

UNIT III **09**
GENERAL ESSAY

UNIT IV **09**
TRANSLATION - HINDI – ENGLISH

UNIT V **09**
COMPREHENSION

Text Books:

By Bharathendu Harischandra**,** Veerendra Kumar Mishra, Anuvadh Abhyas - III

Reference Books:

UNIT 1 - Publisher – Vani Prakashan, New Delhi – 110 002.

UNIT II – Publisher - Rajkamal Prakashan, New Delhi – 110 002

UNIT III– Aadarsh Nibnandh, Vinodh Pustak Mandir, Hospital Road, Agra -282002

UNIT IV - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

UNIT V - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator **HOD**

U18HSFR401	**FRENCH**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department: - Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES: -

To introduce students to the advanced levels of the language.

COURSE OUTCOMES (COs)

CO1	To learn the culture of the language natives in advanced setup.
CO2	To understand the integral grammar structure in French.
CO3	To encourage the development of skills in linguistics

CO4	To evaluate the Oral and Written skill set
CO5	To remember the language construction
CO6	To enhance advanced fluency in language

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	3	1	1	1	3		
	CO2	3	3	3	1	2	2	3		
	CO3	3	3	3	1	3	1	3		
	CO4	3	3	3	1	1	1	3		
	CO5	3	3	3	2	1	2	3		
	CO6	3	3	3	1	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I Vous plaisantez! **9** Le conditionnel present -expression de l'hypothese-demandes polies-suggestions et conseils

UNIT II On s'entend bien! **9**

Les constructions du discours rapport-Les constructions (faire + verbe)-et (laisser + verbe)

UNIT III A vos risqué et perils! **9**

Le subjonctif Present- La construction passive pour metre en valeur l'object direct de l' action

UNIT IV C'est tout un programme! **9**

Les pronom possessives -Les adjectifs et les pronoms indefinis-Les pronom demonstratifs:

Les constructions --celui+de

UNIT V C'est la fete ! **9**

Les fornes de l'appreciation : trop/ pas assez –si-Les constructions verbe+verbes

TEXTBOOK: A2 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator **HOD**

U18HSEN402	**ENGLISH- IV**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept. :Ms.E.REKHA - English				
COURSE OBJECTIVES:- To focus on the balanced development of the English language communication skills.					
COURSE OUTCOMES (COs)					
CO1	Remember the basic concepts of English literature				
CO2	Understand the importance of the English language.				
CO3	Apply the themes and values by comprehending the given text.				
CO4	Analyse the grammar and the literary texts.				
CO5	Evaluate the characters and the genre prescribed.				
CO6	Create comprehensive essays efficiently.				

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O1	PSO2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L						H		
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Eng Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	**Approval**	Academic Council Meeting								

UNIT 1 - PROSE **12**

Lalajee – Jim Corbett – biography- character sketch- summary – analysis; **Face of Judas** – Bonnie Chamberlin - biography- character sketch - summary – analysis.

UNIT 2 - POETRY **12**

Laugh and Be Merry – John Masefield –biography- annotation- summary; **Matilda** - Hilaire Belloc- biography- truthfulness –annotation - summary.

UNIT 3: SHORT STORIES **12**

Hunchback Sundari – C.Raja Gopalachari – biography – character sketch– summary - analysis; **The Eyes Are Not There**- Ruskin Bond- character sketch – summary – analysis.

UNIT 4: ONE-ACT PLAYS **12**

Macbeth Soliloquy – Out, Out, Brief Candle - Shakespeare – character sketch – summary – analysis; **Julius Ceasar** - Anthony's Funeral Speech – Shakespeare – character sketch – conspiracy - summary – analysis.

UNIT 5: FUNCTIONAL ENGLISH

Wh –Questions - pattern – Active and Passive voice – usage of passive voice – structure of passive verb; Modal verbs – Tenses.

TEXT BOOKS:
Stories of Innocent by C.Rajagopalachari, BharathiyaVidya Bhavan, 2009
Macbeth by Shakespeare, Macmillan Publisher, 2014

REFERENCE BOOKS:
1. Macbeth by Shakespeare, UBS Publisher's Distibutors Pvt.Ltd, 2004
2. Matilda - Hilaire Belloc
3. Lalajee – Jim Corbett

CourseCoordinator **HOD**

CODE No. U18MCVC401	**COURSE NAME : ELEMENTS OF FILM STUDIES**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2 With any Major				
	Course Designed by – Dept of Visual Communication				

COURSE OBJECTIVES:- Identify and define the formal and stylistic elements of film. Develop an understanding of film language and terminology, and analyze the ways in which that this language constructs meaning and ideology.

COURSE OUTCOMES (COs)	
CO1	Observe with knowledge and reflect upon the articulation of a film's content, form and structure.
CO2	Identify and define the formal and stylistic elements of film. Develop an understanding of film language and terminology, and analyze the ways in which that this language constructs meaning and ideology.
CO3	Gain a basic understanding of film theory and global film history, to be able to identify significant movements and articulate key concepts.
CO4	Demonstrate familiarity with diverse forms of the moving image, including, for example, the feature film, experimental and avant-garde cinema, video art and moving image installation, television and digital media.
CO5	Understand the relationship between film form and its historical and cultural contexts. Describe how a film offers a set of social, political and cultural ideas and questions through form and content.

CO6	Demonstrate a competency in discussing the ways in which film is influenced and shaped by individuals, movements, institutions and technologies with local, national, transnational and global dimensions.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O	PSO2	PS O3
2	CO1	H	M								
	CO2	H	M								
	CO3	H	M						H	H	M
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
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4	**Approval**	Academic Council Meeting

UNIT I HISTORY OF FILM 12

Indian (Hindi, Tamil & other languages), Film History: Early Cinema (1893-1903). Development of Classical Hollywood cinema (1903-1927). German expressionism (1919-1924). French Impressionism and Surrealism (1917-1930)

UNIT II PRODUCTION PROCESS 12

Planning, pre-production- Concept / Story development, Scripting / Screen play writing, Budgeting, Casting, Locations, Financing. Production - Shooting, Direction & Cinematography. Post production- Editing, Sound recording, Dubbing, Special effects, Graphics & Final mixing. Distribution & Exhibition.

UNIT III MISE-EN-SCENE 12

Mise-en-scene-Realism, the power of mise-en-scene, aspects of mise-en-scene. space and time, narrative functions of mise-en-scene. Cinematography - Framing, duration of the image, montage. Editing- dimensions of film editing, continuity editing, Sound- the power of sound, fundamentals of film sound, dimensions of film sound, functions of film sound.

UNIT IV THE CONCEPT OF FORM IN FILMS 12

The concept of form in films, principles of film, narrative form, non-narrative form, dividing a film into parts and Genres.

UNIT V NARRATIVE TECHNIQUES 12

Style as a formal system, narrative unity, ambiguity, a non-classical approach to narrative films, space and time, disunity, form, style and ideology.

REFERENCE BOOKS

1.The Cinema of India – Thoraval, Yves (2000)

TEXT BOOK

1.Encyclopedia of Indian Cinema – Baskar, Yves (2000)

CourseCoordinator **HOD**

CODE No. U18MCVC402	**COURSE NAME : MEDIA ETHICS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2 With any Major				
	Course Designed by – Dept of Visual Communication				

COURSE OBJECTIVES:-

To learn about Introduction to Media Ethics

- To learn about Media determinants
- To learn about Media Duties
- To learn about Values and ethics of media personnel

To learn about Power of Media in Development

	COURSE OUTCOMES (COs)
CO1	Knowledge will be gained about Introduction to Media Ethics
CO2	Knowledge will be gained about Media determinants
CO3	Knowledge will be gained about Media Duties
CO4	Knowledge will be gained about Values and ethics of media personnel
CO5	Knowledge will be gained about Power of Media in Development
CO6	Knowledge will be gained about Introduction to Media Ethics

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low																				
1	COs/Pos	PO 1	PO2	PO3		PO4	PO5	PO6	PO7	PS O	PSO2	PS O3								
2	CO1	H	M																	
	CO2	H	M																	
	CO3	H	M							H	H	M								
	CO4	H	M																	
	CO5	H	M																	
	CO6	H	M																	
3	Category	Humanities & Social Studies (HS)		Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)									
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4	**Approval**	Academic Council Meeting																		

UNIT I INTRODUCTION TO MEDIA ETHICS 12

Introduction to Media Ethics. Media –Freedom of Press, Restrictions, limitations; State laws on media control, Contempt of court. Pre independence and post-independence laws (copyright act, press act, RTI, Official secrets act, Prasar Bharathi Act, Cable TV ac, Cinematography act, IPC)

UNIT II MEDIA DETERMINANTS 12

Media determinants, Owners and Controlling companies; State and the law; Advertisers; economic determinants; History of control over media with special reference to Emergency. Social responsibilities of Media.

UNIT III MEDIA DUTIES 12

Media Duties, Self Control and regulations, Official bodies such as Press Council, TRAI, IBF, CBFC, their constitution and power.

UNIT IV VALUES AND ETHICS OF MEDIA PERSONNEL 12

Values and ethics of media personnel (journalists, advertisers, media organizations), Ethical dilemmas, Right to privacy, String Journalism, Yellow Journalism, Misinformation, Disinformation, Paid news.

UNIT V POWER OF MEDIA 12

Power of Media in Development; Development and participatory communication; History of Development Communication, investigative journalism and infringement of personal liberty.

REFERENCE BOOKS :

1. The Press - Rao , M. C. National Book Trust (1974).

TEXT BOOK

Journalism Ethics – Basu, Random Publications.

CourseCoordinator HOD

UNIT I

Introduction to psychology **12**

CODE No.	**COURSE NAME : SOCIAL PSYCHOLOGY**	**L**	**T**	**P**	**C**
U18NCVC403	Total Contact Hours – 45	3	1	0	4
	Prerequisite – +2 With any Major				
	Course Designed by – Dept of Visual Communication				

COURSE OBJECTIVES :- The objective of this course is to provide you with a general introduction to social psychology and an opportunity to apply social psychological theories to your life. To explain how social psychological theory and research are used to help explain human behaviour in individuals and groups.

COURSE OUTCOMES (COs)

CO1	Provide general background in the main content areas of social psychology, as well as an understanding of the techniques used by social psychologists to study human social behaviour.
CO2	build a knowledge-base of historically significant research in social psychology.
CO3	Think critically about the nature of human behaviour and how to apply the information in daily lives.
CO4	Demonstrate knowledge of the major theories and research findings in social psychology
CO5	Become familiar with social psychological literature through independent reading and writing assignments
CO6	Apply social psychological theories and principles to your everyday behaviour

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	**H**	**M**	**H**	**M**	**M**	-	**L**	H	L	M
	CO2	**H**	**M**	**H**	**M**	**M**	-	**L**			
	CO3	**H**	**M**	**H**	**M**	**M**	-	**L**			
	CO4	**H**	**M**	**H**	**M**	**M**	-	**L**			
	CO5	**H**	**M**	**H**	**M**	**M**	-	**L**			
	CO6	**H**	**M**	**H**	**M**	**M**	-	**L**			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

Definition, Introduction and nature, Scope, Origin, Definition, Psychology- as a Science, Psychology and Life skills. Perspectives in Psychology: Biological approach, Psychodynamic, Behavioral, Cognitive and Humanistic.

UNIT II **12**

Hormones, Behaviors and Relationships

Testosterone and male behaviors. Estrogen and female behaviours. Interpersonal Attraction: Proximity, Affective Basis of Attraction, Immediate Determinants of Likes and Dislikes. Interdependent relationship: Family, Relationship beyond the Family, Adult Relationship and Attachment Style, Romance, Marriage, Relationship problems, Reaction to the Problems, Effect of Relationship Failure.

UNIT III **12**

Perceptions

Social Perception , Perceiving Self: Self-concept, Perceived Self-control, Self-serving Bias, Self-presentation, Self-esteem, Perceiving Others: Non-Verbal Communication, Attribution, Impression Formation, Impression Management.

UNIT IV **12**

Social cognition

Social Cognition Schemas, Heuristics and Automatic Processing, Potential Sources of Error in Social Cognition, Affect and Cognition, Social Cognition and Problem Behaviours.

UNIT V **12**

Attitude Formation

Attitudes Attitude Formation, Attitude Behaviour Link, Attitude Change, The Fine Art of Persuasion, Resistance to Persuasion, Cognitive Dissonance.

Reference:

1. Baron, R. A., & Byrne, D. (2003). Social Psychology, 10th ed. New Delhi: Prentice Hall. 2.
2. Myers, D. G. (2002). Social Psychology, 7th ed. Int. Education: Mc Graw Hill.
3. 3. Chaube, S. P., & Chaube, A. (2007). Ground Work for Social Psychology. New Delhi: Neelkamal.
4. 4. Taj, H. (2007). An Introduction to Social Psychology, New Delhi: Neelkamal.

U18NETA401	□□□□□□□□□□□□□□□□- II	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : □□□□□□□. □.□□.□□□□□□□□ &□□□□□□□□□□□				

COURSE OBJECTIVES : □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

COURSE OUTCOMES (COs)

CO1	எழுத்துக்கள்மூலம்சொற்கள்அமைப்பதைப்பற்றிஅறிவர்
CO2	சொற்கள்மூலம்வாக்கியம்அமைப்பதைப்பற்றிஅறிவர்
CO3	எழுத்துக்களைஇணைத்தல், சரியானசொற்களால்வாக்கியம்அமைப்பதைப்பற்றிஅறிவர்
CO4	வினாவுக்குரியவிடையளித்தல்பற்றி அறிவர்
CO5	தன்விவரப்பட்டியல்தயாரிப்பதுபற்றிஅறிவர்
CO6	□□□□□□□□□□□□ □□□□□□□□□□□□□ □□□□□□ □□□□□ □□□□□□□□□ □□□□□□□□□ □□□□□□□□

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	H						M	H	M
	CO2	M	H								
	CO3	M	H								
	CO4	M	H								
	CO5	M	H								
	CO6	M	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
							✓			

4	Approval		Academic Council Meeting

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COURSE OUTCOMES (COs)	
CO1	Remember the personal as well as professionals goals of the students
CO2	Understand the manners during professional meetings
CO3	Apply the right reasons of stress
CO4	Analyze the importance of communication skills
CO5	Evaluate the excellence in both personal and professional life
CO6	Create the Growth & development of soft skills
Category	OE

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L								
	CO4	H	L						H		
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Project/Term Paper/ Seminar/ Internship(PR)
								✓	

4	Approval	47th Academic Council Meeting

Unit I Salient Features of Soft Skills

Soft Skills, definition, importance of soft skills, list of soft skills, Stress Management, Time Management, Weekly planner, assertiveness and decision making

UNIT II Intra Personal Skills

Self analysis, SWOT Analysis, Self-confidence, Lateral thinking, Personality Development, Emotional Intelligence, emotional quotient why Emotional Intelligence matters, Emotion Scales. Managing Emotions

Unit III Inter Personal Skills

Understanding the relationship between Leadership Networking & Team work. Assessing, Interpersonal Skills Situation description of Interpersonal Skill, Team Work Leadership Skills, Problem Solving, Negotiation, Positive Attitude, Work ethics, etiquettes

Unit VI Communication Skills

Importance of communication Skills, Verbal and Non verbal communications vocabulary building- synonyms and antonyms- one word substitutes – prefix and suffix – idioms meaning sentences- correction of errors- proverbs – collocation .

Unit V Employability Skills

Presentation skills-Structure of presentation-presentation tools- technical and non-technical presentations, Interview Skills- mock interviews, most frequently asked questions in interview– group discussion – introducing one self and others –Job application, Cover letter, resume

Project: A project can be submitted at the end
Soft Skills can be lab oriented

Reference

- SOFT SKILLS, Career Development Centre, Green Pearl Publications, 2015,
- Carnegie Dale, *How to win Friends and Influence People*, New York: Simon & Schuster, 1998
- Education, Asia (Singapore) Pte Ltd, Bangalore,2001.
- Andree J Rutherford, Basic communication skills for Technology, Pearson Education,Asia (Singapore) Pte.Ltd, Banglore , 2001.

U18SEBC003	ENTREPRENEURIAL DEVELOPMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Commerce / Mathematics Studied in Higher Secondary Studies.				
	Course Coordinator Name & Department :-Mr.G.Santhoshkumar / Commerce				

COURSE OBJECTIVE: -

- To familiarizethestudentswiththe basic fundamentals ofEntrepreneurship.
- To impartknowledge on Projectidentification,selection and formulation.
- To enablethestudents onthe conceptoftypes oforganization.
- To peepinto the conceptofcommercialbanks.

• To enablethestudents onthe conceptofwomenentrepreneurs											
COURSE OUTCOMES (COs)											
CO1	Underlinethe CharacteristicsOfEntrepreneur–EntrepreneurandIntrapreneur										
CO2	Explain theIdentification– Selection ofthe Project										
CO3	Apply Selection ofTypes of Organization– Sole Proprietorship- Partnership Joint Stock Company										
CO4	Appraise toInstitutional financeto entrepreneurs										
CO5	Estimatethe FactorsInfluencing TheChoiceOfOrganization										
CO6	Develop theRole and Problems of Women Entrepreneurs										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	-	-	-	-	-	-			H
	CO2	-	H	-	-	-	M	H			
	CO3	-	H	-	-	-	M	M			
	CO4	M	-	-	-	-	M	M			
	CO5	-	-	-	-	-	-	-			
	CO6	-	-	H	-	-	-	-			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT-I **6**

Meaning OfEntrepreneur – EntrepreneurandIntrapreneur– Qualities Of Entrepreneur– Characteristics OfEntrepreneur –TypesOfEntrepreneur –Function OfAn Entrepreneur

UNIT-II **6**

ProjectIdentification– Selection ofthe Project– Project Formulation–Preparation OfProject Report.

UNIT-III **6**

Selection ofTypes OfOrganization – Sole Proprietorship-Partnership Joint Stock Company– Factors Influencing TheChoiceOfOrganization.

UNIT– IV **6**

Institutional financeto entrepreneurs- commercial banks–IDBI,IFCI,ICICI,IRBI, SFC, DICs, SIDC, SIDBIAnd EXIMBank

UNIT– V **6**

Women Entrepreneurs – Role – Problems of Women Entrepreneurs – Suggestions For Development Of Women Entrepreneurs

TEXT BOOKS:

1. C.B. Gupta, Entrepreneurship Developmentin India–Sultan Chand
2. S.S. Khanka, EntrepreneurshipDevelopment, S. Chand&Co., New Delhi.
3. Gupta C. Band SrinivasanN. P Entrepreneurship Development, Sultan Chand&Sons, New Delhi

REFERENCE BOOKS:

1. P. Sarvanavel, E Entrepreneurship Development,EssPee Kay Publishing House
2. JaswerSingh Saini, Entrepreneurship Development, Deep and Deep Publication,New Delhi
3. Jayashree Suresh, Entrepreneurship Development-MarghamPublication, Chennai

CourseCoordinator **HOD**

CODE No.	**COURSE NAME : FILM ANALYSIS**	**L**	**T**	**P**	**C**
U18MCVC4L1	Total Contact Hours – 30	0	0	6	3
	Prerequisite – +2 With any Major				
	Course Designed by – Dept of Visual Communication				

COURSE OBJECTIVES

UNIT – 1 : To learn about An Introduction to Film analysis
UNIT – 2 : To learn about analyzing shot by shot
UNIT – 3 : To learn about analyzing Tamil movies
UNIT – 4 : To learn about analyzing English movies

UNIT – 5 : To learn about creating Film analysis record

UNIT I	**AN INTRODUCTION TO FILM ANALYSIS**	**9**
UNIT II	**ANALYZING SHOT BY SHOT**	**9**
UNIT III	**ANALYSING TAMIL MOVIES**	**9**
UNIT IV	**ANALYZING ENGLISH MOVIES**	**9**
UNIT V	**CREATING FILM ANALYSIS RECORD**	**9**

COURSE OUTCOMES (COs)	
CO1	Knowledge will be gained about Introduction to Film analysis
CO2	Knowledge will be gained about analyzing shot by shot
CO3	Knowledge will be gained about analyzing Tamil movies
CO4	Knowledge will be gained about analyzing English movies
CO5	Knowledge will be gained about creating Film analysis record
Category	MC
Approval	47th Academic Council Meeting

REFERENCE BOOK

1. Web Design, - Thomas, Powell (2000)

TEXT BOOK

1. The Principles of Interactive Design – Grahm, L, Thomson Learning (1999)

CODE No.	**COURSE NAME : COMPUTER GRAPHICS**	**L**	**T**	**P**	**C**
U18NCCA4L2	Total Contact Hours – 45	0	0	4	2
	Prerequisite – +2 With any Degree				
	Course Designed by – Dept of Visual Communication				

COURSE OBJECTIVES

UNIT – 1 : To learn about Basics tools of Photoshop

UNIT – 2 : To learn about Visiting card Designing UNIT – 3 : To learn about Poster Designing UNIT – 4 : To learn about Logo Designing, Brochure Designing UNIT – 5 : To learn about Letterhead and Banner Designing

UNIT I BASICS TOOLS OF PHOTOSHOP 6

UNIT II VISITING CARD DESIGNING 6

UNIT III POSTER DESIGNING 6

UNIT IV LOGO DESIGNING, BROCHURE DESIGNING 6

UNIT V LETTERHEAD AND BANNER DESIGNING 6

COURSE OUTCOMES (COs)	
CO1	Knowledge will be gained Basics tools of Photoshop
CO2	Knowledge will be gained Visiting card Designing
CO3	Knowledge will be gained about Poster Designing
CO4	Knowledge will be gained about Logo Designing, Brochure Designing
CO5	Knowledge will be gained about Letterhead and Banner Designing
Category	NC
Approval	47th Academic Council Meeting

V SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	L	T	P	C
THEORY							
1.	MC	U18MCVC501	Television Production	3	1	0	4
2.	MC	U18MCVC502	Digital and Online Communication	3	1	0	4

3.	NC	U18NCCA503	Basics of Script Writing	3	1	0	4
4.	ME	U18MEVC011	**Major Elective – I :** Corporate Communication	3	1	0	4
		U18MEVC012	Printing and Publication				
		U18MEVC013	Cinematography Techniques				
5.	SE	**U18SEBC004**	SBE II - Human Resource Mangement	1	0	2	2
6.	SE	**U18SEBC005**	SBE III – Marketing management	1	0	2	2
PRACTICAL							
7.	MC	U18MCVC5L1	Scriptwriting Practical	0	0	6	3
8.	NC	U18NCVC5L2	3D Modeling	0	0	6	3
Total Contact Hours: 30				**Total Credits:26**			

U18MCVC501	**TELEVISION PRODUCTION**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Visual Communication / Media Organaization Studied in Semester III				
	Course Coordinator Name & Department :- Mr. P. Nagarajan/VISCOM				

COURSE OBJECTIVES:-

Learners having knowledge in basics of Television Production Skill can understand the functions of Media production skills. The purpose of this course is providing a clear understanding of the concepts that Television Producation.

COURSE OUTCOMES (COs)

CO1	To learn about Introduction of Television Production &visualization
CO2	To learn about Principles of script writing
CO3	To learn about Camera techniques & operation
CO4	To learn about Video recording format
CO5	To learn about Editing procedure

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H			H				H	H	H
	CO2	H			L						
	CO3	H			H						
	CO4	H			H						
	CO5	H			H						
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT I INTRODUCTION OF TELEVISION PRODUCTION 12

Introduction of visualization, Different approaches to visualization - TV, Films, and Ad films. Types of telecasting, Production standards NTSC, PAL, Secam etc. Television Crew, an overview of direction, art direction, floor management- indoor & outdoor, production management, budget preparation.

UNIT II PRINCIPLES OF SCRIPT WRITING 12

Principles of script writing, creative writing, script formats. Planning of Story, story board, discussions, screen play, dialogue writing, selection of cast, costumes, locations, set & design ,Research. Locations: In-door, set, on-sights sets, - Outdoor on-sight sets, blue matte. Etc.,

UNIT III CAMERA TECHNIQUES & OPERATION 12

Camera techniques & operation, Types of camera, Video formats, framing, shots & movements, usage of various types of camera lenses, usages of various filters, objectives TV lighting, various types of Lights, Colour temperature, lighting for different situations, types of lighting.

UNIT IV VIDEO RECORDING FORMAT 12

Video recording format - Audio on line or off line . Usage of various kinds of mics. Knowledge about audio recording (mono, stereo, surround sound, eco etc.,).

UNIT V EDITING PROCEDURE 12

Editing procedure, assembling shots, symbolic editing and editing errors. The language of editing and shooting-sound in editing-categories of sound, post-synchronization, voice-over or narration, music and dubbing, Video Editing .Television graphics& titling and specials effects.

REFERENCE BOOKS

1. Effective W.Production – Millerson, Focal Press Holland (1993)

TEXT BOOK

1. The Television Handbook - Millerson, Focal Press Holland (1998)

U18MCVC502	DIGITAL AND ONLINE COMMUNICATION	L	T	P	C
	Total Contact Hours – 45	3	1	0	4
	Prerequisite course – Visual Communication / Communication Skill Studied in Semester I				
	Course Coordinator Name & Department :- Mr. P. Nagarajan/VISCOM				
COURSE OBJECTIVES:-					

Learners having knowledge in basics of Communication Skill can understand the functions of Digital Media. The purpose of this course is providing a clear understanding of the concepts that Digital and Online Communication.

COURSE OUTCOMES (COs)

CO1	To learn about Introduction to Digital Communication
CO2	To learn about the Principles of Online communication
CO3	To learn about the business scopes in digital media
CO4	To learn about the business scope in Online
CO5	To learn about online promotion techniques

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H			H				H	H	H
	CO2	H			H						
	CO3	H			H						
	CO4	H			H						
	CO5	H			H						
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT I INTRODUCTION OF DIGITAL COMMUNICATION 12

Introduction to Digital communication, Different approaches to Digital communication, Digitalization in various fields.

UNIT II IMPORTANCE OF DIGITALIZATION 12

Importance of Digitalization, Digitalization in Education and its importance, Digitalization in Documentation and its importance.

UNIT III BUSINESS SCOPES IN DIGITAL MEDIA 12

Employment and Business scopes in Digital media, Various steps and Process in Implementation.

UNIT IV BUSINESS SCOPES IN ONLINE 12

Employment and Business scopes in Online. Various steps and process in Implemenation. Production techniques.

UNIT V ONLINE PROMOTION TECHNIQUES 12

Various publicity and promotion methods through Online. Planning, implementations, developments and getting feedbacks.

REFERENCE BOOKS

1. **Leading Digital : Turning Technology into Business Transformation, George Westerman, Andrew Mcfee (2014)**

TEXT BOOK

1. **Digital to the Core: Remastering Leadership for your Industry, Your Enterprise And yourself, Mark Raskino, Graham Waller (November 12, 2015)**

U18MCVC503	**BASICS OF SCRIPT WRITING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Visual Communication / Introduction to Visual Communication Studied in Semester I				
	Course Coordinator Name & Department :- Mr. P. Nagarajan/VISCOM				

COURSE OBJECTIVES:-

Learners having knowledge in basics of Communication Skill can understand the functions of Script

Writing. The purpose of this course is providing a clear understanding of the concepts that Basic Script

Writing.											
COURSE OUTCOMES (COs)											
CO1	To learn about Introduction to Script writing										
CO2	To learn about Writing Script for Television										
CO3	To learn about Creating Story Board										
CO4	To learn about Writing script for Documentaries										
CO5	To learn about Writing Script for Films										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H			H				H	H	H
	CO2	H			H						
	CO3	H			H						
	CO4	H			H						
	CO5	H			H						
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT I INTRODUCTION TO SCRIPT WRITING 12

Introduction to Scrip Writing. List of films which received various awards for script writing.

UNIT II WRITING SCRIPT FOR TELEVISION 12

Writing Script for Television - TV Commercial, Talk Shows and Serials.

UNIT III CREATING STORY BOARD 12

Creating Story Board. Writing Fully scripted Story Board for any AD Film

UNIT IV WRITING SCRIPT FOR DOCUMENTARIES 12

Writing script for Documentaries. Fully scripted Documentary on any issue.

UNIT V WRITING SCRIPT FOR FILMS 12

Writing Script for Films. Fully scripted Feature Film on any genre.

REFERENCE BOOKS:

1. Media Analysis Technique – Berger, Sage (1998)

CODE No. U18MEVC011	**COURSE NAME - CORPORATECOMMUNICATION**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2 With any Major				
	Course Designed by – Dept of Visual Communication				

COURSE OBJECTIVES:-

Learners having knowledge in basics of Communication Skill can understand business communication Writing. The purpose of this course is to provide business communication skills such as group discussions, Presentation skills and interaction among the formal group members.

COURSE OUTCOMES (COs)	
CO1	knowledge will be gained about Resume Writing
CO2	knowledge will be gained about Presentation Skills
CO3	knowledge will be gained about How to face Interviews
CO4	knowledge will be gained about Group Discussion
CO5	knowledge will be gained about Designing Portfolio

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR

					✓					
4	Approval		Academic Council Meeting							

UNIT I RESUME WRITING 9

Definition, Strategy and Purpose of Corporation Communication, Definition, Introduction , formats & important layout types of resume, Basic steps in Resume writing, Resume content, Resume objective, Formula to create the resume objective, Adding the work experience and Achievements in the resume, Listing your Education and Technical skills, Languages, Hobbies and interests, Volunteering experience, Certificates, Publications and Projects.

UNIT II PRESENTATION SKILLS 9

Definition of Presentation, Types of presentation skills, Guidelines to do an effective presentation, Preparing for the presentation, Audience responds (vs) your presentation, Presenting under particular circumstances. Introduction to presentation, How to do an effective presentation? 10/20/30 Rule, 7 Laws of presentation.

UNIT III FACING INTERVIEWS 9

Definition of Interview Skills, Qualities/traits of a good successful interviewer. STAR method of interviewing. Guidelines to improve interview facing skills, What to do on the day of interview, what not to do, What to expect in the interview, Making a great impression during the interview.

UNIT IV GROUP DISCUSSION 9

Skills required for Group discussion, Definition, Purpose, importance and important types or categories of Group discussion, How to improve Discussion skills. Preparing for the Group discussion, The process of GD, GD – Effective performance guidelines, The evaluation criteria in a Group Discussion, GD Evaluation sheet, Background preparation for a Group Discussion, Best time to talk in GD, Common mistakes one should avoid in GD.

UNIT V DESIGNING PORTFOLIO 9

Definition of Portfolio, Forms of portfolio, Effective portfolio, Capstone portfolio, skepticism, Various formats of Portfolio designing, Creating unique work portfolios.

What is Portfolio? Importance of Portfolio, How to design a good portfolio?

Reference Books

1. Corporate Communication Principles and Practice -Jaishree
2. Essentials of Corporate Communication: Implementing. Cees B.M. Van Riel, Charles J. Fombrun · 2007\\
3. Fundamentals of Corporate Communicationsbooks.Richard Dolphin, David Reed · 2009

CODE No. U18MEVC012	**COURSE NAME: PRINTING AND PUBLICATION**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4

	Prerequisite – +2 With any Major
	Course Designed by – Dept of Visual Communication

COURSE OBJECTIVES:-

Learners having knowledge in basics of communication can understand various forms of print media and the structure, layout and department of print media organisation

COURSE OUTCOMES (COs)	
CO1	learn about the Elements of News
CO2	learn about the various forms of Print media
CO3	To learn about Publication Industry
CO4	To learn about the Illustrations and Layout styles
CO5	To learn about the various department of Print media

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT 1 INTRODUCTION TO JOURNALISM 12

Journalism-Definition-Elements of News -News Agencies-Freelancing-Press council-Press meets

UNIT 2 FORMS OF PRINT MEDIA 12

Various forms of print media- News paper organizations and management- Structure and functions of Newspaper Organization.

UNIT 3 PUBLICATION INDUSTRY 12

Importance of Publication, Job opportunities and Business scope in Publication Industry.

UNIT 4 ILLUSTRATIONS AND LAYOUT STYLES 12

Illustrations in Print Media- Importance of illustrations in Newspapers and Magazines-News photos- Line drawing-Importance of caricatures and comic strips, Different Layout styles.

UNIT 5 VARIOUS DEPARTMENTS OF PRESS 12

Editorial Department-News room-Reporting-Photography section- Business Department-Print Advertising and Marketing

REFERENCE BOOKS:

1. Programmed Journalism Editing, James P. Alexander, lowa State University Press, 1991.

TEXT BOOKS:

1. Indian Journalism, Nadig Krishnamoorthy Mysore University, 1978.

U18MEVC013	CINEMATOGRAPHY TECHNIQUES	L	T	P	C
	Total Contact Hours – 45	3	1	0	4

	Prerequisite course – Visual Communication / Photography Studied in Semester III
	Course Coordinator Name & Department :- Mr. P. Nagarajan/VISCOM

COURSE OBJECTIVES:-

Learners having knowledge in basics of Photography Skill can understand the functions of Cinematography skill. The purpose of this course is providing a clear understanding of the concepts that Cinematography Techniques.

COURSE OUTCOMES (COs)

CO1	To learn about the Camera angles
CO2	To learn about the continuity
CO3	To learn about cutting
CO4	To learn about the close - ups
CO5	To learn about the composition

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H			H				H	H	H
	CO2	H			H						
	CO3	H			H						
	CO4	H			H						
	CO5	H			H						
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

CINEMATOGRAPHY TECHNIQUES

UNIT- I

Introduction to Cinematography, Camera angles – High-angle, low-angle, bird's eye view, worm's eye view. Point of view shot, Dutch **12**

UNIT II
Continuity – 180 degree, Break down shots, Punctuations **12**

UNIT III
Cutting- Hard cut, Jump cut, L Cut & J Cut **12**

UNIT IV
Close –Ups – Importance of close – ups, Extreme close up, **12**

UNIT – V
Composition – Definition, Lead room, Rule of third, Film maker's Insight, Static composition, Dynamic composition. **12**

Reference Books

1. Five C's of Cinematography: Motion Picture Filming Techniques
2. "Cinematography: Theory and Practice" by Blain Brown
3. "The Filmmaker's Eye: Learning (and Breaking) the Rules of Cinematic Composition" by Gustavo Mercado
4. "Sight Sound Motion: Applied Media Aesthetics" by Herbert Zettl

Course Coordinator **HOD**

U18SEBC004 **U18MCBC204**	**HUMAN RESOURCE MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	CourseCoordinator Name&Department:-Ms. R.Velanganni/Commerce & Economics				

COURSE OBJECTIVES:-

- To learntheimportanceofHR.
- To impartknowledge and importantfactors inHR.
- To enable the students onthe needs and methods oftraining

COURSE OUTCOMES(COs)

CO1	Identify the Importance of Human Resource and objectives.
CO2	Describe the Human Resource Planning
CO3	Practice to Sources of Recruitment-Selection– Steps in Selection
CO4	Analyze Needs of training– Methods of Training
CO5	Evaluate the Process and Methods of Performance Appraisal
CO6	Formulate the Qualities of Personnel Manager

Mapping of CourseOutcomes with Program outcomes (POs)(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO 3	PO4	PO5	PO6	PO7	PSO	PSO	PSO 3
2	CO1	H	M	-	-	-	-	-	H		
	CO2	M	H	-	-	-	-	-			
	CO3	H	M	-	-	-	-	-			
	CO4	H	M	-	-	-	-	-			
	CO5	H	M	-	-	M	-	-			
	CO6	H	M	-	-	-	-	-			

3	Category	Humanities &Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core(PC)	CoreElective (CE)	Non-Major Elective(NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	AcademicCouncilMeeting								

UNIT-I **6**

Definition – Importanceof Human Resource– Objectives– Qualities of Personnel Manager.

UNIT-II **6**

Human ResourcePlanning– Importance factors– Steps in HR Planning.

UNIT-III **6**

Recruitment– Objectives– Sources of Recruitment-Selection – Steps in Selection.

UNIT-IV **6**

Training – Definition– Needs of training – Methods of Training– On thejob training– Off the job

Training.

UNIT-V **6**

PerformanceAppraisal-Objectives – Process– Methods of PerformanceAppraisal.

TEXT BOOKS:

1. L.M. Prasad– Human ResourceManagement– S. Chand &Sons– 2013.
2. C.B. Mamoria, S.V. Gankar– Personnel Management – Himalaya Pub.– 2012.
3. A.M. Sharma, Human ResourceManagement, HimalayaPublishing House, 2005

REFERENCE BOOKS

1. S.S. Khanka–Human ResourceManagement– S. Chand Ltd.– 2007
2. Gary Dessler–Human ResourceManagement– PrenticeHall– 8th Edition –2000.

3.A Handbook of Human Resource Management Practice,2012.

Course Coordinator **HOD**

U18SEBC005 & U18MCBC204	MARKETING MANAGEMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- G.Santhosh kumar/ Commerce & Economics				

COURSE OBJECTIVES :-

- To understand the fundamentals of marketing and its role.
- To examine the factorsi nfluencing buying behavior.
- To enable the students to promote advertising and its sales scope

COURSE OUTCOMES (COs)

CO1	State the Fundamentals of Marketing– Role of Marketing.
CO2	Describe the Factors influencing buying behavior
CO3	Interpret the Marketing segmentation– Needs-Types of segmentation
CO4	Compare to New product development process– Product life cycle
CO5	Revise the Awareness of consumer rights in the market place
CO6	Collect the Advertising– Scope of Advertising

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1		H						H		
	CO2	M	H	M							
	CO3	H			M						
	CO4					M					
	CO5	H		M							
	CO6		H			M					
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✔		
4	Approval		Academic Council Meeting								

UNIT-I **6**

Marketing-Definition– Fundamentals of Marketing– Role ofMarketing–Relationship of marketing with other functional areas–Marketing Mix

UNIT– II **6**

Buyer Behaviour – Buying motives– Factors influencingbuying behavior-Marketing segmentation–
Needs-Types of segmentation

UNIT-III **6**

TheProduct– Characteristics– Benefits– Classifications– New product development process–
Product life cycle – Branding– Packaging

UNIT-IV **6**

Physical Distribution-Importance-Various kinds of Marketing Channels–
Distribution Problems- Awareness of consumer rights in themarket place.

UNIT-V **6**

Advertising – Scopeof Advertising – Personal selling– Direct selling and Sales Promotions.

TEXT BOOKS:

1. BerkovizKerinHontley Rudelivs, MARKETING, New York, Mcgraw Hill Publications.
2. Gony Armstrong, Philip Kotler, Marketing anIntroduction, Pearson Education Asia.
3. Philip Kotler, Marketing Management (Millennium ed.,)NewDelhi, PrenticeHallofIndia(P) Ltd.

ReferenceBooks:

1. Rajan Saxena, MarketingManagement, 2nd edition, New Delhi, Tata McgrawHillPublishing Co.Ltd.
2. V.S. Ramasamy and S. Namakumari, Marketing Management, Planning,Implementation & control, New Delhi, Macmillan

3. Chisnall, P.M. (1997) Marketing Research, Fifth Edition, London: McGraw-Hill.

Course Coordinator **HOD**

CODE No.	COURSE NAME : SCRIPT WRITING	L	T	P	C
U18MCVC5L1	Total Contact Hours – 45	0	0	6	3
	Prerequisite – +2 With any major				
	Course Designed by – Dept of Visual Communication				

COURSE OBJECTIVES

UNIT – 1 : To learn about. Fully scripted Running order for any TV Commercial.
UNIT – 2 : To learn about Fully scripted Story Board for any AD Film.
UNIT – 3 : To learn about Fully scripted Documentary.
UNIT – 4 : To learn about . Fully scripted Short Film on any topic.
UNIT – 5 : To learn about Fully scripted Feature Film on any genre.

UNIT I	**FULLY SCRIPTED RUNNINGORDER FOR TV AD**	**9**
UNIT II	**FULLY SCRIPTED STORY BOARDFOR AD FILM**	**9**
UNIT III	**FULLY SCRIPTED DOCUMENTARY**	**9**
UNIT IV	**FULLY SCRIPTED SHORT FILM**	**9**
UNIT V	**FULLY SCRIPTED FEATURE FILM**	**9**

COURSE OUTCOMES (COs)	
CO1	Knowledge will be gained about Fully scripted Running order for any TV Commercial.
CO2	Knowledge will be gained about Fully scripted Story Board for any AD Film.
CO3	Knowledge will be gained about Fully scripted Documentary.
CO4	Knowledge will be gained about Fully scripted Short Film on any topic.
CO5	Knowledge will be gained about Fully scripted Feature Film on any genre.
Category	MC
Approval	47th Academic Council Meeting

CODE No.	COURSE NAME : 3D MODELING	L	T	P	C
U18NCVC5L2	Total Contact Hours – 45	0	0	6	3
	Prerequisite – +2With any Major				
	Course Designed by – Dept of Visual Communication				

COURSE OBJECTIVES

UNIT – 1 : To learn about the introduction of 3 D Modeling
UNIT – 2 : To learn about advanced Texturing
UNIT – 3 : To learn about Lighting
UNIT – 4 : To learn about UV Mapping
UNIT – 5 : To learn about Rendering

UNIT I Introduction of 3 D Modeling **9**

UNIT II Advanced Texturing **9**

UNIT III Lighting **9**

UNIT IV UV Mapping **9**

UNIT V Rendering **9**

COURSE OUTCOMES (COs)	
CO1	Knowledge will be gained about the introduction of 3 D Modeling
CO2	Knowledge will be gained about advanced Texturing
CO3	Knowledge will be gained about Lighting
CO4	Knowledge will be gained about UV Mapping
CO5	Knowledge will be gained about Rendering
Category	NC
Approval	47th Academic Council Meeting

VI SEMESTER

S. No.	CATEGORY	SUB. CODE	SUBJECT	L	T	P	C
THEORY							
1.	MC	U18MCVC601	Documentary Production	3	1	0	4
2.	MC	U18MCVC602	Literary reviews	3	1	0	4
3	ME	U18MEVC021	**Major Elective II:** Media Interview Techniques	3	1	0	4
		U18MEVC022	Media Research Methods				
		U18MEVC023	Psychological Foundation				
PRACTICAL							
4.	MC	U18MCVC6L1	Event Management	0	0	6	3
5.	EEC	U18EEVC6P1	Project	0	0	10	5
	EEC	U18EEVC6P2	Internship	0	0	10	5
6.	HS	U18HSCA6L1	Extension Activities	0	0	2	1
Total Contact Hours: 30						**Total Credits: 26**	

CODE No.	**COURSE NAME -** DOCUMENTARY PRODUCTION	**L**	**T**	**P**	**C**
U18MCVC601	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2 With any Major				
	Course Designed by – Dept. of Visual Communication				

COURSE OBJECTIVES:

This course introduce students non fiction film making.T hey will be exposed to different modes of documentary representation and the appropriate usage for each style it also covers the concepts of objectivity realism in documentaries. They will also be exposed to current issues and methods of documentary.

COURSE OUTCOMES (COs)	
CO1	Have a thorough Knowledge of history and growth of film making.
CO2	To apply the techniques in film industry and various elements of documentary film making
CO3	To solve practical problem in the real life situations in documentary from structural and post structural perspective
CO4	Have a complete grasp of documentary film making with special focus on themes and its presentation
CO5	A deeper understanding of the concept of the reality associated with documentary making and narrative technique used to project the same
CO6	

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						M	H	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
						*					
4	Approval		Academic Council Meeting								

UNIT I INTRODUCTION TO DOCUMENTARY 12

Introduction to Documentary,Need and Importance of documentary, Analysis on important documentaries.

UNIT II SOCIAL, POLITICAL AND HISTORICAL ISSUES TO DOCUMENTARY 12

Social, political and historical issues to documentary film, Proposal/Treatment/Synopsis writing.

UNIT IIIVISUAL DOCUMENTATION 12

Pitching. Observation, visual documentation: Including photos and multimedia .

UNIT IV INTERVIEWING 12

Interviewing: exercises, interview analysis. Surveys, Docudrama, Voice over script.

UNIT V PRODUCTION EXECUTION 12

Finalizing treatment, filming schedule, locations, characters, schedule, etc. Executing Pre – production, production and Post – production.

Text Books:

1. Ferocious Reality: Documentary according to Werner Herzog - by Eric Ames
2. John Grierson: Life, Contributions - by Jack C Ellis PhD

Reference books:

1. A New History of Documentary Film - by Betsy A. McLane
2. 15 Directors on Documentary Filmmaking - by James Quinn

CourseCoordinator **HOD**

CODE No.	**COURSE NAME –** LITERARY REVIEWS	**L**	**T**	**P**	**C**
U18MCVC602	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2 With any Major				
	Course Designed by – Dept. of Visual Communication				

COURSE OBJECTIVES:

To learn about Tamil and English Literature and Important Tamil and English short stories based on the novels and to understand the concept of converting the novels in to movies

COURSE OUTCOMES (COs)

CO1	Knowledge will be gained about Tamil and English
CO2	Knowledge will be gained about Tamil and English short stories
CO3	Knowledge will be gained about Tamil and English based on the novels
CO4	Knowledge will be gained about converting the novels in to movies
CO5	Knowledge will be gained about Analysis and reviews of important novels
CO6	To learn about reviews of movies collection .

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						M	H	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
						*				
4	Approval		Academic Council Meeting							

UNIT I INTRODUCTION TO TAMIL AND ENGLISH LITERATURE 12

Introduction to Tamil and English literature,Need and Importance of literature in media studies. Writing vs Direction.

UNIT II IMPORTANT TAMIL AND ENGLISH SHORT STORIES 12

Important Tamil and English short stories – Introduction and analysis.

UNIT III TAMIL AND ENGLISH MOVIES BASED ON THE NOVELS 12

Introduction to important Tamil and English movies taken based on the novels. Analysis of the important Tamil and English movies based on the novels.

UNIT IV CONVERTING THE NOVELS IN TO MOVIES 12

How to convert the novels in to movies? The entire process of conversion including scripting and direction.

UNIT V LITERARY REVIEWS OF IMPORTANT NOVELS 12

Literary reviews - Analysis and reviews of important Tamil and English novels

Text Books:

1. The Literature Review-A Step-by-Step Guide for Students (2008) by Diana Ridley
2. Doing Your Literature Review : traditional and systematic techniques (2011) by Jill Jesson; Lydia Matheson; Fiona M. Lacey

Reference books:

1. Preparing Literature Reviews: qualitative and quantitative approaches (2004) **by M. Ling Pan**

2. Telling a Research Story: writing a literature review (2009) by Christine B. Feak; John M. Swales

CourseCoordinator **HOD**

CODE No.	**COURSE : MEDIA INTERVIEW TECHNIQUES**	**L**	**T**	**P**	**C**
U18MEVC021	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2 With any Major				
	Course Designed by – Dept of Visual Communication				

COURSE OBJECTIVES:

The main objectives of this course are to make students understand the various interview techniques in the media outlets and preparing questions for the interviews for different formats and genres.

COURSE OUTCOMES (COs)

CO1	knowledge will be gained about the Introduction to Interviews
CO2	knowledge will be gained about the types of Interviews
CO3	knowledge will be gained about the Radio Interviews
CO4	knowledge will be gained about the Television Interviews
CO5	knowledge will be gained about the Online Interviews
CO6	knowledge will be gained about the Introduction to Interviews

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						M	H	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
						*				
4	Approval		Academic Council Meeting							

UNIT 1 INTRODUCTION TO INTERVIEWS 12

Introduction to Interviews, Purpose of Interviews, Self Introduction.

UNIT 2 TYPES OF INTERVIEWS 12

Art of Interviewing- Various methods of interviews.

UNIT 3 RADIO INTERVIEWS 12

Introduction to Radio Interviews, Methods and steps involve in Radio Interviews

UNIT 4 TELEVISION INTERVIEWS 12

Introduction to Television Interviews, Methods and steps involve in Television Interviews

UNIT 5 ONLINE INTERVIEWS 12

Introduction to Online Interviews, Methods and steps involve in Online Interviews

REFERENCE BOOK:

1. The Complete Reporters, Julius Harris Macmillon, Newyork, 1981.
2. Professional Journalism, Kamath M.V.,Vikas Publications, 1980.

TEXT BOOK:

1. Beyond the Facts: A guide to the art of the Feature writing, Louis Alexnde, Gulf Publishing Company, 1982.
2. News Writing: from Lead to, Metz William Prentice Hall Inc., New Jersy, 1979.

CourseCoordinator HOD

CODE No. U18MEVC022	COURSE NAME : MEDIA RESEARCH METHODS	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2 With any Major				
	Course Designed by – Dept of visual Communication				

COURSE OBJECTIVES:

The main objectives of this course are to make students understand the theoretical concepts of qualitative and quantitative research techniques and enhance their applications of research nuances from the stage of research formulation through to presentation.

COURSE OUTCOMES (COs)

CO1	Learn research nuances from the stage of research formulation through to presentation.
CO2	Become familiar with various methods and techniques in research
CO3	To learn about the areas of communication research
CO4	To learn about the research design components
CO5	Implement a research in different media scenarios
CO6	To learn about the sampling and data collection

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						M	H	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
						*				
4	Approval		Academic Council Meeting							

UNIIT I THE CONCEPTS IN MEDIA RESEARCH 12

Concepts in Media Research -definition and elements; basic and applied research.

UNIT II AREAS OF COMMUNICATION RESEARCH 12

Areas of Communication Research-evaluation, feedback, media habits, public opinion surveys, pre-election opinion pools and exit polls.

UNIT III RESEARCH DESIGN COMPONENTS 12

Research design components-experimental, quasi-experimental, bench mark, longitudinal studies-simulation-panel studies-correlational designs Research question, selection of topic, review of literature.

UNIT IV RESEARECH METHODS 12

Research Methods - Census method, survey method, experimental and laboratory research, field studies, case studies, content analysis, discourse analysis

UNIT V SAMPLING AND DATA COLLECTION 12

Sampling and Data Collection Importance and principles of sampling-representativeness of sampling; methods of sampling; tools of data collection, questionnaire focus groups, telephone surveys, Data Analysis and Interpretation Data analysis techniques.

REFERENCE BOOK:

1. Investigating communication, Frey, Lawrence R. Allyn and Bacon Publishers, (2000).

TEXT BOOK:

1. Mass Media Research: an Introduction, Wimmer, Roger D. (1983).

CODE No.	COURSE NAME : PSYCHOLOGICAL FOUNDATION	L	T	P	C
U18MEVC023	Total Contact Hours – 45	3	1	0	4
	Prerequisite – +2 With any Major				
	Course Designed by – Dept. of visual Communication				

COURSE OBJECTIVES:

The course will demonstrate acquisition of both factual knowledge and the ability to conceptualize and apply this knowledge to their own behavior, to ways of interacting with others, and to their roles in culture and society.

COURSE OUTCOMES (COs)

CO1	Students can identify how we become aware of ourselves, how we learn to interact with others, and how we influence others and how they influence us.
CO2	Students can identify how psychologists study human behavior and how this knowledge can be used to explain, predict, and influence behavior.
CO3	Students identify and critically evaluate psychological research methods.
CO4	Students analyze empirical data.
CO5	Students assess the significance and importance of research reports.
CO6	Students communicate clearly and effectively in a written format.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M					L	H	L	L
	CO2	H	M					L			
	CO3	H	M					L			
	CO4	H	M					L			
	CO5	H	M					L			
	CO6	H	M					L			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
						*					
4	Approval		Academic Council Meeting								

UNIT I INTRODUCTION TO PSYCHOLOGY 12

Introduction to Psychology. Definition of Psychology. Major milestones in psychology.

UNIT II MAJOR AREAS OF PSYCHOLOGY 12

Major areas of psychology. Major methods used in psychology.

UNIT III THE COUNSELING PSYCHOLOGY 12

Counseling Psychology. Introduction to Counseling. Types of Counseling. Major classifications of Counseling.

UNIT IV PERCEPTION 12

Perception – Introduction and major aspects Perception - Introduction and major aspects of Learning.

UNIT V MEMORY 12

Memory - Introduction and major aspects of Memory - Emotion 6. Genetic and Environmental bases of behavior.

REFERENCE BOOK:

1. Introducing Psychology, Kosslyn, Stephen M., Person Group, 2010

TEXT BOOK:

1. Introductory psychology test preparation second edition, Don J. Sharpsteen, Cooper Cutting, 2012.

CODE No. U18MCVC6L1	COURSE NAME : EVENT MANAGEMENT	L	T	P	C
	Total Contact Hours – 45	0	0	6	3
	Prerequisite – +2 With any major				
	Course Designed by – Dept of Visual Communication				

COURSE OBJECTIVES:

Identifying and determining corresponding control measures and Programming events in such a way that operational information is transferred.

COURSE OUTCOMES (COs)

CO1	To learn a practical knowledge about Planning
CO2	To learn a practical knowledge about analyzing
CO3	To learn a practical knowledge about budgeting
CO4	To learn a practical knowledge about pre-executing
CO5	To learn a practical knowledge about Planning
CO6	Students communicate clearly and effectively in a written format.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M					L	H	L	L
	CO2	H	M					L			
	CO3	H	M					L			
	CO4	H	M					L			
	CO5	H	M					L			
	CO6	H	M					L			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT I	**PLANNING**	**9**
UNIT II	**ANALYZING**	**9**
UNIT III	**BUDGETING**	**9**
UNIT IV	**PRE -EXECUTING**	**9**
UNIT V	**EXECUTING**	**9**

1. Role & importance of exhibitions
2. Objectives of the exhibition
3. Advantage of exhibition over other devices
4. Importance of direct contact
5. Choosing the right exhibition - Where to participate
6. Why exhibitions sell? Concept of neutral territory
7. PR for an exhibition
8. Role of the Press in promotion of an event
9. Publicity inputs or visible aids for promoting an event
10. Print & Display material
11. Stand Design
12. Trade Fair: Uses & Abuses
13. Gauging Cost Effectiveness

CODE No.	COURSE NAME : PROJECT	L	T	P	C
U18EEVC6P1	Total Contact Hours – 75	0	0	10	5
	Prerequisite – +2 With any Major				
	Course Designed by – Dept of visual Communication				

COURSE OBJECTIVES
UNIT – 1 : To learn about live Television Production
UNIT – 2 : To learn about live AD commercial
UNIT – 3 : To learn about live Advertising Photography
UNIT – 4 : To learn about live Short Film or Documentary
UNIT – 5 : To learn about 3D Animation

UNIT I	**TELEVISION PRODUCTION**	**15**
UNIT II	**AD COMMERCIAL**	**15**
UNIT III	**ADVERTISING PHOTOGRAPHY**	**15**
UNIT IV	**SHORT FILM OR DOCUMENTARY**	**15**
UNIT V	**3D ANIMATION**	**15**

CODE No.	COURSE NAME : INTERNSHIP	L	T	P	C
U18EEVC6P2	Total Contact Hours – 45	0	0	10	5
	Prerequisite – +2 With any Major				
	Course Designed by – Dept of Visual Communication				

COURSE OBJECTIVES

UNIT – 1 : To get hands on experience
UNIT – 2 : To get guidance from experience professions
UNIT – 3 : To learn about media analysis
UNIT – 4 : To convey theory to practice
UNIT – 5 : To learn to complete live project on time

Students have to do their internship in any media organization for 45 days to get live project experience.

COURSE OUTCOMES (COs)	
CO1	knowledge will be gained about get hands on experience
CO2	knowledge will be gained about get guidance from experience professions
CO3	knowledge will be gained about media analysis
CO4	knowledge will be gained about convey theory to practice
CO5	knowledge will be gained about learn to complete live project on time
Category	EEC
Approval	47th Academic Council Meeting

LIST OF SKILL BASED ELECTIVES
Choose any three courses – one in semester IV & two in semester V

S.No.	Sub Code	Subjects	L	T	P	C
1	U18SEBC001	Business Process Outsourcing – Management	1	0	2	2
2	U18SEBC002	Customer Relationship Management	1	0	2	2
3	U18SEBC003	Entrepreneurial Development	1	0	2	2
4	U18SEBC004	Human Resource Management	1	0	2	2
5	U18SEBC005	Marketing Management	1	0	2	2
6	U18SEBC006	Office Management	1	0	2	2
7	U18SEBC007	Retail Marketing	1	0	2	2
8	U18SEBC008	Salesmanship and Advertising	1	0	2	2
9	U18SEEN001	Soft Skills	1	0	2	2
10	U18SESC001	Computer Application	1	0	2	2
11	U18SESC002	Multimedia	1	0	2	2
12	U18SESC003	Advanced Excel	1	0	2	2
13	U18SESC004	Web Designing	1	0	2	2
14	U18SESC005	Photoshop	1	0	2	2
15	U18SESC006	Flash	1	0	2	2
16	U18SESC007	Computer Hardware and Networking	1	0	2	2
17	U18SESC008	Computer Programming	1	0	2	2
18	U18SESC009	Office Automation Tools	1	0	2	2
19	U18SEMA001	Quantitative and Aptitude Reasoning -I	1	0	2	2
20	U18SEMA002	Quantitative and Aptitude Reasoning-II	1	0	2	2
21	U18SEMA003	Regression Analysis with SPSS	1	0	2	2

LIST OF MAJOR ELECTIVE – I
Choose any one in semester V

S.No.	Sub Code	Subjects	L	T	P	C
1	U18MCVC501	Television Production	4	2	0	5
2	U18MCVC502	Digital and Online Communication	4	2	0	5
3	U18MCCA503	Basics of Script Writing	2	0	0	2

LIST OF MAJOR ELECTIVE – II
Choose any one in semester VI

S.No.	Sub Code	Subjects	L	T	P	C
1	U18MEVC021	**Major Elective II:** Media Interview Techniques	4	0	0	4
2	U18MEVC022	Media Research Methods	4	0	0	4
3	U18MEVC023	Psychological Foundation	4	0	0	4

Syllabus- B.Sc- Chemistry

I SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact hour	L	T	P	C
THEORY								
1.	HS	U18HSTA101	Part -1 :Tamil	5	3	0	0	3
		U18HSHI101	Part -1 :Hindi	5				
		U18HSFR101	Part -1 : French	5				
2.	HS	U18HSEN102	Part II : English	5	3	0	0	3
3.	MC	U18MCCH101	Core - 1 General Chemistry - I	5	3	1	0	4
4.	MC	U18MCCH102	Core -2 General Chemistry - II	5	3	1	0	4
5.	NC	U18NCMA105	Allied - I - Maths - I	5	3	1	0	4
PRACTICAL								
6.	MC	U18MCCH1L1	Core -3 - Chemistry Major Lab.	4	0	0	4	2
Total				**30**	**5**	**3**		**20**

II SEMESTER

S.No	CATEGORY	SUB. CODE	SUBJECT	Total contact hour	L	T	P	C
THEORY								
1.	HS	U18HSTA201	Part -1 :Tamil	4	3	0	0	3
		U18HSHI201	Part -1 :Hindi	4				
		U18HSFR201	Part -1 : French	4				
2.	HS	U18HSEN202	Part-II: English	4	3	0	0	3
3.	MC	U18MCCH201	Core - 4 - General Chemistry - III	5	3	1	0	4
4.	MC	U18MCCH202	Core - 5 - General Chemistry - IV	4	3	1	0	4
5.	NC	U18NCMA205	Allied - II Maths	5	3	1	0	4
6.	HS	U18HSCH201	Environmental Studies	2	2	0	0	2
7.	HS	U18HSBC202	Value Education	2	2	0	0	2
PRACTICAL								
8.	MC	U18MCCH2L1	Core - 6 -Major Practical - II	4	0	0	4	2
Total				**30**	**19**	**3**	**4**	**24**

III SEMESTER

S.No	CATEGORY	SUB. CODE	SUBJECT	Total contact hour	L	T	P	C
THEORY								
1.	HS	U18HSTA301	Part -2 :Tamil	4	3	0	0	3
		U18HSHI301	Part -2 :Hindi					
		U18HSFR301	Part -2 : French					
2.	NME	U18NETA301	Basic Tamil	2	2	0	0	2
		U18NETA302	Special Tamil	2				
3.	HS	U18HSEN302	Part-II: English	4	3	0	0	3
4.	MC	U18MCCH301	Core - 7 - General Chemistry - 5	5	3	1	0	4
5.	NC	U18NCPH302	Second Allied –I-Physics Paper - 1	5	3	1	0	4
PRACTICAL								
6	MC	U18MCCH3L1	Core -8 - Major Practical - 3	4	0	0	4	2
7.	NC	U18NCPH3L2	Second Allied - II - Physics Lab.	4	0	0	4	2
			Total	**30**	**14**	**2**	**8**	**20**

IV SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total contact hour	L	T	P	C
THEORY								
1.	HS	U18HSTA401	Part -2 :Tamil	4	3	0	0	3
		U18HSHI401	Part -2 :Hindi					
		U18HSFR401	Part -2 : French					
2.	NME	U18NETA401	Basic Tamil	2	2	0	0	2
		U18NETA402	Special Tamil	2				
3.	HS	U18HSEN402	Part-II: English	2	3	0	0	3
4.	MC	U18MCCH401	Core - 9 -General Chemistry - 6	**5**	3	1	0	4
5.	NC	U18NCPH402	Second Allied – III - Physics Theory	5	3	1	0	4
PRACTICAL								
6.	MC	U18MCCH4L1	Core 10 - Major Practical - 4	4	0	0	4	2
7.	NC	U18NCPH4L2	Second Allied - IV - Physics Lab.	4	0	0	4	2
8.	SE	U18SESC001	Skill Based Elective I	2	1	0	2	2
			Total	**30**	**15**	**2**	**10**	**22**

V SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total contact hour	L	T	P	C
THEORY								
1.	MC	U18MCCH501	Core - 11 - Organic Chemistry - I	5	3	1	0	4
2.	MC	U18MCCH502	Core -12- Inorganic Chemistry - I	4	3	1	0	4
3.	MC	U18MCCH503	Core - 13 - Physical Chemistry - I	5	3	1	0	4
4.	ME	U18MECH001	Major Elective – I - Analytical Chemistry	4	4	0	0	4
		U18MECH002	Major Elective – I - Polymer Chemistry					
		U18MECH003	Major Elective – I - Biochemistry					
5.	SE	U18SESC008	Skill Based Elective-II	2	1	0	2	2
6	SE	U18SESC004	Skill Based Elective-III	2	1	0	2	2
PRACTICAL								
7.	MC	U18MCCH5L1	Core - 1 4 Major Practical - 5	4	0	0	4	2
8.	MC	U18MCCH5L2	Core - 1 5 Major Practical - 6	4	0	0	4	2
Total				**30**	**15**	**3**	**12**	**24**

VI SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total contact hour	L	T	P	C
THEORY								
1.	MC	U18MCCH601	Core - 16 -Organic Chemistry - II	5	3	1	0	4
2.	MC	U18MCCH602	Core -17-Inorganic Chemistry - II	5	3	1	0	4
	MC	U18MCCH603	Core-18 – Chemistry in everyday life	4	3	1	0	4
3.	EEC	U18EEPH6P1	Project	4	0	0	20	10
4.	ME	U18MECH004	Major Elective – II - Kinetic & Spectroscopic Methods In Chemistry	4	4	0	0	4
		U18MECH005	Major Elective – II - Industrial Chemistry					
		U18MECH006	Major Elective – II - Food Chemistry and Technology					
5.	HS	U18HSPH6V1	Extension Activities	2	0	0	2	1
PRACTICAL								

6.	MC	U18MCCH6L1	Core - 18 - Major Practical - 6	6	0	0	6	3
			Total	**30**	**12**	**0**	**28**	**30**

LIST OF SKILL BASED ELECTIVES
Choose any three courses – one in semester IV & two in semester V

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18SEBC001	Business Process Outsourcing – Management	2	1	0	2	2
2	U18SEBC002	Customer Relationship Management	2	1	0	2	2
3	U18SEBC003	Entrepreneurial Development	2	1	0	2	2
4	U18SEBC004	Human Resource Management	2	1	0	2	2
5	U18SEBC005	Marketing Management	2	1	0	2	2
6	U18SEBC006	Office Management	2	1	0	2	2
7	U18SEBC007	Retail Marketing	2	1	0	2	2
8	U18SEBC008	Salesmanship and Advertising	2	1	0	2	2
9	U18SEEN001	Soft Skills	2	1	0	2	2
10	U18SESC001	Computer Application	2	1	0	2	2
11	U18SESC002	Multimedia	2	1	0	2	2
12	U18SESC003	Advanced Excel	2	1	0	2	2
13	U18SESC004	Web Designing	2	1	0	2	2
14	U18SESC005	Photoshop	2	1	0	2	2
15	U18SESC006	Flash	2	1	0	2	2
16	U18SESC007	Computer Hardware and Networking	2	1	0	2	2
17	U18SESC008	Computer Programming	2	1	0	2	2
18	U18SESC009	Office Automation Tools	2	1	0	2	2
19	U18SEMA001	Quantitative and Aptitude Reasoning -I	2	1	0	2	2
20	U18SEMA002	Quantitative and Aptitude Reasoning-II	2	1	0	2	2
21	U18SEMA003	Regression Analysis with SPSS	2	1	0	2	2

SEMESTER – I

U18HSTA101	தமிழ் – I	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். த. கிறிஸ்டல் ரெஜி & தமிழ்த்துறை				

COURSE OBJECTIVES : இருபதாம் நூற்றாண்டு இலக்கியத்தை அறியச் செய்தல்

COURSE OUTCOMES (COs)

CO1	பாரதியார், பாரதிதாசன், கவிமணி ஆகியோரின் மரபுக்கவிதைகளை அறிவர்
CO2	கண்ணதாசன், அப்துல்ரகுமான், நா.முத்துக்குமார் ஆகியோரின் புதுக்கவிதைகளை அறிவர்
CO3	இருபதாம் நூற்றாண்டு உரைநடை கட்டுரைகளை அறிவர்
CO4	இருபதாம் நூற்றாண்டு சிறுகதைக்கலையின் நுட்பத்தை அறிவர்
CO5	இக்கால இலக்கிய வரலாற்றைப் பற்றி அறிவர்
CO6	இருபதாம் நூற்றாண்டு இலக்கியத்தைப் பற்றி அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

அலகு 1 **9**

மரபுக்கவிதைகள்: பாரதியார் - தேசிய கீதங்கள் - தமிழ் நாடு - செந்தமிழ் நாடு, தமிழ்

பாரதிதாசன் - தமிழ் - இன்பத் தமிழ், எங்கள் தமிழ்

கவிமணி தேசிக விநாயகம் பிள்ளை - வாழ்க்கைத் தத்துவங்கள், வாழ்க்கை நிலையாமை

அலகு 2 **9**

புதுக்கவிதைகள்: கண்ணதாசன் - அழுகை, பிறப்பின் வருவது யாதெனக் கேட்டேன்!

அப்துல்ரகுமான் - கல்லின் காயம், பாருக்குள்ளே நல்ல நாடு

நா.முத்துக்குமார் - வளர்தலும் வளர்தல் நிமித்தமும், கை நீட்டினால் தண்ணீர் வரும் குழாய்

அலகு 3 **9**

கட்டுரைகள்: திரு.வி.கலியாணசுந்தரனார் - பாஷை வளர்வதெப்படி

அறிஞர் அண்ணா - வீட்டிற்கோர் புத்தகசாலை

வ.சுப. மாணிக்கம் - தேசிய மறை திருக்குறள்

அலகு 4 **9**

சிறுகதைகள்: வ.வே.சு. ஐயர் - குளத்தங்கரை அரசமரம் - 'தமிழ்ச் சிறுகதையின் தந்தை - தமிழின் முதல் சிறுகதை'

மௌனி - அழியாச்சுடர் - 'தமிழ்ச் சிறுகதையின் திருமூலவர்'

புதுமைப்பித்தன் - காஞ்சனை - 'தமிழ்ச் சிறுகதையின் மன்னன்'

அலகு 5 **9**

இக்கால இலக்கிய வரலாறு: இருபதாம் நூற்றாண்டு கவிதை இலக்கிய வரலாறு

இருபதாம் நூற்றாண்டு உரைநடை இலக்கிய வரலாறு

இருபதாம் நூற்றாண்டு சிறுகதை இலக்கிய வரலாறு

பாட நூல்கள்:

1. தி.சா.ராஜு, "பாரதியார் & பாரதிதாசன் கவிதைகள்", வானவில் பிரசுரம், 1977
2. சி.தேசிக விநாயகம் பிள்ளை, "கவிமணி கவிதைகள்", பூம்புகார் பதிப்பகம், 2011
3. கண்ணதாசன், "கவிஞர் கண்ணதாசன் கவிதைகள்", கண்ணதாசன் பதிப்பகம், 2012
4. அப்துல் ரகுமான், "கவிக்கோ கவிதைகள்', நேஷனல் பப்ளிஷர்ஸ், 2013
5. நா.முத்துக்குமார், "கவிதைகள்-அனா ஆவன்னா, பட்டாம்பூச்சி பதிப்பகம், 2016
6. இராமச்சந்திரன், "திரு.வி.க.வின் தேசபக்தன் கட்டுரைகள்",புவனேஸ்வரி பதிப்பகம்,2001
7. அண்ணா, 'சொற்பொழிவு-வீட்டிற்கோர் புத்தகசாலை', முத்தமிழ் நிலையம், 2008

பார்வை நூல்கள்:

1. ந.வேலுசாமி, "திருக்குறளை தேசிய நூலாக அறிவிக்க வேண்டும்", Coral Publisher, 2017
2. வ.வே.சு.ஐயர், "குளத்தங்கரை அரசமரம்", வ.உ.சி.நூலகம், 2007
3. மௌனி, "மௌனி படைப்புகள்", காலச்சுவடு பதிப்பகம், 2010
4. புதுமைப்பித்தன், "காஞ்சனை", அன்னம் பதிப்பகம், 2013

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18HSHI101	Hindi	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Hindi as second language in Grade 12				
	Course Coordinator Name &Department:- Dr. K. MustakHusaain / Department of Hindi				

COURSE OBJECTIVES :-
To understand , read, write and speak Hindi language with grammatical.

COURSE OUTCOMES (COs)

CO1	Remember the behavior
CO2	Understand the importance of money by story
CO3	Apply the concept of Hindi grammar
CO4	Analyze the usage of translation from English to Hindi
CO5	Evaluatethe unseen passage to answer the questions
CO6	Create the knowledge in Hindi Language

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

UNIT I **9**

NAVEEN GADYA CHAYANIKA – 2 - Bholaram ka jeev - Mehamaan se Bhagavaanbachaaye - NumberovaliThijori – Kaffan - Gunda

UNIT II **9**

NON DETAILED TEXT: KAHANI KUNJ - Stories: 6 – 10 only

UNIT III **9**

GRAMMAR: SHABDA VICHAR ONLY - NOUN, PRONOUN, ADJECTIVE, VERB, TENSE, CASE ENDINGS - Theoretical & Applied

UNIT IV **9**

TRANSLATION - English – Hindi only - ANUVADH ABHYAS – III - 1 – 15 Lessons Only

UNIT V **9**

COMPREHENSION - 1 Passage from ANUVADH ABHYAS – III (16 – 30)

TEXT BOOKS:

UNIT 1 - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017
UNIT II - Govind Prakashan, SadharBagaar, Mathura, Uttar Pradesh – 281001 - Editor: Dr V.P. Amithab

UNIT III - Vyakaran Pradeep by Ramdev - Hindi Bhavan, 36, Tagor Town, Allahabad – 211002.

UNIT IV - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017.

UNIT V - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017

CourseCoordinator **HOD**

U18HSFR101	**Française**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – French as second language in Grade 12				
	Course Coordinator Name & Department :- Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES :- Initier les étudiants aux principes de base et à la pratique de la communication orale et écrite.											
COURSE OUTCOMES (COs)											
CO1	Comprendre les bases de la langue.										
CO2	Analyser les modèles de phrases et former la grammaire.										
CO3	Pour apprendre les bases de la grammaire ainsi que ses principes.										
CO4	Se souvenir de l'anatomie des conjugaisons.										
CO5	Créer des dialogues et des conversations par eux-mêmes dans la langue et pratiquer des compétences orales et écrites.										
CO6	Se souvenir des règles nécessaires de la langue										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

UNIT I - Vous comprenez **9**

Alphabets - French Accents - Les Nombres – Pronunciations.

UNIT II Au travail! **9**

Masculine Singular and Feminine singular - Conjugaison des verbes (present tense) -

Les articles définis.

UNIT III En se detend? **9**

Conjugaison (faire-aller-venir-Vouloir-Pouvoir-Devoir)

UNIT IV Racontez-moi **9**

La date et l'heure – les saisons – les couleurs

UNIT V Bon voyage! **9**

Adjectifs demonstratives - Adjectifs possessives - Les Voyages / les transport-Bon appétit!-Article partitif - Emploi des articles - Interrogation (Forme avec inversion) - Les repas - La fête

TEXT BOOKS:

A1 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

Course Coordinator **HOD**

U18HSEN102	**ENGLISH I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept: Mrs. SHEEBA - English				
COURSE OBJECTIVES:- :- To use English effectively for study purpose and enable the learner to communicate appropriately in real life situation.					

	COURSE OUTCOMES (COs)
CO1	Remember and recall the words according to the given context.
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarizes the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O1	PSO2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L						H		
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓							
4	**Approval**	Academic Council Meeting							

UNIT-I POETRY **9**

Lucy Gray -William Wordsworth – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Ulysses -Alfred Lord Tennyson** - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **The Road Not Taken** – **Robert Frost** - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT-II – ONE ACT PLAYS **9**

The Boy Comes Home - **A.A.Milne** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Referee - W.H.Andrews and Geoffrey Dearmer** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT -III SHORT STORIES **9**

The Unicorn in the Garden – **James Thurber** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Avenger** – **Anton Chekov** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT IV PROSE **9**

Six Thinking Hats - **Edward de Bono** – Author Biography - Self analysis technique, Summary; **My Early Days** - **Abdul Kalam** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **I Have a Dream (Speech)** - **Martin Luther King** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT V **9**

Introduction to Basics of Communication – Definitions – Types – Listening, Speaking, Reading & Writing

TEXT BOOKS:

1. Six Thinking Hats by Edward de Bono, Little Brown and Company, 1985
2. My Early Days by Abdul Kalam, October 7, 2013

REFERENCE BOOKS:

1. Strings of Gold (Part- II) Edited by Prof. Jasbir Jain (MacMillan), 2007
2. Basic Communication Skills for Technology by Rutherfoord (Dorlig Kindersly), 2007
3. English for Professionals A Practice Book of Communication Skills in English by Dr.Miglani (Vayu Education of India), 2010.

Course Coordinator **HOD**

U18MCCH101	**CORE- 1 - GENERAL CHEMISTRY - I**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- –Dr. G. Gurumoorthy / Chemistry				

COURSE OBJECTIVES :-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly

COURSE OUTCOMES (COs)	
CO1	Remember the fundamental concept of periodic properties.
CO2	Understand about the theoretical concepts of organic Chemistry
CO3	Understand the properties and uses of Hydrocarbons and Alkynes
CO4	Apply the Kinetic theory of gases, postulates and importance of real gases
CO5	Apply the Real Gases deviation from ideal behaviour.
CO6	Analyze the preporties of colloids particle by electrical double layer and zeta potential.

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT I: PERIODIC PROPERTIES I **12**

Atomic weight - equivalent weight- molecular weight -mole concept- stoichiometry - Periodic properties- atomic radii- ionic radii- covalent radii- ionisation potential- electron affinity and electronegativity - wave particle duality - Heisenberg uncertainity principle - Quantum numbers - shapes of atomic orbitals - Pauli's exclusion principle - singlet and triplet electronic states - Aufbau principle - electronic configuration of atoms.

UNIT II: HYDROCARBONS **12**

Theoretical Principles of Organic Chemistry: Polar effects: Inductive and electromeric effects – mesomerism and resonance – effect on chemical reactivity – principles for writing down VB resonance structures – resonance energy – steric inhibition of resonance – hyperconjugation - Hydrogen bonds: effect on physical properties. heat of hydrogenation - bond length and dipole moment - steric effect – steric accelerated reaction and steric inhibited reaction - Types of solvents – polar - non-polar – their dissolving nature

UNIT III: HYDROCARBONS II **12**

Alkanes: general methods of preparation. The reactions of halogens with methane , nitration, sulphonation, oxidation, isomerisation and thermal decomposition of alkanes. **Alkenes**: general methods of preparation. Preparation by Wittig reaction – Mechanisms of beta

elimination – E1, E2 and cis elimination – Hoffmann's rule and Saytzeff's rule. Addition reactions with hydrogen, halogen, hydrogen halide (Markownikoff's rule) and hydrogen bromide (Peroxide effect).

UNIT IV: GASEOUS STATE **12**

Ideal Gases: Kinetic theory of gases – postulates – kinetic gas equation – derivation of Boyles law, Charles' law and Avogadro's law. Maxwell's distribution of molecular velocities – average velocity, most probable velocity and root mean square velocity –collision diameter, collision number, collision frequency and mean free path.

Real Gases: deviation from ideal behaviour – Van der Waals equation, Dieterici equation, Berthelot equation, Clausius equation - Inter molecular forces – types – London forces – interaction energy – nature of Van der Waals interactions.

UNIT V: COLLOIDAL STATE **12**

Colloidal state: Classification of colloids – properties – electrical properties – electrical double layer – zeta potential – coagulation and protection – gold number emulsion. Particle size determination by light scattering method – surfactants-micelles. Gels – preparative methods – types (elastic and non – elastic gels) – thixotropy. Emulsions : Emulsifiers – types of emulsion – Applications of colloids.

TEXT BOOKS

1. J. D. Lee, Concise Inorganic Chemistry, 5th ed., Blackwell Science, London, 1996.
2. F. A. Cotton, G. Wilkinson and P. L. Guas, Basic Inorganic Chemistry, 3rd ed., John Wiley,1994.
3. B. Y. Paula, Organic Chemistry, 3rd Edition, Pearson Education, Inc.(Singapore), New Delhi, reprint, 2002.
4. S.K. Dogra and S. Dogra, Physical Chemistry Through Problems, New age international, 4th edition 1996.

REFERENCE BOOKS

1. J. E. Huheey, E. A. Kieter and R. L. Keiter, Inorganic Chemistry, 4th ed., Harper Collins, New York, 1993.
2. D. F. Shriver and P. W. Atkins, Inorganic Chemistry, 3rd ed., W. H. Freeman and Co, London,1999.
3. Jerry March, Advanced Organic Chemistry, 4th Edition, John Wiley And Sons, New York,1992.
4. S. H. Pine, Organic Chemistry, 5th Edition, McGraw Hill International Edition, Chemistry Series, New York, 1987.

CourseCoordinator **HOD**

U18MCCH102	**CORE- 2 - GENERAL CHEMISTRY - II**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Mrs. S. Vinitha / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)	
CO1	Remember the basic properties and uses of alkali and alkaline earth metals
CO2	Understand about the basic principles in organic chemistry
CO3	Understand the bonding and antibonding by VB and MO theory
CO4	Apply the some simple inorganic molecules to find the shapes by VSPER theory
CO5	Apply the qualitative ideas of free electron, valence bond and band theories.
CO6	Analyze the properties of p- type and n - type semiconductors.

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT I - ALKALI METALS & ALKALINE EARTH METALS **12**

Alkali metals : Comparative study of the properties of Alkali metals Manufacture of NaOH Diagonal relationship of Li & Mg, Be & Al, chemistry of NaOH, KI & Mg(NH4)PO4. - **Alkaline earth Metals :** Comparative study of the properties of Alkaline earth metals; anomalous behavior Extraction of Calcium – properties and uses ; Preparation, properties and uses of calcium carbide and superphosphate of lime

12

UNIT II: Basic Principles in Organic Chemistry

General Introduction - Tetravalence of Carbon: Shapes of Organic Compounds - Carbanioin and carbocation - Structural Representations of Organic Compounds –Classification of Organic Compounds - Nomenclature of Organic Compounds – Isomerism - Fundamental Concepts in Organic Reaction Mechanism - Methods of Purification of Organic Compounds - Qualitative Analysis of Organic Compounds - Quantitative Analysis

UNIT III: CHEMICAL BONDING I **12**

Covalent bond - nature of covalent bond and formation of σ and π bonds - hybridisation - bond

U18NCMA105	ALLIED MATHEMATICS –I	L	T	P	C

energy - bond length - bond angle - electronegativity - polarity of bonds - dipole moment - VB and MO theories- bonding and antibonding orbitals - nonbonding orbitals - MO configurations of simple diatomic molecules (H_2, He_2, N_2, O_2, C_2, B_2,F_2, CO, NO and their ions) - Comparison of VB and MO theories.

UNIT VI: CHEMICAL BONDING II **12**

VSEPR theory - shapes of simple inorganic molecules and ions containing lone pairs and bond pairs - General characteristics of electrovalent compounds - Types of ions - size effects - radius ratio and its limitations - packing of ions in crystals - Lattice energy - Born - Haber cycle - Polarising power and polarisability - Fajan's rules - hydration energy. Ionic Bond – formation of ionic bond and factors favouring its formation.

UNIT V: SOLID STATE CHEMISTRY **12**

Qualitative ideas of free electron, valence bond and band theories - Crystal Structure – Crystal Lattice – Unit Cell – Coordination Number – atomic Radius – types of defects - defects in Solid state - p- type and n - type semiconductors - Hydrogen bonding: Its effect on the behaviour of molecules (both physical and chemical).

TEXT BOOKS

1. R. T. Morrison And R. N. Boyd, Organic Chemistry, 6th Edition, Printice-Hall Of India Limited, New Delhi, 1992.
2. T. W. Graham Solomons, Organic Chemistry, 6th edition, John Wiley and Sons, 1996.
3. B. Douglas, D. McDaniel and J. Alexander, Concepts and Models of Inorganic Chemistry,3rd ed., John Wiley, 1994.
4. P.W. Atkins, Physical Chemistry, 7th edition, Oxford university press, 2001.

REFERENCE BOOKS

1. T. Moeller, Inorganic Chemistry: A Modern Introduction, Wiley, New York, 1990.
2. J. D. Lee, Concise Inorganic Chemistry, 5th Ed., Blackwell Science, London, 1996.
3. D. F. Shriver and P. W. Atkins, Inorganic Chemistry, 3rd Ed., W. H. Freeman and Co, London,1999.
4. Sehan. N. Ege, Organic Chemistry, Structure And Reactivity, 3rd Edition, A.I.T.B.S., New Delhi, 1998.

CourseCoordinator **HOD**

	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.P.Sumathi &Mathematics				

COURSE OBJECTIVES :-

- Learners will be familiarized with certain concepts in Set theory, Matrices and Theory of Equations.
- To direct the students to develop problem solving skills based on the concepts of Trigonometry and Differential Equations.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Equivalence Relation and properties
CO2	Understand the concept of Cayley - Hamilton theorem.
CO3	Apply the formulae in Hyperbolic and inverse hyperbolic functions.
CO4	Analyze the algorithm for its complexity and performance.
CO5	Evaluate data maxima and minima of functions of two variables.
CO6	Create a real time application reciprocal equation.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	M	H		
	CO2	M	H	-	-	-	-	M			
	CO3	H	M	-	-	-	-	M			
	CO4	H	H	-	-	-	-	M			
	CO5	M	H	-	-	-	-	M			
	CO6	H	H	-	-	-	-	M			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT – I: **SET THEORY**
12

Sets, Subsets, Equal Sets, Universal Sets, Finite and Infinite Sets, Operation on Sets, Union, Intersection and Complements of Sets, Cartesian Product, Cardinality of Sets, Equivalence Relation and properties, Composite of functions, Simple Applications.
Chapter 2: Section 2.1 to 2.15.
Chapter 3: Section 3.1 to 3.9.
Chapter 4: Section 4.1 to 4.32.

UNIT- II: MATRICES
12

Symmetric, Skew-Symmetric, Orthogonal, Hermetian, Skew-Hermetian and Unitary matrices. Eigen values and Eigen-vectors, Cayley-Hamilton theorem (without proof) – verification- Computation of inverse of matrix using Cayley - Hamilton theorem.
Chapter 4, Section 4.1.1 to 4.1.6, 4.5, 4.5.2, 4.5.3.

UNIT- III: THEORY OF EQUATIONS **12**

Polynomial equations with real coefficients, irrational roots, complex roots, symmetric functions of roots, transformation of equation by increasing or decreasing roots by a constant, reciprocal equation. Newton's method to find a root approximately - simple problems.
Chapter 3, Section 3.1 to 3.4.1

UNIT IV: TRIGONOMETRY 12

Expansions of sin(nθ) and cos(nθ) in a series of powers of sinθ and cosθ - Expansions of$sin^n\theta$, $cos^n\theta$, $tan^n\theta$ in a series of sines, cosines and tangents of multiples of "θ" - Expansions of sinθ, cosθ and tanθ in a series of powers of "θ" – Hyperbolic and inverse hyperbolic functions - Logarithms of complex numbers. Chapter 6, Section 6.1 to 6.5

UNIT V: DIFFERENTIAL CALCULUS 12

Successive differentiation, n^{th} derivatives, Leibnitz theorem (without proof) and applications, Jacobians, Curvature and radius of curvature in Cartesian co-ordinates, maxima and minima of functions of two variables, Lagrange's multipliers - Simple problems

TEXT BOOK:

1. Chapter 1, Section 1.1 to 1.3.2 and 1.4.3 Content and treatment as in Allied Mathematics Volume I and II by P. Duraipandian and S. Udayabaskaran, S. Chand Publications

REFERENCES:

1. S. Narayanan and T.K. ManickavasagamPillai – Ancillary Mathematics, S. Viswanathan Printers, 1986, Chennai.

2. Allied Mathematics by Dr. A. Singaravelu.

CourseCoordinator **HOD**

U18MCCH1L1	**CORE- 3 - MAJOR PRACTICAL - 1**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	0	0	4	2
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- –Dr. G. Gurumoorthy / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)

CO1	Remember the need of chemistry practical and its toxicity
CO2	Understand about the uses of experiments in our day today life
CO3	Understand about its importance of chemical played important role
CO4	Apply the detail about practical importance to be aware of the concepts from the basis.
CO5	Apply the estimation of some inorganic ions by basic methods.
CO6	Analyse the importance of handling and precision of experimental skills.

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						L	H	
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

VOLUMETRIC ANALYSIS – I

1. Estimation of Magnesium using EDTA.
2. Estimation of Zinc using EDTA
3. Estimation of Total Hardness of water by EDTA method
4. Estimation of borax - Standard Sodium Carbonate
5. Estimation of Sodium Hydroxide -Standard Sodium Carbonate
6. Estimation of HCl –standard oxalic acid.
7. Estimation of ferrous sulphate – Standard FAS.
8. Estimation of oxalic acid – Standard oxalic acid.

Students must write short procedure for the given estimation in ten minutes during the Examination and submit the paper for evaluation.

Students must write short procedure for the given estimation in ten minutes during the Examination and submit the paper for evaluation.

TEXT BOOKS:

1. Vogel, A.I. A Textbook of Quantitative Inorganic Analysis, ELBS. 1978
2. Ahluwalia, V.K. & Aggarwal, R. Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis, University Press (2000).
3. Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co.: New Delhi (2011).
4. Garland, C. W.; Nibler, J. W. & Shoemaker, D. P. Experiments in Physical Chemistry 8th Ed.; McGraw-Hill: New York (2003).
5. Sundaram, Krishnan, Raghavan, Practical Chemistry (Part II), S. Viswanathan Co. Pvt.,1996.
6. N.S. Ganapragasam and G. Ramamurthy, Organic Chemistry – Lab manual, S. Viswanathan Co. Pvt., 1998.

REFERENCE BOOKS:

1. Halpern, A. M. & McBane, G. C. Experimental Physical Chemistry 3rd Ed.; W.H. Freeman & Co.: New York (2003).
2. Mann, F.G. & Saunders, B.C. Practical Organic Chemistry, Pearson Education (2009)
3. Furniss, B.S.; Hannaford, A.J.; Smith, P.W.G.; Tatchell, A.R. Practical Organic Chemistry, 5th Ed., Pearson (2012)
4. Ahluwalia, V.K. & Dhingra, S. Comprehensive Practical Organic Chemistry: Qualitative Analysis, University Press (2000).
5. Vogel's Text Book of Quantitative Chemical Analysis. 5th Edi., ELBS/Longman England, 1989.

CourseCoordinator **HOD**

SEMESTER – II

U18HSTA201	**தமிழ் - II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். த. கிறிஸ்டல் ரெஜி & தமிழ்த்துறை				

COURSE OBJECTIVES : சிற்றிலக்கியம் மற்றும் சமய இலக்கியத்தை அறியச் செய்தல்

COURSE OUTCOMES (COs)

CO1	தூது,பள்ளு,குறவஞ்சி என்ற சிற்றிலக்கியங்கள் பற்றி அறிவர்
CO2	சைவ இலக்கியமான தேவாரம், திருவாசகம், அற்புதத்திருவந்தாதிப் பற்றி அறிவர்
CO3	வைணவ இலக்கியமான நாலாயிர திவ்யப் பிரபந்தம் பற்றி அறிவர்
CO4	பௌத்த, இசுலாம், கிறித்துவ சமய இலக்கியங்களைப் பற்றி அறிவர்
CO5	சிற்றிலக்கியம் மற்றும் சமய இலக்கிய வரலாறு பற்றி அறிவர்
CO6	சிற்றிலக்கியம் , சமய இலக்கியம் பற்றிய தெளிவான அறிவைப் பெறுவர்

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

அலகு 1 **9**

அழகர் கிள்ளைவிடு தூது - 1 - 20

முக்கூடற்பள்ளு - நாட்டு வளம் - 21,22,25,26,35

திருக்குற்றாலக் குறவஞ்சி - குறத்தி மலைவளம் கூறுதல் - 1 - 5

அலகு 2 **9**

அற்புதத்திருவந்தாதி - 1 - 5

தேவாரம் - திருவெண்காட்டுப் பதிகம் - திருஞானசம்பந்தர் - 1 - 10

திருவாசகம் - திருச்சாழல் - மாணிக்கவாசகர் - 1 - 10

அலகு 3 **9**

நாலாயிர திவ்யப் பிரபந்தம் - முதல் திருமொழி - பெரியாழ்வார் - 1 - 10

நாலாயிர திவ்யப் பிரபந்தம் - திருப்பாவை - ஆண்டாள் - 1 - 10

நாலாயிர திவ்யப் பிரபந்தம் - திருமாலை - தொண்டரடிப்பொடி ஆழ்வார் - 1 - 5

அலகு 4 **9**

ஆசிய ஜோதி - கருணைக் கடல் - அறவுரை கூறுதல் - 1 - 10

பராபரக்கண்ணி - குணங்குடி மஸ்தான் சாகிபு - 1 - 20

இயேசு காவியம் - பாடுகளின் பாதை - கண்ணதாசன்

அலகு 5 **9**

சிற்றிலக்கிய வரலாறு - சமய இலக்கிய வரலாறு

பாட நூல்கள்:

1. கதிர் முருகு, "அழகர் கிள்ளைவிடு தூது", சாரதா பதிப்பகம், 2011
2. கதிர் முருகு, "முக்கூடற் பள்ளு மூலமும் உரையும்", சாரதா பதிப்பகம், 2017
3. புலியூர்க் கேசிகன், "திருக்குற்றாலக் குறவஞ்சி", செண்பகா பதிப்பகம், 2010
4. தமிழமுதன், "அற்புதத்திருவந்தாதி", பாரி நிலையம், 2011
5. சோ.கந்தசாமி "பன்னிரு திருமுறை", உலகத் தமிழாராய்ச்சி நிறுவனம், 2008
6. த.கோவேந்தன்,"நாலாயிரத்திவ்யப்பிரபந்தம் எளிய உரையும்",சாரதா பதிப்பகம்,2015
7. கமலா முருகன், "ஆசிய ஜோதி மூலமும் உரையும்", சாரதா பதிப்பகம், 2012
8. கமலா முருகன், "பராபரக்கண்ணி மூலமும் உரையும்", சாரதா பதிப்பகம், 2013
9. கண்ணதாசன், "இயேசு காவியம்", கண்ணதாசன் பதிப்பகம், 2014

பார்வை நூல்கள்:

1. சு.ஆனந்தன், “தமிழ் இலக்கிய வரலாறு", பாரி நிலையம், 2018
2. மா.ராசமாணிக்கனார், சமய இலக்கிய வரலாறு, காவ்யா பதிப்பகம், 2012
3. மு.பொன்னுசாமி, தமிழ் சிற்றிலக்கிய வரலாறு, பாரி நிலையம், 2008

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18HSHI201	HINDI	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department:- Mrs Rani Selvan / Hindi				

COURSE OBJECTIVES: -
To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)

CO1	Remember of Ramayana In Sabari part
CO2	Understand the historical stories
CO3	Apply the concept of translation
CO4	Analyze and develop the letter writing skills
CO5	Evaluate and develop the speaking skills
CO6	Create knowledge in letter writing and speaking skills

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	2	2	1	3		
	CO4	3	3	2	1	1	2	3		
	CO5	2	3	2	1	1	1	3		
	CO6	3	3	3	2	3	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core	Core Elective	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship
		✓								
4	Approval	Academic Council Meeting								

UNIT I **09**
MODERN POETRY - SHABARI

UNIT II **09**
ONE ACT PLAY - EKANKI SANKALAM

UNIT III **09**

TRANSLATION - HINDI – ENGLISH ONLY

UNIT IV **09**

LETTER WRITING - Leave letter - Job Application - Ordering books - Letter to Publisher - Personal letter

UNIT V **09**

CONVERSATION - Doctor & Patient - Teacher & Student - Storekeeper & Buyer - Two Friends - Booking clerk & Passenger at Railway station – Auto rickshaw driver and passenger.

Text Books:

By Naresh Mehtha,Veerendra Kumar Mishra

Reference Books:

UNIT 1 – Publisheres - Lokbharathi Prakashan ,1 Floor, Duebari Building,Mahathma Gandhi Marg,
Allahabad – 1.
UNIT II – Publishers – Vani Prakasam, New Delhi-110002
UNIT III – Publishers – Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

Course Coordinator **HOD**

U18HSFR201	**FRENCH**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				

	Course Coordinator Name & Department: - Ms. Tushita Naidu K / Département De Française
COURSE OBJECTIVES: - To introduce students to the complexity of the grammar and how to overcome it with simple rules.	
COURSE OUTCOMES (COs)	
CO1	To being able to interpret the language.
CO2	To familiarize with methodological approaches in the study of literary and cultural texts, such as close reading, socio-historical contextualization, and literary and cultural theory.
CO3	To obtain advanced proficiency in spoken and written French.
CO4	To encourage the development of skills in linguistics, translation, and comparative studies.
CO5	To remember the anatomy of conjugations in past tense.
CO6	To evaluate the given text critically and enhance communication skills.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	2	1	1	1	3		
	CO2	3	3	3	1	2	1	3		
	CO3	3	3	3	1	2	1	3		
	CO4	3	3	3	1	1	2	3		
	CO5	3	3	3	3	1	1	3		
	CO6	3	3	2	3	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core	Core Elective	Non-Major Elective	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship
		✓								
4	Approval	Academic Council Meeting								

UNIT I -Quelle journee! 9

La Conjugaison pronominale -L'imperatif -L'expression de la quantite (peu-in peu de- quelque – etc.)

UNIT II - Qu'on est bien ici ! 9

Prepositions et adverbs de lieu - Verbs experimant un deplacement (employ des prepositions)

Le lodgement/la localisation/ l'orientation/l'etat physique/le temps qu'il fait

UNIT III -En se detend? 9

L'imparfait-Emplois du passé compose et de l'imparfait-Expression de la duree-L'enchainement des idees (alors, donc, mais) /Le sens reciproque

UNIT IV- On s'appelle? 9

Les pronoms complements direct -Les pronoms compliments indirects de personne -c'est/ il est-Imperatif des verbs avec pronoms-La fornation des mots

UNIT V Un bon conseil ! 9

Expression du deroulement de l'action--passe recent--Present progressif-future proche-Les phrases rappotrees- La place de l'adjectif- La proposition relative finale avec -qui

TEXT BOOKS:

A1 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

Course Coordinator HOD

U18HSEN202	**ENGLISH II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept.: Mr.S.KUMARESAN - English				
COURSE OBJECTIVES:- To have a better understanding of the English language skills and its implementation it in day to day life activities.					
	COURSE OUTCOMES (COs)				

CO1	Remember and recall the concepts of English language
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarize the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (PE)	Non-Major Elective	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship
		✓								

4	**Approval**	Academic Council Meeting

UNIT 1: PROSE **9**

The Refugee – **K.A. Abbas** – Author Biography – Plot – Theme - Summary - Critical analysis;

The Lion and the Lamb – **Leonard Clark** – Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2: POETRY **9**

The Solitary Reaper – **William Wordsworth** – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Gift** – **Alice Walker**- Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT 3: SHORT STORIES **9**

The Fortune -Teller – **Karel Capek** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **The Postmaster** – **Rabindranath Tagore** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 4: ONE-ACT PLAYS **9**

The Death Trap – **Saki (H.H. Munro)** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **The Dear Departed**: **A Comedy in One-Act – Stanley Houghton**- Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 5: GRAMMAR **9**

Communicative Grammar - Seeking and giving information – statements and questions Being informal – phrasal verbs, Expressing ability, possibility, etc – Modals and other devices

TEXT BOOKS:

1. The Death Trap by Saki, The Novels and Plays of Saki, 2001
2. Pooja Khanna, "English Communication", S.CHAND Publishing, 2016
3. Rabindranath Tagore, "The Postmaster", Penguin India, 2000

REFERENCE BOOKS:

1. K.A.Abbas Suresh Kohli, "An Evening in Calcutta", HarperCollins, 2015
2. Stanley Houghton, "Five one act plays", Alpha Edition, 2019
3. Edited Prof. Jasbir Jain, "Strings of Gold (Part- II)", MacMillan, 2016

Course Coordinator **HOD**

U18MCCH201	**CORE- 4 - GENERAL CHEMISTRY - III**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- –Dr. G. Gurumoorthy / Chemistry				
COURSE OBJECTIVES:- To make the students learn about the chemistry from the basic and understood all theoretical background					

with all concepts understands thoroughly.	
COURSE OUTCOMES (COs)	
CO1	Remember the basic properties and uses of nitrogen group elements
CO2	Understand the quantum mechanics of Black-body radiation and Planck's radiation law
CO3	Understand the Conformational analysis of butane – gauche and anti forms and cyclohexane.
CO4	Apply the Huckle's rule to determine the structure of benzene .
CO5	Apply the laws of thermodynamics, generalities and Zeroth law – kinds of energy
CO6	Analyse the First law of thermodynamics, properties of energy changes and properties of system

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT I : NITROGEN, OXYGEN AND HALOGENS GROUP 12

Nitrogen group: Chemistry of hydrazine, hydroxylamine, hydrazoic acid and sodium bismuthate - Detection of arsenic – reactions of arsenites and arsenates - Oxygen group – a comparative study of oxygen family elements and compounds. Preparation, properties and uses of thionic acids and peracids of sulphur - Halogens – oxides and oxyacids of halogens – basic nature of iodine – chemistry of astatine - Pseudohalogens – preparation and properties and uses of Cyanogen and thiocyanogen and – comparison with halogens - Rare gases – structures of XeF_4, XeF_6, $XeOF_4$ and XeO_3.

UNIT II: INTRODUCTORY QUANTUM MECHANICS 12

Black-body radiation, Planck's radiation law, photoelectric effect, heat capacity of solids, Bohr's model of hydrogen atom (without derivation) their solution of overall solution and its defects, Compton effect, de-Broglie's hypothesis, the Heisenberg's uncertainty principle, Hamiltonian Operator.

UNIT III: CONFORMATIONAL **ANALYSIS 12**

Bayer's strain theory – heats of combustion and relative stabilities of cyclo alkanes – orbital picture of angular strain - Conformational analysis: Conformations of butane – gauche and anti forms - Conformations of cyclohexane – equatorial and axial forms – 1,2 diaxial interaction – fused ring systems – structure of cis and trans decalins.

UNIT IV: AROMATIC HYDROCARBONS AND AROMATICITY 12

Aromatic Hydrocarbons Coal tar distillation products – petroleum fractionation – cracking – synthetic petrol – Fischer-Tropsh synthesis – octane number – cetane number – flash point – smoke point – anti-knocking agents - Polynuclear aromatic hydrocarbons – synthesis and reactions of naphthalene – anthracene and phenanthrene. **Aromaticity** - Huckle's rule - structure of benzene – Benzene-preparation, chemical properties and uses. Aromatic electrophilic substitution reactions and mechanism – Orientation and reactivity in substituted benzenes.

UNIT V: Thermodynamics I 12

The laws of thermodynamics, generalities and Zeroth law – kinds of energy – Scope of the first and second laws of thermodynamics-thermodynamic terms-definitions – heat – work of expansion work of compression – maximum and minimum quantities of work – Reversible and irreversible transformations of energy. First law of thermodynamics – properties of energy changes in relation to properties of system- isothermal and adiabatic changes – meaning of the thermodynamic state function – properties of exact and inexact differentials – Joule Thomson experiment.

Text books

1. S.H. Maron and J.B. Lando, Fundamentals of Physical Chemistry, Macmillan limited, New York, 1966.
2. B.R. Puri and L.R. Sharma, Principles of Physical Chemistry, Shoban Lal Nagin chand and Co. 33rd edition, 1992.
3. B. R. Puri, L. R. Sharma, K. C. Kalia, Principles of Inorganic Chemistry, Shoban Lal Nagin Chand and Co., 1996.
4. Bahl and Arun Bahl, Organic Chemistry, S. Chand and Sons, New Delhi, 2005.

Reference Books

1. B. R. Puri, L. R. Sharma, K. C. Kalia, Principles of Inorganic Chemistry, Shoban Lal Nagin Chand and Co., Delhi, 1996.
2. J. E. Huheey, E. A. Kieter and R. L. Keiter, Inorganic Chemistry, 4th ed., Harper Collins,1993.
3. F. A. Cotton, G. Wilkinson, C. Murillo and M. Bochman, Advanced Inorganic Chemistry, 6th ed., John Wiley, New York, 1999.
4. J. Rajaram and J.C. Kuriacose, Thermodynamics, Shoban Lal Nagin Chand and CO. 1986.
5. K. L. Kapoor, A Textbook of Physical chemistry, (volume-2 and 3) Macmillan, India Ltd, 1994.

CourseCoordinator HOD

U18MCCH202	**CORE- 5 - GENERAL CHEMISTRY - IV**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Mrs. S. Vinitha / Chemistry				

COURSE OBJECTIVES :-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)	
CO1	Remember the basic concept of water technology and its applications.
CO2	Undrestand the electronic configuration and general characteristics of transition elements
CO3	Understand the inorganic compounds, Preparation, properties, structure and uses
CO4	Apply the electronic configuration and oxidation states of transition metals and their compounds
CO5	Apply the modern concepts of acids and bases by Arrhenius concept and Bronsted Lowry.
CO6	Analyse the hard and soft acids and bases (HSAB) by theoretical basis of hardness and softness

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT – I: WATER TECHNOLOGY **12**

Introduction – Characteristics – alkanity – types of alkanity and determination – hardness – types and estimation by EDTA method; Domestic water treatment – disinfection methods (chlorination, ozonation , UV treatment) –Boiler feed water – requirements – disadvantages of using hard water in boilers – internal conditioning (calgon and carbonate conditioning methods) –external conditioning – demineralization process – desalination and reverse osmosis.

UNIT – II: TRANSITION ELEMENTS I **12**

Definition-electronic configuration - general characteristics of transition elements - comparison of the elements of first transition series (3d) with those of second(4d) and third(5d) series. Commercial forms of iron -manufacture of cast iron, wrought iron and steel - heat treatment of steels - classification of steels - passivity - rusting of iron and prevention of rusting.

UNIT – III: TRANSITION ELEMENTS II **12**

Preparation, properties, structure and uses of the following inorganic compounds titanium (IV) chloride – Zieglar Natta catalyst – vanadium pentoxide –potassium dichromate – potassium permanganate – Wilkinson's catalyst –potassium ferrocyanide – potassium ferricyanide – sodium nitro pruside – cuprous chloride – cupric chloride – auric chloride –mercurous chloride – mercuric chloride – distinction between mercurous and mercuric salts.

UNIT IV: TRANSITION METALS AND THEIR COMPOUNDS **12**

Group study of titanium, vanadium, chromium and manganese – general characteristics – electronic configuration and oxidation states – extraction of titanium and vanadium – chemistry of titanium (IV) and vanadium (V) compounds - Commercial forms of iron – manufacture of cast iron – properties – compounds of iron – potassium ferrocyanide, potassium ferricyanide, sodium nitroprusside and ferrocene. Cobalt: complexes of cobalt (II) and cobalt (III). Nickel – extraction – square planar complexes of nickel.

UNIT – V: MODERN CONCEPTS OF ACIDS AND BASES 12

Arrhenius concept – Bronsted Lowry definition – Lux Flood definition – solvent system definition – Lewis definition – Usanovich definition – A generalized Acid Base concept – Hard and Soft Acids and Bases (HSAB) – classifications – theoretical basis of hardness and softness – classification of solvents – nonaquous solvents – liquid ammonia – liquid sulfurdioxide.

Text books

1. J. D. Lee, Concise Inorganic Chemistry, 5th ed., Blackwell Science, London, 1996.
2. F. A. Cotton, G. Wilkinson and P. L. Guas, Basic Inorganic Chemistry, 3rd ed., John Wiley,1994.
3. B. Y. Paula, Organic Chemistry, 3rd Edition, Pearson Education, Inc.(Singapore), New Delhi, reprint, 2002.
4. S.K. Dogra and S. Dogra, Physical Chemistry Through Problems, New age international, 4th edition 1996.

Reference Books

1. J. E. Huheey, E. A. Kieter and R. L. Keiter, Inorganic Chemistry, 4th ed., Harper Collins, New York, 1993.
2. D. F. Shriver and P. W. Atkins, Inorganic Chemistry, 3rd ed., W. H. Freeman and Co, London,1999.
3. Jerry March, Advanced Organic Chemistry, 4th Edition, John Wiley And Sons, New York,1992.
4. S. H. Pine, Organic Chemistry, 5th Edition, McGraw Hill International Edition, Chemistry Series, New York, 1987.
5. Gilbert. W. Castellan, Physical Chemistry, Narosa publishing house, third edition 1985.

CourseCoordinator **HOD**

U18NCMA205	ALLIED MATHEMATICS –II	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Allied Mathematics II				
	Course Coordinator Name & Department :- Dr.P.Sumathi & Mathematics				

COURSE OBJECTIVES :-

- Learners will be familiarized with certain concepts in Integral calculus, ordinary Differential Equations and Laplace Transforms.
- To direct the students to develop problem solving skills based on the concepts of vector differentiation and vector integration.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Partial Differential Equations
CO2	Understand the concept of Bernoulli's formula
CO3	Apply suitable data Vector differential operator∇
CO4	Analyze the algorithm inverse Laplace transforms
CO5	Evaluate data structures Stoke's and Green's theorems
CO6	Create an real time application of surface and volume integrals

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M	-	-	-	-	M	H		
	CO2	M	H	-	-	-	-	M			
	CO3	H	M	-	-	-	-	M			
	CO4	H	H	-	-	-	-	M			
	CO5	M	H	-	-	-	-	M			
	CO6	H	H	-	-	-	-	M			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT-I: **DIFFERENTIAL EQUATIONS** **12**

Ordinary Differential Equations: second order non- homogeneous differential equations with constant coefficients of the form ay" +by'+ cy = X where X is of the form ex cosx and ex sinx
Partial Differential Equations: Formation, complete integrals and general integrals, four standard types and solving Lagrange's linear equation P p +Q q= R

Chapter 5, Section 5.2
Chapter 6, Section 6.1 to 6.4

UNIT-II: **INTEGRAL CALCULUS** **12**

Bernoulli's formula, simple problems, Fourier series for functions in $(\propto, \propto+2\pi)$ – Applications.
Chapter 2, Section 2.7 and 2.9
Chapter 4, Section 4.1 to 4.2

UNIT-III: **LAPLACE TRANSFORMS** **12**

Laplace transformations of standard functions and simple properties, inverse Laplace transforms, Application to solution of linear differential equations up to 2nd order- simple problems.
Chapter 7, Section 7.1.1 to 7.1.4 and 7.2 to 7.3

UNIT – IV: **VECTOR DIFFERENTIATION** **12**

Introduction, Scalar point functions, Vector point functions, Vector differential operator ∇, Gradient, Divergence, Curl, Solenoidal, irrotational, identities. Chapter 8, Section 8.1 to 8.4.4

UNIT – V: VECTOR INTEGRATION **12**

Line, surface and volume integrals, Gauss, Stoke's and Green's theorems (without proofs)- Simple problems.
Chapter 8, Section 8.5 to 8.6.3

TEXT BOOK:

1. Content and treatment as in Allied Mathematics Volume I and II by P. Duraipandian and S. Udayabaskaran, S. Chand Publications

REFERENCES:

1. S. Narayanan and T.K. ManickavasagamPillai – Ancillary Mathematics, S. Viswanathan Printers, 1986, Chennai.

2. Allied Mathematics by Dr.A.Singaravelu

Course Coordinator

HOD

U18HSCH201	**Environmental Sciences**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course –Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. G. Gurumoorthy / Chemistry				

COURSE OBJECTIVES :-

To make the students learn about the science from the basic and understood all theoretical background with all concepts thoroughly to protect the habitat of biotic and abiotic ecosystem.

COURSE OUTCOMES (COs)

CO1	Remember the fundamental concept of environmental impact and importance of natural Resources
CO2	Understand about the Ecosystem, Biodiversity and its conservation

CO3	Understand the various environmental pollution, effects and prevention.
CO4	Apply the environmental legislations and environmental production act.
CO5	Apply the human rights, value education, environment and human health: women and child welfare, public awareness
CO6	Analyze the local area, local polluted site and local simple ecosystem.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L	H			H		H		
	CO2	H	L	H			H				
	CO3	H	L	H			H				
	CO4	H	L	H			H				
	CO5	H	L	H			H				
	CO6	H	L	H			H				

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

Unit – I: Introduction to Environmental Sciences: Natural Resources: 6

Environmental sciences – relevance – significance – public awareness – forest resources – water resources – mineral resources – food resources – conflicts over resource sharing – exploitation – land use pattern – environmental impact – fertilizer – pesticide Problems - case studies.

Unit – II: Exosystem, Biodiversity and its conservation: 6

Ecosystem – concept – structure and function – producers, consumers and decomposers –food chain – food web – ecological pyramids – energy flow – forest, grassland, desert and aquatic ecosystem – definition – genetic, species and ecosystem diversity – biodiversity – definition – genetic, species and ecosystem diversity – values and uses of biodiversity – biodiversity at global, national (india) and local levels – hotspots, threats to biodiversity –conservation of biodiversity – insitu and ex-situ.

Unit – III: Environmental Pollution and Management 6

Environmental pollution – causes – effects and control measures of air, water , marine, soil, solid waste. Thermal, nuclear pollution and disaster management – floods, earth quake, cyclone and land slides, role of individuals in prevention of pollution – pollution case studies.

Unit – IV: Social issues – Human population: 6

Urban issues – energy – water conservation – environmental ethics – global warming – resettlement and rehabilitation issues – environmental legislations – environmental production act. 1986 – air, water, wildlife and forest B.C.A.: syllabus (CBCS) conservation act - population growth and explosion – human rights and value education – environmental health – HIV/AIDS – role of it in environment and human health – women and child welfare – public

awareness – case studies.

Unit – V: Field Work: **6**

Visit to a local area / local polluted site / local simple ecosystem – report submission.

Text Book:

1. K. Kumarasamy, A. Alagappa Moses and M. Vesanthy, Environmental Studies, 2004, Bharathidasan University Pub, 1, Trichy.
2. Y. K. Singh, Environmental Science, 2006, New Age International (P) Limited, New Delhi.
3. Divya Agarwal and Manoj K. Agarwal, Environmental Science, 2014, Astral International Pvt. Ltd,New Delhi.

Reference book:

1. Rajamannar, 2004, Environmental Studies, EVR College Pub, Trichy.
2. S. Kalavathy, (ED.) 2004, Environmental Studies, Bishop Heber College Pub. Trichy.
3. G. TylerMiller, Scott Spoolman, 2018, Environmental science, 16th edition.

Course Coordinator **HOD**

U18HSBC202	VALUE EDUCATION	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary level				
	Course Coordinator Name & Department:- Ms. G. Vinothini, Commerce				

- **COURSE OBJECTIVES**
- To enable the students to understand the Social values.
- To provide knowledge on the features for life.
- To acquire the knowledge on Human rights.
- To impart the knowledge on Environment and Ecological balance.

• To educate the knowledge on Social evils..											
COURSE OUTCOMES (COs)											
CO1	Recall the basic concept of human values, Social Value role of medias, Self-introspection – Self esteem										
CO2	Understand the duties and responsibilities of individuals and role of media										
CO3	Apply Salient features for life, : Truth, commitment,, honesty and integrity, forgiveness and love and also positive creative thinking										
CO4	Demonstrate Universal declaration of Human rights, peace and nonviolence – Dr. APJ Abdul Kalam's ten points for enlightened citizenship.										
CO5	Analyze living and nonliving environmental balance, Ecological balance and conservations and enrichment										
CO6	Manipulate the awareness on Corruption, crime, terrorism, Alcoholism, Drug addiction, Dowry										
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	M					H		
	CO2	H	H	H		L					
	CO3	M	H	M	M						
	CO4	H	M	L							
	CO5	H	H	M			M				
	CO6	M	M	L							
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)	
		☐					✓				
	Approval	Academic Council Meeting									

UNIT I 6

Value education: Definition- relevance to present day – concept of human values – self introspection – Self esteem- duties and responsibilities of individuals- Social values- role of media in value building.

UNIT II 6

Salient features for life: Truth, commitment,, honesty and integrity, forgiveness and love, empathy and ability to sacrifice, care, unity and inclusiveness, Team work- positive creative thinking.

UNIT III 6

Human rights: Universal declaration of Human rights- human rights violation – National integration – peace and non violence – Dr. APJ Abdul Kalam's ten points for enlightened citizenship

UNIT IV 6

Environment and Ecological balance: Interdependent of all being – living and non living – the binding of man and nature – Environmental conservations and enrichment.

UNIT V 6

Social evils : Corruption – cyber crime, terrorism, Alcoholism, Drug addiction, Dowry – Domestic violence – untouchability – female infanticide – atrocities against women – How to tackle them.

TEXT BOOK

1. N. Arumugam, S. Mohana, Lr. Palkani- value based education- Saras Publication, 2009
2. DN Ghose, Value Education- dominant publishers, 2005
3. M.G. Chitakra, Education and Human values, A.P.H Publishing Corporation. New Delhi

REFERENCE BOOKS

1) For Life, for the future: Reserves and Remains – UNESCO Publications.
2) Values, A Vedanta kesari presentations, Sri Ramakrishna Math, Chennai
3) Values for Excellence in Life Compiled by then Curriculum Development Cell Thiagarajar College, Madurai, in collaboration with the Education wing, Brahma Kumaris, Madura

Course Coordinator **HOD**

U18MCCH2L2	**CORE- 6 - MAJOR PRACTICAL - 2**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	0	0	4	2
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. G. Gurumoorthy / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)	
CO1	Remember the need of chemistry practical and its toxicity
CO2	Understand about the uses of experiments in our day today life
CO3	Understand about its importance of chemical played important role
CO4	Apply the detail about practical importance to be aware of the concepts from the basis.
CO5	Apply the estimation of some inorganic ions by basic methods.
CO6	Analyse the importance of handling and precision of experimental skills.

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L						L	H	
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					

4	Approval	Academic Council Meeting

VOLUMETRIC ANALYSIS - II

1. Estimation of Ferrous Ammonium Sulphate using Standard Ferrous Ammonium Sulphate
2. Comparison of strengths of Ferrous Ammonium Sulphates using Standard Potassium permanganate
3. Comparison of strengths Potassium permanganates using Standard Ferrous Ammonium Sulphates
4. Comparison of strengths of Ferrous Sulphates using Standard Potassium permanganate
5. Estimation of Copper -Standard Copper sulphate
6. Estimation of Potassium dichromate -Standard Potassium dichromate
7. Estimation of Copper by EDTA method.
8. Estimation of ferrous iron using

Diphenylamine / N-Phenylanthranillic acid as indicator

Students must write short procedure for the given estimation in ten minutes during the Examination and submit the paper for evaluation.

Students must write short procedure for the given estimation in ten minutes during the Examination and submit the paper for evaluation.

TEXT BOOKS:

7. Vogel, A.I. A Textbook of Quantitative Inorganic Analysis, ELBS. 1978
8. Ahluwalia, V.K. & Aggarwal, R. Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis, University Press (2000).
9. Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co.: New Delhi (2011).
10. Garland, C. W.; Nibler, J. W. & Shoemaker, D. P. Experiments in Physical Chemistry 8th Ed.; McGraw-Hill: New York (2003).
11. Sundaram, Krishnan, Raghavan, Practical Chemistry (Part II), S. Viswanathan Co. Pvt.,1996.
12. N.S. Ganapragasam and G. Ramamurthy, Organic Chemistry – Lab manual, S. Viswanathan Co. Pvt., 1998.

REFERENCE BOOKS:

6. Halpern, A. M. & McBane, G. C. Experimental Physical Chemistry 3rd Ed.; W.H. Freeman & Co.: New York (2003).
7. Mann, F.G. & Saunders, B.C. Practical Organic Chemistry, Pearson Education (2009)
8. Furniss, B.S.; Hannaford, A.J.; Smith, P.W.G.; Tatchell, A.R. Practical Organic Chemistry, 5th Ed., Pearson (2012)
9. Ahluwalia, V.K. & Dhingra, S. Comprehensive Practical Organic Chemistry: Qualitative Analysis, University Press (2000).
10. Vogel's Text Book of Quantitative Chemical Analysis. 5th Edi., ELBS/Longman England, 1989.

Course Coordinator **HOD**

SEMESTER – III

U18HSTA301	**தமிழ்** – III	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். த. கிறிஸ்டல் ரெஜி & தமிழ்த்துறை				

COURSE OBJECTIVES : காப்பிய இலக்கியம் மற்றும் நீதி இலக்கியத்தை அறியச் செய்தல்

COURSE OUTCOMES (COs)

CO1	ஐம்பெரும் காப்பியங்களில் சிலப்பதிகாரம், மணிமேகலை, சீவக சிந்தாமணி பற்றி அறிவர்
CO2	பிற்கால காப்பியங்களில் கம்பராமாயணம், தேம்பாவணி, சீறாப்புராணம் பற்றி அறிவர்
CO3	முக்கால நீதி இலக்கியங்களில் திருக்குறள், நாலடியார், இனியவை நாற்பது பற்றி அறிவர்
CO4	பிற்கால நீதி இலக்கியங்களில் மூதுரை, நன்னெறி, ஆத்தி சூடி பற்றி அறிவர்
CO5	காப்பியம் மற்றும் நீதி இலக்கிய வரலாற்றைப் பற்றி அறிவர்
CO6	காப்பியம், நீதி இலக்கியம் பற்றிய தெளிவான அறிவைப் பெறுவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								
4	Approval		Academic Council Meeting							

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U18HSHI301	Hindi	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Hindi as second language in Grade 12				
	Course Coordinator Name & Department:- Dr. K. MustakHusaain / Department of Hindi				

COURSE OBJECTIVES: -

To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)	
CO1	Remember of Ramayana in Panchavati part
CO2	Understand the history of Hindi literature
CO3	Apply the concept of Hindi grammatical speech
CO4	Analyze and develop the translation skills

CO5	Evaluate and develop the unseen passage skills
CO6	Create the skills in Hindi language

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		√									
4	Approval		Academic Council Meeting								

UNIT I **09**

POETRY - PANCHAVATI

UNIT II **09**

HISTORY OF HINDI LITERATURE - Aadi Kaal and Bhakthi Kaal - general knowledge of the trends of the difference streams

UNIT III **09**

ALANKAR – Anupras – Yamak - Slesh - VakrokthiUpama – Rupak – Drishtanth - Virodhabas.

UNIT IV **09**

TRANSLATION - HINDI – ENGLISH

UNIT V **09**

COMPREHENSION

Text Books:

By MaithilisharanGupt, AnuvadhAbhyas – III

Reference Books:

Publisheres - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator **HOD**

U18HSFR301	Française	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – French as second language in Grade 12				
	Course Coordinator Name & Department :- Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES :-

Développer les aspects techniques de la langue et des nuances grammaticales variées pour interpréter le sujet.

COURSE OUTCOMES (COs)

CO1	Transmettre les différents aspects qui composent la langue.
CO2	Pour apprendre certains faits, procédures, pratiquer certaines structures grammaticales et pratiquer des stratégies de communication.

CO3	Pour apprendre la culture des natifs de la langue.
CO4	Analyser les différences entre la grammaire de base et avancée.
CO5	Se souvenir de l'interdépendance entre les conjugaisons
CO6	Comprendre les restrictions grammaticales.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								
4	Approval		Academic Council Meeting							

UNIT I Vivement demain! **9**

Le future- La comparaison des qualities, des quantities et des actions

UNIT II Le Tu as du boulot? **9**

Le pronom (en)-Le pronom (Y)-Expression de la condition

UNIT III -Qu'en pensez - vous? **9**

Le subjonctif (employ lie a quelques verbs)- Expression de la quantite (poids et mesure-evaluation-restriction)

UNIT IV - C'est tout un programme! **9**

Les propositions relatives introduites par (qui, que, ou)-Les adverbs (place, formation des adverbs en-ment)-
La forme ((en + participle present))

UNIT V On se retrouve ! **9**

Emploi et conjugaison des quatre temps de l'indicatif quatre temps de l'indicatif:--passe recent--Present -Passe compose-Imparfait et future

TEXT BOOKS:

A2 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

Course Coordinator **HOD**

U18HSEN302	**ENGLISH- III**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept: Mrs. B.JANUA SHERLY – English				
COURSE OBJECTIVES:- To enhance the reading, writing, listening and speaking of the English language skills..					
COURSE OUTCOMES (COs)					
CO1	Remember and recollect the value of LSRW skills.				

CO2	Understand the competence of the four modes of language skills.
CO3	Apply the grammatical concepts and the correct usage of the English language.
CO4	Analyze their personality traits and develop interpersonal skills for a better career in life
CO5	Evaluate the knowledge and write resume official letters and reports
CO6	Create and develop their ability as critical thinkers and readers.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO 5	PO6	PO7	PS O1	PSO 2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L								
	CO4	H	L						H		
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship
		✓								

4	**Approval**	Academic Council Meeting

UNIT 1 - LISTENING SKILLS **9**

Types of Listening (Theory / Definition) - Tips for Effective Listening -Academic Listening (Lectures) - Listening to Radio and Television

UNIT 2 - TELEPHONE SKILLS **9**

Basics of Telephone communication -How to handle calls- telephone manners -Leaving a message -Making requests -Greeting and Leave Taking over phone (etiquette) - Handling the situations especially trouble shooting Teleconference - handling Tele interviews for Call Centers

UNIT 3 - WRITING SKILLS **9**

Standard Business letter - Report writing- Email drafting and Etiquettes - Preparing Agenda and writing minutes for meetings - Making notes on Business conversations

UNIT 4 - CAREER SKILLS **9**

Applying for job -Cover letters -Resume and Effective Profiling - Interviews - Group discussions

UNIT 5 – PERSONAL SKILLS **9**

Empathy (Understanding third person's point of view) -Intrapersonal skills -Interpersonal skills- Problem solving

TEXT BOOKS:

1. Improve Your IELTS Listening and Speaking Skill by Barry Cusack, 2007

2. Roche Marc, "Advanced English Writing Skills: Master class for English Language, Roche Publishing ESL, 2019

REFERENCE BOOKS:

1. Frederick H. Wentz, "A Workbook to Develop Skills For Employment", Create space Independent Pub,2012

2. S. P. Dhanavel, "English and Soft Skills", Orient Black Swan, First edition, 2010

Course Coordinator **HOD**

U18MCCH301	**CORE – 7 - GENARAL CHEMISTRY- V**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department: - – Mrs. S. Vinitha / Chemistry				
COURSE OBJECTIVES :- To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.					
COURSE OUTCOMES (COs)					

CO1	Remembaring knowledge about the properties and uses of the law of thermodynamics
CO2	Understand about the theoretical concepts of atomic structure
CO3	Understand the properties and uses of halogenated Hydrocarbons
CO4	Apply the concept about the copper groups in transition elements
CO5	Apply the importance of colloidal solution and liquids
CO6	Analys time applications of Chemistry in day today life.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					

4	Approval		47th Academic Council Meeting

UNIT I: THERMODYNAMICS II **12**

Second law of thermodynamics: Need for the second law – Carnot cycle and statements of the second law – Carnot theorem and thermodynamic temperature scale. Concept of entropy – entropy changes during phase transitions – Trouton's rule – Clausius inequality – entropy and disorder – entropy as a function of P, T and V – entropy of an ideal gas – entropy of mixing – thermodynamic equations of state – Maxwell's relations. Free energy concept: Maximum work and network – free energy functions – free energy as a criterion of natural processes – Gibbs-Helmholtz equations

UNIT II: INTRODUCTION TO ATOMIC STRUCTURE: **12**

Failure of classical mechanics – Plank's quantum theory – photoelectric effect – Bohr theory of hydrogen atom – hydrogen spectrum – Rydberg's constant – Sommerfeld theory – DeBroglie equation – wave-particle duality – diffraction of electrons – Heisenberg's uncertainty principle – Compton effect.

UNIT III: HALOGENATED HYDROCARBONS **12**

Preparation of halo alkanes – Aliphatic nucleophilic substitution – mechanisms of S_N1, S_N2 and S_Ni reactions – effect of structure on substrate, solvent, nucleophilic and leaving group; Grignard reagents and its synthetic uses - Elimination reactions – Hoffmann and Saytzeff eliminations – E1 and E2 mechanisms – stereochemistry of E2 reactions in acyclic systems - Elimination versus Substitution. Aromatic nucleophilic substitution – benzyne mechanism and intermediate complex mechanism – effect of substituent on reactivity.

UNIT IV: COPPER AND ZINC GROUP **12**

Alloys of copper – preparation and properties of CuCl and $CuCl_2$ – structure of Cu_2Cl_2 – chemistry of photography – preparation and properties of $AuCl_3$ – structure of $AuCl_3$ - Zinc group – a comparative study of zinc group elements - Extraction of mercury – properties and uses of mercury – amalgams – structure of mercurous ion.

UNIT – V: LIQUIDS **12**

Liquid state: Properties of liquids – vapour pressure – Trouton's rule – surface tension – surface energy – excess pressure in a drop – surface active agents – viscosity – effect of temperature on viscosity – Reynolds number – Refraction – Refraction Index specific refractive index – Molar, atomic and structural refractions – optical activity – structure of liquids - Applications. Liquid crystals – Theory of different types of liquid crystals – their applications.

TEXT BOOKS

1. R. T. Morrison And R. N. Boyd, Organic Chemistry, 6th Edition, Printice-Hall Of India Limited, New Delhi, 1992.
2. T. W. Graham Solomons, Organic Chemistry, 6th edition, John Wiley and Sons, 1996.
3. B. Douglas, D. McDaniel and J. Alexander, Concepts and Models of Inorganic Chemistry,3rd ed., John Wiley, 1994.
4. P.W. Atkins, Physical Chemistry, 7th edition, Oxford university press, 2001.

REFERENCE BOOKS

1. T. Moeller, Inorganic Chemistry: A Modern Introduction, Wiley, New York, 1990.
2. 01. J. D. Lee, Concise Inorganic Chemistry, 5th Ed., Blackwell Science, London, 1996.
3. 02. D. F. Shriver and P. W. Atkins, Inorganic Chemistry, 3rd Ed., W. H. Freeman and Co, London,1999.
4. Sehan. N. Ege, Organic Chemistry, Structure And Reactivity, 3rd Edition, A.I.T.B.S., New Delhi, 1998.

Course Coordinator **HOD**

U18NCPH302	**ALLIED PHYSICS - PAPER 1**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department: - Dr. S.Anandhi / Physics				
COURSE OBJECTIVES :- To stimulate the key concepts underpinning the physical interpretations of different properties of matter and apply the min real world problems					
COURSE OUTCOMES (COs)					
CO1	Remember the general equation of wave motion in general and TM waves in stretched strings and longitudinal waves in gases				
CO2	To understand about the principles of Heat Transfer properties				
CO3	Understand about the Matters (solid, liquid gas).				

CO4	Understand and about the concepts of Acoustics
CO5	Apply the relationship between electrical charge, electrical field, electrical potential, and magnetism.
CO6	Analys the theory and their use in building the basic concepts of modern physics

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		47th Academic Council Meeting								

UNIT I - SIMPLE HARMONIC MOTION AND CIRCULAR MOTION 12

Composition of two Simple harmonic motions along a line and at right angles - Lissajous figures. Uniform circular motion - Acceleration of a particle in a circle - centripetal and centrifugal forces - centrifuge - motion of a Bicycle and a car around a circle - Banking on curved tracks.

UNIT II- PROPERTIES OF MATTER 12

Elasticity: Elastic constants - Bending of beams - young's modulus by non uniform bending - energy stored in a Stretched wire - torsion in a wire - determination of rigidity modulus by torsional pendulum - Static torsion.

Viscosity: Coefficient of viscosity - Poissuelle's formula - Comparison of viscosities - burette method - Stoke's law - Terminal velocity - viscosity of highly viscous liquids - lubrication.

Surface tension: Molecular theory of surface tension - Excess pressure inside a drop and bubble - surface tension by drop weight method - interfacial surface tension.

UNIT III - HEAT AND THERMODYNAMICS 12

Kinetic theory of gases - Vanderwaal's equation of state - Derivation of critical constants - Low temperature - Joule-Kelvin effect - Theory and applications - Liquefaction of gases - Linde's process - adiabatic demagnetization - laws of thermodynamics - entropy - change of entropy in reversible and irreversible processes.

SOUND

Transverse vibration of a stretched string - Expression for the velocity of transverse waves - laws of transverse vibrations - A.C. Frequency measurement using sonometer - velocity of sound in a gas - Ultrasonics - production and uses.

UNIT IV- ELECTRICITY AND MAGNETISM 12

Capacitor - energy of charged capacitors - Loss of energy due to sharing of charges - potentiometer - internal resistance of a cell and thermo emf measurement - Magnetic Field due to a current carrying conductor - Biot-Savart's law - field along the axis of a coil - force in a conductor carrying current in a magnetic field - Ballistic galvanometer - Circuit control and protective devices - switch - its types - fuses - circuit breaker - Relays.

UNIT V - GEOMETRICAL OPTICS **12**

Refraction - Normal refraction - Refractive index by microscope - by air cell - refraction at grazing incidence - grazing emergence in prisms - combination of two prisms to produce dispersion without deviation and deviation without dispersion - defects of images - coma, Distortion - Spherical and chromatic aberration in lenses.

TEXT BOOKS

1. Allied Physics I – A.Sundaravelusamy
2. R.Murughasan- Properties of Matter,S. Chand & Co , 2004

REFERENCE BOOKS

1. R.L. Saihgal, A Text books of Sound, S.Chand & Co,1990
2. Brijlal and Subramanian, Heat and Thermodynamic S. Chand & Co,2002
3. R.Murughasan- Mechanics, S. Chand & Co.

Course Coordinator **HOD**

U18NETA301	**அடிப்படைத் தமிழ்** - I				L	T	P	C			
	Total Contact Hours – 30				2	0	0	2			
	Prerequisite course – +2 Level Tamil										
	Course Coordinator Name& Department : □□□□□□□. □.□□.□□□□□□□□ & □□□□□□□□□□□										
COURSE OBJECTIVES : □□□□□ □□□□□□□□□□ □□□□□□□□□□□□□□											
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CO4	□□□□□ □□□□□□□□ □□□□□ □□□□□□										
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CO6	தமிழ்மொழியை அறியாதவர்கள் தமிழை எழுத படிக்கத் தெரிந்து கொள்வர்										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3

2	CO1	M	H						M	M	M
	CO2	M	H								
	CO3	M	H								
	CO4	M	H								
	CO5	M	H								
	CO6	M	H								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
							✓				
4	Approval		Academic Council Meeting								

அலகு 1 **6**

தமிழ் எழுத்துக்களை அறிமுகம் செய்தல் - உயிர் எழுத்துக்கள், மெய் எழுத்துக்கள்

அலகு 2 **6**

குறில், நெடில் எழுத்துக்கள், வல்லினம், மெல்லினம், இடையினம்

அலகு 3 **6**

எண்கள் - ஒன்று முதல் ஐம்பது வரை, பத்து இலக்க எண்கள், நூறு இலக்க எண்கள், ஆயிரயிலக்க எண்கள்

அலகு 4 **6**

தமிழில் நாட்கள், தமிழ் மாதங்கள், ஆங்கில மாதங்கள்

அலகு 5 **6**

உறவு முறை பெயர்கள் - பெயர் சொற்கள் - வினைச் சொற்கள்

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1. என்.ஹெச்.எம், "தமிழ் எழுத்துகள்", புரோடிஜி தமிழ், 2009
2. அருணா, "என் சுவடி வாய்பாடு", அருணா பப்ளிகேசன்ஸ்
3. ஆசிரியர் குழு, எண்கள் , புரோடிஜி தமிழ், 2009

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1. □□□□□□□□□□□□, "□□□□□ □□□□□□□□", □□□□ □□□□□□□, 2012
2. □□□□□ □□□□□□ □□□□□□□□□□, "□□□□□□□ – □□□□□□□□□□□□□", □□□ □□□□□□□□, 1996
3. □□□□, "□□□□□□□□", □□□□□ □□□□□□□□□□, 2013

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18NETA302	**சிறப்புத்தமிழ்** – I	L	T	P	C
	Total Contact Hours – 30	4	0	0	4
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : □□□□□□□. □□.□□□□□□□ □□□□□□□ & □□□□□□□□□□□				
COURSE OBJECTIVES : □□□□□□ □□□□□□□□ □□□□□□□ □□□□□ □□□□□□ □□□□□□□					
COURSE OUTCOMES (COs)					
CO1	□□□□□□□ □□□□□□□□ □□□□ □□□□□□□□□ □□□□□ □□□□□□				
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CO6	தமிழர் நாகரீகம் பண்பாடு பற்றி அறிவர்				

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M			H				H	M	M
	CO2	M			H						
	CO3	M			H						
	CO4	M			H						
	CO5	M			H						
	CO6	M			H						

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
							✓			
4	Approval		Academic Council Meeting							

அலகு 1 6
நாகரிகமும் பண்பாடும் - சங்க காலத்து அரசியல் நிலை - சங்ககாலத் தொழிற்பிரிவினரும் சமூக அமைப்பும் - மகளிர் நிலை

அலகு 2 6
பண்டைத் தமிழர் திருமணமுறை நல்லறம் - குடும்ப வாழ்வு பற்றிய தமிழர் கொள்கை –

அலகு 3 6
பண்டையத் தமிழரின் உணவு, உடை, உறையுள் - சங்க கால விழாக்கள்

அலகு 4 6
பண்டைத் தமிழரின் கல்விநிலை - பண்டைத் தமிழரின் வானியல் அறிவு

அலகு 5 6
பண்டைத் தமிழரின் விளையாட்டும் பொழுதுபோக்கும் - மருத்துவக் கலை

பாட நூல்:
1. அ.தட்சிணாமூர்த்தி, "தமிழர் நாகரிகமும் பண்பாடும்", ஐந்திணைப் பதிப்பகம், 2017
2. ஞா.தேவநேயப் பாவாணர், "பண்டைத் தமிழர் நாகரிகமும் பண்பாடும்", பூம்புகார் பதிப்பகம், 2017
3. கே கே பிள்ளை, "தமிழக வரலாறு மக்களும் பண்பாடும்", உலகத் தமிழாராய்ச்சி நிறுவனம், 2015

பார்வை நூல்கள்:
1. □□. □□□□□□□□□, □□□□□□□ □□□□□□□□□□ □□□□□□□□□□□, □□□□□□□ □□□□□□□□□□□□□, 2016

2. □□□□□□□□□□, □□□□□□□ □□□□□□□:□□□ □□□□□□□□□□□□□ □□□□□□□□□□□, □□□□□□□ □□□□□□□□□□□□□, 2011

3. □□.□□□□□□□□□□□□□□□□□, □□□□□□ □□□□□□□□□ □□□□□□□ □□□□□□□□□□, □□□□□□□□ □□□□□□□□□□, 2012

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCCH3L1	**CORE- 8 - MAJOR PRACTICAL - 3**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	0	0	4	2
	Prerequisite course –				
	Course Coordinator Name & Department: -				

COURSE OBJECTIVES :- To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)

CO1	Remember the knowledge about the need of chemistry practical and its toxicity
CO2	Understand about the uses of experiments in our day today life
CO3	Understand bout its importanceof chemical played important role
CO4	Apply practical importance to be aware of the concepts from the basis.
CO5	Evaluate the importance of handling and precision of experimental skills
CO6	Analys the real time applications of Chemistry in day today life.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		47th Academic Council Meeting							

SYSTEMATIC ORGANIC ANALYSIS

SYSTEMATIC ANALYSIS OF MONO FUNCTIONAL ORGANIC COMPOUNDS

Analysis of Simple Organic compounds

(a) characterization of functional groups

(b) confirmation by preparation of solid derivatives / characteristic colorreactions.

Note: Mono –functional compounds are given for analysis. In case of bi-functional compounds, students are required to report any one of the functional groups.

TEXT BOOKS:

1. Vogel, A.I. A Textbook of Quantitative Inorganic Analysis, ELBS. 1978
2. Ahluwalia, V.K. & Aggarwal, R. Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis, University Press (2000).
3. Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co.: New Delhi (2011).
4. Garland, C. W.; Nibler, J. W. & Shoemaker, D. P. Experiments in Physical Chemistry 8th Ed.; McGraw-Hill: New York (2003).
5. Sundaram, Krishnan, Raghavan, Practical Chemistry (Part II), S. Viswanathan Co. Pvt.,1996.
6. N.S. Ganapragasam and G. Ramamurthy, Organic Chemistry – Lab manual, S.
    a. Viswanathan Co. Pvt., 1998.

REFERENCE BOOKS:

1. Halpern, A. M. & McBane, G. C. Experimental Physical Chemistry 3rd Ed.; W.H. Freeman & Co.: New York (2003).
2. Mann, F.G. & Saunders, B.C. Practical Organic Chemistry, Pearson Education (2009)
3. Furniss, B.S.; Hannaford, A.J.; Smith, P.W.G.; Tatchell, A.R. Practical Organic Chemistry, 5th Ed., Pearson (2012)
4. Ahluwalia, V.K. & Dhingra, S. Comprehensive Practical Organic Chemistry: Qualitative Analysis, University Press (2000).
5. Vogel's Text Book of Quantitative Chemical Analysis. 5th Edi., ELBS/Longman England, 1989.

Course Coordinator **HOD**

U18NCPH3L1	ALLIED- PHYSICS LAB -I	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department: - Dr S.Anandhi / Physics				

COURSE OBJECTIVES :- To make the students learn about the physics from the basic and understood all technical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)

CO1	Remember the mathematics and physics fundamentals and an instrumentation to arrive solution for various problems.
CO2	Understand about the theoretical concepts of physics Practical's
CO3	Understand the methods to calibrate the given low range voltmeter and ammeter and to measure resistance of the given coil and various physical quantities.
CO4	Apply practical importance to be aware of the concepts from the basis.
CO5	Appy the importance of handling and precision of experimental skills
CO6	Analys the Use of basic laws to study the spectral properties and optical properties of the given prism.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L								
	CO4	H	L						H		

	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
				√	✓						
4	Approval		Academic Council Meeting								

LIST OF EXPERIMENTS

1. Non-Uniform bending – Pin and Microscope.

2. Uniform bending-scale and Telescope.

3. Surface tension and Interfacial Surface tension by Drop weight Method.

4. Surface tension by Capillary rise Method.

5. Coefficient of viscosity of liquid – Variable Pressure head Method.

6. Thermal conductivity of a bad conductor – Lee's disc Method.

7. Spectrometer – Refractive index of a solid prism.

8. Spectrometer – Grating – Normal incidence.

9. Newton's Rings – 'R' determination.

10. Air wedge – Thickness of the given thin wire.

TEXT BOOK

1. 1. General Physics Laboratory Manual, Department of Physics.
2. A text book of physics practical Indu Prakash and Ramakrishna, 11th Edition, 2011, Kitab Mahal, New Delhi. A Laboratory Manual of Physics•

REFERENCE BOOKS

1. Digital Principles & Applications, A.P. Malvino, D.P. Leach & Saha, 7th Ed.,2011, Tata McGraw Hill

Course Coordinator **HOD**

SEMESTER – IV

U18HSTA401	□□□□□ - IV	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : □□□□□□□. □. □□□□□□□□□ □□□□ & □□□□□□□□□□□				

COURSE OBJECTIVES : □□□□ □□□□□□□□□□□□□ □□□□□ □□□□□□ □□□□□□□	
COURSE OUTCOMES (COs)	
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Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	

		✓								
4	Approval		Academic Council Meeting							

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U18HSHI401	Hindi	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Hindi as second language in Grade 12				
	Course Coordinator Name & Department:- Dr. K. Mustak Husaain / Department of Hindi				

COURSE OBJECTIVES: -

To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)

CO1	Rememberthe skills of the leadership
CO2	Understand and develop the skills to overcome the mistake
CO3	Apply the concept of Hindi essay writing
CO4	Analyzeand develop the translation skills
CO5	Evaluate the unseen passage skills
CO6	Create and develop the Hindi language skills

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

UNIT I **09**

DRAMA – Andher Nagari

UNIT II **09**

NOVEL - GABAN - Premchand

UNIT III **09**

GENERAL ESSAY

UNIT IV **09**

TRANSLATION - HINDI – ENGLISH

UNIT V **09**

COMPREHENSION

Text Books:

ByBharathendu Harischandra**,** Veerendra Kumar Mishra, Anuvadh Abhyas – III

Reference Books:

UNIT 1 - Publisher–Vani Prakashan, New Delhi – 110 002.

UNIT II – Publisher - Rajkamal Prakashan, New Delhi – 110 002

UNIT III – Aadarsh Nibnandh, Vinodh Pustak Mandir, Hospital Road, Agra -282002

UNIT IV - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

UNIT V - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator **HOD**

U18HSFR401	Française	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – French as second language in Grade 12				
	Course Coordinator Name & Department :- Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES :-

Initier les étudiants aux niveaux avancés de la langue.

COURSE OUTCOMES (COs)

CO1	Pour apprendre la culture des natifs de la langue dans la configuration avancée.
CO2	Comprendre la structure grammaticale intégrale en français.
CO3	Encourager le développement de compétences en linguistique
CO4	Évaluer l'ensemble des compétences orales et écrites
CO5	Se souvenir de la construction du langage
CO6	Pour améliorer la maîtrise avancée de la langue

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

Le conditionnel present -expression de l'hypothese-demandes polies-suggestions et conseils

UNIT II On s'entend bien! 9

Les constructions du discours rapport-Les constructions (faire + verbe)-et (laisser + verb)

UNIT III A vos risqué et perils! 9

Le subjonctif Present- La construction passive pour metre en valeur l'object direct de l' action

UNIT IV C'est tout un programme! 9

Les pronom possessives -Les adjectifs et les pronoms indefinis-Les pronom demonstratifs:
Les constructions --celui+de

UNIT V C'est la fete ! 9

Les fornes de l'appreciation : trop/ pas assez –si-Les constructions verbe+verbes

TEXT BOOKS:

A2 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

Course Coordinator **HOD**

U18HSEN402	**ENGLISH- IV**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept. :Ms.E.REKHA - English				

COURSE OBJECTIVES:- To focus on the balanced development of the English language communication skills.

COURSE OUTCOMES (COs)

CO1	Remember the basic concepts of English literature
CO2	Understand the importance of the English language.
CO3	Apply the themes and values by comprehending the given text.
CO4	Analyse the grammar and the literary texts.
CO5	Evaluate the characters and the genre prescribed.
CO6	Create comprehensive essays efficiently.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O1	PSO2	PS O3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Eng Sciences (ES)	Professional Core (PC)	Core Elective	Non-Major Elective	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								

4	**Approval**	Academic Council Meeting

UNIT 1 - PROSE **9**

Lalajee – Jim Corbett – Author Biography – Plot – Theme - Summary - Critical analysis; **Face of Judas** – Bonnie Chamberlin - Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2 - POETRY **9**

Laugh and Be Merry – **John Masefield** – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Matilda** - **Hilaire Belloc**- Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis.

UNIT 3: SHORT STORIES **9**

Hunchback Sundari – **C.Raja Gopalachari** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Eyes Are Not There** - **Ruskin Bond**- Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT 4: ONE-ACT PLAYS **9**

Macbeth Soliloquy – **Out, Out, Brief Candle** - **Shakespeare** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **Julius Ceasar - Anthony's Funeral Speech** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT 5: FUNCTIONAL ENGLISH **9**

Wh – Questions - Pattern – Active and Passive voice – usage of passive voice – structure of passive verb; Modal verbs – Tenses.

TEXT BOOKS:

1. Corbett, "My India", Rupa Publications India Pvt. Ltd., 2018
2. Stories of Innocent by C.Rajagopalachari, Bharathiya Vidya Bhavan, 2009
3. Shakespeare, "Macbeth", Macmillan Publisher, 2014

REFERENCE BOOKS:

1. Shakespeare – The Complete Work; Wilco Publishing House, Mumbai, India. 2005
2. Hilaire Belloc, "Matilda", Random House UK, 1994

Course Coordinator **HOD**

U18MCCH401	**CORE- 9 - GENERAL CHEMISTRY - VI**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department: - Mrs. K. Kalpana / Chemistry				

COURSE OBJECTIVES :- To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)

CO1	Remember the knowledge about the properties and uses of coordination compounds
CO2	Understand about the theoretical concepts of reactions of coordination compounds
CO3	Understand properties and uses of alcohol, ether and carbonyl compounds
CO4	Apply the detail about the concepts involved in carbonyl compounds
CO5	Apply the importance of solution
CO6	Analys the real time applications of Chemistry in day today life.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		47th Academic Council Meeting								

UNIT I - COORDINATION COMPOUNDS: 12

Types of ligands and examples – IUPAC nomenclature of complex compounds - Werner's theory – isomerism in coordination compounds. Stability constant – Detection of complexes in solution – Theories Of Coordination Compounds: Valence bond and crystal field theories – molecular orbital and ligand field theories (an elementary treatment) – high spin and low spin complexes (octahedral and tetrahedral) – crystal field stabilization energy – magnetic properties of coordination complexes (spin contribution only) - EAN rule. **Metal carbonyls**: preparation and properties of mononuclear carbonyls – bonding in carbonyls – **metal nitrosyls**: classification, preparation and properties – bonding – brown ring compound.

UNIT II - REACTIONS OF COORDINATION COMPOUND: 12

Unimolecular and bimolecular nucleophilic substitution reactions: S_N1, S_N2 and S_N1CB mechanisms – trans effect – definition, explanation and synthetic uses - Applications of complexes in quantitative analysis – estimation of nickel using DMG and aluminium using oxine – structure of EDTA and its complexes – complexometric titrations – principles and applications – biologically important coordination compounds – chlorophyll, haemoglobin and vitamin B_{12}.

UNIT III: ALCOHOLS AND ETHERS 12

Alcohols: Synthetic methods – distinction between primary, secondary and tertiary alcohols – polyhydric alcohols: chemistry of glycol and glycerol – cleavage reactions with periodic acid, lead tetra acetate and osmium tetroxide – unsaturated alcohols: preparation and properties of allyl alcohol - **Ethers:** Synthesis and reactions of ethers – cleavage by acids – anisole and 1,4-dioxane – epoxides: preparation and properties - Thioalcohols and thioethers: General methods of preparation of thioalcohols – properties and uses of ethyl mercaptan – general methods of preparation of thioethers – ethyl sulphide – mustard gas.

UNIT IV: CARBONYL COMPOUNDS 12

Carbonyl group – polarization of C= O bond – reactivity of carbonyl group – acidity of α-hydrogen – nucleophilic addition to carbonyl bond – HCN, $NaHSO_3$, NH_3, alcohols and Grignard reagents: condensation with hydrazine, phenyl hydrazine, semi carbazide – mechanism. Aldoximes and ketoximes – mechanism of aldol, Perkin, and benzoin condensations – mechanisms of Claisen, Reformatsky, and Cannizarro reactions – mechanisms of reduction with sodium borohydride, $LiAlH_4$.

UNIT V: SOLUTION 12

kinds of solutions and methods for expressing concentration – molarity, molality, mole fraction, normality, mass fraction, parts per million – ideal solutions – raoult's law - solubility of gases in liquids – henry's law - pressure – composition and temperature – composition diagrams – deviation from ideal behaviour for completely miscible liquid systems – fractional distillation – colligative properties - relation between colligative properties and molecular mass - abnormal molecular mass – vant hoff factor.

TEXT BOOKS

1. S.H. Maron and J.B. Lando, Fundamentals of Physical Chemistry, Macmillan limited, New York, 1966.
2. B.R. Puri and L.R. Sharma, Principles of Physical Chemistry, Shoban Lal Nagin chand and Co. 33rd edition, 1992.
3. B. R. Puri, L. R. Sharma, K. C. Kalia, Principles of Inorganic Chemistry, Shoban Lal Nagin Chand and Co., 1996.
4. Bahl and Arun Bahl, Organic Chemistry, S. Chand and Sons, New Delhi, 2005.

REFERENCE BOOKS

1. B. R. Puri, L. R. Sharma, K. C. Kalia, Principles of Inorganic Chemistry, Shoban Lal Nagin Chand and Co., Delhi, 1996.
2. J. E. Huheey, E. A. Kieter and R. L. Keiter, Inorganic Chemistry, 4th ed., Harper Collins,1993.
3. F. A. Cotton, G. Wilkinson, C. Murillo and M. Bochman, Advanced Inorganic Chemistry, 6th ed., John Wiley, New York, 1999.
4. T. Moeller, Inorganic Chemistry: A Modern Indroduction, Wiley, New York, 1990.

Course Coordinator **HOD**

U18NCPH402	**ALLIED PHYSICS PAPER – 1I**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	2	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. S.Anandhi / Physics				

COURSE OBJECTIVES:- To enhance the fundamental knowledge in Basic concepts of Physics

COURSE OUTCOMES (COs)

CO1	Remember the basic concepts of wave mechanics.
CO2	Understand about the principles of nuclear reactions.
CO3	Understand the vast areas of nuclear and particle physics as well as develop an interest in these subjects
CO4	Apply the concepts of crystals and optical communication.
CO5	Apply the basic concepts of electronics.
CO6	Analys concepts of utilization of commercial devices and some applications.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					

4	Approval		Academic Council Meeting

UNIT –I IELECTROSTATICS **12**

Electrostatics Coulomb's inverse square law – Gauss theorem and its applications (Intensity at a point due to a charged sphere & cylinder) – Principle of a capacitor – Capacity of a spherical and cylindrical capacitors – Energy stored in a capacitor – Loss of energy due to sharing of charges - Capacitors in series and parallel – Types of capacitors.

UNIT II – MAGNETISM **12**

Magnetism Intensity of magnetization – Susceptibility – Types of magnetic materials – Properties of para, dia and ferromagnetic materials – Cycle of magnetization – Hysteresis – B-H curve – Applications of B-H curve – Magnetic energy per unit volume – Ferromagnets, ferrimagnets and their applications.

UNIT III - ATOMIC PHYSICS **12**

Atomic Physics Atom Models: Sommerfield's and Vector atom Models – Pauli's exclusion Principle – Various quantum numbers and quantization of orbits. X-rays: Continuous and Characteristic X-rays – Mosley's Law and importance – Bragg's law – Miller indices – Determination of Crystal Structure by Laue's Powder photograph method.

UNIT –IV NUCLEAR PHYSICS **12**

Nuclear Physics Introduction – Nucleus – Classification of Nuclei – Nuclear Size – Charge – Mass and Spin – Liquid drop model.Nuclear Radiations and their properties, particle accelerators – Betatron and Proton Synchrotron - Four types of reactions – Elementary particles and their classifications.

UNIT – V DIGITAL ELECTRONICS **12**

Digital Electronics Decimal – Binary – Octal and Hexa Decimal number systems and their Mutual Conversions – 1's and 2's complement of a Binary number and Binary arithmetic (Addition, Subtraction, Multiplication and Division) – Binary Subtraction by 1's and 2's complement method – Basic logic gates – AND, OR, NOT, NAND, NOR and EXOR gates – NAND and NOR as universal building gates – Boolean Algebra – Laws of Boolean Algebra – De Morgan's Theorems – Their verifications using truth tables.

TEXT BOOKS

1. R. Murugesan., Electricity and Magnetism. S. Chand & Co, New Delhi, Third Revised edition, 2001.
2. R. Murugeshan, Kiruthiga Sivaprasath, Modern Physics., S. Chand & Co, New Delhi, First edition, 1984,.
3. R. S. Sedha, A text book of Digital Electronics, S. Chand & Co, New Delhi, First edition ,2004.

REFERENCE BOOKS

1. Narayanamurthi, Electricity and Magnetism, The National Publishing Co, First edition, 1988.
2. J. B. Rajam, Atomic Physics., S. Chand & Company Limited, New Delhi, First edition, 1990.
3. B. N. Srivastava, Basic Nuclear Physic, Pragati Prakashan, Meerut, 2005.
4. Albert Paul Malvino, Digital principles and Applications, McGraw-Hill International Editions, New York, 2002

Course Coordinator **HOD**

U18NETA401	**அடிப்படைத் தமிழ்** - II	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : □□□□□□□. □.□□.□□□□□□□□ & □□□□□□□□□□□				

COURSE OBJECTIVES :	□□□□□ □□□□□□□□□□ □□□□□□□□□□□□□□□
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CO6	தமிழ்மொழியை அறியாதவர்கள் தமிழை எழுத படிக்கத் தெரிந்து கொள்வர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	H						M	H	M
	CO2	M	H								
	CO3	M	H								
	CO4	M	H								
	CO5	M	H								
	CO6	M	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
							✓			
4	Approval		Academic Council Meeting							

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பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18NETA402	**சிறப்புத்தமிழ்** – II	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : □□□□□□□. □□.□□□□□□□ □□□□□□□ & □□□□□□□□□□□				

COURSE OBJECTIVES : □□□□□□□□□□□ □□□□□□□□□□□□□ □□□□□ □□□□□□ □□□□□□□	
COURSE OUTCOMES (COs)	
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CO5	□□□□□□□□□ □□□□□ □□□□□□ □□□□□□□
CO6	நாட்டுப்புற மருத்துவம் பற்றி அறியச் செய்தல்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
							✓			

4	Approval	Academic Council Meeting

அலகு 1 6
நாட்டுப்புறப் பாடல்கள் - தாலாட்டுப் பாடல்கள், குழந்தைப் பாடல்கள், விளையாட்டுப் பாடல்கள், தொழிற்பாடல்கள், காதல் பாடல்கள், கொண்டாட்டப் பாடல்கள்

அலகு 2 6
விடுகதைகள் - நம்பிக்கைகள் –

அலகு 3 6
சமய வழிபாடுகள்

அலகு 4 6
பழமொழிகள்

அலகு 5 6
நாட்டுப்புற மருத்துவம்

பாட நூல்:
1. சு.சக்திவேல், "நாட்டுப்புற இயல் ஆய்வு", மணிவாசகர் பதிப்பகம், 2015
2. சு.சண்முகசுந்தரம், "நாட்டுப்புற இலக்கிய வரலாறு", காவ்யா பதிப்பகம், 2017
3. நா. வானமாமலை, "தமிழர் நாட்டுப்பாடல்கள்", நியூ செஞ்சுரி புக் ஹவுஸ், 2014

பார்வை நூல்கள்:
1. கி.வா. ஜகந்நாதன், "மலையருவி (நாடோடிப் பாடல்கள்)", அமுத நிலையம், 2012
2. சரசுவதி வேணுகோபால், தமிழக நாட்டுப்புறவியல், தாமரை வெளியீடு, 1981
3. கழனியூரன், நாட்டுப்புறவியல் கட்டுரைகள், காவ்யா பதிப்பகம், 2014

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18SESC001	**COMPUTER APPLICATION**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- N.Mathimagal & BCA				

COURSE OBJECTIVES:-

The learner will have the knowledge about the basic operations of a computer system, computer applications software, input, and output and storage devices.

COURSE OUTCOMES (COs)	
CO1	Define the Characteristics, History, Classification, Personal Computers and Applications.
CO2	Demonstrate understanding of the basic operations of a computer system.

CO3	Explain the principles of operations of computer systems used in a particular application, specifically in terms of the systems' hardware and software components.
CO4	Discuss the various types of Processors, Input and Output devices, OS & DOS command.
CO5	Identify the suitable Storage Devices and Software's to solve the problem.
CO6	Use computer applications software to solve problems.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L						H		
	CO2	H	L								
	CO3	H	-								
	CO4	H	L								
	CO5	M	-								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Brief History of Development of Computers, Computer System Concept, Computer System Characteristics, Capabilities and Limitations, Types of Computers-Personal Computer (PCs) - IBM PCs, Types of PCs- Desktop, Laptop, Notebook, Palmtop, etc. Basic Components of a Computer System - Control Unit, ALU, Input/ Output Unit- Memory, Storage Fundamentals - Primary Vs Secondary memory.

UNIT II **6**

Input Devices: Keyboard, Mouse, Joystick, Scanners, Digital Camera, MICR,OCR, OMR, , Light pen, Touch Screen.

UNIT-III **6**

Output Devices: Monitors - Characteristics and types of monitor, Size, Resolution, Refresh Rate, Dot Pitch, Video Standard - VGA, SVGA, XGA etc. Printers - Daisy wheel, Dot Matrix, Inkjet, Laser. Plotter, Sound Card and Speakers.

UNIT-IV **6**

Various Storage Devices - Magnetic Disks, Hard Disk Drives, Floppy, Disks, Optical Disks

UNIT V **6**

Computer Software, Need, Types of Software - System software, Application software System Software - Operating System, Compiler, Assemblers, Interpreter.

TEXT BOOKS

1. Computers Today by S.K. Basandra- Galgotia Publications,First Edition Oct 1987.
2. Elementary Computer Application by Dr.ReetaKumari , ArchanaKumari ,First Edition Oct 2019.
3. Computer Fundamentalsby PritiSinha, Pradeep K., Sinha,Third Edition, McGraw-Hill 2018.

REFERENCE BOOKS

1. Fundamentals of Information Technology, Aalexis Leon & Mathews Leon- Vikas Publishing House- New Delhi dos Quick Reference by Rajeev Mathur- GalgotiaPublications.
2. Basic Computer Course Made Simple, Satish Jain/Shalini Jain/M.Geetha ,Pearson, Sep2018.
3. Computer Basic , G. Manjunath,Pearson, Sep2019.
4. Computer Basics: For a Literate Living, Bittu KumarMcGraw hill, Sep2018.

Course Coordinator **HOD**

U18MCCH4L1	**CORE -10– MAJOR PRACTICAL – 4**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	0	0	4	2
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Mrs. K. Kalpana / Chemistry				
COURSE OBJECTIVES :- To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.					
COURSE OUTCOMES (COs)					
CO1	Remember the knowledge about the need of chemistry practical and its toxicity				
CO2	Understand about the uses of experiments in our day today life				

CO3	Understand and know about its importanceof chemical played important role
CO4	Apply the detail about practical importance to be aware of the concepts from the basis.
CO5	Apply the importance of handling and precision of experimental skills
CO6	Analys the real time applications of Chemistry in day today life.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					

4	Approval		47th Academic Council Meeting

ANALYSIS OF A MIXTURE CONTAINING TWO CATIONS AND TWO ANIONS OF WHICH ONE WILL BE AN INTERFERING.

I.CATIONS TO BE STUDIED:

Lead, Copper, Bismuth, Cadmium, Iron, Zinc
Manganese, Cobalt, Nickel, Barium, Calcium, Strontium and Ammonium.

II.ANIONS TO BE STUDIED:

Carbonate, Sulphate, Nitrate, Chloride, Bromide, Borate, Oxalate and Phosphate.

TEXT BOOKS:

1. Vogel, A.I. A Textbook of Quantitative Inorganic Analysis, ELBS. 1978
2. Ahluwalia, V.K. & Aggarwal, R. Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis, University Press (2000).
3. Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co.: New Delhi (2011).
4. Garland, C. W.; Nibler, J. W. & Shoemaker, D. P. Experiments in Physical Chemistry 8th Ed.; McGraw-Hill: New York (2003).
5. Sundaram, Krishnan, Raghavan, Practical Chemistry (Part II), S. Viswanathan Co. Pvt.,1996.
6. N.S. Ganapragasam and G. Ramamurthy, Organic Chemistry – Lab manual, S.
    a. Viswanathan Co. Pvt., 1998.

REFERENCE BOOKS:

1. Halpern, A. M. & McBane, G. C. Experimental Physical Chemistry 3rd Ed.; W.H. Freeman & Co.: New York (2003).
2. Mann, F.G. & Saunders, B.C. Practical Organic Chemistry, Pearson Education (2009)
3. Furniss, B.S.; Hannaford, A.J.; Smith, P.W.G.; Tatchell, A.R. Practical Organic Chemistry, 5th Ed., Pearson (2012)
4. Ahluwalia, V.K. & Dhingra, S. Comprehensive Practical Organic Chemistry: Qualitative Analysis, University Press (2000).
5. Vogel's Text Book of Quantitative Chemical Analysis. 5th Edi., ELBS/Longman England, 1989.

Course Coordinator **HOD**

U18NCPH4L2	**ALLIED PHYSICS LAB II**	**L**	**T**	**P**	**C**
	Total Contact Hours - 48	0	0	4	2
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr S.Anandhi / Physics				

COURSE OBJECTIVES:-To make the students learn about the physics from the basic and understood all technical background with all concepts understands thoroughly.	
COURSE OUTCOMES (COs)	
CO1	Rememberence of electronic devices in practicals.
CO2	Understand about the significance of laws involved in electric circuit
CO3	Understand about its importance in electronics and mechanical in mathematical Process
CO4	Apply practical importance to be aware of the concepts from the basis.
CO5	Apply the importance of handling and precision of experimental skills
CO6	Analys the principles of electronics in day to life

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		47th Academic Council Meeting								

LIST OF EXPERIMENTS

1. Logic Gates (AND, OR, NOT, NAND, NOR and EX-OR) Using IC's.

2. NAND and NOR as Universal Gates.

3. Verification of De-Morgan's Theorems.

4. Half –Adder and Half –Subtractor using logic gates.

5. Full Adder and Full Subtractor using logic gates.

6. Single Stage Amplifier.

7. Potentiometer-Measurement of Current.

8. Potentiometer-Calibration of low range voltmeter.

9. Carey Foster's Bridge- Specific Resistance.

10. Mathematical Operator-Addition, Subtraction using OP-Amp.

TEXT BOOK:

1. General Physics Laboratory Manual, Department of Physics.

REFERENCE BOOKS

1. R.A. Dunlap, Experimental Physics: Modern Methods, Oxford University Press, New Delhi (1988).
2. E.V. Smith, Manual for Experiments in Applied Physics, Butterworths (1970).
3. D. Malacara (ed.), Methods of Experimental Physics, Series of Volumes, Academic Press Inc. (1988).

Course Coordinator **HOD**

SEMESTER – V

U18MCCH501	**CORE- 11 - ORGANIC CHEMISTRY - I**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. G. Gurumoorthy / Chemistry				
COURSE OBJECTIVES:- To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.					
COURSE OUTCOMES (COs)					
CO1	Remember the knowledge about the properties and uses of carboxylic acid				

CO2	Understand about the theoretical concepts of tautomerisms
CO3	Understand about the properties and uses of Nitrocompounds
CO4	Apply the detail about the phenolic groups and organic dyes
CO5	Apply the importance of nomenclature of amine and phenols
CO6	Analyze the real time applications of Chemistry in day today life.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					

4	Approval		Academic Council Meeting

UNIT I - CARBOXYLIC ACIDS: **12**

Nomenclature of Carboxylic acids– preparation and properties of formic, acetic and benzoic acid - Ionization of carboxylic acids – acidity constants – comparison of acid strength of substituted aliphatic acids – acid strength of substituted benzoic acids – Hammett and Taft equation - **Dicarboxylic acids**: Preparation and properties of oxalic, malonic, succinic, glutaric and adipic acids – action of heat – phthalic acid - Substituted carboxylic acids – Crotonic acid – Lactic acid and tartaric acids – salicylic acid.

UNIT II: ESTERS **12**

Malonic and aceto acetic esters – synthetic uses of malonic and aceto acetic esters - Tautomerism – definition – keto-enol tautomerism – Identification of enol form and characteristic reactions of ketone and enol forms – estimation of enol form – amido-imido and nitro-acinitro tautomerisms - **Oils and fats** – definition – distinction between oil and fats – classification of oils – hydrogenation of oils – acid value, saponification value, Iodine value and RM value – soaps and detergents – manufacture of soap – cleaning action of soap and synthetic detergents.

UNIT III: NITRO COMPOUNDS **12**

Aliphatic nitro compounds: general methods of preparation and properties - Aromatic nitro compounds: Reduction of nitrobenzene in acidic, neutral and alkaline media. Conversion of nitrobenzene to ortho, para and meta dinitro benzenes – TNT. Amino acids and Proteins: Classification, preparation and properties of amino acids – Zwitterions isoelectric points – peptide synthesis – end group analysis.

UNIT IV: AMINES **12**

Aliphatic and aromatic amines: relative basic characters. Separation of amine mixtures – distinction between primary, secondary and tertiary amines, aliphatic and aromatic amines. Ring substitution in aromatic amines, diazotisation and its mechanism – coupling – synthetic uses of diazonium salt. Diazomethane and diazoacetic ester – preparation, structure and synthetic uses. Phenylene diamines. Sulphanilic acid, sulphanilamide, saccharin and chloramine-T.

UNIT V: PHENOLS: **12**

Acidity of phenols – explanation on the basis of resonance stabilization. Ring substitution of phenols – orientation of phenolic group towards electrophiles– coupling with diazonium salts – Kolbe's reaction, Riemer-Tiemann reaction, Gattermann reaction – Laderer-Manese, Hoesh reaction. Catechol, resorcinol, quinol, pyrogallol, phloroglucinol and hydroxy quinol. α and β-naphthol.

TEXT BOOKS

1. R. T. Morrison And R. N. Boyd, Organic Chemistry, 6th Edition, Printice-Hall Of India Limited, New Delhi, 1992.
2. T. W. Graham Solomons, Organic Chemistry, 6th edition, John Wiley and Sons, 1996.
3. B. Y. Paula, Organic Chemistry, 3rd Edition, Pearson Education, Inc.(Singapore), New Delhi, reprint, 2002.
4. Bahl and Arun Bahl, Organic Chemistry, S. Chand and Sons, New Delhi, 2005.

REFERENCE BOOKS

1. Jerry March, Advanced Organic Chemistry, 4th Edition, John Wiley And Sons, New York,1992.
2. S. H. Pine, Organic Chemistry, 5th Edition, McGraw Hill International Edition, Chemistry Series, New York, 1987.
3. Sehan. N. Ege, Organic Chemistry, Structure and Reactivity, 3rd Edition, A.I.T.B.S., New Delhi, 1998.
4. T. W. Graham Solomons, Organic Chemistry, 6th edition, John Wiley and sons, 1996.

Course Coordinator **HOD**

U18MCCH502	**CORE – 12 - INORGANIC CHEMISTRY - I**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. T. Ezhilarasu / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)

CO1	Remember the knowledge about the introduction of nuclear chemistry

CO2	Understand about the theoretical concepts involved in nuclear Chemistry
CO3	Understand about the properties and uses of industrial chemistry
CO4	Apply the detail about the organometallic concepts
CO5	Apply the Organo metallic compounds to biological applications.
CO6	Analyse the structure of nanoparticles: nano cluster, nano rod, nanotube (CNT) and nanowire.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					

4	Approval		Academic Council Meeting

UNIT I: SOLID STATE CHEMISTRY II **12**

Types of solids: crystalline, amorphous and poly crystalline – elements of crystal symmetry – unit cell – space lattice – types of lattice – crystal system – Bragg's equation – X-ray diffraction and crystal structure – Laue's and powder method – Miller indices – lattice energy and its determination by Born-Haber cycle (zinc sulphide, CsCl)– Born-Lande equation.

UNIT II: SOLID STATE CHEMISTRY III **12**

Structure of inorganic solids – limiting radius ratio – ionic solids of type AX (NaCl) – ionic solids of type AX_2 – CaF_2, rutile. **Metallic bonding:** theories of metallic bonding – electron gas, Pauling and band theories - Structure of alloys – substitutional and interstitial alloys – solid solutions – Hume-Rothary ratio - Superconductivity.

UNIT – III: INNER TRANSITION ELEMENTS **12**

Lanthanides – comparative study of lanthanide elements with respect to electronic configuration – atomic and ionic radii – oxidation states – complex formation and magnetic properties – lanthanide contraction – position in the periodic table -occurrence – principles of separation methods. **Actinides** – comparative study of actinide elements – comparison of lanthanides and actinides – position in the periodic table – extraction of thorium and uranium – sources of nuclear fuels in India.

UNIT IV – NON CONVENTIONAL ENERGY SOURCES AND DEVISES **12**

Nuclear fission and nuclear fusion reactions – differences between nuclear fission and nuclear fusion reactions – nuclear chain - Reactions – nuclear energy critical mass - super critical mass - sub - critical mass Light water nuclear reactor for power generation (block diagram only) – breeder reactor. Fuel cells – hydrogen – oxygen fuel cell - Batteries : Primary and secondary Batteries – differences between Primary and secondary Batteries - Secondary batteries : Lead–acid storage battery –working –uses.

UNIT V - SOME SPECIAL COMPOUNDS **12**

Clathrates – examples – structure of quinol-water complex – characteristics - inorganic polymers – homo atomic and hetero atomic – borazines – silicones – composition – preparation, properties, structure and uses – metal alkyls – coordination polymers – phosphonitrilic polymers - Silicates – classification – disilicate anions –

examples and structures of one, two and three dimensional silicates – beryls – asbestos – talc – mica – feldspar – zeolites and ultramarines.

TEXT BOOKS

1. J. D. Lee, Concise Inorganic Chemistry, 5th Ed., Blackwell Science, London, 1996.
2. F. A. Cotton, G. Wilkinson and P. L. Guas, Basic Inorganic Chemistry, 3rd ed., John Wiley,1994.
3. B. Douglas, D. McDaniel and J. Alexander, Concepts and Models of Inorganic Chemistry,3rd ed., John Wiley, 1994.
4. B. R. Puri, L. R. Sharma, K. C. Kalia, Principles of Inorganic Chemistry, Shoban Lal Nagin Chand and Co., 1996.

REFERENCE BOOKS

1. J. E. Huheey, E. A. Kieter and R. L. Keiter, Inorganic Chemistry, 4th ed., Harper Collins, New York, 1993.
2. D. F. Shriver and P. W. Atkins, Inorganic Chemistry, 3rd ed., W. H. Freeman and Co, London,1999.
3. T. Moeller, Inorganic Chemistry: A Modern Introduction, Wiley, New York, 1990.
4. J. D. Lee, Concise Inorganic Chemistry, 5th Ed., Blackwell Science, London, 1996.
5. D. F. Shriver and P. W. Atkins, Inorganic Chemistry, 3rd Ed., W. H. Freeman and Co, London,1999.

Course Coordinator **HOD**

U18MCCH503	**CORE – 13 - PHYSICAL CHEMISTRY - I**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. K. Kannan / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)	
CO1	Remember the knowledge about the properties and uses of Thermodynamic concepts

CO2	Understand about the theoretical concepts of phase rule
CO3	Unterstand properties and uses of electrochemistry
CO4	Apply the detail about the electromotive force
CO5	Apply the importance of corrosion and its control
CO6	Analyze the real time applications of Chemistry in day today life.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT I: THEORY OF STRONG ELECTROLYTES **12** Debye – Huckel – Onsager theory – verification of Onsager equation – Wein and Debye – Falkenhagen effect. Activity and activity co-efficients of strong electrolytes – ionic strength. Ostwalds dilution law – determination of dissociation constants – Ionic product of water – pH value. Buffer solution – Henderson's equations – uses of Buffers including living systems– common ion effect – solubility product principle – relation to solubility – Applications in qualitative and quantitative analysis.Hydrolysis of salts – expression for hydrolysis constant – Degree of hydrolysis and pH of salt solutions for different types of salts – Determination of Degree of hydrolysis – conductance and distribution methods.

UNIT II: PHASE RULE **12**

Phase equilibria: meaning of the terms phase, components and degrees of freedom – derivation of Gibbs Phase rule – phase equilibria of **one component systems** – water and CO_2 systems - **Two component systems**: solid-liquid equilibria – simple eutectic Pb-Ag systems – compound formation with congruent melting point (Mg–Zn) and incongruent melting, point (Na-K), freezing mixtures – Efflorescence and deliquescence - Liquid-liquid mixtures: partially miscible– liquid systems – phenol – water system – effect of impurities on CST

UNIT III - ELECTROCHEMISTRY **12**

Introduction: Conductance – electrolytes – electrodes - Cells - Types of Cells : Salt bridge - Electrochemical cells , Electrolytic cells – Reversible and Irreversible cells EMF – measurement of emf – Single electrode potential – Nernst equation. Electrode: Reference electrodes - Standard Hydrogen electrode -Calomel electrode - Ion selective electrode: Glass electrode and measurement of pH using Glass electrode - Electrochemical series – significance - Titrations: Potentiometer titrations (redox - Fe^{2+} vs dichromate titrations) - Conductometric titrations (acid-base – HCI vs. NaOH titrations)

UNIT IV - ELECTROMOTIVE FORCE **12**

Redox reactions – Electrode Potential – measurement of electrode potential – Nernst's equation for electrode potential – importance of electrode potential – electrochemical series – Electrochemical cell – representation of a Galvanic cell – Western Standard Cadmium cell – E.M.F. of an electrochemical cell –Concentration cell – applications – Reference electrodes – Hydrogen electrode – metal-metal ion electrodes – calomel electrode – ion selective electrode – Glass electrode – quinhydrone electrode – Potentiometric Titrations

UNIT V - CORROSION AND ITS CONTROL **12**

Chemical corrosion: Definition - Chemical Corrosion - Electrochemical corrosion – different types (Galvanic corrosion – differential aeration corrosion) – mechanism of Chemical and Electrochemical corrosion factors influencing corrosion - Corrosion control – sacrificial anode and impressed cathodic current methods - Protective coatings: Paints – constituents of the paint and their functions - Metallic coatings – electroplating of Gold and electroless plating of Nickel

TEXT BOOKS
1. S.H. Maron, J.B. Lando, Fundamentals of Physical Chemistry, Macmillan ltd, New York, 1966.
2. B.R. Puri and L.R. Sharma, Principles of Physical Chemistry, Shoban Lal Nagin chand and Co. 33rd edition, 1992.
3. P.W. Atkins, Physical Chemistry, 7th edition, Oxford university press, 2001.
4. S.K. Dogra and S. Dogra, Physical Chemistry Through Problems, New age international, 4th edition 1996.

REFERENCE BOOKS
1. Gilbert. W. Castellan, Physical Chemistry, Narosa publishing house, third edition 1985.
2. Irving M. Klotz and Robert M. Rosenberg, Chemical Thermodynamics, John Wiley and sons, Inc. 1994.
3. J. Rajaram and J.C. Kuriacose, Thermodynamics, Shoban Lal Nagin Chand and CO. 1986.
4. K. L. Kapoor, A Textbook of Physical chemistry, (volume-2 and 3) Macmillan, India Ltd, 1994.

Course Coordinator **HOD**

U18MCCH5L1	**CORE 14–MAJOR PRACTICAL – 5**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	0	0	4	2
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. T. Ezhilarasu / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)

CO1	Remember the knowledge about the need of chemistry practical and its toxicity

CO2	Understand about the uses of experiments in our day today life
CO3	Understand about the importanceof chemical played on important role
CO4	Apply the detail about practical importance to be aware of the concepts from the basis.
CO5	Apply the importance of handling and precision of experimental skills
CO6	Analyze the real time applications of Chemistry in day today life.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L						L	H	
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

1. Conductometry-Acid-alkali titrations.
2. Conductometry-Precipitation titrations.
3. Conductometry-Displacement titrations.
4. Kinetics-Saponification of Ester-Determination of order of reaction.
5. Potentiometric titrations-Acid-alkali titrations.
6. Potentiometric titrations-Redox titrations.

TEXT BOOKS:

1. Vogel, A.I. A Textbook of Quantitative Inorganic Analysis, ELBS. 1978
2. Ahluwalia, V.K. & Aggarwal, R. Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis, University Press (2000).
3. Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co.: New Delhi (2011).
4. Garland, C. W.; Nibler, J. W. & Shoemaker, D. P. Experiments in Physical Chemistry 8th Ed.; McGraw-Hill: New York (2003).
5. Sundaram, Krishnan, Raghavan, Practical Chemistry (Part II), S. Viswanathan Co. Pvt.,1996.
6. N.S. Ganapragasam and G. Ramamurthy, Organic Chemistry – Lab manual, S. Viswanathan Co. Pvt., 1998.

REFERENCE BOOKS:

1. Halpern, A. M. & McBane, G. C. Experimental Physical Chemistry 3rd Ed.; W.H. Freeman & Co.:

New York (2003).
2. Mann, F.G. & Saunders, B.C. Practical Organic Chemistry, Pearson Education (2009)
3. Furniss, B.S.; Hannaford, A.J.; Smith, P.W.G.; Tatchell, A.R. Practical Organic Chemistry, 5th Ed., Pearson (2012)
4. Ahluwalia, V.K. & Dhingra, S. Comprehensive Practical Organic Chemistry: Qualitative Analysis, University Press (2000).
5. Vogel's Text Book of Quantitative Chemical Analysis. 5th Edi., ELBS/Longman England, 1989.

Course Coordinator **HOD**

U18MCCH5L2	**CORE 16–MAJOR PRACTICAL – 6**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	0	0	4	2
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. P. Paulraj / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)	
CO1	Remember the knowledge about the need of chemistry practical and its toxicity
CO2	Understand about the uses of experiments in our day today life

CO3	Understand the importanceof chemical played on important role
CO4	Apply the detail about practical importance to be aware of the concepts from the basis.
CO5	Apply the importance of handling and precision of experimental skills
CO6	Analyze the real time applications of Chemistry in day today life.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L						L	H	
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

Physical Chemistry Practical

1. Phase diagram – Naphthalene and biphenyl system.
2. Critical Solution Temperature – Determination of CST of phenol-water system and effect of impurity on CST – strength of sodium chloride.
3. Determination of Viscosity by Oswald Viscometer
4. To study the Adsorption of acid on Activated charcoal.
5. To determine the Concentration of KMnO4 / K2Cr2O7 by Colourimetry.
6. The Distribution coefficient of Benzoic acid distributed between water and kerosene
7. Determination of Equivalent conductance of a strong electrolyte
8. Determination of pH of a buffer solution potentiometrically using quinhydrone electrode
9. Determination of molecular weight - Rast's macro method
10. Determination of Equivalence Conductance of a strong Electrolyte

TEXT BOOKS:

1. Vogel, A.I. A Textbook of Quantitative Inorganic Analysis, ELBS. 1978
2. Ahluwalia, V.K. & Aggarwal, R. Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis, University Press (2000).
3. Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co.: New Delhi (2011).
4. Garland, C. W.; Nibler, J. W. & Shoemaker, D. P. Experiments in Physical Chemistry 8th Ed.; McGraw-Hill: New York (2003).
5. Sundaram, Krishnan, Raghavan, Practical Chemistry (Part II), S. Viswanathan Co. Pvt.,1996.
6. N.S. Ganapragasam and G. Ramamurthy, Organic Chemistry – Lab manual, S.Viswanathan Co. Pvt., 1998.

REFERENCE BOOKS:

1. Halpern, A. M. & McBane, G. C. Experimental Physical Chemistry 3rd Ed.; W.H. Freeman & Co.: New York (2003).
2. Mann, F.G. & Saunders, B.C. Practical Organic Chemistry, Pearson Education (2009)
3. Furniss, B.S.; Hannaford, A.J.; Smith, P.W.G.; Tatchell, A.R. Practical Organic Chemistry, 5th Ed., Pearson (2012)
4. Ahluwalia, V.K. & Dhingra, S. Comprehensive Practical Organic Chemistry: Qualitative Analysis, University Press (2000).
5. Vogel's Text Book of Quantitative Chemical Analysis. 5th Edi., ELBS/Longman England, 1989.

Course Coordinator **HOD**

U18MECH001	**ELECTIVE – I - ANALYTICAL CHEMISTRY**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	4	0	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. T. Ezhilarasu / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)

CO1	Remember the knowledge about the properties and uses of analytical techniques

CO2	Understand about the method of laboratory safety
CO3	Understand the properties and uses of separation and purification techniques
CO4	Aapply the detail about the thermo analytical methods
CO5	Apply the importance of computer programming about the thermal analysis
CO6	Analyze the real time applications of thermal materials for using atomic spectroscopy techniques.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/POs**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
						√				

4	Approval	Academic Council Meeting

UNIT –I: LABORATORY SAFETY **12**

Laboratory Hygiene And Safety - Storage and handling of corrosive, flammable, explosive, toxic, carcinogenic and - poisonous chemicals - Simple First Aid Procedure For Accidents Acid in eye, alkali in eye, acid burns, bromine burns, poisoning, inhalation of gases, cut by glasses and heat burns - Errors in chemical analysis, classification of errors, instrumental errors, personal errors, constant errors and proportional errors – Correction of determinate errors - Random errors. Precision, accuracy.

UNIT- II: EXTRACTION TECHNIQUES **12**

Separation And Purification Techniques General principles involved in the separation of precipitates. Solvent extraction – Chromatography Principles in adsorption, partition and ion exchange, paper, thin layer, column, gas liquid chromatography. Electro-phorosis- Applications - Desiccants Vacuum drying, distillation, fractional distillation, steam distillation, Azeotropic Distillation, crystallization and sublimation – Principles and Techniques.

UNIT – III: ANALYTICAL METHODS I **12**

Thermo analytical Methods - Principles involved in thermo gravimetric analysis and differential thermal analysis- instrumentation - Characteristics of TGA (CaC_2O_4, H_2O, $CuSO_4$, $5H_2O$) and DTA curves ($CaC_2O_4.H_2O$) - Factors affecting TGA and DTA curves - Thermometric titration of HCL Vs NaOH - Analytical Electrochemistry - Redox potential – measurement and application, interpretation of chemical behavior - Electrolytic separations. Principles of electrode deposition. Electro-gravimetric (estimation of copper and silver.)

UNIT – IV: ANALYTICAL METHODS II **12**

Colorimetric Analysis Laws of colorimeters – instrumentation. Nessler‘s and Photo electric colorimetric method – operation and applications. Estimation of Ni, Cu and Fe - Basic principles of flame photometry – Atomic absorption – Spectrophotometry – Estimation of Na, K and Ca - Organic Estimations Principle and methods to estimate glucose, ascorbic acid, phenol, aniline, ketone, oils and fats. Iodine value, saponification value, R.M value and acetyl value.

UNIT – V: ANALYTICAL TECHNIQUES **12**

Introduction: Types of spectroscopy - Atomic spectroscopy – molecular spectroscopy – Explanation – differences between Atomic spectra – molecular spectra, Absorption spectrum and Emission spectrum, Photo physical laws - Lambert's law - Beer-Lambert's law –applications (determination of unknown concentration) - IR spectroscopy: Principle – instrumentation (block diagram only) – working - finger print region: UV-visible spectroscopy - Principle – instrumentation (block diagram only) – working – estimation of iron by colorimetry.

TEXT BOOK:

1. R.Gopolan, P.S.Subramanian and K. Rengarajan: –Elements of Analytical Chemistry, –Sultan Chand & sons, New Delhi. (1995)
2. B.K.Sharma ; Instrumental Methods of chemical analysis, Goel Publishing House, Meerut (1999).
3. S.M.Khopkar ; Basic Concepts of Analytical Chemistry New Age International (P)Ltd, New Delhi (1998)

REFERENCE BOOK:

1. Gurdeep Chatwal, Sham Anand; Instrumental methods of Chemical Analysis, Himalaya Publishing House, Mumbai (1998).
2. D.A.Skoog & D.M.West; Fundamentals of Analytical Chemistry W.B.Saunders, New York,(1982).
3. K.V.Raman; Computers in chemistry Tata Mc Graw Hill Co., New Delhi(1993).

Course Coordinator **HOD**

U18MECH002	**ELECTIVE – I - POLYMER CHEMISTRY**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	4	0	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. G. Padmapriya / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)

CO1	Remember the knowledge about the properties and introduction of polymer

CO2	Understand about the method of polymerization
CO3	Understand the properties and uses of polymer degradation
CO4	Apply the detail about the Industrial polymers
CO5	Apply the importance of polymer processing
CO6	Analyze the real time applications of Chemistry in day today life.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
						√					
4	Approval		Academic Council Meeting								

UNIT 1 : INTRODUCTION TO POLYMER **12**

Monomers, Oligomers, Polymers and their characteristics - Classification of polymers : Natural synthetic, linear, cross linked and network; plastics, elastomers, fibres, Homopolymers and Co-polymers - Bonding in polymers : Primary and secondary bond forces in polymers ; cohesive energy and decomposition of polymers - Determination of Molecular mass of polymers: Number Average molecular mass (Mn) and Weight average molecular mass (Mw) of polymers and determination by (i) viscosity (ii) Light scattering method (iii) Gel Permeation Chromatography (iv) osmometry and ultracentrifuging.

Self study: Molecular weight determination of high polymers by different methods.

UNIT 2 : KINETICS AND MECHANISM FOR POLYMERIZATION **12**

Chain growth polymerization : Cationic, anionic, free radical polymerization, Stereo regular polymers : Ziegler Natta polymers - Polycondensation-non catalysed, acid catalysed polymerization, molecular weight – distribution - Step growth polymers

Self study: Degrees of polymerization

UNIT 3 : TECHNIQUES OF POLYMERIZATION **12**

Bulk, Solution, Emulsion, Suspension, Melt polycondensation, solution polycondensation interfacial and gas phase polymerization - Types of Polymer Degradation, Thermal degradation, mechanical degradation, photodegradation, Photo stabilizers.

Self study: Solid and gas phase polymerization

UNIT 4 : INDUSTRIAL POLYMERS: **12**

Raw material, preparation, fibre forming polymers, elastomeric material - Thermoplastics : Polyethylene, Polypropylene, polystyrene, Polyacrylonitrile, Poly Vinyl Chloride, Poly tetrafluoro ethylene, nylon and polyester - Thermosetting Plastics : Phenol formaldehyde and expoxide resin - Elastomers : Natural rubber and synthetic rubber - Buna - N, Buna-S and neoprene - Conducting Polymers : Elementary ideas ; examples : poly sulphur nitriles, poly phenylene, polypyrrole and poly acetylene.

Self study: Poly methylmethacrylate, polyimides, polyamides, polyurethanes, polyureas, polyethylene and polypropylene glycols

UNIT 5 : INTRODUCTION TO POLYMER PROCESSING : 12

Compounding: Polymer Additives: Fillers, Plasticizers antioxidants and thermal stabilizers fire retardants and colourants - Processing Techniques: Calendaring, die casting, compression moulding, injection moulding, blow moulding, extrusion moulding and reinforcing.

Self study: Film casting, Thermofofming, Foaming.

TEXT BOOKS:

1. V.R. Gowariker, Polymer Science, Wiley Eastern, 1995.
2. G.S. Misra, Introductory Polymer Chemistry, New Age International (Pvt) Limited, 1996.
3. F. W. Billmeyer, Text book of polymer science, Jr. John Wiley and Sons, 1984.

REFERENCE BOOKS:

1. Sharma, B.K., Polymer Chemistry, Goel Publishing House, Meerut, 1989.
2. F. N. Billmeyer, Textbook of Polymer Science, Wiley Interscience, 1971.
3. Kumar and S. K. Gupta, Fundamentals and Polymer Science and Engineering, Tata McGraw-Hill, 1978.
4. Arora M.G., Singh M. and Yadav M.S., Polymer Chemistry, 2 nd Revised edition, anmol Publications Private Ltd., New Delhi, 1989.

Course Coordinator **HOD**

U18MECH003	**ELECTIVE – I - BIOCHEMISTRY**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	4	0	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. M. Kumar / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)

CO1	Remember the knowledge about the introduction of amino acid and proteins
CO2	Understand about the method of enzymes
CO3	Understand the properties and uses of lipids

CO4	Apply the detail about the carbohydrates
CO5	Apply the importance of nucleic acid
CO6	Analyze the real time applications of Chemistry in day today life.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
						√					
4	Approval		Academic Council Meeting								

UNIT 1: **AMINO ACIDS AND PROTEINS** **12**

Living Cell – Plant and Animal cell - Cell membrane – organelles – functions of major subcellular components – Anabolism and catabolism and their relation to metabolism. **Amino acids** – classification –Synthesis of _-amino acids and their identification - Peptide bond- stereochemistry, synthesis of peptides by solution and solid phase techniques. **Proteins** – classification – properties-3D structure-determination of amino acid sequence – denaturation and renaturation of protein molecules - Separation and purification of proteins – dialysis – gel filtration – electrophoresis - Catabolism of amino acids: Transamination, oxidative deamination, decarboxylation. The urea cycle and other possibilities of detoxification of ammonia.

UNIT 2: ENZYMES **12** Nomenclature, classification and properties-specificity, factors influencing enzyme action. Mechanism of enzyme action – Lock and Key model and induced fit models. Coenzymes – cofactors – prosthetic groups of enzymes (TPP, NAD, NADP, FAD, ATP) - Their importance in enzyme action - Mechanism of inhibition (competitive, non- and uncompetitive and allosteric) - Immobilization of enzymes. Enzyme specificity,

UNIT 3: LIPIDS **12**

Classification - neutral lipids, Phospho lipids (lecithines, cephalins, plasmalogens) andglycolipids – importance, synthesis and degradation - Fatty acids – saturated, unsaturated fatty acids, EFA. Properties – Hydrolysis-acid number, saponification number. Auto-oxidation (Rancidity), addition reactions-Iodine value, Polenske number, Reichert-Meissl number, acetyl number. Hydrogenation Cholesterol – biosynthesis. Bile salts derived from cholesterol - Metabolism: Oxidation of glycerol – oxidation of fatty acids; biosynthesis of lipids – synthesis of fatty acids and synthesis of triglycerides.

UNIT 4: CARBOHYDRATES **12**

Classification – reducing and non-reducing sugars. Glucose: structure-conformation –Stability - Carbohydrates of the cell membrane – starch, cellulose and glycogen. (Structure and utility) - Metabolism: Glycolysis and its reversal; TCA cycle. Relation between glycolysis and respiration. Principles of bioenergetics, electron transport chain and oxidative
phosphorylation.

UNIT 5 NUCLEIC ACIDS **12**

Nucleosides and nucleotides – purine and pyrimidine bases. Nucleic acids Difference between DNA and RNA. Classification of RNA - Biosynthesis of DNA: Replication. Biosynthesis of mRNA: Transcription - Genetic code

– mutations and mutants. DNA repair. Biosynthesis of proteins - DNA sequencing and PCR, recombinant DNA technology, DNA polymorphism.

TEXT BOOKS:

1. Lehninger, Principles of Biochemistry, Fourth Edition, by David L. Nelson and Michael M. Cox, Worth Publishers, New York, 2005.
2. L. Veerakumari, Biochemistry, MJP publishers, Chennai, 2004.
3. Lubert Stryer, Biochemistry, W. H. Freeman and company, New York, 1975.
4. Robert L.Caret, Katherine J. Denniston, Joseph J. Topping, Principles and Applications of organic and biological chemistry, WBB publishers, USA, 1993.

REFERENCE BOOKS:

1. J. L. Jain, Biochemistry, Sultan Chand and Co.1999
2. A. Mazur and B. Harrow, Text book of biochemistry, 10th Edition, W.B. Saunders Co., Philadelphia, 1971.
3. Paula Yurkanis Bruice, Organic chemistry, 3rd Edition, Pearson Education, Inc.
4. (Singapore), New Delhi, reprint, 2002.
5. P. W. Kuchel and G. B. Ralston, Shaum Series, Theory and Problems of Biochemistry, McGraw-Hill Book Company, New York, 1988.

Course Coordinator **HOD**

SEMESTER - VI

U18MCCH601	**CORE – 16 - ORGANIC CHEMISTRY- II**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. G. Gurumoorthy / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)

CO1	Remember the knowledge about the introduction of the natural products
CO2	Understand about the method of molecular rearrangement

CO3	Understand the properties and uses of stereochemistry
CO4	Apply the detail about the carbohydrates
CO5	Apply the importance of heterocyclic chemistry
CO6	Analyze the real time applications of Chemistry in day today life.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT I: NATURAL PRODUCTS **12**

Terpenes: classification – isoprene rule – geraniol, nerol and menthol - Alkaloids: general methods of isolation and general methods of structural determination – conine, piperine and nicotine - Vitamins: source and biological importance of vitamins A_1, B_1 and C.

UNIT II: MOLECULAR REARRANGEMENTS **12**

Pinacol-pinacolone, Wagner-Meerwein, Beckmann, Benzidine, Hoffmann, Curtius, Benzilic acid, Claisen, Fries, Cope and oxy cope rearrangements - Reagents in organic synthesis: Lithium aluminium hydride and sodium borohydride – reduction of carbonyl compounds and carboxylic acids. Selenium dioxide – oxidation of carbonyl compounds. Aluminium isopropoxide (MPV reduction). Wilkinson catalyst – hydrogenation of alkenes and alkynes. Tetra carbonyl nickel – carbonylation of alkenes, alkynes.

UNIT III: STEREO CHEMISTRY **12**

Elements of symmetry and conditions for optical activity – asymmetric center – chirality – achiral molecule – meaning of (+) and (-); D and L notations – racemization, resolution, Walden inversion – asymmetric synthesis. Vant Hoff rule of optical super position - Projection formulae – Fisher, Flying wedge, Sawhorse and Newmann projection formulae – Cahn-lngold-Prelog rules – R and S notations of optical isomers with one asymmetric carbon – erythro and threo representations - Optical activity in biphenyls, allenes and spiranes - Geometrical isomerism – cis-trans, syn-anti, E-Z notations – maleic and fumaric acid.

UNIT IV: CARBOHYDRATES **12**

Classification, chemistry and constitution of glucose and fructose – determination of ring size – Haworth projection formula – configuration of monosaccharides – epimerisation, chain lengthening and chain shortening of aldoses – inter conversion of aldoses and ketoses - Disaccharides – chemistry and structure of maltose, lactose and sucrose - Starch and cellulose (structural elucidation not necessary).

UNIT V: HETEROCYCLIC COMPOUNDS **12**

Introduction – molecular-orbital structure and aromatic characteristics of pyrrole, furan, thiophene and pyridine – methods of synthesis - chemical reactions with particular emphasis on the mechanism of electrophilic substitution

– comparison of basicity of pyridine, piperidine and pyrrole. Condensed five and six membered heterocycles – preparation of indole, quinoline and isoquinoline with special reference to Fisher Indole, Skraup and Bischler Napieralski synthesis.

TEXT BOOKS

1. R. T. Morrison And R. N. Boyd, Organic Chemistry, 6th Edition, Printice-Hall Of India Limited, New Delhi, 1992.
2. T. W. Graham Solomons, Organic Chemistry, 6th edition, John Wiley and Sons, 1996.
3. B. Y. Paula, Organic Chemistry, 3rd Edition, Pearson Education, Inc.(Singapore), New Delhi, reprint, 2002.
4. Bahl and Arun Bahl, Organic Chemistry, S. Chand and Sons, New Delhi, 2005.

REFERENCE BOOKS

1. Jerry March, Advanced Organic Chemistry, 4th Edition, John Wiley And Sons, New York,1992.
2. S. H. Pine, Organic Chemistry, 5th Edition, McGraw Hill International Edition, Chemistry Series, New York, 1987.
3. Sehan. N. Ege, Organic Chemistry, Structure And Reactivity, 3rd Edition, A.I.T.B.S., New Delhi, 1998.

Course Coordinator **HOD**

U18MCCH602	**CORE – 17 - INORGANIC CHEMISTRY - II**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. T. Ezhilarasu / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)

CO1	Remember the knowledge about the introduction of nuclear chemistry
CO2	Understand about the theoretical concepts involved in nuclear Chemistry
CO3	Understand the properties and uses of industrial chemistry
CO4	Apply the detail about the organometallic concepts
CO5	Apply the importance of acids and bases.

CO6	Analyze the real time applications of Chemistry in day today life.										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT I - NUCLEAR CHEMISTRY I **12**

Nuclear forces – nuclear bonding and stability – nuclear shell structure theory – nuclear fluid theory – magic numbers – isotopic constitution of elements – separation of isotopes – gaseous diffusion, electromagnetic, distillation, electrolytic and chemical exchange methods – whole number rule and packing fraction – atomic masses – deviation of atomic masses from whole number – isobars, isotones and isomers.

UNIT II - NUCLEAR CHEMISTRY II **12**

Natural radioactivity – radioactive emanations – disintegration theory – rate of disintegration – half-life period – average life period – modes of decay – n/p ratio – group displacement law – detection and measurement of radioactivity – radioactive equilibrium – radioactive disintegration series – Geiger-Nuttal rule – age of earth - Nuclear transformation – artificial transmutation of elements – classification of nuclear reactions – nuclear fission – atomic bomb – nuclear fusion – hydrogen bomb – nuclear reactors – atomic power projects in India – radio carbon dating – radioactive waste disposal.

UNIT III - INDUSTRIAL CHEMISTRY **12**

Gaseous fuels – natural, gobar, coal, water gas, semi water gas and producer gas. LPG – industrial gases – manufacture and industrial uses of H_2, O_2, N_2 and dry ice. Fossil fuels – varieties of coal – petroleum refineries in India – petrochemicals – manufacture of petrochemicals from methane. Explosives and chemical weapons – characteristics and classification – nitro cellulose, PETN, DNB, TNT, EDNA and lead azide. Paints – characteristics – classification – constituents – requirements of a good paint – setting of paints. Pigments – characteristics and uses – white, red, lithopone and black.

UNIT IV: BIOLOGICAL MOLECULES **12**

Organo metallic complexes – olefinic complexes – anion of zeises salt – structure and bonding of acetylinic complexes and allylic complexes of transition metals - Bioinorganic molecules – haemoglobin, chlorophyll, cytochrome-c, ferridoxin – structural aspects and their role in electron transfer reactions - Mechanism and synthetic uses of: Palladium complex: Wacker oxidation - Rhodium complex: Wilkinson catalyst - Cobalt complex: hydroformylation of alkenes.

UNIT V – NANOCHEMISTRY **12**

Basics - distinction between molecules, nanoparticles and bulk materials; size-dependent properties. nanoparticles: nano cluster, nano rod, nanotube(CNT) and nanowire. Synthesis: precipitation, thermolysis, hydrothermal, solvothermal, electrodeposition, chemical vapour deposition, laser ablation; Properties and applications

TEXT BOOKS

1. J. D. Lee, Concise Inorganic Chemistry, 5th ed., Blackwell Science, London, 1996.
2. F. A. Cotton, G. Wilkinson and P. L. Guas, Basic Inorganic Chemistry, 3rd ed., John Wiley,1994.
3. J. E. Huheey, E. A. Keiter and R. L. Keiter and O. K. Medhi, Inorganic Chemistry - Principles of Structure and Reactivity,4 th Edition, Pearson Education, 2006.
4. P. Atkins, T. Overton, J. Rourke, M. Weller and F. Armstrong, Inorganic Chemistry, 5 th Edition, Oxford University Press, 2010.

REFERENCE BOOKS:

1. B. Douglas, D. McDaniel and J. Alexander, Concepts and Models of Inorganic Chemistry,3rd ed., John Wiley, 1994.
2. B. R. Puri, L. R. Sharma, K. C. Kalia, Principles of Inorganic Chemistry, Shoban Lal Nagin Chand and Co., 1996.
3. K. F. Purcell and J. C. Kotz, Inorganic Chemistry, Saunders Golden Sunburst Series, W. B. Saunders Company, Philadelphia, 1977.
4. G. L. Miessler and D. A. Tarr, Inorganic Chemistry, 3 rd Edition, Pearson, 2004.

Course Coordinator **HOD**

U18MCCH603	**CORE- 18 - CHEMISTRY IN EVERY DAY LIFE**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. M. Kumar / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)

CO1	Remember the knowledge about the introduction of chemistry in our life
CO2	Understand about the theoretical concepts of Agricultural purposes
CO3	Understand the properties and uses of food chemistry
CO4	Apply the detail about the cosmotics
CO5	Apply the importance of Material chemistry and its importance.
CO6	Analyze the real time applications of Chemistry in day today life.

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT-I: WATER CHEMISTRY **12**

Water – Characteristics of water, soft water and hard water. **Removal of hardness** – Purification of water by ion exchange and reverse osmosis methods. **Water pollution**: Sources and effects of water pollution (Domestic, Industrial, Agricultural) -Eutrophication. **Heavy metals** such as Hg, Cr, Cd, Zn, Cu and metals like Pb, As, Ba, Temperature, Radio activity, synthetic detergents etc.,).

UNIT-II: AGRICULTURAL CHEMISTRY **12**

2.1 **Plant nutrients** –Requisites of good fertilizers - Effect of Nitrogen on plant growth, deficiency symptoms - examples for nitrogenous fertilizers: - Effect of Phosphorous on plant growth, deficiency symptoms – -examples for phosphatic fertilizers. **Effect of potassium on plant growth**, deficiency symptoms - examples for potassium fertilizers – Functions of secondary and micro nutrients. Manures: Farm yard manure–Compost making – Green manuring - Concentrated organic manures: Oil cakes. safety measures while using pesticides. Fungicides, Herbicides, Acaricides, Rodenticides, Repellants, Fumigants, Defoliants (Definitions and Examples).

UNIT-III: FOOD CHEMISTRY **12**

Food classification and functions- Digestion in mouth, stomach and intestine. Absorption- spoilages, preservation techniques (canning, dehydration, freeze–drying. salting, pickling, pasteurizing, fermenting and carbonating). **Minerals and water as food**–water balance – water sources, major and trace minerals –biological functions of Ca, P, Fe, Cu, I and Zn. **Food additives** – colouring (Natural and synthetic colours)-List of permitted colours (Curcumin, Riboflavin, Betacarotene, Plain Caramel and amaranth)- description and uses. **Flavouring agents** – Anti oxidants – Emulsifiers- Acidulants and beverages. Soft drinks aerated water (ingredients and side effects).

UNIT IV: COSMETIC AND OTHER MATERIALS **12**

Cosmetics – Face powder – constituents, uses, side effects. Nail polish, hair dye – composition and side effects. **Tooth powder** – composition and manufacture. **Lotions** - Preparation of phenyl, liquid blue and incense sticks. **Cleaning agents**: Soaps- types and cleaning action – detergents – types – merits and demerits of soap and detergents –chemical definitions of shampoo, washing powder and bleaching powder.

UNIT V: MATERIAL CHEMISTRY **12**

Polymers: Explanations, uses and examples for thermo setting and thermo plastic polymers – Vulcanization of rubber. **Fibers**: Natural fibers (cellulosic and protenious) –Semi synthetic (Rayon) Synthetic fibers (Poly ester, Nylon and Acrylic) –Pretreatment of fibers (Sizing, Desizing, Bleaching). **Dyes** and Dyeing process: Difference

between dye and pigment -Witt's colour theory,classification of dyes based on application (Direct, Vat, Acid, Reactive, Mordant and Disperse)

TEXT BOOKS:

1. K. Kumarasamy, A. Alagappa Moses and M. Vasanthy, "Environmental studies", Bharathidasan University, Thiruchirappalli.
2. Alex Ramani, "Food Chemistry", MJP publishers (2009), Chennai.
3. Jayashree Gosh, "Text book of Pharmaceutical Chemistry" New Delhi, S. Chand & Company Ltd.,(2003).
4. K. Bagavathi Sundari , "Applied Chemistry" MJP Publishers, (2006) Chennai.

REFERENCES BOOKS:

1. A Thankamma Jacob (1979), A Text Book of Applied Chemistry, 1st edition, Mc Millan India Ltd.
2. Hesse P.R, A text book of soil chemical analysis John Murray, New York, 1971.
3. Buchel K.H, Chemistry of Pesticides, John Wiley & Sons New York 1983.
4. Owen R Fennema, Food Chemistry, Marcel Decker Inc., New York. 1996.

Course Coordinator **HOD**

U18MCCH6L1	**CORE - 19 - MAJOR PRACTICAL - VI**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	6	0	0	3
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. G. Gurumoorthy / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)	
CO1	Remember the knowledge about the need of chemistry practical and its toxicity
CO2	Understand about the uses of experiments in our day today life
CO3	Understand the importanceof chemical played on important role
CO4	Apply the detail about practical importance to be aware of the concepts from the basis.
CO5	Apply the importance of handling and precision of experimental skills

CO6	Analyze the real time applications of Chemistry in day today life.										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L						L	H	
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

GRAVIMETRIC ANALYSIS:

1. Estimation of Lead as lead chromate.
2. Estimation of Barium as barium chromate.
3. Estimation of Nickel as Nickel -DMG complex.
4. Estimation of Copper as copper (I) thiocyanate
5. Estimation of Magnesium as magnesiumoxinate
6. Estimation of Barium as barium sulphate.
7. Estimation of Iron as Iron (III) oxide.

PREPARATION OF ORGANIC COMPOUNDS (SINGLE STAGE)

1. Para-bromo actenalide from acetanilide (bromination)
2. Para-nitroactenalide from acetanilide (nitration)
3. 2,4,6-tribromo aniline from aniline (bromination)
4. Benzophenone oxime from benzophenone (addition)O-
5. Chlorobenzoic acid from anthranilic acid (Sandmayer reaction)
6. Salicyclic acid from methylsalicylate (Hydrolysis)

TEXT BOOKS:

1. Vogel, A.I. A Textbook of Quantitative Inorganic Analysis, ELBS. 1978
2. Ahluwalia, V.K. & Aggarwal, R. Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis, University Press (2000).
3. Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co.: New Delhi (2011).
4. Garland, C. W.; Nibler, J. W. & Shoemaker, D. P. Experiments in Physical Chemistry 8th Ed.; McGraw-Hill: New York (2003).
5. Sundaram, Krishnan, Raghavan, Practical Chemistry (Part II), S. Viswanathan Co. Pvt.,1996.
6. N.S. Ganapragasam and G. Ramamurthy, Organic Chemistry – Lab manual, S.Viswanathan Co. Pvt., 1998

REFERENCE BOOKS:

1. Halpern, A. M. & McBane, G. C. Experimental Physical Chemistry 3rd Ed.; W.H. Freeman & Co.: New York (2003).
2. Mann, F.G. & Saunders, B.C. Practical Organic Chemistry, Pearson Education (2009)
3. Furniss, B.S.; Hannaford, A.J.; Smith, P.W.G.; Tatchell, A.R. Practical Organic Chemistry, 5th Ed., Pearson (2012)
4. Ahluwalia, V.K. & Dhingra, S. Comprehensive Practical Organic Chemistry: Qualitative Analysis, University Press (2000).
5. Vogel's Text Book of Quantitative Chemical Analysis. 5th Edi., ELBS/Longman England, 1989.

Course Coordinator **HOD**

U18MECH004	**ELECTIVE – 2 - KINETIC & SPECTROSCOPIC METHODS IN CHEMISTRY**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. T. Ezhilarasu / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)

CO1	Remember the knowledge about the introduction of chemical kinetics
CO2	Understand about the theoretical concepts of catalyst
CO3	Understand the properties and uses of molecular spectroscopy
CO4	Apply the detail about the spectral techniques
CO5	Apply the importance of photochemistry

CO6	Analyze the real time applications of Chemistry in day today life.										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
						√					
4	Approval		Academic Council Meeting								

UNIT I: CHEMICAL KINETICS **12**

Concept of rate of reactions – factors influencing rate of reaction – Rate law, rate constant, order and molecularity of reactions – differential and integral forms of rate equations for zero, first and second order reactions – third and fractional order reactions (no derivation) – half life period – pseudo first order reactions - Methods for the determination of order of reactions – integration method, differentiation method, graphical method, half–life method, and Oswald's isolation method - Experimental methods involved in the following kinetics of reactions: titrimetry, monometry, polarimetry, dilatometry and spectrophotometric techniques with examples

UNIT II - CATALYSIS **12**

Acid–base catalysis – types and mechanisms – primary salt effect in ionic reactions - Enzyme catalysis – Characteristics of enzymes – factors affecting enzyme catalysis – derivation of Michaelis-Menton equation - Surface Chemistry – mechanism of catalytic action – unstable intermediate compound formation theory – adsorption or contact theory. Catalytic promoters and poisons - Adsorption isotherms – derivation of Freundlich and Langmuir adsorption isotherms – use of B.E.T. isotherm in surface area determination (derivation not required).

UNIT III - MOLECULAR SPECTROSCOPY I **12**

Various types of spectra and the energy changes - Microwave spectroscopy – theory of rotational spectra of diatomic molecules – Stark effect – symmetric top molecules and asymmetric top molecules – isotopic effect – applications. calculation of bond length – its limitations - Infrared spectroscopy – theory of vibration-rotation spectra – types of vibration – force constant - Raman spectroscopy – Raman effect – theory – pure rotational Raman spectra – vibrational Raman spectra – comparison of IR and Raman spectra – structural determinations of simple molecules.

UNIT IV - MOLECULAR SPECTROSCOPY II **12**

UV and Visible spectroscopy – Vibrational Coarse structure – Frank Condon Principle – The Fortrat diagram – Pre-dissociation - NMR spectroscopy – basic principles – chemical shift and spin-spin coupling – coupling constant – chemical shift reagents. ESR spectroscopy – basic principles – hyperfine splitting - Mass spectrometry – basic principles of mass spectrum – molecular peak, base peak, metastable peak – fragmentation – nitrogen rule – determination of molecular formulae with examples – identification of alcohols, aldehydes, aromatic hydrocarbons.

UNIT V – PHOTOCHEMISTRY **12**

Classification of photochemical reactions – Jablonski diagram – Characteristics of photochemical reactions – comparison with thermochemical reactions – Laws of photochemistry – quantum yield – examples of reactions of simple and high quantum yield – primary and secondary processes photochemical chain reactions hydrogen–

chlorine reaction –Photosensitization – chemiluminescence – photosynthesis – photodimerisation of anthracene. Fluorescence and phosphorescence – quenching of fluorescence and Stern–Volmer equation - Interaction of high–energy radiation with matter – radiolysis of water – hydrated electron.

TEXT BOOKS:

1. Physical and Theoretical Chemistry, C.D.George, P.M.Thomas and C.D.Joseph (1966).
2. Text Book of Physical Chemistry, P.L.Soni, O.P.Dharmara, U.N. Dash, Sultan Chand & Sons, New Delhi.
3. Principles of Physical Chemistry, B.R.Puri, L.R.Sharma, M.S.Pathania, Shoban Lal Nagin Chand & Co. New Delhi.
4. Physical Chemistry, P.W.Atkins, J.D.Paula, Oxford University Press, Oxford.

REFERENCES BOOKS:

1. Physical Chemistry 3/e, G.W.Castellan, Narosa Publishing House, New Delhi.
2. Physical Chemistry 5/e, Ira N. Levine, Tata McGraw-Hill Publishing Co Ltd, New Delhi.
3. Chemical Kinetics 3/e, K.J.Laidler, Harper & Row, Publishers, New York.
4. K.J.Laidler, Chemical Kinetics, Tata-McGraw Hill

Course Coordinator **HOD**

U18MECH005	**ELECTIVE – 2 – INDUSTRIAL CHEMISTRY**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr P. Paulraj / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)	
CO1	Remember the knowledge about the generation of energy from various types of fuels
CO2	Understand about the chemicals in improvement of agricultural crops
CO3	Understand about the methods employed for purification of water for industry and home
CO4	Apply the detail about the Pollution occurring from various sources and resulting toxic effects
CO5	Apply the importance of concepts involved in the pollutant technology
CO6	Analyze the real time applications of Chemistry in day today life.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L				M		H		
	CO2	H	L				H				
	CO3	H	L				H				
	CO4	H	L				M				
	CO5	H	L				M				
	CO6	H	L				H				
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
						√					
4	Approval		Academic Council Meeting								

UNIT-1: INDUSTRIAL FUELS **12**

Energy: Sources: non-renewable, classification of fuels: solid, liquid and gaseous. Calorific value of fuels and its determination - **Solid fuels:** Coal: types – properties and uses – lignite, sub-bituminous coal, bituminous coal and anthracite. Coking and non-coking coal - **Liquid fuels:** Refining of crude petroleum and uses of fractions. Hydrodesulphurisation. Cracking:
thermal and catalytic (fixed bed and fluidised bed cataylsis). Octane number. Production
and uses of tetraethyl lead, ETBE and MTBE - **Gaseous fuels:** Natural gas and gobar gas: production, composition and uses., Gobar electric cell.

UNIT-2: CHEMISTRY AND AGRICULTURE **12**

Fertilizers: NPK, representation,superphosphate, triple superphosphate, uses of mixed fertilizers - Micronutrients and their role, biofertilizers, plant growth harmones – **Pesticides:**
Classification of pesticides with examples - Insectides; stomach poisons, contact insecticides, fumigants. Manufacture and uses of insecticides. DDT, BHC (gammaxane: Conformation of gamma isomer) pyrethrin - Mention of aldrin, dieldrin,endrin and pentachlorophenel (and its Na salts) and Biopesticides - Herbicides: Manufacture of 2,4-D and 2,4,5-T - Fungicides: Preparation of Bordeaux mixture. Mention of lime-sulphur, creosote oil and formula - **Sugar industry:** Double sulphitation process. Refining and grading of sugar. Saccharin: synthesis and use as a sugar substitute - aspartame. Ethanol: manufacture from molasses by fermentation.

UNIT-3: WATER TREATMENT **12**

Introduction: Sources of water. Hardness of water-temporary or carbonate hardness, permanent hardness or non-carbonate hardness. Units of hardness, disadvantages of hard water – In domestic, in industry and in steam generation in boilers. Effect of iron and manganese in water - Estimation of hardness – EDTA method – Estimation of total hardness – O. Hehner's method or alkali titration method - **Water softening methods:** Industrial purpose Lime – soda process, Zeolite process; Ion-exchange - Demineralisation – deionization process. Mixed – bed deionization - Domestic purpose - Removal of suspended impurities. Removal of microorganism – Chlorination – Break point chlorination. Reverse osmosis. Desalination - Waste water treatment

UNIT-4: POLLUTION AND CHEMICAL TOXICOLOGY **12**

Pollution: Air pollution - Acid rain. Green house effect (global warming), ozone layer depletion - photochemical oxidants. Control of air pollution. Water pollution – organic pollutants, Chemical oxygen demand (COD), Biological oxygen demand (BOD), total organic carbon. International standards for water and air quality and regulations - **Chemical toxicology:** Effect of toxic chemicals on enzymes. Lead, mercury and cyanide pollution

and their biochemical effects. Carbon monoxide, sulfur dioxide, oxides of nitrogen, ozone – biochemical effects - **Quality control:** ISI specification. Patent: Purpose and procedures.

UNIT-5: SEMINAR TOPICS **12**

Glass, Cement, Dyes, Paints, Special paints, Lubricants and greases, Refractories, Abrasives, Plastics, Perfumes and flavoring industries, Fermentation industries, Explosives, Pulp and paper industries, Rubber industries, Pharmaceutical industries, Food and food products industries, Photographic product industries, Ceramic industries, Petrochemicals.

TEXT BOOKS:

1. Norris Shreve, R. and Joseph a. Brink, Jr. Chemical Process Industries, 4th Ed.;Mc Graw Hill Kogakusha, Ltd: 1977.
2. George t. Austin. Shreve's Chemical Process Industries, 5th Ed.; Mc Graw Hill: 1984.
3. Subba rao, n. S. Biofertilizers in Agriculture; Oxford and IBH Publishing Co.: New Delhi, 1982.

REFERENCE BOOKS:

1. Kamaraj, p.; Jeyalakshmi, R. And Narayanan, V. Chemistry in Engineering and Technology; Sudhandhira Publications: Chennai, 2001.
2. Kuriakose, j. C. And rajaram, j. Chemistry in Engineering and Technology. Vol 2.; Tata Mc Graw Hill: New Delhi, 1988.
3. Jain, P. C. And Jain, M. Engineering Chemistry, 10th Ed.; Dhanpat Rai And Sons:Delhi, 1993

Course Coordinator **HOD**

U18MECH006	**ELECTIVE – 2 – FOOD CHEMISTRY AND TECHNOLOGY**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	4	0	0	4
	Prerequisite course – Chemistry / Physics / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:- Dr G. Padmapriya / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the chemistry from the basic and understood all theoretical background with all concepts understands thoroughly.

COURSE OUTCOMES (COs)	
CO1	Remember the knowledge about the Introduction of Food Chemistry
CO2	Understand about the chemicals in constituents of food
CO3	Understand about the methods employed for introduction of food additives
CO4	Apply the detail about the Nutrition and Balanced Diet
CO5	Apply the importance of concepts Food Adulteration And Hygiene

CO6	Analyze the real time applications of Chemistry in day today life.										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L				M		H		
	CO2	H	L				M				
	CO3	H	L				M				
	CO4	H	L				H				
	CO5	H	L				M				
	CO6	H	L				M				
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
						√					
4	Approval		Academic Council Meeting								

UNIT I: INTRODUCTION **12**

Food: source, functions of food – food groups – food guide – basic five food groups, usage of the food guide – food in relation to health – objectives of cooking - **Water:** Purification processes – Ion exchangers, reverse osmosis, activated charcoal treatment. Use of chlorination, ozone, and UV light disinfection. Specification of drinking water. Water borne diseases – microbiological examination. Sources and detection - **Milk**: Composition and effectiveness as a diet. Fat content in milk, whole and skimmed - Effect of cooking and heat processing of milk – pasteurization. Preservation of milk - Deep freeze preservation, dairy products – cheese, butter, ghee and kova. Spray drying technique – milk powder, infant food preparation. Lactose intolerance Milk substitutes – vegetable milk. Toned milk.

UNIT 2: CONSTITUENTS OF FOODS **12**

Proteins: amino acids – peptides – proteins, modification of food products through heat processing .Effect of cooking – steaming or cooking under pressure of legumes - Enzymes: Nomenclature, classification – Apo, holo and coenzymes. Enzymes used in food processing - **Carbohydrates:** Classification, structure and reactions of monosaccharides, glucose, fructose, structure of sucrose, maltose, lactose and starch.Artificial sweetening agents.

UNIT 3: FOODS AND FOOD ADDITIVES: **12**

Food additives: Artificial sweeteners – saccharin, cyclomate, asparatame – food flavours – esters, aldehydes and heterocyclic compounds. Antioxidants. Food colours – changes in cooking..Restricted use. Spurious colours. Emulsifying agents, preservatives – leavening agents.Baking powder –Yeast. Taste enhancers – MSG-vinegar - **Modern food**: Mushroom cultivation and types, spirulina composition. Snack foods - Production of bread, bun and biscuits. Raw materials, methods and machinery required - Candy manufacturing. Caramellisation. Fast foods. Instant foods. Dehydrated foods - Oleoresin of spices. Condiments.

UNIT 4: NUTRITION AND BALANCED DIET **12**

Nutrition – calorific value of food stuff – RQ of food (Respiratory quotient of food) – basal metabolic rate – factors influencing BMR, specific dynamic action (SDA) of food - **Thermogenic effect** – energy requirements of individuals – diet and its components – theprotein requirements – biological value of proteins, supplementary value of proteins. Diseases associated with protein malnutrition - Nutritional value of carbohydrates. – Fibers in the diet, dietary sugars – nutritional aspects of lipids.

UNIT I: FOOD ADULTERATION AND HYGIENE **12**

Adulterants: Common adulterants in different foods – milk and milk products, vegetableoils, and fats, spices and condiments, cereals, pulses, sweetening agents and beverages. Contamination with toxic chemicals – pesticides and insecticides. Principles involved in the analysis of detection and prevention of food adulteration - **Microbial growth:** growth curve of bacteria. Effect of environmental factors on growth of microorganisms. pH, water activity, oxygen availability temperature – beneficial effect of micro organisms Food borne illness – bacteria,

virus, moulds and parasites. (Any two illness each) - **Food preservation and processing :** Food deterioration, methods of preservation and processing - **Quality control:** Specifications and standards: PFA, FPO, FDA, drug license, WHO standards, ISI specifications**,** packing and label requirements, essential commodities act, consumer protection act. AGMARK.

TEXT BOOKS:

1. Swaminathan M. Advanced Text Book on Food and Nutrition , Volume I and II Printing and Publishing Co., Ltd., Bangalore. 1993.
2. Swaminathan m. Text book on Food Chemistry, Printing and Publishing Co., Ltd., Bangalore. 1993.
3. Norman N. Potter , Food Science, CBS Publishers And Distributors, New Delhi. 1994.

REFERENCE BOOKS:

1. Owen R Fennema, Food Chemistry, Marcel Decker Inc., New York. 1996.
2. Srilakshmi B., Food Science, New Age International Pvt. Ltd. Publishers, III Ed. 2003.

Course Coordinator **HOD**

U18ECCH6P1	**PROJECT (DISSERTATION AND VIVA-VOCE)**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	0	0	20	10
	Prerequisite course – Chemistry				
	Course Coordinator Name & Department: Dr. G. Padmapriya/Chemistry				

COURSE OBJECTIVES:-

To facilitate the students to understand the current scenario in science and technology and to present the research report on their findings as per the acceptable format.

COURSE OUTCOMES (COs)	
CO1	Remember the concept and objectives, nature, types and methods of project.
CO2	Understand the process and steps involved in preparation of project work, research gap
CO3	Understand the research design, and methodology , sampling techniques & sampling design
CO4	Apply the statistical tools in the project for data analysis
CO5	Create the major findings, suggestions and conclusion
CO6	Analyze the model for project report.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						L	M	H
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

PROJECT (DISSERTATION AND VIVA-VOCE) 10

The project topics are to be finalized to the students at the end of the second semester with a time schedule to carryout various stages of work. During the semester vocation, the data Collection may be commenced. The theme selected by each student for the Dissertation should be related to various methodologies and techniques pertaining to Science and technology.. Each candidate should submit three copies of dissertation as per the guidelines to the department concerned.

Marks

Dissertation	**150**
Viva- Voce Examination	**50**

Course Coordinator **HOD**

U18SEBC001	**BUSINESS PROCESS OUTSOURCING-MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours– 30	2	0	0	2
U18MCBC204	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name& Department:-Ms. J.Saranya/Commerce & Economics				

COURSE OBJECTIVES:-

- To familiarize the students with the basic fundamentals of BPO.
- To impart knowledge on type of BPO and call centers .
- To enable the students on the concept Healthcare BPO & Transaction BPO.
- To peep into the concept of Human Resource BPO and the career opportunities in BPO.

COURSE OUTCOMES(COs)

CO1	Describe the basic fundamentals of BPO.
CO2	Discuss and develop the awareness about Types of BPOs and Call Centers
CO3	Identify the concept of Health care BPOs
CO4	Examine the concept of Transaction BPOs
CO5	Develop the confidence in Human Resource BPO and career opportunities in BPOs
CO6	Formulate the Types of Transaction Processing BPO in India

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H							H		
	CO2				H						
	CO3			H							
	CO4		M								
	CO5	M									
	CO6		H								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT-I **6**

Business Process Outsourcing– Basics – Benefits of BPO– BPO companies in India.

UNIT-II **6**

BPO Industry – Employment Opportunities– types of BPO – Call centers– Types of Call Centers– Issues and Problems.

UNIT-III **6**

Health Care-BPO - Structure of foreign Health Care sector– Future Trends and Threats.

UNIT-IV **6**

Transaction Processing BPO– Elements of Back Office services– Types of Transaction Processing BPO in India.

UNIT-V **6**

Human Resource BPO-Reasons for outsourcing HR– Activities involved in HR BPO– HR Outsourcing Trends– Carrier in HR BPO.

Text Books:

1. John K. Holvey, Borboro Murphy Melby, Business Process Outsourcing–Wiley Publisher-2007

2. Sarika Kulkarni –Business Process Outsourcing–Jai co Publishing house – 2005

3. .RickL.Click, Thomas N.Duening,Business Process Outsourcing–John Willey & sons,Publisher 2004

Reference Books:

1. Deepak Shikapur – BPO DIGEST– Ameya (Inspiring books) – 2004.

2. Clifton – System analysis for business data processing– Prentice hall Publications.

3. Anandkumar, V. & Biswas, S., 2008. Business Process Outsourcing, Sage Publications Pvt. Ltd

Course Coordinator **HOD**

U18SEBC002	**CUSTOMER RELATIONSHIP MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
U18MCBC204	Course Coordinator Name& Department:-Ms. R.Priya/Commerce & Economics				

COURSE OBJECTIVES:-

- To familiarize the students with the basic fundamentals of CRM.
- To impart knowledge about process and importance of CRM.

COURSE OUTCOMES(COs)	
CO1	Recognize the Familiarize with the basic fundamentals of CRM.
CO2	Demonstrate the Can develop awareness about process and importance of customer
CO3	Practice to be aware of the concept of technological applications in CRM.
CO4	Correlate respond to the concept of CRM software solutions forB2C and B2B markets
CO5	Validate the Develop confidence on trends and challenges

CO6	Design the Customer Data base and Information Systems										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3											
1	COs/Pos	PO1	PO2	PO	PO4	PO5	PO6	PO7	PS O1	PS O2	PSO3
2	CO1	H		H					H		
	CO2	H									
	CO3	H		H							
	CO4		H								
	CO5	H		H							
	CO6		H		M						

3	Category	Humanities &Social Studies (HS)	Basic Sciences	Engg Sciences (ES)	Professional	Core Elective	Non-Major Elective(NE)	Open Elective		Project/Term Paper/ Seminar/ Internship(PR)
									✔	
4	Approval	Academic Council Meeting								

UNIT–I **6**

Customer Relationship Management Introduction - Meaning and Definition - Importance – Benefits and difficulties of CRM.

UNIT–II **6**

CRM Process and Implementation Introduction-customer Retention- Customer satisfaction-Importance of customer retention-CRM processor B2B markets

UNIT–III **6**

Technological Support in CRM Introduction-Types of Technological Applications in CRM.

UNIT–IV **6**

Customer Databases and Information Systems –CRM Software Solutions for B2C and B2B Markets .

UNIT–V **6**

E-CRM – Emerging Trend in CRM Introduction - Challenges involved in formulating and implementing-CRM strategies.

TEXT BOOKS:

1. Balasubramaniyan.K , Essence of customers relationship management, learn tech press
2. Jagdish N Sheth, Atul Parvatiyar, G Shainesh –customers relationship management-McGraw Hill Publisher, 2000
3. Roger. J Baranand Robert J. Galka-customers relationship management ,Routledge publisher 2013

REFERENCE BOOKS:

1. M.Peeru mohamed, customer relationship management, Vikas publications
2. Kaushik mukerjee, customer relationship management PHI
3. customer relationship management G Shainesh &.Jagdish N Sheth

Course Coordinator **HOD**

U18SEBC003	ENTREPRENEURIAL DEVELOPMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Commerce / Mathematics Studied in Higher Secondary Studies.				
	Course Coordinator Name & Department :-Mr.G.Santhoshkumar / Commerce				

COURSE OBJECTIVE: -

- To familiarize the students with the basic fundamentals of Entrepreneurship.
- To impart knowledge on Project identification, selection and formulation.
- To enable the students on the concept of types of organization.
- To peep into the concept of commercial banks.
- To enable the students on the concept of women entrepreneurs

COURSE OUTCOMES (COs)

CO1	Underline the Characteristics Of Entrepreneur – Entrepreneur and Intrapreneur
CO2	Explain the Identification – Selection of the Project
CO3	Apply Selection of Types of Organization – Sole Proprietorship- Partnership Joint Stock Company
CO4	Appraise to Institutional finance to entrepreneurs
CO5	Estimate the Factors Influencing The Choice Of Organization
CO6	Develop the Role and Problems of Women Entrepreneurs

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	-	-	-	-	-	-			H
	CO2	-	H	-	-	-	M	H			
	CO3	-	H	-	-	-	M	M			
	CO4	M	-	-	-	-	M	M			
	CO5	-	-	-	-	-	-	-			
	CO6	-	-	H	-	-	-	-			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT-I **6**

Meaning Of Entrepreneur – Entrepreneur and Intrapreneur – Qualities Of Entrepreneur – Characteristics Of Entrepreneur – Types Of Entrepreneur – Function Of An Entrepreneur

UNIT-II **6**

Project Identification – Selection of the Project – Project Formulation –Preparation Of Project Report.

UNIT-III **6**

Selection of Types Of Organization – Sole Proprietorship- Partnership Joint Stock Company – Factors Influencing The Choice Of Organization.

UNIT – IV **6**

Institutional finance to entrepreneurs - commercial banks –IDBI, IFCI, ICICI, IRBI, SFC, DICs, SIDC, SIDBI And EXIM Bank

UNIT – V **6**

Women Entrepreneurs – Role – Problems of Women Entrepreneurs – Suggestions For Development Of Women Entrepreneurs

TEXT BOOKS:

1. C.B. Gupta, Entrepreneurship Development in India – Sultan Chand
2. S.S. Khanka, Entrepreneurship Development, S. Chand & Co., New Delhi.
3. Gupta C. B and Srinivasan N. P Entrepreneurship Development, Sultan Chand & Sons, New Delhi

REFERENCE BOOKS:

1. P. Sarvanavel, E Entrepreneurship Development, Ess Pee Kay Publishing House
2. Jaswer Singh Saini, Entrepreneurship Development, Deep and Deep Publication, New Delhi
3. Jayashree Suresh, Entrepreneurship Development- Margham Publication, Chennai

Course Coordinator **HOD**

	HUMAN RESOURCE MANAGEMENT	L	T	P	C
U18SEBC004	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
U18MCBC204	Course Coordinator Name & Department: -Ms. R.Velanganni/Commerce & Economics				

COURSE OBJECTIVES: -

- To learn the importance of HR.
- To impart knowledge and important factors in HR.

COURSE OUTCOMES(COs)

CO1	Identify the Importance of Human Resource and objectives.
CO2	Describe the Human Resource Planning
CO3	Practice to Sources of Recruitment-Selection– Steps in Selection
CO4	Analyze Needs of training– Methods of Training
CO5	Evaluate the Process and Methods of Performance Appraisal
CO6	Formulate the Qualities of Personnel Manager

Mapping of Course Outcomes with Program outcomes (POs)(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO 3	PO4	PO5	PO6	PO7	PSO 1	PSO 2	PSO 3
2	CO1	H	M	-	-	-	-	-	H		
	CO2	M	H	-	-	-	-	-			
	CO3	H	M	-	-	-	-	-			
	CO4	H	M	-	-	-	-	-			
	CO5	H	M	-	-	M	-	-			
	CO6	H	M	-	-	-	-	-			

3	Category	Humanities &Social Studies (HS)	Basic Sciences (BS)	Engg Sciences	Professional	Core Elective (CE)	Non-Major	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT-I **6**

Definition – Importance of Human Resource– Objectives– Qualities of Personnel Manager.

UNIT-II **6**

Human Resource Planning– Importance factors– Steps in HR Planning.

UNIT-III **6**

Recruitment– Objectives– Sources of Recruitment-Selection – Steps in Selection.

UNIT-IV **6**

Training – Definition– Needs of training – Methods of Training– On thejob training– Off the job Training.

UNIT-V **6**

PerformanceAppraisal-Objectives – Process– Methods of PerformanceAppraisal.

TEXT BOOKS:

1. L.M. Prasad– Human ResourceManagement– S. Chand &Sons– 2013.
2. C.B. Mamoria, S.V. Gankar– Personnel Management – Himalaya Pub.– 2012.
3. A.M. Sharma, Human ResourceManagement, HimalayaPublishing House, 2005

REFERENCE BOOKS

1. S.S. Khanka–Human ResourceManagement– S. Chand Ltd.– 2007
2. Gary Dessler–Human ResourceManagement– PrenticeHall– 8th Edition –2000.
3. A Handbook of Human Resource Management Practice,2012.

Course Coordinator **HOD**

U18SEBC005 & U18MCBC204	MARKETING MANAGEMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- G.Santhosh kumar/ Commerce & Economics				

COURSE OBJECTIVES :-

- To understand the fundamentals of marketing and its role.
- To examine the factorsi nfluencing buying behavior.
- To enable the students to promote advertising and its sales scope

COURSE OUTCOMES (COs)

CO1	State the Fundamentals of Marketing– Role of Marketing.
CO2	Describe the Factors influencing buying behavior
CO3	Interpret the Marketing segmentation– Needs-Types of segmentation
CO4	Compare to New product development process– Product life cycle
CO5	Revise the Awareness of consumer rights in the market place
CO6	Collect the Advertising– Scope of Advertising

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1		H						H		
	CO2	M	H	M							
	CO3	H			M						
	CO4					M					
	CO5	H		M							
	CO6		H			M					

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval		Academic Council Meeting

UNIT-I **6**

Marketing-Definition– Fundamentals of Marketing– Role ofMarketing–Relationship of marketing with other functional areas–Marketing Mix

UNIT– II **6**

Buyer Behaviour – Buying motives– Factors influencingbuying behavior-Marketing segmentation– Needs-Types of segmentation

UNIT-III **6**

TheProduct– Characteristics– Benefits– Classifications– New product development process– Product life cycle – Branding– Packaging

UNIT-IV **6**

Physical Distribution-Importance-Various kinds of Marketing Channels– Distribution Problems-Awareness of consumer rights in themarket place.

UNIT-V **6**

Advertising – Scopeof Advertising – Personal selling– Direct selling and Sales Promotions.

TEXT BOOKS:

1. BerkovizKerinHontley Rudelivs, MARKETING, New York, Mcgraw Hill Publications.
2. Gony Armstrong, Philip Kotler, Marketing anIntroduction, Pearson Education Asia.
3. Philip Kotler, Marketing Management (Millennium ed.,)NewDelhi, PrenticeHallofIndia(P) Ltd.

ReferenceBooks:

1. Rajan Saxena, MarketingManagement, 2nd edition, New Delhi, Tata McgrawHillPublishing Co.Ltd.
2. V.S. Ramasamy and S. Namakumari, Marketing Management, Planning,Implementation & control, New Delhi, Macmillan
3. Chisnall, P.M. (1997) Marketing Research, Fifth Edition, London: McGraw-Hill.

Course Coordinator **HOD**

U18SEBC006	**OFFICE MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
U18MCBC204	Course Coordinator Name& Department:-Dr. M.Sankar /Commerce & Economics				

COURSE OBJECTIVES:-

- To peep into the concept, importance of office management.
- To impart knowledge on features and classification of Communication.
- To expose handling correspondence and market registers

COURSE OUTCOMES(COs)

CO1	Record the Concept and Importance of Office and Office Management.
CO2	Report the Arrangement and adjustment : Furniture, allotment of seats
CO3	Apply to Handling of correspondence and market registers
CO4	Experiment the preparation and play of manuals and charts
CO5	Select the Office staff –Selection-training-Supervision
CO6	Summarise Office Accommodation and Environment

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H							H		
	CO2				H						
	CO3		H								
	CO4		M								
	CO5			H							
	CO6						H				

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval	Academic Council Meeting

UNIT I **6**

Introduction – Concept and Importance of Office and Office Management-Office Accommodation and Environment-Reception: Importance, shape and size, control

UNIT II **6**

Communication: Feature, classification, barriers -Arrangement and adjustment: Furniture, allotment of seats, chambers, cabins rooms etc .

UNIT III **6**

Handling of correspondence and market registers, filling forms and stationery-Office Machines - Kind of office machines.

UNIT IV **6**

Use of machines, installing, handling, maintenance–Manuals and charts-Advantages of office manuals charts - preparation and play of manuals and charts.

UNITV **6**

Office staff– Selection-training -Supervision-span of supervision

TEXT BOOK:

1. Ghosh & Agarwal, Office Management, S.Chand &Company– New Delhi
2. R.S.N. Pillai, Bagavathi, Office Management, S.Chand &Company – New Delhi,2013
3. Dr.R.K. Chopra, Priyanka Gauri Office Management, Himalaya Publishing House, 2017

REFERENCE BOOKS:

1. G.S. Sudha, General Management, Pustak Prakashan,New Delhi
2. Rajendra paul ,Modern Communication &Techniques, S.Chand &Company–New Delhi
3. v. Balachandran, Office Management, Tata Mcgraw-hill education,2009

Course Coordinator **HOD**

U18SEBC007	RETAIL MARKETING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. J. Saranya, Commerce				

COURSE OBJECTIVES:-

- To familiarize the functions and types of Retailing.
- To impart knowledge on Retail consumer behavior and its types.
- To expose the student on promoting sales, public relation and advertising.

COURSE OUTCOMES (COs)

CO1	Recall the Characteristics - Functions of retailing - Types of Retailing
CO2	Express the - Retail Consumer buying behavior and types
CO3	Schedule the Retail Organization Structure
CO4	Categorize to Factors affecting store lay out
CO5	Assess the Sales promotion - Advertising
CO6	Point out the Retail Marketing Mix

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	H						H		
	CO2		H	H		M					
	CO3	H					M				
	CO4		H								
	CO5	H	H	M							
	CO6	H	M					M			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT-I **6**

Retailing – Definition – Importance – Characteristics - Functions of retailing - Types of Retailing

UNIT-II **6**

Retail Marketing Mix - Retail Consumer buying behavior and types – Segmentation - Types of segmentation

UNIT-III **6**

Retail Organization Structure-Major Functional Areas-Careers in Retailing

UNIT-IV **6**

Store layout-Types of lay out-Factors affecting store lay out

UNIT-V **6**

Sales promotion - Advertising - Public Relation - Personal selling

TEXT BOOKS:

1) George E.Belch and Michael A.Belch, Advertsing and Promotion, McGraw Hill Company
2) Ronald, Karen Whitehill king,and J.Thomas Russell, Kleppner's Advertising Procedure, Pearson Education International, Prentice Hall
3) A. Siva Kumar, Retail Marketing, Anurag Jain for Excel Books, 2007.

REFERENCE BOOKS:

1) Malcolm Sullivan, Denn's Adcock, Retail Marketing, S.Chand Publishers, 2002.
2) Gupta, Advertising and Sales Promotion, EPH Publisher
3) Sarangi, Advertising and Sales Promotion, Asian Books

Course Coordinator **HOD**

U18SEBC008	SALESMANSHIP AND ADVERTISING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
U18MCBC204	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. S.Binapani/ Commerce & Economics				

COURSE OBJECTIVES:-

- To understand the importance, role, objective of advertising.
- To impart knowledge on importance of salesmanship

To analyze the types of advertising and its benefits

COURSE OUTCOMES (COs)	
CO1	Define the objectives of Advertising.
CO2	Classify the types of Advertising-Commercial and Non-Commercial Advertising
CO3	Discover Advertising benefits and criticism
CO4	Explain the importance of salesmanship
CO5	Compute the Qualities and Responsibilities of sales managers
CO6	Examine the types of sales organization - Sales management job

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	H						H		
	CO2	H									
	CO3		M								
	CO4	H		M							
	CO5										
	CO6	H	H								

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	
4	Approval		Academic Council Meeting							

UNIT-I **6**

Definition-Importance-Role of Advertising-Nature-Objectives and Scope of Advertising

UNIT-II **6**

Types of Advertising-Commercial and Non-Commercial Advertising-Primary demand and selective demand advertising

UNIT-III **6**

Advertising-benefits and criticism-Media selection-measuring advertising effectiveness

UNIT-IV **6**

Introduction to the salesmanship-Importance of salesmanship-training and compensating sales men

UNIT-V **6**

Qualities and Responsibilities of sales managers -Types of sales organization - Sales management job

TEXT BOOKS:

1. George E.Belch and Michael A.Belch, Advertsing and Promotion, McGraw Hill Company

2. Ronald, Karen Whitehill king,and J.Thomas Russell, Kleppner's Advertising Procedure, Pearson Education

International, Prentice Hall.

3. P. Saravanavel & S. Sumathi, advertising and salesmanship Margham publications,

REFERENCE BOOKS

1) Sarangi, Advertising and Sales Promotion, Asian Books

2. Gupta, Advertising and Sales Promotion, EPH Publisher.

. 3. A Handbook of Human Resource Management Practice,2012.

Course Coordinator **HOD**

U18SEEN001	**SOFT SKILLS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite – Higher Secondary Level				
	Course coordinator name & Dept: Mrs. B.CAROLINE– English				

COURSE OBJECTIVES:- To effectively complement the already existing Hard Skills so that the combination becomes a winning blend that could project the candidate's true worth in proper perspective.

COURSE OUTCOMES (COs)

CO1	Remember the personal as well as professionals goals of the students
CO2	Understand the manners during professional meetings
CO3	Apply the right reasons of stress
CO4	Analyze the importance of communication skills
CO5	Evaluate the excellence in both personal and professional life
CO6	Create the Growth & development of soft skills
Category	OE

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L								
	CO4	H	L						H		
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Project/Term Paper/ Seminar/ Internship (PR)
								✓	
4	Approval	47th Academic Council Meeting							

UNIT I Soft Skills 6

Introduction to soft skills

Types of soft skills

Developing positive attitude, forming values and self confidence

UNIT II Interpersonal skills 6

Developing interpersonal relationship, team building, table manners, organizing meetings, stress and time management

UNIT- III Communication Skills 6

Types of communication ,Art of listening ,Art of reading ,Art of writing,Art of speaking

UNIT IV Corporate Skills 6

Presentation skills, developing body language, practicing etiquette, and mannerism, dress for success

UNIT V Placement Skills
6

Personal interviews, writing resume/ CV- interviews skills career planning, public speak in motivation skills and personality

Text books

1. S.P.Danavel, English and Communication for Students of Science and Engineering.

2.Murali Krishna Moishra, Communication Skills for Engineers.

Reference

1. Developing the leader within you John C. Maxwell.
2. Meena. K and V. Ayothi (2013) A Book on development of soft skills (soft skills: A road map to success), P.R. publishers & Distributors, no. B-20&21,v.m.m. complex, Chatiram bus stand, tiruchirappalli.-620002

Course Coordinator **HOD**

U18SESC001	COMPUTER APPLICATION	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- N.Mathimagal & BCA				

COURSE OBJECTIVES:-

The learner will have the knowledge about the basic operations of a computer system, computer applications software, input, and output and storage devices.

COURSE OUTCOMES (COs)

CO1	Define the Characteristics, History, Classification, Personal Computers and Applications.
CO2	Demonstrate understanding of the basic operations of a computer system.
CO3	Explain the principles of operations of computer systems used in a particular application, specifically in terms of the systems' hardware and software components.
CO4	Discuss the various types of Processors, Input and Output devices, OS & DOS command.
CO5	Identify the suitable Storage Devices and Software's to solve the problem.
CO6	Use computer applications software to solve problems.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	-								
	CO4	H	L								
	CO5	M	-								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Brief History of Development of Computers, Computer System Concept, Computer System Characteristics, Capabilities and Limitations, Types of Computers-Personal Computer (PCs) - IBM PCs, Types of PCs- Desktop, Laptop, Notebook, Palmtop, etc. Basic

Components of a Computer System - Control Unit, ALU, Input/ Output Unit- Memory, Storage Fundamentals - Primary Vs Secondary memory.

UNIT II **6**

Input Devices: Keyboard, Mouse, Joystick, Scanners, Digital Camera, MICR,OCR, OMR, , Light pen, Touch Screen.

UNIT-III **6**

Output Devices: Monitors - Characteristics and types of monitor, Size, Resolution, Refresh Rate, Dot Pitch, Video Standard - VGA, SVGA, XGA etc. Printers - Daisy wheel, Dot Matrix, Inkjet, Laser. Plotter, Sound Card and Speakers.

UNIT-IV **6**

Various Storage Devices - Magnetic Disks, Hard Disk Drives, Floppy, Disks, Optical Disks

UNIT V **6**

Computer Software, Need, Types of Software - System software, Application software System Software - Operating System, Compiler, Assemblers, Interpreter.

TEXT BOOKS

4. Computers Today by S.K. Basandra- Galgotia Publications,First Edition Oct 1987.
5. Elementary Computer Application by Dr.ReetaKumari , ArchanaKumari ,First Edition Oct 2019.
6. Computer Fundamentalsby PritiSinha, Pradeep K., Sinha,Third Edition, McGraw-Hill 2018.

REFERENCE BOOKS

5. Fundamentals of Information Technology, Aalexis Leon & Mathews Leon- Vikas Publishing House- New Delhi dos Quick Reference by Rajeev Mathur-GalgotiaPublications.
6. Basic Computer Course Made Simple, Satish Jain/Shalini Jain/M.Geetha ,Pearson, Sep2018.
7. Computer Basic , G. Manjunath,Pearson, Sep2019.
8. Computer Basics: For a Literate Living, Bittu KumarMcGraw hill, Sep2018.

Course Coordinator **HOD**

U18SESC002	MULTIMEDIA	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- N.Mathimagal & BCA				

COURSE OBJECTIVES:-

The learner will have the knowledge about the principles of different types of media and able to identify the proper applications of multimedia, how multimedia can be used in various application areas, and evaluate the appropriate multimedia systems and develop effective multimedia applications.

COURSE OUTCOMES (COs)

CO1	Gain knowledge of basic concepts of multimedia
CO2	Analyze the multimedia application problems.
CO3	Discuss the Video capturing, Sound capturing, editing concepts.
CO4	Identify the basic multimedia design principles.
CO5	Demonstrate the multimedia system and Design Process
CO6	Test real time application using a multimedia concept.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO 2	PSO3
2	CO1	H	L						H		
	CO2	M	L								
	CO3	H	-								
	CO4	H	L								
	CO5	M	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Multimedia Fundamentals: Concept of multimedia, Fundamental criteria for the design of a multimedia presentation, Multimedia Application Goals & Objectives, opportunities in multimedia production.

UNIT II
6

Role of multimedia-development of team members, avoiding problems in planning a multimedia application.

UNIT III
6

Multimedia Building Blocks: Text, Graphics, Video capturing, Sound capturing, editing.

UNIT IV
6

Basic design principle: proximity, visual hierarchy, Symmetry, Asymmetry, Repetition, unity, Contrast, dynamics, Emphasis, Multimedia Authoring tools.

UNIT V
6

Design, Development and evaluation of multimedia a system, Development of user interface design, Design Process.

TEXT BOOKS

1. John Villamil, Casanova, Louis Molina, "An introduction tomultimedia".
2. Mohammad Dastbaz, "Designing Interactive MultimediaSystems".
3. "Multimedia: Making it Work" , Tay Vaughan, Ninth Indian Edition.

REFERENCE BOOKS

1. Stephen McGloughlin, "Multimedia on theweb".
2. "Fundamentals of Multimedia", Pearson Education International.
3. "Multimedia: Computing Communications & Applications", Ralf Steinmetz, Pearson Education.
4. Bohdan O. Szuprowicz, "MultimediaNetworking".

Course Coordinator **HOD**

U18SESC003	ADVANCED EXCEL	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Ramya & BCA				

COURSE OBJECTIVES: -

Learners able to understand the basic concept of excel and use various functions in Excel Sheet.

COURSE OUTCOMES (COs)

CO1	Identify the different components of the Excel worksheet
CO2	Construct formulas to manipulate numeric data in an Excel Worksheet
CO3	Change the appearance of an Excel spreadsheet
CO4	Use the functions that are stored in Excel.
CO5	Differentiate between formulas and functions in Excel.
CO6	Access and manipulate data using the database functions of Excel.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	-						H		
	CO2	H	L								
	CO3	M	-								
	CO4	M	-								
	CO5	H	L								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I

6

Uses of Advance Excel Formulas -VLOOKUP, HLOOKUP, SUMIF, SUMIFS, SUMPRODUCT, DSUM, COUNTIF, COUNTIFS, IF, IFERROR, ISERROR, ISNA, ISNUMBER, ISNONTEXT, OR, AND, SEARCH, INDEX, MATCH etc

UNIT II

6

Various Methods and Uses of IF Conditions , Usage of "IF" Conditions? , Creation of Multiple IF Conditions in One Cell , Use the IF Conditions with the Other Advance Functions, How to use nested IF statements in Excel with AND, OR Functions Sorting, Data Forms, Adding Data Using the Data Form, Finding Records Using Criteria

UNIT **6**

Filtering Data, AutoFilter, Totals and Subtotals, Row, Various Methods of Filter and Advance Filter options , Creating and Updating Sub totals , Various Method of Sorting Data ,Creating, Formatting and Modifying Chart.

UNIT IV **6**

Customizing the Quick Access Tool Bar , Managing Windows ,Multiple Windows , Splitting Windows.

UNIT V **6**

Various Methods and Options of Pivot Table, Using the Pivot Table Wizard, Changing the Pivot Table Layout, Subtotal and Grand total Options, Formatting, and Grouping items

TEXT BOOKS:

1. Jordan Goldmeler, “Advanced Excel Essentials” ,APress, 2015 edition.
2. Excel Basics Book by Ian Lamont.
3. Excel for Beginners – M.L. Humphery.

REFERENCE BOOKS:

1. John Walkenbach, “Microsoft Excel 2013 Bible”,Wiley Publications,2013.
2. Excel Formulas and Functions For Dummies Book by Ken Bluttman and Peter G. Aitken.
3. Advanced Excel Essentials Book by Jordan Goldmeier.
4. Excel 2019 Bible Book by John Walkenbach, Michael Alexander, and Richard Kusleika

Course Coordinator **HOD**

U18SESC004	WEB DESIGNING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Ramya & BCA				

COURSE OBJECTIVES: -

To gain knowledge in basic web designing concepts.

COURSE OUTCOMES (COs)

CO1	Define the web basics and server side scripting.
CO2	Execute the HTML coding and linking process.
CO3	Analyze the hyperlinks and special characters.
CO4	Relate the Embedded Style Sheets & Linking External Style Sheets.
CO5	Use the backgrounds and user style sheets.
CO6	Test real time application using web designing concept.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L							H	
	CO2	M	L								
	CO3	H	-								
	CO4	H	-								
	CO5	H	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT 6 **I**

Introduction - The Internet in Industry and Research - Evolution of the Internet and World Wide Web - Web Basics – Client Side Scripting versus Server Side Scripting.

UNIT II **6**

Introduction – First HTML example – Headings – Linking - Images, alt Attribute, Void Elements.

UNIT **6**

Using Images as Hyperlinks-Special Characters and Horizontal Rules – Lists – Tables.

UNIT IV **6**

Introduction - Inline Styles - Embedded Style Sheets - Linking External Style Sheets

UNIT V **6**

Backgrounds - Element Dimensions - Box Model and Text Flow - Drop-Down Menus - User Style Sheets.

TEXT BOOKS

1. Paul Deitel, Harvey Deitel, Abbey Deitel, "Internet & World Wide Web: How To Program", 5th Edition, Pearson Publication, 2012.
2. Jennifer Niederst Robbins, "Learning Web Design", Fourth Edition, O'Reilly Media, 2012.
3. Thomas Michaud, "Foundations of Web Design, Introduction to HTML & CSS", Pearson Publication, 2014.

REFERENCE BOOKS

1. Bayross, "Web Enable Commercial Application Development Using HTML, DHTML, JavaScript, Perl CGI", BPB Publications.
2. T. A Powell, "Complete Reference HTML (Third Edition)", TMH, 2002.
3. HTML & CSS: Design and Build Web Sites Book by Jon Duckett.
4. Learning Web Design Book by Jennifer Niederst Robbins.

Course Coordinator **HOD**

U18SESC005	PHOTOSHOP	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Brindha & BCA				

COURSE OBJECTIVES: -

Learners can apply methods to specific 3D Images and to identify various designs appropriate for Animation.

COURSE OUTCOMES (COs)

CO1	Gain knowledge to Create and save Images in fundamental computer applications
CO2	Define the title bar, menu bar, option bar, image title bar in photo shop program.
CO3	Examine Zooming & Panning an Image while Working with Images.
CO4	Analyze Color manipulations & Working with Toolbox
CO5	Compare the Working with layers.
CO6	Relate real time application using 3D image and Animation.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PS O1	PS O2	PS O3
2	**CO1**	H	-						H		
	CO2	H	L								
	CO3	M	-								
	CO4	H	L								
	CO5	H	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I

6

Introduction to Adobe photoshop, Getting started with photoshop, creating and saving a document in photoshop, page layout and background.

UNIT II

6 Photoshop program window-title bar, menu bar, option bar, image window, image title bar, status bar, ruler, palettes, toolbox, screen modes, saving files, reverting files, closing files.

UNIT III

6

Images: working with images, image size and resolution, image editing, color modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids-Cropping & Straightening an Image, image backgrounds, making selections.

UNIT IV

6

Working with toolbox: working with pen tool, save and load selection-working with erasers-working with text and brushes-Color manipulations: color modes- Levels – Curves - Seeing Color accurately - Patch tool

UNIT V

6

Layers: Working with layers- layer styles- opacity-adjustment layers.

TEXT BOOKS

1. Reema Thareja , "Fundamentals of Computers", Oxford University Press.
2. Photoshop: Beginner's Guide for Photoshop - Digital Photography, Photo Editing, Color
3. Adobe Creative Team, "Adobe Photoshop Classroom in a Book".

REFERENCE BOOKS

1. Adobe Creative Team, "Adobe Photoshop Classroom in a Book".
2. Adobe Photoshop CC For Dummies.
3. Adobe Photoshop CC for Photographers 2018.
4. Photoshop CC Essentials for Photographers.

Course Coordinator **HOD**

U18SESC006	FLASH	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Brindha & BCA				

COURSE OBJECTIVES: -

Learners can identify methods appropriate for Basic Animation and apply methods to design with flash.

COURSE OUTCOMES (COs)

CO1	Define working with flash, drawing with flash using Animation tools and Mixer.
CO2	Classify working with multiple objects, importing color palettes
CO3	Analyze Basic animation and working in the timeline,
CO4	Identify Frames, key frames, deleting, copying and reversing frames
CO5	Organize the Shape tweening and shape hinting in motion
CO6	Apply methods to design with flash

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	M	-								
	CO5	H	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Working with flash, drawing with flash, drawing with the pencil, modifying lines, drawing with the pen, the oval and rectangle tools, free transform tool, envelope modifier, the brush tool, using the mixer.

UNIT II
6

Adding custom colors to color palette, importing color palettes, working with multiple objects, grouping objects.

UNIT III
6

Basic animation and working in the timeline, the timeline, movie properties.

UNIT IV
6

Frames vs. key frames, deleting, copying, and reversing frames, frame-by-frame vector animation, Animation on an image.

UNIT V
6

Shape tweening , shape hinting , Shape tweening text , edit multiple frames , animating gradients, basic motion tweening.

TEXT BOOKS:

1. Nick Vandome ,"FLASH 5 in easy steps", ,Dreamtech press,2001
2. Tattoo Lettering Book Reference Flash Book (Volume 2) Spiral-bound – jan 2001 by Various Artists
3. The Flash Book: How to fall hopelessly in love with your flash, and finally start taking the type of images you bought it for in the first place Kindle Edition by Scott Kelby-2013

REFERENCE BOOKS:

1. E A Vander Veer &Chris Graver, "Flash CS3",Orelly Publications,2009.
2. Nick Vandome ,"FLASH 5 in easy steps", ,Dreamtech press,2010
3. Thiagharajan and Anbumani, "Flash MX 2004", Tata McGraw Hill, NewDelhi.
4. Laurie Ulrich Fuller and Robert C. Fuller, "Photoshop CS3 Bible", Willey India Pvt.Ltd.,2017.
5. V. K. Jain, "Multimedia and Animation Paperback", 1st Edition, 1 January 2019.

Course Coordinator **HOD**

U18SESC007	COMPUTER HARDWARE AND NETWORKING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi / CS				

COURSE OBJECTIVES :-

Learners familiar with the basic concepts of Microprocessor, Controller, Server and to demonstrate the traditional imperative design of CPUs, cards, PCs and BIOS.

COURSE OUTCOMES (COs)

CO1	Define the structure of Micro Processor and PCs and CPUs
CO2	State the structure of PC architecture and the study of various PCs
CO3	Describe the basics of Processor
CO4	Study the CPU, Chips, Processor and Controllers
CO5	Examine the working of Internal Components cards and Higher Level Processor
CO6	Relate the Backups, Switches Routers, BIOS, Floppy Disk and zip Driver

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	-						H		
	CO2	H	L								
	CO3	H	L								
	CO4	M	-								
	CO5	H	L								
	CO6	M	-								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
									✓		
4	Approval	Academic Council Meeting									

UNIT I **6**

Microprocessor System - Introduction of System overview, Introduction to Processors, Memory Interfacing, Interfacing I/O Devices, Interfacing Data Converters, Display Interface, Serial I/O and Data Communication, Higher level Processors.

UNIT II **6**

Introduction to PC Architecture Study of PC-AT/ATX System, Pentium, Core, Core 2 Cord, Core 2 Duo, I3, I5, I7.

UNIT III **6**

Processor Basics of Processor and CPU Block Diagram of Computer and Computer Generation Motherboards, Chipset and Controllers, BIOS and the Boot Process, Computer Memory.

UNITIV **6**

Internal Components IDE and SATA Devices: Hard Disk Drive and CD/DVDs Drives, SCSI Devices, Floppy Disk, Zip Drive, Backup Drive, Expansion Cards- LAN Card, IDE Card , VGA and SVGA Cards, Sound Card, Interface Cards, I/O cards, Video Cards, USB Card, Fire-Wire Cards, Internal Ports, Cables and Connector Types.

UNIT V **6**

Introduction of Network Cable like UTP, STP, Fiber Optics, Hub, Unmanageable Switch, Manageable Switch, Router, Modem, Wi-Fi, Access Point, PCI Wireless Card, USB Wireless Device, Print Server, USB Network Sharer, Backup Device, Server Hardware etc.

TEXT BOOKS

1. Ramesh Gaonkar, "Microprocessor Architecture Programming and Application with the 8085", Penram International Publication.
2. Troubleshooting, Maintaining and Repairing PCs Stephen J Bigelow Tata MCGraw Hill Publication 2004
3. Computer Networks Andrew S.Tanenbaum Prentice-Hall of India, New Delhi 2002

REFERENCE BOOKS

1. M.L. Gupta, "Electronics and Radio Engineering", Dhanpat rai & Sons, New Delhi.
2. B. Govinda rajalu, "PC AND CLONES Hardware, Troubleshooting and Maintenance", Tata Mc-graw-Hill Publication.
3. Stephen J. Bigelow, "PC Troubleshooting and Repair", Dream tech Press, New Delhi.
4. Data Communication and networking Behrouz A.Forouzan Tata Mc-Graw Hill, New Delhi 2006
5. Data and Computer Communications William Stallings Prentice-Hall of India Eighth Edition.

Course Coordinator **HOD**

U18SESC008	**COMPUTER PROGRAMMING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi/ CS				

COURSE OBJECTIVES :-

Learners will be familiar with the programming language C, Algorithm, and Design the flowchart and implement the programs using the concept such as Functions, Pointers and Strings.

COURSE OUTCOMES (COs)

CO1	Apply and Write the clear, structure and Looping of elementary C programs.
CO2	Explain algorithmic thinking and apply it to programming.
CO3	Describe problem-solving techniques.
CO4	Ability to use C with Various operators Expressions and Decision making control.
CO5	Write Code using Arrays with single dimensions, Two dimensions and Multidimensional and Various Strings operations
CO6	Examine programs using Functions, Pointers, Structures and Union

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**
2	**CO1**	H	-						H	
	CO2	H	L							
	CO3	H	L							
	CO4	H	-							
	CO5	M	L							
	CO6	H	-							
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Generation and Classification of Computers, Basic organization of a Computer, Number System, Binary, Decimal, Conversion, Problems.

UNIT II **6**

Algorithm, Pseudo code, Flow Chart, Problem formulation, Problem solving , Introduction to “C” programming, Fundamentals, Structure of C Program , compilation and linking processes, Constants, Variables, Data Types.

UNIT III **6**

Expressions using operators in C, Managing input and output operations, Decision making and Branching, Looping Statements.

UNIT IV **6**

Arrays, Initialization, Declaration, One Dimensional and Two Dimensional Arrays, String, String Operations, String Arrays.

UNIT V **6**

Function, Definition of Function, Declaration of Function, Recursion, pointers, pointer and arrays, Structure data type, Structure definition, Structure declaration, Structure within a structure, Union, Storage classes, Pre-processor directives.

Text Books

1. Anita Goel and Ajay Mittal, “Computer Fundamentals and programming in C”, Dorling Kindersley (India) Pvt Ltd., Pearson Education in South Asia 2011.
2. PradipDey, ManasGhosh, “fundamentals of computing and programming in c”, First edition, Oxford University Press, 2009.
3. Yashavant P. Kanethar, “Let Us C”, BPB Publications, 2011.

Reference Books

1.Byron S Gottfried,“ Programming with C”,Schaum’sOutlines,2nd Edition,Tata McGraw-Hill 2006.
2.Dromey R.G., “How to Solve it by Computer”, Pearson Education, Fourth Reprint, 2007.
3.Kernighan., B.W and Ritchie, D.M, “ The C Programming Language”, Second Edition, Pearson Education, 2006.

Course Coordinator **HOD**

U18SESC009	OFFICE AUTOMATION TOOLS	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi / CS				

COURSE OBJECTIVES :-

Learners will create an awareness among the application of computers and information technology.

COURSE OUTCOMES (COs)

CO1	State the basic skills and practices for MS –DOS.
CO2	Gain the knowledge of MS WORD.
CO3	Analysis the power point presentation concepts.
CO4	Discuss the EXCEL and formula processing.
CO5	Use the PowerPoint template.
CO6	Applying the computer excel formula.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	-								
	CO3	M	-								
	CO4	M	-								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
									✓		
4	Approval	Academic Council Meeting									

UNIT I **6**

Text Manipulations- font size, style, color. Alignment- left, right and justify, paragraph alignment, Usage of Numbering, Bullets, Footer and Headers, Usage of Spell check, and Find & Replace, Text Formatting, Picture insertion and alignment.

UNIT II **6**

Insertion – Table, chart, clip art, shapes, borders. Creation of documents, saving of documents, using templates, Creation templates, Mail Merge Concepts, Copying Text & Pictures from Excel.

UNIT III **6**

Creating of Excel sheet, Cell Editing, Usage of Formulae and Built-in Functions, File Manipulations, Data Sorting, Worksheet Preparation, Drawing Graphs, Usage of Auto Formatting.

UNIT IV **6**

Start power point, Create blank presentation, Selecting slide layout, Insert new slide, Editing presentation , Designing and formatting presentation , Change font, font color, size, style of text, Bullet and numbering, Slide design, layout, change background , preparing slide show presentation.

UNIT V **6**

Inserting Clip arts and Pictures, Frame movements, Insertion of new slides.Preparation of Organization Charts, Presentation using Wizards, Usage of design templates, working with tables, graphics and animation, working with graphs and organization charts.

TEXT BOOKS:

1. Joyce Cox, Joan Lambert and Curtis Fryc, "Step by Step Microsoft Office Professional 2010", Microsoft press edition.
2. Ralph T.Reilly, "The Handbook of Office Automation", iUniverse Publications,2012.
3. Learning of MS –Office 2007 – Ramesh Bangia
4. 2007 Microsoft Office System and Your Windowsbased PC – Window Vista
5. Microsoft Office Professional 2010 Step by Step Paperback – 1 January 2010 by Cox Et Al

REFERENCE BOOKS:

1. Microsoft office word 2007 Torben large frandsen
2. Microsoft office word 2008 Stephen moffat
3. Microsoft office word 2010 Advance – Gay B.Shelly
4. Microsoft Office 2010 by Bittu Kumar
5. Learning Microsoft Word 2010 by Bangia Ramesh

Course Coordinator **HOD**

U18SEMA001	QUANTITATIVE APTITUDE – I	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Number Series with its applications.
CO2	Understand the concept of Data Interpretation
CO3	Apply suitable algorithms in Loss & Discount
CO4	Analyze the Rates, Time and Distance
CO5	Evaluate problems Simple Interest
CO6	Create an real time application compounds and mixtures

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval		Academic Council Meeting

UNIT I NUMBER SYSTEM **6**

Numbers, Number Series, Number Theory, Arithmetic & Geometric Ratio

UNIT II STATISTICS **6**

Average, Ages, Data Interpretation.

UNIT III PERCENTAGE AND APPLICATIONS **6**

Percentage, Profit, Loss & Discount, Simple Interest, Compound Interest

UNIT IV TIME **6**

Rates, Time and Distance, Train Problems, Boats and Streams, Time and Work.

UNIT V RATIO AND PROPORTION **6**

Allegations of compounds and mixtures.

Text Books:

1. Aggarwal.R.S (2018) “Quantitative Aptitude” by, S. Chand Publications.

2. Aggarwal.R.S (2018) “A modern approach to Logical approach” by, S. Chand Publications.

3. Abhijit Guha, (2014) “Quantitative Aptitude for competitive examinations” by Tata McGraw-Hill Publications.

Reference Books:

1. Abhijit Guha, “Quantitative Aptitude”- Mc Graw Hills Publishers.

2. Aggarwal.R.S (2018) “A modern approach to Logical approach” by, S. Chand Publications.

3. RS Aggarwal, (2018) “A Modern Approach to Verbal & Non-Verbal Reasoning”, S. Chand Publications.

Course Coordinator **HOD**

U18SEMA002	QUANTITATIVE APTITUDE – II	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Inverse, Compound equation.
CO2	Understand the circular arrangement.
CO3	Apply suitable direction of Permutations and combinations test.
CO4	Analyze the Heights and Distance
CO5	Evaluate problems on Simple Interest
CO6	Create a real time application of Date and time.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT I SOLVING ABILITY **6**

Simple equations –Variation-Direct, Inverse, Compound

UNIT II PROBABILITY **6**

Problems on Linear and circular arrangement.

UNIT III REASONING ABILITY **6**

Coding and decoding – Direction Permutations and combinations test- Lateral reasoning-Blood relations-Paragraph based puzzles.

UNIT IV TRIGONOMETRY **6**

Heights and Distance.

UNIT V CLOCKS AND CALENDERS **6**

Interpretation of Date and time.

Text Books:

1. Aggarwal.R.S (2018) “Quantitative Aptitude” by, S. Chand Publications.

2. Aggarwal.R.S (2018) “A modern approach to Logical approach” by, S. Chand Publications.

3. Abhijit Guha, (2014) “Quantitative Aptitude for competitive examinations” by Tata McGraw-Hill Publications.

Reference Books:

1. Abhijit Guha, “Quantitative Aptitude”- Mc Graw Hills Publishers.

2. Aggarwal.R.S (2018) “A modern approach to Logical approach” by, S. Chand Publications.

3. RS Aggarwal, (2018) “A Modern Approach to Verbal & Non-Verbal Reasoning”, S. Chand Publications.

Course Coordinator **HOD**

U18SEMA002	REGRESSION ANALYSIS WITH SPSS	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Ms.S.Kavitha /Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge Qualitative Variable on Nominal Scale, Ranked.
CO2	Understand the Deleting and Rearranging Items from the Viewer
CO3	Apply suitable direction Permutations and combinations test.
CO4	Analyze the Pie Chart, Scatter Plot and Dot plots
CO5	Evaluate data questionnaire Analysis
CO6	Create an real time application and test of hypotheses

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	
4	Approval		Academic Council Meeting							

Unit 1: Introduction **6**

Observations and Variables, Quantitative or Measurement Variable on Interval Scale, Qualitative

Variable on Nominal Scale, Ranked Variable on Ordinal Scale.

Unit 2: SPSS Data File **6**

Opening a Data File in SPSS – Variable View, Data View, Entering Data into the Data Editor, Saving the Data File. Editing and Manipulating Data: Inserting a New

Variable, Rearranging the Order of Variable in the Variable View, Deleting and Rearranging Items from the Viewer. Usage of Data, Transform, Analyse and Graphs menus – Editing and copying and printing SPSS output – Importing Data from Excel File.

Unit 3: Descriptive Statistics with SPSS **6**

Charts and Graphs: Simple Bar charts, Pie Chart, Scatter Plot and Dot plots, Line graphs, Histogram.

Unit 4: Correlation and Regression Analysis with SPSS **6**

Simple correlation (Karl Pearson's Method) - Rank correlation (Spearman's method) – Simple linear regression equation, Scatter plot and line of best fit – Questionnaire Analysis (Uni-variate and Bi- variate tables) – Chi square test with SPSS for independence of Attributes.

Unit 5: correlation and Testing of Hypothesis **6**

Partial and multiple correlation coefficients. Simple linear regression model: Description of data model - Estimation and test of hypotheses.

Books for Study:

1. Ananthi Sheshasayee and Sheshasayee, G, (2003), Computer Applications in Business and Management, Margham Publications, Chennai.
2. Rajathi, A. and Chandran, P. (2010), SPSS for you, MJP Publishers, Chennai.
3. Chatterjee, S and Price, B (1977), Regression Analysis by Example, John Wiley and Sons,
New York
4. Kapoor, V. K and Gupta, S. C (2002), Fundamentals of Mathematical Statistics, Sultan Chand and Sons, New Delhi.

Books for Reference:

1. Singh, V. P. and Singh, M. (1998), MS-Excel, Megabyte Series, Asian Publishers, New Delhi.
2. Andy Field (2006), Discovering Statistics Using SPSS, SAGE Publications, London.
3. Johnston, J (1972), Econometric Methods, McGraw-Hill Pvt. Ltd, New York.
4. Draper, N. R and Smith, H (1998), Applied Regression Analysis, 3rd edition, John Wiley and Sons, USA.

CourseCoordinator **HOD**

Syllabus- BCA

I SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA101	Part -I :Tamil	5	3	0	0	3
		U18HSHI101	Part -I :Hindi	5				
		U18HSFR101	Part -I : French	5				
2.	HS	U18HSEN102	Part II : English	5	3	0	0	3
3.	MC	U18MCCA101	Programming in C	4	3	1	0	4
4.	MC	U18MCCA102	Digital Logic and Fundamentals	5	3	1	0	4
5.	NC	U18NCMA104	Mathematics I	5	3	1	0	4
	PRACTICAL							
6.	MC	U18MCCA1L1	LAB I : Programming in C Lab	4	0	0	4	2
Total				28	15	3	4	20

II SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA201	Part -I :Tamil	4	3	0	0	3
		U18HSHI201	Part -I :Hindi	4				
		U18HSFR201	Part -I : French	4				
2.	HS	U18HSEN202	Part-II: English	4	3	0	0	3
3.	MC	U18MCCA201	Data Structure	5	3	1	0	4
4.	MC	U18MCCA202	Programming in C++	4	3	1	0	4
5.	NC	U18NCMA204	Mathematics – II	5	3	1	0	4
6.	HS	U18HSCH201	Environmental Studies	2	2	0	0	2
7.	HS	U18HSBC202	Value Education	2	2	0	0	2
PRACTICAL								
8.	MC	U18MCCA2L1	LAB II: Programming in C++ Lab	4	0	0	4	2
Total				30	19	3	4	24

III SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	MC	U18MCCA301	Computer Architecture	5	3	1	0	4
2.	MC	U18MCCA302	Web Technology	5	4	0	0	4
3.	MC	U18MCCA303	Programming in Java	5	3	1	0	4
4.	NC	U18NCBC304	Financial Accounting	5	3	1	0	4
5.	NME	U18NETA301	Non Major Elective II – Basic Tamil	2	2	0	0	2
		U18NETA302	Special Tamil	2				
PRACTICAL								
6.	MC	U18MCCA3L1	LAB III : Programming in Java Lab	4	0	0	4	2
7.	MC	U18MCCA3L2	LAB IV : Web Technology Lab	4	0	0	4	2
Total				30	15	3	8	22

IV SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	MC	U18MCCA401	Operating Systems	5	3	1	0	4
2.	MC	U18MCCA402	Database Technology	4	3	1	0	4
3.	MC	U18MCCA403	Visual Programming	4	3	1	0	4
4.	NC	U18NCBC404	Cost & Management Accounting	5	3	1	0	4
5.	NME	U18NETA401	Non Major Elective II Part I Basic Tamil	2	2	0	0	2
		U18NETA402	Special Tamil					
6.	SE		Skill Based Elective-I	2	2	0	0	2
PRACTICAL								
7.	MC	U18MCCA4L1	LAB V : Visual Basic with Oracle Lab	4	0	0	4	2
8.	MC	U18MCCA4L2	LAB V1 : Tally Lab	4	0	0	4	2
Total				30	16	4	8	24

V SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	MC	U18MCCA501	Multimedia and Animation	5	4	0	0	4
2.	MC	U18MCCA502	Software Engineering	5	4	0	0	4
3.	MC	U18MCCA503	Programming in ASP .NET	4	3	1	0	4
4.	ME		Major Elective – I	4	4	0	0	4
5.	SE		Skill Based Elective-II	2	2	0	0	2
6.	SE		Skill Based Elective-III	2	2	0	0	2
PRACTICAL								
7.	MC	U18MCCA5L1	LAB VII : Programming in ASP .NET Lab	4	0	0	4	2
8.	MC	U18MCCA5L2	LAB VIII : Multimedia and Animation Lab	4	0	0	4	2
Total				30	19	1	8	24

VI SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	MC	U18MCCA601	Computer Networks	5	3	1	0	4
2.	MC	U18MCCA602	Software Testing	5	3	1	0	4
3	ME		Major Elective II	4	4	0	0	4
PRACTICAL								
4.	MC	U18MCCA6L1	LAB IX: Major Elective II Lab	4	0	0	4	2
5.	EEC	U18EECA6P1	Project	10	0	0	20	10
6.	HS	U18HSCA6L1	Extension Activities	2	0	0	2	1
Total				30	10	2	26	25

LIST OF SKILL BASED ELECTIVES
Choose any three courses – one in semester IV & two in semester V

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18SEBC001	Business Process Outsourcing – Management	2	2	0	0	2
2	U18SEBC002	Customer Relationship Management	2	2	0	0	2
3	U18SEBC003	Entrepreneurial Development	2	2	0	0	2
4	U18SEBC004	Human Resource Management	2	2	0	0	2
5	U18SEBC005	Marketing Management	2	2	0	0	2
6	U18SEBC006	Office Management	2	2	0	0	2
7	U18SEBC007	Retail Marketing	2	2	0	0	2
8	U18SEBC008	Salesmanship and Advertising	2	2	0	0	2
9	U18SEEN001	Soft Skills	2	2	0	0	2
10	U18SESC001	Computer Application	2	2	0	0	2
11	U18SESC002	Multimedia	2	2	0	0	2
12	U18SESC003	Advanced Excel	2	2	0	0	2
13	U18SESC004	Web Designing	2	2	0	0	2
14	U18SESC005	Photoshop	2	2	0	0	2
15	U18SESC006	Flash	2	2	0	0	2
16	U18SESC007	Computer Hardware and Networking	2	2	0	0	2
17	U18SESC008	Computer Programming	2	2	0	0	2
18	U18SESC009	Office Automation Tools	2	2	0	0	2
19	U18SEMA001	Quantitative and Aptitude Reasoning -I	2	2	0	0	2
20	U18SEMA002	Quantitative and Aptitude Reasoning-II	2	2	0	0	2
21	U18SEMA003	Regression Analysis with SPSS	2	2	0	0	2

LIST OF MAJOR ELECTIVE – I
Choose any one in Semester V

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18MECA011	Object Oriented Analysis and Design	4	4	0	0	4
2	U18MECA012	Cloud computing	4	4	0	0	4
3	U18MECA013	Data Mining and Data Warehousing	4	4	0	0	4
Total			4	4	0	0	4

LIST OF MAJOR ELECTIVE – II
Choose any one in Semester VI

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18MECA021	Network Programming	4	4	0	0	4
2	U18MECA022	C#	4	4	0	0	4
3	U18MECA023	PHP	4	4	0	0	4
Total			4	4	0	0	4

SEMESTER - I

U18HSTA101	□□□□□- I	**L**	**T**	**P**	**C**
	□□□□□□□□□□□□□□□□□□- 45	3	0	0	3
	□□□□□□□□□□□□□□□□□□□□- + 2				
	□□□□□□□□□□□□□□□□□□□□□□□□ :□□□□□□□. □. □□□□□□□□□□□□□□&□□□□□□□□□□□				

□□□□□□□□□□□□□□□□□:- இருபதாம் நூற்றாண்டு இலக்கியம் மற்றும் மொழி வரலாற்றை அறியச் செய்தல்

□□□□□□□□□□□□□□□□□□(□□.□□.) [**COURSE OUTCOMES (COs)]**

CO1	இருபதாம் நூற்றாண்டு கவிதைஇலக்கியத்தைப் பற்றி அறிவர்
CO2	இருபதாம் நூற்றாண்டுகட்டுரைஇலக்கியத்தைப் பற்றி அறிவர்
CO3	இருபதாம் நூற்றாண்டுசிறுகதைஇலக்கியத்தைப் பற்றி அறிவர்
CO4	இக்கால இலக்கிய வரலாறுபற்றி அறிவர்
CO5	மொழி வரலாறு – செம்மொழிபற்றி அறிவர்
CO6	தற்கால இலக்கியத்தில் ஆழ்ந்த அறிவைப் பெறுவர்

□□□□□□□□□□□□□□□□□□□□□□□□(Cos) □□□□□□□□□□□□□□□□□□ (POs) □□□□□□□□□□□□□□□□
(1/2//3 □□□□□□□□□□□□□□□□□□□□

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To understand , read, write and speak Hindi language with grammatical.											
COURSE OUTCOMES (COs)											
CO1	Remember the behavior										
CO2	Understand the importance of money by story										
CO3	Apply the concept of Hindi grammar										
CO4	Analyze the usage of translation from English to Hindi										
CO5	Evaluatethe unseen passage to answer the questions										
CO6	Create the knowledge in Hindi Language										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

UNIT I **9**

NAVEEN GADYA CHAYANIKA – 2 - Bholaram ka jeev - Mehamaan se Bhagavaanbachaaye - NumberovaliThijori – Kaffan - Gunda

UNIT II **9**

NON DETAILED TEXT: KAHANI KUNJ - Stories: 6 – 10 only

UNIT III 9

GRAMMAR: SHABDA VICHAR ONLY - NOUN, PRONOUN, ADJECTIVE, VERB, TENSE, CASE ENDINGS - Theoretical & Applied

UNIT IV 9

TRANSLATION - English – Hindi only - ANUVADH ABHYAS – III - 1 – 15 Lessons Only

UNIT V **9**

COMPREHENSION - 1 Passage from ANUVADH ABHYAS – III (16 – 30)

TEXT BOOKS:

UNIT 1 - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017
UNIT II - Govind Prakashan, SadharBagaar, Mathura, Uttar Pradesh – 281001 - Editor: Dr V.P. Amithab
UNIT III - Vyakaran Pradeep by Ramdev - Hindi Bhavan, 36, Tagor Town, Allahabad – 211002.
UNIT IV - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017.
UNIT V - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017

CourseCoordinator **HOD**

U18HSFR101	**Française**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – French as second language in Grade 12				
	Course Coordinator Name & Department:- Ms. Tushita Naidu K / Département De Française				
COURSE OBJECTIVES :-					

Initier les étudiants aux principes de base et à la pratique de la communication orale et écrite.	
COURSE OUTCOMES (COs)	
CO1	Comprendre les bases de la langue.
CO2	Analyser les modèles de phrases et former la grammaire.
CO3	Pour apprendre les bases de la grammaire ainsi que ses principes.
CO4	Se souvenir de l'anatomie des conjugaisons.
CO5	Créer des dialogues et des conversations par eux-mêmes dans la langue et pratiquer des compétences orales et écrites.
CO6	Se souvenir des règles nécessaires de la langue

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

UNIT I - Vous comprenez **9**

Alphabets - French Accents - Les Nombres – Pronunciations.

UNIT II Au travail! **9**

Masculine Singular and Feminine singular - Conjugaison des verbes (present tense) - Les articles définis.

UNIT III En se detend? **9**

Conjugaison (faire-aller-venir-Vouloir-Pouvoir-Devoir)

UNIT IV Racontez-moi **9**

La date et l'heure – les saisons – les couleurs

UNIT V Bon voyage! **9**

Adjectifs demonstratives - Adjectifs possessives - Les Voyages / les transport-Bon appétit!-Article partitif - Emploi des articles - Interrogation (Forme avec inversion) - Les repas - La fête

TEXT BOOKS:

A1 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator **HOD**

U18HSEN102	**ENGLISH I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept: Mrs. SHEEBA - English				

COURSE OBJECTIVES:- :- To use English effectively for study purpose and enable the learner to communicate appropriately in real life situation.

	COURSE OUTCOMES (COs)
CO1	Rememberand recall the words according to the given context.
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarizes the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O1	PSO2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L						H		
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓							
4	**Approval**	Academic Council Meeting							

UNIT-I POETRY **9**

Lucy Gray -William Wordsworth– Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis; **Ulysses-Alfred Lord Tennyson** -Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis; **The Road Not Taken** – **Robert Frost** -Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis

UNIT-II – ONE ACT PLAYS **9**

The Boy Comes Home-A.A.Milne– Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Referee- W.H.Andrews and Geoffrey Dearmer** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT -III SHORT STORIES **9**

The Unicorn in the Garden – **James Thurber** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Avenger** – **Anton Chekov** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT IV PROSE **9**

Six Thinking Hats- Edward de Bono–Author Biography - Self analysis technique, Summary; **My Early Days-Abdul Kalam** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis;**I Have a Dream (Speech) -Martin Luther King**- Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT V **9**

Introduction to Basics of Communication – Definitions – Types – Listening, Speaking, Reading& Writing

TEXT BOOKS:

1. Six Thinking Hats by Edward de Bono, Little Brown and Company, 1985
2. My Early Days by Abdul Kalam,October 7,2013

REFERENCE BOOKS:

1. Strings of Gold (Part- II) Edited by Prof. Jasbir Jain (MacMillan),2007
2. Basic Communication Skills for Technology by Rutherfoord(DorligKindersly),2007
3. English for Professionals A Practice Book of Communication Skills in English by Dr.Miglani (Vayu Education of India),2010.

CourseCoordinator **HOD**

U18MCCA101	**PROGRAMMING IN C**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Computer Science / Mathematics Studied in Higher Secondary Studies.				

	Course Coordinator Name &Department :- N.Mathimagal/BCA										
COURSE OBJECTIVES :- Learners will be familiar with the basic programming in C concepts.											
COURSE OUTCOMES (COs)											
CO1	Remember the basic structures of Data type, operators and statements										
CO2	Understand the Fundamentals of C programming.										
CO3	Choose the suitable loop statements and decision making statements to solve the problem.										
CO4	Use functions to apply for real time application										
CO5	Analyze the C code using Array and Pointers										
CO6	Examine an application using files										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L						H		
	CO2	H	L								
	CO3	M	L								
	CO4	H	L								
	CO5	H	-								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval										

UNIT-I **12**

Fundamental character set – Identifier and keywords – data types – Constants – variables – Declarations – Expressions – Statements – Arithmetic, Unary, Relational and logical, Assignment and conditional Operators – Library Functions.

UNIT-II **12**

Data input output functions – Simple C programs – Flow of control – if, if-else, while, do-while, for loop, Nested control structures – Switch, Break and continue, go to statements – Comma operator.

UINT-III **12**

Functions – Definition – Proto-types – Passing arguments – Recursions – storage Classes – Automatic, External, Static, Register Variable – Multi-file programs.

UNIT-IV **12**

Arrays – defining and Processing – Passing arrays to functions – Multi-Dimensional Arrays – Arrays and String. Structures – User defined data types – Passing structures to functions – self- referential structures – Unions – Bit wise operations.

UNIT-V **12**

Pointers – Declarations – Passing pointers to functions – Operation in Pointers – Pointer and Arrays – Arrays and Pointers - Structures and Pointers – Files – Creating, Processing, Opening and Closing a data file.

TEXT BOOKS

1.E. Balaguruswamy, 1995, Programming in ANSI C, TMH publishing Company Ltd.

REFERENCE BOOKS

1.H. Schildt, 2004, The Complete Reference, 4th Edition,TMH.

2.Gottfried, B.S, 1996, ProgrammingwithC, second edition,TMHPub.Co.Ltd.

3.Kanetkar Y, 1999, Let us C, BPBpublications with ANSI &TurboC,First edition, Pearson Education, NewDelhi.

Course Coordinator **HOD**

U18MCCA102	**DIGITAL LOGIC AND FUNDAMENTALS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Computer Science / Mathematics Studied in Higher				

	Secondary Studies.
	Course Coordinator Name &Department :- Ms.V.Ramya/ BCA

COURSE OBJECTIVES :-

Learners will be familiar with the given fundamental principles of digital electronics, semiconductor memories, A/D and D/A converters

COURSE OUTCOMES (COs)

CO1	Apply the principles of Boolean algebra to manipulate and minimize logic expressions.
CO2	Use K-maps to minimize and optimize two-level logicfunctions up to 5 variables.
CO3	Learning the operation of latches, flip-flops, counters, registers, and register transfers.
CO4	Analyze the operation of sequential circuits built with various flip-flops.
CO5	Understand the concepts of micro-operations and building blocks of digital systems
CO6	Ability to apply the concepts of Master Slave flip flops,counters and Registers for a real time application

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	L								
	CO2	H	L								
	CO3	H	L						H		
	CO4	H	-								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
					✓						
4	Approval	Academic Council Meeting									

UNIT-I **12**

NUMBER SYSTEMS & CODES: Number System - Base Conversion - Binary Codes - Code Conversion. Digital Logic: Logic Gates - Truth Tables - Universal Gates

UNIT-II **12**

BOOLEAN ALGEBRA: Laws&Theorems - SOP, POS Methods - Simplification of BooleanFunctions – UsingTheorems, K-Map, and Prime – ImplicantMethod – ImplementationUsingUniversal Gates. BinaryArithmetic: Binary Addition - Subtraction – VariousRepresentations of BinaryNumbers - Arithmetic Building Blocks - Adders -Subtracters.

UNIT-III **12**

COMBINATIONALLOGIC: Multiplexers - Demultiplexers - Decoders - Encoders - Code Converters – ParityGenerators&Checkers - PAL –PLA

UNIT-IV **12**

SEQUENTIAL LOGIC: RS, JK, D, and T Flip-Flops - Edge-Triggered - Master-Slave Flip- Flops. Registers: Shift Registers - Types of Shift Registers.

UNIT-V **12**

COUNTERSAsynchronousCountersRipple, Mod, Up-Down Counters- Decoding Gates – SynchronousCounters - Ring, Decade, Presettable, Shift Counters. Memory: Basic Terms&Ideas – MagneticMemories - Memory Addressing - Types of ROMs - Types of RAMs

TEXT BOOKS

1. Digital Principles and Applications,D.P.Leach&A.P.Malvino,TMH - Fifth Edition, 2002.
2. Digital Logic and Computer Design, M.MorisMano , PHI, 4 thEdition,2001.

REFERENCE BOOKS

1. Digital Computer Fundamentals, T. C.Bartee, Tata McGraw Hill, 6thEdition, 1991.
2. Digital System Principles and Applications, R.J.Tocci, Pearson Education, 8thEdition2005.

Course Coordinator **HOD**

U18NCMA104	MATHEMATICS –I	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Computer Science / Mathematics Studied in Higher Secondary				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

- Learners will be familiarized with certain concepts in Set theory, Matrices and Theory of Equations.
- To direct the students to develop problem solving skills based on the concepts ofTrigonometry and Differential Equations.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Newton's forward and backward.
CO2	Understand the concept of Cayley - Hamilton theorem.
CO3	Apply suitable Hyperbolic and inverse hyperbolic functions.
CO4	Analyze the algorithm for trigonometric series and using the theorems in real time applications.
CO5	Evaluate maxima and minima of functions of two variables.
CO6	Create a real time application reciprocal equation.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M	-	-	-	-	M	H		
	CO2	M	H	-	-	-	-	M			
	CO3	H	M	-	-	-	-	M			
	CO4	H	H	-	-	-	-	M			
	CO5	M	H	-	-	-	-	M			
	CO6	H	H	-	-	-	-	M			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT – I :**ALGEBRA and NUMERICAL METHODS:** **12**

Algebra: Summation of series - simple problems.

Numerical Methods: Operators E,Δ, ∇ difference tables; Newton-Raphson method; Newton's forward and backward interpolation formulae for equal intervals, Lagrange's interpolation formula.

Chapter 2, Section 2.1.3, 2.2, 2.2.1, 2.3, 2.3.3

Chapter 3, Section 3.4.1 and Chapter 5, Section 5.1 and 5.2.

UNIT- II: **MATRICES** **12**

Symmetric, Skew-Symmetric, Orthogonal, Hermetian, Skew-Hermetian and Unitary matrices.Eigen values and Eigen-vectors, Cayley-Hamilton theorem (without proof) – verification- Computation of inverse of matrix using Cayley - Hamilton theorem.
Chapter 4, Section 4.1.1 to 4.1.6, 4.5, 4.5.2, 4.5.3.

UNIT- III: THEORY OF EQUATIONS **12**

Polynomial equations with real coefficients, irrational roots, complex roots, symmetric functions of roots, transformation of equation by increasing or decreasing roots by a constant, reciprocal equation.Newton's method to find a root approximately - simple problems.
Chapter 3, Section 3.1 to 3.4.1

UNIT IV: TRIGONOMETRY **12**

Expansions of sin(nθ) and cos(nθ) in a series of powers of sinθ and cosθ - Expansions of$sin^n\theta$, $cos^n\theta$, $tan^n\theta$ in a series of sines, cosines and tangents of multiples of "θ" - Expansions of sinθ, cosθ and tanθ in a series of powers of "θ" – Hyperbolic and inverse hyperbolic functions - Logarithms of complex numbers. Chapter 6, Section 6.1 to 6.5

UNIT V :DIFFERENTIAL CALCULUS: **12**

Successive differentiation, n^{th}derivatives, Leibnitz theorem (without proof) and applications, Jacobians, Curvature and radius of curvature in Cartesian co-ordinates, maxima and minima of functions of two variables, Lagrange's multipliers - Simple problems

TEXT BOOK:

1.Chapter 1, Section 1.1 to 1.3.2 and 1.4.3 Content and treatment as in Allied Mathematics Volume I and II by P. Duraipandian and S. Udayabaskaran, S. Chand Publications

REFERENCES:

1. S. Narayanan and T.K. Manickavasagam Pillai – Ancillary Mathematics, S. Viswanathan Printers, 1986, Chennai.

2. Allied Mathematics by Dr. A. Singaravelu.

CourseCoordinator **HOD**

U18MCCA1L1	PROGRAMMING IN C LAB	L	T	P	C
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course – Computer Applications / Mathematics Studied in Higher Secondary Studies.				
	Course Coordinator Name &Department :- Ms.N.Mathimagal/BCA				

COURSE OBJECTIVES :-

Learners will be familiar with the basic concepts of C programming. Practice the use of statements to implement the arrays, functions and pointers & Gain skills to handle strings and files.

COURSE OUTCOMES (COs)

CO1	Construct programs that demonstrate effective use of C statements.
CO2	To perform the matrix operations.
CO3	Develop programs using predefined and user defined functions.
CO4	Implement C features including arrays, structures, pointers and files.
CO5	Perform sorting and searching using C programs.
CO6	Implement the arrays, functions and pointers

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L							H	
	CO2	H	L								
	CO3	H	-								
	CO4	H	L								
	CO5	M	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

S.No.	SIMPLE PROGRAMS
1	Find the Grade for the Marks using Switch Case
2	Display Student Information using Structure
3	Sum of "N" Numbers using Pointer and Array
	MATRIX MANIPULATION
4	Addition & subtraction.
5	Multiplication.
6	Transpose and trace of a matrix.
	SUMMATION OF SERIES
7	Sin (x)
8	cos (x)
	STRING MANIPULATIONS
9.	Counting the no. of vowels, consonants , words, white spaces in a line of text andarray of lines
10.	Reverse a string & check for palindrome.
11.	Substring detection, count and removal.
12.	Finding and replacing substring
	RECURSION
13.	nPr and nCr
14.	GCD of two numbers.
15.	Fibonacci series.
16.	Maximum and minimum..
17.	Tower of Hanoi.
	SORTING AND SEARCHING
18.	Insertion and Sort
19.	Bubble Sort.
20.	Linear Search
21.	Binary Search

Course Coordinator **HOD**

SEMESTER - II

U18HSTA201	□□□□□- II	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name&Department :□□□□□□□□. □. □□□□□□□□□□ □□□□ &□□□□□□□□□□□□				

COURSE OBJECTIVES : சிற்றிலக்கியம்மற்றும்சமயஇலக்கியத்தை அறியச் செய்தல்	
COURSE OUTCOMES (COs)	
CO1	தூது,பள்ளு,குறவஞ்சிஎன்றசிற்றிலக்கியங்கள்பற்றிஅறிவர்
CO2	சைவஇலக்கியமானதேவாரம், திருவாசகம், அற்புதத்திருவந்தாதிப்பற்றிஅறிவர்
CO3	வைணவஇலக்கியமானநாலாயிரதிவ்யப்பிரபந்தம்பற்றிஅறிவர்
CO4	பௌத்த, இசுலாம், கிறித்துவசமயஇலக்கியங்களைப்பற்றிஅறிவர்
CO5	சிற்றிலக்கியம்மற்றும்சமயஇலக்கியவரலாறுபற்றிஅறிவர்
CO6	சிற்றிலக்கியம் , சமயஇலக்கியம்பற்றியதெளிவானஅறிவைப்பெறுவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								
4	Approval		Academic Council Meeting							

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பாடநூல்கள்:

1. கதிர்முருகு, "அழகர்கிள்ளைவிடுதூது", சாரதாபதிப்பகம், 2011
2. கதிர்முருகு, "முக்கூடற்பள்ளுமூலமும்உரையும்", சாரதாபதிப்பகம், 2017
3. புலியூர்க்கேசிகன், "திருக்குற்றாலக்குறவஞ்சி", செண்பகாபதிப்பகம், 2010
4. தமிழமுதன், "அற்புதத்திருவந்தாதி", பாரிநிலையம், 2011
5. சோ.கந்தசாமி "பன்னிருதிருமுறை", உலகத்தமிழாராய்ச்சிநிறுவனம், 2008
6. த.கோவேந்தன்,"நாலாயிரத்திவ்யப்பிரபந்தம்எளியஉரையும்",சாரதாபதிப்பகம்,2015
7. கமலாமுருகன், "ஆசியஜோதிமூலமும்உரையும்", சாரதாபதிப்பகம், 2012
8. கமலாமுருகன், "பராபரக்கண்ணிமூலமும்உரையும்", சாரதாபதிப்பகம், 2013
9. கண்ணதாசன், "இயேசுகாவியம்", கண்ணதாசன்பதிப்பகம், 2014

பார்வைநூல்கள்:

1. சு.ஆனந்தன், "தமிழ்இலக்கியவரலாறு", பாரிநிலையம், 2018
2. மா.ராசமாணிக்கனார், சமயஇலக்கியவரலாறு, காவ்யாபதிப்பகம், 2012
3. மு.பொன்னுசாமி, தமிழ்சிற்றிலக்கியவரலாறு, பாரிநிலையம், 2008

Course Coordinator **HOD**

U18HSHI201	Hindi	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Hindi as second language in Grade 12				
	Course Coordinator Name & Department:- Dr. K. MustakHusaain / Department of Hindi				

COURSE OBJECTIVES: -

To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)

CO1	Remember of Ramayana In Sabari part
CO2	Understand the historical stories
CO3	Apply the concept of translation
CO4	Analyzeand develop the letter writing skills
CO5	Evaluateand develop the speaking skills
CO6	Create knowledge in letter writing and speaking skills

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

UNIT I **09**

MODERN POETRY - SHABARI

UNIT II **09**

ONE ACT PLAY - EKANKI SANKALAM

UNIT III **09**

TRANSLATION - HINDI – ENGLISH ONLY

UNIT IV **09**

LETTER WRITING - Leave letter - Job Application - Ordering books - Letter to Publisher - Personal letter

UNIT V **09**

CONVERSATION - Doctor & Patient - Teacher & Student - Storekeeper & Buyer - Two Friends - Booking clerk & Passenger at Railway station – Auto rickshaw driver and passenger.

Text Books:

By Naresh Mehtha,Veerendra Kumar Mishra

Reference Books:

UNIT 1 – Publisheres - LokbharathiPrakashan ,1 Floor, DuebariBuilding,Mahathma Gandhi Marg, Allahabad – 1.

UNIT II – Publishers – Vani Prakasam, New Delhi-110002

UNIT III – Publishers – Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator **HOD**

U18HSFR201	Française	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – French as second language in Grade 12				
	Course Coordinator Name & Department:- Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES :-

Présenter aux élèves la complexité de la grammaire et comment la surmonter avec des règles simples.

COURSE OUTCOMES (COs)

CO1	Être capable d'interpréter la langue.
CO2	Se familiariser avec les approches méthodologiques de l'étude des textes littéraires et culturels, telles que la lecture attentive, la contextualisation socio-historique et la théorie littéraire et culturelle.
CO3	Acquérir une maîtrise avancée du français parlé et écrit.
CO4	Encourager le développement de compétences en linguistique, en traduction et en études comparatives.
CO5	Se souvenir de l'anatomie des conjugaisons au passé.
CO6	Pour évaluer le texte donné de manière critique et améliorer les compétences en communication.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

UNIT I -Quelle journee! **9**

La Conjugaison pronominale -L'imperatif -L'expression de la quantite (peu-in peu de-quelque – etc.)

UNIT II - Qu'on est bien ici ! **9**

Prepositions et adverbs de lieu - Verbs experimant un deplacement (employ des prepositions)
Le lodgement/la localisation/ l'orientation/l'etat physique/le temps qu'il fait

UNIT III -En se detend? **9**

L'imparfait-Emplois du passé compose et de l'imparfait-Expression de la duree-L'enchainement des idees (alors, donc, mais) /Le sens reciproque

UNIT IV- On s'appelle? **9**

Les pronoms complements direct -Les pronoms compliments indirects de personne -c'est/ il est-Imperatif des verbs avec pronoms-La fornation des mots

UNIT V Un bon conseil ! **9**

Expression du deroulement de l'action--passe recent--Present progressif-future proche-Les phrases rappotrees- La place de l'adjectif- La proposition relative finale avec -qui

TEXT BOOKS:

A1 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

CourseCoordinator **HOD**

U18HSEN202	**ENGLISH II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept.: Mr.S.KUMARESAN - English				

COURSE OBJECTIVES:-To have a better understanding of the English language skills and its implementation it in day to day life activities.

	COURSE OUTCOMES (COs)
CO1	Rememberand recall the concepts of English language
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarize the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O	PSO2	PS O3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								

4	**Approval**	Academic Council Meeting

UNIT 1: PROSE **9**

The Refugee – **K.A. Abbas** – Author Biography – Plot – Theme - Summary - Critical analysis; **The Lion and the Lamb** – **Leonard Clark**–Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2: POETRY **9**

The Solitary Reaper – **William Wordsworth**– Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis; **Gift** – **Alice Walker**- Author Biography -Theme –Poetic devices – Annotations - Summary – Critical analysis

UNIT 3: SHORT STORIES **9**

The Fortune-Teller – **Karel Capek**– Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **The Postmaster** – **Rabindranath Tagore** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 4: ONE-ACT PLAYS **9**

The Death Trap – **Saki (H.H. Munro)**– Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **The Dear Departed**: **A Comedy in One-Act – Stanley Houghton**- Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 5: GRAMMAR **9**

Communicative Grammar- Seeking and giving information – statements and questions Being informal – phrasal verbs, Expressing ability, possibility, etc – Modals and other devices

TEXT BOOKS:

1. The Death Trap by Saki, The Novels and Plays of Saki,2001
2. Pooja Khanna, “English Communication”, S.CHAND Publishing,2016
3. Rabindranath Tagore, “The Postmaster”, Penguin India, 2000

REFERENCE BOOKS:

1. K.A.AbbasSuresh Kohli, “An Evening in Calcutta”, HarperCollins, 2015
2. Stanley Houghton, “Five one act plays”, Alpha Edition, 2019
3. Edited Prof. Jasbir Jain, “Strings of Gold (Part- II)”, MacMillan, 2016

CourseCoordinator **HOD**

U18MCCA201	DATA STRUCTURE	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Computer Science / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department:-Ms.V.Ramya/BCA				

COURSE OBJECTIVES:-

Learners will be familiar with basic data structure and algorithm analysis. Learners will understand the applications of data structure & able toapply the problem solvingtechniques using data structure.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in fundamental data structure
CO2	Understand the concept of algorithmic design and implementation
CO3	Apply suitable data structure for developing a real time application
CO4	Analyze the algorithm for its complexity and performance
CO5	Applydata structures and algorithms on which file structures and data bases are based
CO6	Analyze an real time application using a suitable data structure

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PS O2	PSO7
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	-								
	CO4	M	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Data Structures: Definition of a Data Structure – Primitive and Composite data types, Asymptotic notations, Arrays, Operation on arrays, Order lists.

UNIT II **12**

Stacks - Applications of Stack - Infix to Postfix Conversion, Recursion, Maze Problems -

Queues - Operations on Queues, Queue Applications, Circular Queue.

UNIT III **12**

Singly Linked List - Operations, Application - Representation of a Polynomial, Polynomial Addition; Doubly Linked List - Operations, Applications Ordering of Books in Library (Alphabetical Ordering).

UNIT IV12

Trees and Graphs: Binary Trees - Conversion of Forest to Binary Tree, Operations - Tree Traversals; Graph - Definition, Types of Graphs, Hashing Tables and Hashing Functions, Traversal- Shortest Path; Dijkstra's Algorithm.

UNIT V **12**

Algorithm - Definition - Examples - Complexity - Divide and Conquer - Binary Search - Maximum and Minimum - Merge Sort.

TEXT BOOKS

1.Seymour Lipschutz, "Data Structures", McGraw Hill, Revised FirstEdition,2014.
2. E.Horowitz and S.Shani,"Fundamentals of Data Structures in C++", Galgotia Pub.1999.
3. Jitendra Patel," Data Structure, Algorithms and Design Techniques",4All Series.

REFERENCE BOOKS

1.R. Kruse C.L. Tondo and B. Leung, "Data Structures and Program design in C", Second Edition,PHI,1997.
2.Horowitz, S. Sahni, and S. Rajasekaran, "Computer Algorithms", Galgotia Pub. Pvt. Ltd.,1998.

CourseCoordinator **HOD**

U18MCCA202	PROGRAMMING IN C++	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Computer Science/ Mathematics Studied in Higher Secondary Studies.				
	Course Coordinator Name &Department :- Ms.N.Mathimagal/BCA				

COURSE OBJECTIVES :-

Learners will be familiar with the basic programming in C++ concepts and to demonstrate the differences between traditional imperative design and object-oriented design.

COURSE OUTCOMES (COs)

CO1	Remember the basic concepts and elementary of C++ programs.
CO2	Understand algorithmic thinking and apply it to programming.
CO3	Gain knowledge to use problem-solving techniques.
CO4	Analyze the programming with different operators
CO5	Ability to apply OOPs concepts
CO6	Used to implement real time application using suitable logic programming in C++

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L							H	
	CO2	H	L								
	CO3	H	L								
	CO4	M	-								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
					✓						
4	Approval	Academic Council Meeting									

UNIT-I **12**

Principles of Object Oriented Programming (OOP): Software Evolution-OOP Paradigm-Basic Concepts of OOP-Benefits of OOP- Object Oriented Languages-Applications of OOP

UNIT -II **12**

Introduction to C++; Tokens, Keywords, Identifiers, Variables, Operators, Manipulators, Expressions and Control Structures in C++; Pointers - Functions in C++ - Main Function-Function Prototyping - Parameters Passing in Functions - Values Return by Functions - Inline Functions - Friend and Virtual Functions

UNIT-III **12**

Classes and Objects; Constructors and Destructors; and Operator Overloading and Type Conversions - Type of Constructors - Function overloading

UNIT -IV **12**

Inheritance: Single Inheritance - Multilevel Inheritance - Multiple Inheritance - Hierarchical Inheritance - Hybrid Inheritance. Pointers, Virtual Functions and Polymorphism; Managing Console I/O operations

UNIT-V **12**

Working with Files: Classes for File Stream Operations - Opening and Closing a File - End-of-File Deduction - File Pointers - Updating a File - Error Handling during File Operations - Command-line Arguments.

TEXT BOOKS

1. E. Balagurusamy,1995,Object Oriented Programming with C++, Tata McGraw-Hill Publishing Company Ltd.

REFERENCE BOOKS

1. Herbert Schildt, 1999, C++ - The complete Reference, Third Edition, Tata McGraw – Hill.
2. E.Horowitz and S.Shani,1999,Fundamentals of Data Structures in C++ , Galgotia Pub.
3. Robert Lafore, Object Oriented Programming in Microsoft C++, Galgotia publications

Course Coordinator **HOD**

U18NCMA204	MATHEMATICS –II	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Computer Science / Mathematics Studied in Higher Secondary				
	Course Coordinator Name & Department :- Dr.P.Sumathi&Mathematics				

COURSE OBJECTIVES :-

- Learners will be familiarized with certain concepts in Integral calculus, ordinary Differential Equations and Laplace Transforms.
- To direct the students to develop problem solving skills based on the concepts of vector differentiation and vector integration.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Bernoulli's formula
CO2	Understand the concept of equations with constant coefficients
CO3	Apply suitable ideas in Vector differential operator∇
CO4	Analyze the algorithm in inverse Laplace transforms
CO5	Evaluate the problems in Stoke's and Green's theorems
CO6	Create an real time application of surface and volume integrals

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	M	H		
	CO2	M	H	-	-	-	-	M			
	CO3	H	M	-	-	-	-	M			
	CO4	H	H	-	-	-	-	M			
	CO5	M	H	-	-	-	-	M			
	CO6	H	H	-	-	-	-	M			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					

4	Approval		Academic Council Meeting

UNIT-I: **INTEGRAL CALCULUS** **12**

Bernoulli's formula, simple problems, Fourier series for functions in $(\propto, \propto+2\pi)$, Half range sine and cosine series.
Chapter 2, Section 2.7 and 2.9
Chapter 4, Section 4.1 to 4.2

UNIT-II: **ORDINARY DIFFERENTIAL EQUATIONS** **12**

Second order non- homogeneous differential equations with constant coefficients of the form
ay" +by'+ cy = X where X is of the form $e^x, \sin x, \cos x, X^2, e^{\propto x}\cos \beta x$ and $e^{\propto x}\sin \beta x$.

UNIT-III: **LAPLACE TRANSFORMS** **12**

Laplace transformations of standard functions and simple properties, inverse Laplace transforms, Application to solution of linear differential equations up to 2^{nd}order- simple problems.
Chapter 7, Section 7.1.1 to 7.1.4 and 7.2 to 7.3

UNIT – IV: **VECTOR DIFFERENTIATION** **12**

Introduction, Scalar point functions, Vector point functions, Vector differential operator∇ , Gradient, Divergence, Curl, Solenoidal, irrotational, identities. Chapter 8, Section 8.1 to 8.4.4

UNIT – V: VECTOR INTEGRATION **12**

Line, surface and volume integrals, Gauss, Stoke's and Green's theorems (without proofs)-Simple problems.
Chapter 8, Section 8.5 to 8.6.3

TEXT BOOK:

1. Content and treatment as in Allied Mathematics Volume I and II by P. Duraipandian and S. Udayabaskaran, S. Chand Publications

REFERENCES:

1. S. Narayanan and T.K. Manickavasagam Pillai – Ancillary Mathematics, S. Viswanathan Printers, 1986, Chennai.

2. Allied Mathematics by Dr. A. Singaravelu

CourseCoordinator **HOD**

	ENVIRONMENTAL STUDIES	L	T	P	C
U18HSCH201	**Total Contact Hours – 30**	2	0	0	2
	Prerequisite course –Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. G. Gurumoorthy / Chemistry				
COURSE OBJECTIVES :-					

To make the students learn about the science from the basic and understood all theoretical background with all concepts thoroughly to protect the habitat of biotic and abiotic ecosystem.	
COURSE OUTCOMES (COs)	
CO1	Remember the fundamental concept of environmental impact and importance of natural Resources
CO2	Understand about the Ecosystem, Biodiversity and its conservation
CO3	Understand the various environmental pollution, effects and prevention.
CO4	Apply the environmental legislations and environmental production act.
CO5	Apply the human rights, value education, environment and human health: women and child welfare, public awareness
CO6	Analyze the local area, local polluted site and local simple ecosystem.

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L	H			H		H		
	CO2	H	L	H			H				
	CO3	H	L	H			H				
	CO4	H	L	H			H				
	CO5	H	L	H			H				
	CO6	H	L	H			H				

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

Unit – I: Introduction to Environmental Sciences: Natural Resources: 6

Environmental sciences – relevance – significance – public awareness – forest resources – water resources – mineral resources – food resources – conflicts over resource sharing – exploitation – land use pattern – environmental impact – fertilizer – pesticide Problems - case studies.

Unit – II: Exosystem, Biodiversity and its conservation: 6

Ecosystem – concept – structure and function – producers, consumers and decomposers – food chain – food web – ecological pyramids – energy flow – forest, grassland, desert and aquatic ecosystem – definition – genetic, species and ecosystem diversity – biodiversity – definition – genetic, species and ecosystem diversity – values and uses of biodiversity – biodiversity at global, national (india) and local levels – hotspots, threats to biodiversity – conservation of biodiversity – insitu and ex-situ.

Unit – III: Environmental Pollution and Management 6

Environmental pollution – causes – effects and control measures of air, water , marine, soil, solid waste. Thermal, nuclear pollution and disaster management – floods, earth quake, cyclone and land slides, role of individuals in prevention of pollution – pollution case studies.

Unit – IV: Social issues – Human population: 6

Urban issues – energy – water conservation – environmental ethics – global warming – resettlement and rehabilitation issues – environmental legislations – environmental production act. 1986 – air, water, wildlife and forest B.C.A.: syllabus (CBCS) conservation act - population growth and explosion – human rights and value education – environmental health – HIV/AIDS – role of it in environment and human health – women and child welfare – public awareness – case studies.

Unit – V: Field Work: 6

Visit to a local area / local polluted site / local simple ecosystem – report submission.

Text Book:

1. K. Kumarasamy, A. Alagappa Moses and M. Vesanthy, Environmental Studies, 2004, Bharathidasan University Pub, 1, Trichy.
2. Y. K. Singh, Environmental Science, 2006, New Age International (P) Limited, New Delhi.
3. Divya Agarwal and Manoj K. Agarwal, Environmental Science, 2014, Astral International Pvt. Ltd,New Delhi.

Reference book:

1. Rajamannar, 2004, Environmental Studies, EVR College Pub, Trichy.
2. S. Kalavathy, (ED.) 2004, Environmental Studies, Bishop Heber College Pub.Trichy.
3. G. TylerMiller, Scott Spoolman, 2018, Environmental science, 16th edition.

Course Coordinator **HOD**

U18HSBC202	VALUE EDUCATION	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary level				
	Course Coordinator Name &Department:- Ms. G. Vinothini, Commerce				

- **COURSE OBJECTIVES**
- To enable the students to understand the Social values.
- To provide knowledge on the features forlife.
- To acquire the knowledge on Humanrights.

- To impart the knowledge on Environment and Ecologicalbalance.
- To educate the knowledge on Socialevils..

COURSE OUTCOMES (COs)

CO1	Recall the basic concept of human values, Social Value role of medias, Self-introspection – Self esteem
CO2	Understand the duties and responsibilities of individuals and role of media
CO3	Apply Salient features for life, : Truth, commitment,, honesty and integrity, forgiveness and love and also positive creative thinking
CO4	Demonstrate Universal declaration of Human rights, peace and nonviolence – Dr. APJ Abdul Kalam's ten points for enlightened citizenship.
CO5	Analyze living and nonliving environmental balance, Ecological balance and conservations and enrichment
CO6	Manipulate the awareness on Corruption, crime, terrorism, Alcoholism, Drug addiction, Dowry

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	M					H		
	CO2	H	H	H		L					
	CO3	M	H	M	M						
	CO4	H	M	L							
	CO5	H	H	M			M				
	CO6	M	M	L							
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)	
		✓					✓				
	Approval	Academic Council Meeting									

UNIT I **6**

Value education: Definition- relevance to present day – concept of human values – self introspection – Self esteem- duties and responsibilities of individuals- Social values- role of media in value building.

UNIT II **6**

Salient features for life: Truth, commitment,, honesty and integrity, forgiveness and love, empathy and ability to sacrifice, care, unity and inclusiveness, Team work- positive creative thinking.

UNIT III **6**

Human rights: Universal declaration of Human rights- human rights violation – National integration – peace and non violence – Dr. APJ Abdul Kalam's ten points for enlightened citizenship

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UNIT IV **6**

Environment and Ecological balance: Interdependent of all being – living and non living – the binding of man and nature – Environmental conservations and enrichment.

UNIT V **6**

Social evils : Corruption – cyber crime, terrorism, Alcoholism, Drug addiction, Dowry – Domestic violence – untouchability – female infanticide – atrocities against women – How to tackle them.

TEXTBOOK

1. N. Arumugam, S. Mohana, Lr. Palkani- value based education- Saras Publication,2009
2. DN Ghose, Value Education- dominant publishers,2005
3. M.G. Chitakra, Education and Human values, A.P.H Publishing Corporation. NewDelhi

REFERENCE BOOKS

1) For Life, for the future: Reserves and Remains – UNESCOPublications.
2) Values, A Vedanta kesari presentations, Sri Ramakrishna Math,Chennai
3) Values for Excellence in Life Compiled by then Curriculum Development Cell Thiagarajar College, Madurai, in collaboration with the Education wing, Brahma Kumaris, Madura

CourseCoordinator **HOD**

U18MCCA2L1	PROGRAMMING IN C++ LAB	L	T	P	C
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course – Computer Applications / Mathematics Studied in Higher Secondary Studies.				
	Course Coordinator Name &Department :- Ms. N.Mathimagal/BCA				

COURSE OBJECTIVES :-

Learners will be familiar with the basic programming in C++ concepts and to gain knowledge to create real time application.

COURSE OUTCOMES (COs)

CO1	Implement the basic concept of object oriented programming
CO2	Ability to implement virtual and friend functions.
CO3	Develop the programs for Stack and Queue
CO4	Analyze and implement the expressions for real time applications
CO5	Perform the Linked list operations.
CO6	Ability to use different searching and sorting methods for real time applications.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L							H	
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	M	-								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

S.NO	LIST OF PROGRAMS
1.	Inheritance
2.	Friend Function
3.	Virtual Functions
4.	Polymorphism
5.	File Concept
6.	Stack operations using Array
7.	Stack operations using Pointers
8.	Infix to Postfix conversion
9.	Queue operations using Array
10.	Queue operations using Pointers
11.	Polynomial addition using Arrays
12.	Singly linked list operations
13.	Doubly linked list operations
14.	Tree Traversals
15.	BFS and DFS

Course Coordinator **HOD**

SEMESTER – III

U18MCCA301	**COMPUTER ARCHITECTURE**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department :- Ms.S.Anupriya/BCA				

COURSE OBJECTIVES :-

Learners will be familiar with the basic concepts of Computer Architecture and to understand the working of computer Systems&its basic principles.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in basics of Computer and instruction sets
CO2	To understand the concept of Pipeline and its types
CO3	Apply the concept to design a hardware component
CO4	Analyze the various Input/Output Operations & its data transfer
CO5	Understand the architecture design of a computer & its type of memory
CO6	Used to design real time application using different computer architecture

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	M	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT -I CENTRAL PROCESSING UNIT 12

General registers and stack organization – instruction formats- addressing modes – data transfer and manipulations – program control – RISC.

UNIT -II PIPELINING 12

Arithmetic, instruction and RISC pipelining – vector processing, array processor.

UNIT-III COMPUTER ARITHMETIC 12

Addition, subtraction, multiplication and division algorithms for signed magnitude data- floating point arithmetic operations, decimal arithmetic unit.

UNIT -IV INPUT/OUTPUTORGANIZATION 12

Peripheral Devices – I/O interfaces – asynchronous data transfer – modes of transfer – priority interrupt – DMA – I/O processors – Serial Communication.

UNIT-V MEMORY ORGANIZATION 12

Memory hierarchy – main memory – auxiliary memory – associative, cache and virtual memory– multiprocessor –characteristics -interconnection structures – inter- processor arbitration.

TEXT BOOKS

1. Morris Mano,"Computer System Architecture", Third Edition, PHI, 1994.
2. J.P.Hayes ,"Computer System Architecture", Mc-GrawHill, 1988.

REFERENCE BOOKS

1. V C. Hamacher, Z .G. Vraesic, S. G. Zaky, "Computer Organization", Tata McGraw Hill,1996.
2. Vincent P Heuring Harry F Jordan, "Computer system Design and Architecture", Addison Westey, 1999.
3. David A. Patterson and John L. Henessy, "Computer Organization and Design", Elsevier, Fourth edition, 2012.
4. Thomas C Bartee, "Computer Architecture and Logic Design", International Edition 1991, McGraw Hill.

Course Coordinator **HOD**

U18MCCA302	WEB TECHNOLOGY	L	T	P	C
	Total Contact Hours - 60	4	0	0	4
	Prerequisite course – Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department :- Ms.V.Ramya/BCA				

COURSE OBJECTIVES :-

Learners will be familiar with the basic concepts of web technology and Understand the various steps in designing a creative and dynamic website.

COURSE OUTCOMES (COs)

CO1	Remember the basic internet concepts
CO2	Gain knowledge to design dynamic and interactive web pages
CO3	Ability to create Events and functions in java script
CO4	Apply Dynamic HTML to create website
CO5	Understand the fundamentals of XML
CO6	Apply to the website by connecting with data base for real time application .

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L							H	
	CO2	H	L								
	CO3	H	L								
	CO4	H	-								
	CO5	H	L								
	CO6	M	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Web Essentials: Clients, Servers, and Communication. The Internet-Basic Internet Protocols -The World Wide Web-HTTP request message-response message-Web Clients Web Servers-Case Study. Markup Languages: XHTML. An Introduction to HTML History-Versions-Basic XHTML Syntax andSemantics.

UNIT II **12**

List Creating Table – Linking document – Frames - Graphics to HTML Doc – Style sheet – style sheet basic – Add style to document – Creating style sheet rules – Style sheet properties – Font – Text – List – Color and Background color – Box – Display properties.

UNIT III **12**

Introduction to JavaScript – Advantage of JavaScript – JavaScript syntax – Data type – Variable – Array – Operator and Expression – Looping Constructor – Function – Dialog box.

UNIT IV **12**

JavaScript document object model – Introduction – object in HTML – Event Handling – Window Object – Document Object – Browser Object – Form Object – Navigator object – Screen object – Build in object – User defined object – Cookies.

UNIT V **12**

XML: XML Overview Features, Processing instructions, Applications of XML, Comments, XML namespace, Schema, Document Type Definition (DTD), and Extensive Style Language(XSL).

Text Books

1. Bayross, "Web Enable Commercial Application Development Using HTML, DHTML, JavaScript, Perl CGI", Fourth Edition,BPBPublications,2010.
2. Deitel H M, Nieto T.R, "Internet and world wide web How to program", Fifth Edition, Prentice Hall of Indian Pvt. Ltd, NewDelhi,2011.

Reference Books

1.Jaworski, "Mastering JavaScript", BPB Publications,1999.
2.T. A Powell, "Complete Reference HTML",Third Edition, TMH,2002.
3.Deitel, Nieto,lin, Sadhu , "XML How to program", PearsonEducation,2005.

Course Coordinator **HOD**

U18MCCA303	PROGRAMMING IN JAVA	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course – Computer Science / Mathematics Studied in Higher Secondary Studies.				
	Course Coordinator Name &Department :- Ms.V.Ramya/BCA				

COURSE OBJECTIVES:-

Learners will be familiar with the basic programming in JAVA concepts and the ability to write a computer program to solve specified problems using Java structure.

COURSE OUTCOMES (COs)

CO1	Remember the basic concepts of object-oriented programming
CO2	Understand the classes and objects
CO3	Gain knowledge to create packages
CO4	Used to create Java SDK environment to create, debug and run simple Javaprograms.
CO5	Apply the concept of network programming
CO6	Examine a event driven programming using applets

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L							H	
	CO2	H	L								
	CO3	H	L								
	CO4	M	-								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/TermPaper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Introduction to Java – Features of Java – Object Oriented Concepts – Lexical Issues – Data Types – Variables – Arrays – Operators – Control Statements.

UNIT II **12**

Classes – Objects – Constructors – Overloadingmethod – Static and fixedmethods – Inner Classes – String Class – Inheritance – Overloadingmethods – Usingsuper – Abstractclass.

UNIT III **12**

Packages – Access Protection – Importing packages – Exception Handling – Throw and Throws – Thread – Synchronizing – Messaging – Runnable Interface – Inner thread Communication – Deadlock – Suspending, Resuming and stopping threads – Multithreading.

UNIT IV **12**

I/O streams – File Streams – Applets-String Buffer-Char Array-Java Utilities-Code Documentation.

UNIT V **12**

Networks basics-Select Programming-Proxy Servers-TCP/IP Sockets-Net Address-URL-Datagrams-Workingwithwindowsusing AWT Classes-AWT Controls-Layout Managers and Menus.

TEXT BOOKS

1.P.Naughton and H.Schildt ,Java2 ,The Complete References,Third Edition, TMH,1999.
2.E.Balaguruswamy,Programming with Java: A Premier,ThirdEdition,McGrawHill,2007.

REFERENCE BOOKS

1.K.Arnold and J.Gosling- The Java Programming Language, Second Edition, Addison Wesley,1996.
2.Cay S.Horstmann, Gary Cornell,CoreJava , Volume 1 – Fundamentals,5thPHI,2000.

Course Coordinator **HOD**

U18NCBC304	FINANCIAL ACCOUNTING	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – +2				
	Course Coordinator Name &Department:-Dr S.Kamaraj – Commerce & Economics				

COURSE OBJECTIVES:-

Understand the role of accounting and its limitations. Understand what economic information is conveyed in financial statements.

COURSE OUTCOMES (COs)

CO1	Describe the fundamentals of Basic Accounting Concepts and Conventions
CO2	Discuss the concept of Accounting Equations , Journal- Ledger- Trial Balance
CO3	Utilize the Profit &loss account and Balance Sheet
CO4	Examine the Bank Reconciliation Statement ,Rectification of Errors
CO5	Explain the Methods of Depreciation
CO6	Formulate Cash Voucher, Cash Memo, Debit note ,Credit note

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H							H		
	CO2	H									
	CO3		M	H							
	CO4	H		M							
	CO5	H									
	CO6	H									

3	Category	Humanities& Social Studies(HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
							✓			
4	Approval	Academic Council Meeting								

UNIT I **12**

Book-Keeping&Accounting:Meaning, Internal&External Uses of Accounting information, Accounting Concepts & Conventions, AccountingProcedure:- Transactions, Types of Accounts, Rules of Accounting, Source Documents:- Cash Voucher, Petty Cash Voucher, Cash Memo, Receipt, Debit Note, Credit Note, Paying Slips, Withdrawals,Cheque.

UNIT II **12**

Journal & Ledger: Journal, Subsidiary Books, Cash Book, Ledger Posting.

UNIT III **12**

Final Accounts:Preparation of Trial Balance, Preparation of Final Accounts of Sole Traders : Trading profit and lossAccount – Balance sheet- simple adjustments.

UNIT IV **12**

Errors&Reconciliation:Definition of Errors – Classification of Errors - Bank ReconciliationStatement.

UNIT V **12**

Depreciation: Methods of Depreciation: Straight Line Methods, Reducing Balance Method, Change in Depreciation Method

TEXT BOOKS

1. T.S. Reddy & Murthy - Financial Accounting, Margham Publications, Chennai.2012
2. R. L Gupta & V.K Gupta - Financial Accounting, S. Chand & Sons.2016.
3. H.MacMillian,Bierman -Financial and Management accounting-Hill Publication New Yark 2016.

REFERENCE BOOKS

1. S.P Jain & K.L Narang- Financial Accounting, Kalayani Publications.2014
2. R.S.N Pillai &Bagavathy- Financial Accounting, MarghamPublicaions.2012
3. L. Chadwick- Essence of Financial Accounting,2nd Edition PHI 2013

U18NETA301	**அடிப்படைத்தமிழ்**- I	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name&Department :□□□□□□□□. □.□□.□□□□□□□□□ &□□□□□□□□□□□□				

COURSE OBJECTIVES : தமிழ்மொழியினைப்பயிற்றுவித்தல்

COURSE OUTCOMES (COs)

CO1	தமிழ்எழுத்துக்களில்உயிர்எழுத்துக்களைஅறிவர்
CO2	தமிழ்எழுத்துக்களில்மெய்எழுத்துக்களைஅறிவர்
CO3	தமிழில்எண்கள், நாட்கள் பற்றி அறிவர்
CO4	தமிழ்மாதங்கள் பற்றி அறிவர்
CO5	உறவுமுறைபெயர்களைப்பற்றிஅறிவர்
CO6	தமிழ்மொழியை அறியாதவர்கள் தமிழை எழுத படிக்கத் தெரிந்து கொள்வர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	H						M	M	M
	CO2	M	H								
	CO3	M	H								
	CO4	M	H								
	CO5	M	H								
	CO6	M	H								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
							✓				
4	Approval		Academic Council Meeting								

அலகு1 **6**

தமிழ்எழுத்துக்களைஅறிமுகம்செய்தல்- உயிர்எழுத்துக்கள், மெய்எழுத்துக்கள்

அலகு2 **6**

குறில், நெடில்எழுத்துக்கள், வல்லினம், மெல்லினம், இடையினம்

அலகு3 **6**

எண்கள்- ஒன்றுமுதல்ஐம்பதுவரை, பத்துஇலக்கஎண்கள், நூறுஇலக்கஎண்கள், ஆயிரயிலக்கஎண்கள்

அலகு4 **6**

தமிழில்நாட்கள், தமிழ்மாதங்கள், ஆங்கிலமாதங்கள்

அலகு5 **6**

உறவுமுறைபெயர்கள்- பெயர்சொற்கள்- வினைச்சொற்கள்

பாட நூல்கள்:

1. என்.ஹெச்.எம், "தமிழ்எழுத்துகள்", புரோடிஜிதமிழ், 2009
2. அருணா, "என்சுவடிவாய்பாடு", அருணாபப்ளிகேசன்ஸ்
3. ஆசிரியர் குழு, எண்கள் , புரோடிஜி தமிழ், 2009

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1. ஆறுமுகநாவலர்,"தமிழ் இலக்கணம்", பாரிநிலையம், 2012
2. கழகப்புலவர்குழுவினர்,"நன்னூல் – எழுத்ததிகாரம்", கழகவெளியீடு, 1996
3. ராஜு, "வாய்பாடு", சாரதா பதிப்பகம், 2013

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18NETA302	**சிறப்புத்தமிழ்** – I	L	T	P	C
	Total Contact Hours – 30	4	0	0	4
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name&Department :□□□□□□□. □□.□□□□□□□ □□□□□□□ &□□□□□□□□□□□				
COURSE OBJECTIVES : தமிழர்நாகரீகம்பண்பாடுபற்றிஅறியச்செய்தல்					
COURSE OUTCOMES (COs)					
CO1	பழங்காலதமிழரின்சமூகஅமைப்பைப்பற்றிஅறிவர்				
CO2	பண்டைத்தமிழர்திருமணமுறைநல்லறம்- குடும்பவாழ்வுபற்றிஅறிவர்				
CO3	பண்டைத்தமிழரின்கல்வி, வானியல்அறிவு பற்றி அறிவர்				

CO4	தமிழரின்உணவு, உடை, உறையுள்- சங்ககாலவிழாக்கள்பற்றி அறிவர்
CO5	பண்டைத்தமிழரின்கல்வி, வானியல்அறிவுபற்றிஅறிவர்
CO6	தமிழர்நாகரீகம்பண்பாடுபற்றி அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	M			H				H	M	M
	CO2	M			H						
	CO3	M			H						
	CO4	M			H						
	CO5	M			H						
	CO6	M			H						
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
							✓				
4	Approval		Academic Council Meeting								

அலகு1 6
நாகரிகமும்பண்பாடும்- சங்ககாலத்துஅரசியல்நிலை-
சங்ககாலத்தொழிற்பிரிவினரும்சமூகஅமைப்பும்- மகளிர்நிலை

அலகு2 6
பண்டைத்தமிழர்திருமணமுறைநல்லறம்- குடும்பவாழ்வுபற்றியதமிழர்கொள்கை–

அலகு3 6
பண்டையத்தமிழரின்உணவு, உடை, உறையுள்- சங்ககாலவிழாக்கள்

அலகு4 6
பண்டைத்தமிழரின்கல்விநிலை- பண்டைத்தமிழரின்வானியல்அறிவு

அலகு5 6
பண்டைத்தமிழரின்விளையாட்டும்பொழுதுபோக்கும்- மருத்துவக்கலை

பாடநூல்:

1.அ.தட்சிணாமூர்த்தி, "தமிழர்நாகரிகமும்பண்பாடும்",ஐந்திணைப்பதிப்பகம், 2017
2. ஞா.தேவநேயப்பாவாணர், "பண்டைத்தமிழர்நாகரிகமும்பண்பாடும்", பூம்புகார்பதிப்பகம், 2017
3. கேகேபிள்ளை, "தமிழகவரலாறுமக்களும்பண்பாடும்", உலகத்தமிழாராய்ச்சிநிறுவனம், 2015

பார்வைநூல்கள்:

1. □□. □□□□□□□□□, □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□, □□□□□□□□□□□□□□□□□□□□, 2016
2. □□□□□□□□□□, □□□□□□□□□□□□□□:□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□, □□□□□□□□□□□□□□□□□□□□, 2011
3. □□.□□□□□□□□□□□□□□□□□, □□□, □□□□□□□□□□□□□□□□□□□□, 2012

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCCA3L1	**PROGRAMMING IN JAVA LAB**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course – Computer Applications / Mathematics Studied in Higher Secondary Studies.				
	Course Coordinator Name &Department :- Ms.V.Ramya/BCA				

COURSE OBJECTIVES :- Ability to develop application using java SDK environment,AWT and Applet

COURSE OUTCOMES (COs)

CO1	Comprehend a simple java program using OOPs concepts
CO2	Ability to use an interface.
CO3	Examine packages and apply exception handling in real time application
CO4	Implement the concept of thread
CO5	Understand applications using AWT and Applet.
CO6	Ability to handle Frames & Layout

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L							H	
	CO2	H	L								
	CO3	H	-								
	CO4	M	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

S.NO	APPLICATION PROGRAMS
1.	String manipulation using Buffered Reader Class.
2.	Determining the order of numbers generated randomly using Random Class
3.	Implementing built-in functions from Vector Classes
4.	Usage of Calendar Class and manipulation
5.	Implementing Method Overloading
6.	Implementation of Method Overriding
7.	Implementation of Multiple Inheritance (Interface)
8.	Implementation of Exception Handling.
9.	Creating a Thread Using Thread Class
10.	Creating a Thread based applications using Runnable Interface
11.	Application using synchronization such as thread based, Class based and synchronized
	APPLET
12.	Working with Dialogs
13.	Working with Menus Creation
14.	Working with Panel and Layout.
15.	Working with Frames and various controls
16.	Working with Colors and Fonts.

Course Coordinator **HOD**

U18MCCA3L2	**WEB TECHNOLOGY LAB**						**L**	**T**	**P**	**C**	
	Total Contact Hours - 30						0	0	4	2	
	Prerequisite course – Computer Science/ Mathematics Studied in Higher Secondary studies										
	Course Coordinator Name &Department :- Ms.V.Ramya/BCA										
COURSE OBJECTIVES :- Learners will gain knowledge to handle basic web concepts and to create a dynamic website.											
COURSE OUTCOMES (COs)											
CO1	Implement the basic internet concepts using html.										
CO2	Ability to design dynamic and interactive web pages.										
CO3	Develop web pages using CSS										
CO4	Ability to create Events and functions in java script										
CO5	Apply Dynamic HTML to create website										
CO6	Develop an application using HTML tags and JavaScript.										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L							H	
	CO2	H	L								
	CO3	H	L								
	CO4	H	-								
	CO5	M	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

S.NO	LIST OFPROGRAMS
1.	Create a simple page introducing your-self, how old you are, what you do, what you like and dislike. Modify the introduction to include a bullet list of what you do and put a list on the 5 things you like most and dislike is numbered lists. Create another page about your favorite hobby, and link it to (and from) your main page. Centersomething, and put a quote on one of your pages.
2.	Put an existing image on a web page. Create a table, use a heading and at least one use of row span / col span. Colour a page and some text within the page. Link toanother site.
3.	Create HTML Web Page about your Favorite Personality.
4.	Create a Html Page using Frames.
5.	Write script to create an array of 10 elements and display it.
6.	Write a script program to display Digital Clock using JS.
7.	Write a script program to display Date and Time using JS.
8.	Create HTML Web Page to Change the background color by navigating through images.
9.	Write a program to check the given numbers using dialog box.
10.	Design a html page for User Bio-data.
11.	Create web page to perform Mouse events in JS.
12.	Write a Script program for Opening web page and closing windows using timer
13.	Write a script program to sort the given values and display it.

Course Coordinator **HOD**

SEMESTER – IV

U18MCCA401	**OPERATING SYSTEMS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Ms.V.Brindha/BCA				

COURSE OBJECTIVES :-

Learners having knowledge in basics of any computer system can understand the functions of system with the help of an operating system. The purpose of this course is providing a clear understanding of the concepts that underlie operating systems.

COURSE OUTCOMES (COs)

CO1	Remember the fundamental concepts to gain knowledge about an operating system and the role it plays
CO2	Comprehend the high-level structure of operating systems, applications, andthe relationship between the process and its management.
CO3	Describe the behaviour of the different process scheduling and recovery from the deadlock
CO4	Demonstrate memory management and learn about different techniques to manage
CO5	Illustrate the concept of Virtual memory and file systems
CO6	Analyze different types of I/O system and ensuring security and authentication

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**

2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT I **12**

Introduction: Views – Goals – Types of system – OS structures – Components – Services – System Structure – LayeredApproach – Virtual Machines – System Design and Implementation. Process Management: Process – Process Scheduling – Cooperating Process – threads – Inter- process communication CPU Scheduling: CPU schedulers – SchedulingCriteria – SchedulingAlgorithms.

UNIT II **12**

Process Synchronization: Critical- Section Problem – Synchronization Hardware – Semaphores – ClassicalProblems of synchronizing – Critical Region – Monitors. Deadlock: Characterization – Methods for Handling Deadlocks – Deadlocks Prevention – Avoidance – Detection – Recovery.

UNIT III **12**

Memory Management: Address Binding – Dynamic Loading and Linking – Overlays – Logical and Physical AddressSpace – Contiguous Allocation – Internal&External Fragmentation. Non-Contiguous Allocation.Paging and Segmentation Schemes – Implementation – Hardware-Protection – Sharing – Fragmentation.

UNIT IV **12**

Virtual Memory: Demand paging – Page Replacement – Page Replacement Algorithms – Thrashing. File system: File concepts – Access Methods – Directory Structures – Protection – ConsistencySemantics – File System Structures – Allocation Methods – Free Space Management.

UNIT V **12**

I/O System: Overview – I/O Hardware – Application I/O Interface – Kernal I/O Subsystem – Transforming I/O Requests to Hardware Operations – Performance. Secondary Storage Structures: Protection – Goals – Domain – Access matrix – The Security Problem – Authentication – Threats – Threat Monitoring – Encryption.

TEXT BOOKS

1. Siblerschatz P.B Galvin, Gange., “Operating System Concepts”, 6th Edn., Addision –Wesley PublishingCo.,2002.

REFERENCE BOOKS:

1.H.M. Deital, An Introduction to Operating System, second edition, Addision Wesley, 1990.

Course Coordinator **HOD**

U18MCSC403	DATABASE TECHNOLOGY	L	T	P	C
	Total Contact Hours – 60	**3**	**1**	**0**	**4**
	Prerequisite course – Nil				
	Course Coordinator Name & Department :- Dr. K. Rajakumari /CS				

COURSE OBJECTIVES:-

Leaner's can easily know about the information of the database technology is an essential part of any computer system. The purpose of this course is providing a clear understanding of the concepts that underline Database Technology.

COURSE OUTCOMES (COs)

CO1	Rememberthe fundamentalelements of relationaldatabase management
CO2	Understandthe basic concepts of relational data model, entity-relationship model, Relationaldatabase design, relationalalgebra and SQL.
CO3	Apply variousER-models to represent simple database application scenarios
CO4	Analyzethe ER-model to relational tables, populaterelationaldatabase andformulate SQL queries on data.

CO5	Analyze to improve the database design by normalization.
CO6	Used to create the database system architecture.

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO 2	PSO 3
2	**CO1**	**H**	**L**						**H**		
	CO2	**H**	**L**								
	CO3	**H**	**L**								
	CO4	**H**	**L**								
	CO5	**H**	**L**								
	CO6	**H**	**L**								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
					✓						
4	Approval	47th Academic Council Meeting									

UNIT I **12**

Database concepts - basic concepts- constraints - keys -ER diagram - reduction or ER schema – UML- design of an ER database schema - relational model - relational algebra- views - relational database- SQL structure -set quotation- sub queries- join relation- DDL - DML - embedded SQL,QBE.

UNIT II **12**

Integrity & security - domain constraints - referential integrity - assertion – triggers- authorization in SQL - relational database design- 1, 2, 3, 4, BCNF normal forms – decomposition.

UNIT III **12**

Object relational data model - nested relations - complex types - inheritance - reference types - querying with complex - types - functions & procedures- object oriented versus object relational– introduction to xml concepts.

UNIT IV **12**

Storage and file structure - physical storage media - file organization, data dictionary storage, query processing - selection operation - sorting - join operation transaction - concepts - state - atomicity and amiability - Serialisability - transaction definition in sql - concurrency control - protocols - deadlock handling.

UNIT V **12**

Database system architecture - centralized& client server architecture - server system architecture -case study - oracle.

TEXT BOOKS

1. A. Silberschatz, H.F. Korth and S. Sudharshan, 2006, Database System Concepts, 5th Edition, Tata McGraw Hill, New Delhi.

REFERENCE BOOKS

1. Silbersehatz, h.f.korth and sudharshan ,Database system concepts , 4th ed ,mcgrawhill
2. Jeffrey .d. ullman ,principles of databasesystems,Galgotia
3. C.J.date ,An introduction to databasesystem

Course Coordinator **HOD**

U18MCCA403	**VISUAL PROGRAMMING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course –Computer Science/ MathematicsStudied in HigherSecondarystudies				
	Course Coordinator Name &Department:-Ms.V.Ramya/BCA				

COURSE OBJECTIVES:-

Learnerscreate and develop simple application program thatconnectwithdatabaseusingvisual Basic. Learnersdeveloppractical, professional-quality programs usingappropriate Visual Basic programmingmethods.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in basic conceptsof Visual Programming
CO2	Express the use of the event-driven model
CO3	Generalize knowledge of user interface design
CO4	Analyze to implement applications using an object-orientedmethodology
CO5	Validateto performoperations and store results
CO6	Comprehend an application usingvisualprogramming concepts.

Mapping of Course Outcomeswith Program outcomes (POs) (1/2/3 indicatesstrength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PS O2	PSO3

2	CO1	H	L								H	
	CO2	H	L									
	CO3	M	-									
	CO4	H	L									
	CO5	H	L									
	CO6	H	L									

3	Category	Humanities& Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Anyother	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT I **12**

Customizing a form-writing simple programs- tool box- creatingcontrols- nameproperty- command button- access keys- image controls - text boxes- labels - message boxes- grid- edittools- variables- data types- strings–numbers.

UNIT II **12**

Displaying information- determinate loops –indeterminate loops- conditionals- built in functions- functions and procedures

UNIT III **12**

Lists -arrays- sorting and searching- records- control arrays- combo boxes- grid control- projectswith multiple forms- do events and sub main- errortrapping.

UNIT IV **12**

VB objects- dialog boxes- common controls - menus- MDI forms - testing - debugging - optimization- working with graphics.

UNIT V **12**

Monitoring mouse activity- file handling- file system controls- file system objects-COM-OLE - automation - DLL servers - OLE drag and drop.

TEXT BOOKS

1.Gary Cornell, ”Visual Basic 6 from the ground up” ,First Edition,TMH,1998.

REFERENCE BOOKS

1.Noel Jerke, “Visual Basic Complete Ref”,TMH,1999.
2.Wallace Wang , “Visual Basic 6 forDummies”,1998.
3.Steve Brown ,”Visual Basic 6Complete”,Helion Ltd,2018.

CourseCoordinator **HOD**

U18NCBC404	**COST & MANAGEMENT ACCOUNTING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite course – +2				
	Course Coordinator Name &Department:-Ms.G.Anandhi -Commerce				

COURSE OBJECTIVES:-

- To understand the role of accounting and its limitations. Understandwhateconomic information isconveyed in financialstatements

COURSE OUTCOMES (COs)

CO1	List out the cost accounting& Management Accounting concept, Stores records
CO2	Report the ABC Analysis, EOQ, Material store records
CO3	Practice the Administration, Selling overheads, Machine hour rate
CO4	Compare the funds flow &Cash flow statement .
CO5	Estimate the concept of staffing functions in the organization and Ratio
CO6	Formulate the Budget, Absorption of over heads, methods of pricing methods

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H									
	CO2			M							
	CO3	H							H		
	CO4		H								
	CO5	M		H							
	CO6				H						

3	Category	Humanities& Social Studies(HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
							✓			
4	Approval	Academic Council Meeting								

UNIT I **12**

CostAccounting: Definition, Meaning and objectives - Distinction betweenCost and Financial Accounting- Elements of cost and preparation of costsheets and tender. Management Accounting: Definition and objectives - Distinction between management and financialaccounting.

UNIT II **12**

Materials: Stores Records – PurchaseOrder – GoodsReceived. Note - Bin Card - Stores Ledger - Purchase, Receipt and Inspection - Inventory Control - ABC Analysis – EconomicOrderingQuantity - Maximum, Minimum and Reorderinglevels - Methods of Pricing Issued.

UNIT III **12**

Overheads: Factory, Administration, Selling and Distribution of overheads - Classification - Allocation and Apportionment-Redistribution (Secondary Distribution) - Absorption of Overheadsincluding 'Machine Hour Rate'.

UNIT IV **12**

Funds Flow and Cash FlowAnalysis: Schedule of changes in working capital - Preparation of funds flow statement - Preparation of Cash FlowStatement - Importance of funds flow and cash flowanalysis- Differencebetweenfunds flow and cash flow.

UNIT V **12**

Ratio Analysis: Utility and limitations of Accounting Ratios - calculation of Accounting Ratios - Ratio Analysis for Liquidity - Preparation of flexible budget, production budget and sales budget.

TEXT BOOKS

1.R.K.Suleka,"Cost& Management Accounting",BLH,2018.

2.M. C Shukla, TS Grewal, “CostAccounting”, S Chand Nov. 2010.
3. M.C.Shukla, T.S.Grewal, Dr.M.P.Gupta,”Cost Accounting Test &problems”,S Chand Nov. 2010

REFERENCE BOOKS

1.Agarwal M.L,Dr.K.L.Gupta,”Cost Accounting”,Sahithya Bhawan Publications,Jan 2018.
2. M.N.Arora,”Cost Accounting principles &Practice”,VikasPublishers,Jan 2012..
3.S. P. Jain & Narang- Cost Accounting, Kalyani. 2010

Course CoordinatorHOD

U18NETA401	**அடிப்படைத்தமிழ்**- II	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name&Department :□□□□□□□. □.□□.□□□□□□□□ &□□□□□□□□□□□				

COURSE OBJECTIVES : தமிழ்மொழியினைப்பயிற்றுவித்தல்	
COURSE OUTCOMES (COs)	
CO1	எழுத்துக்கள்மூலம்சொற்கள்அமைப்பதைப்பற்றிஅறிவர்
CO2	சொற்கள்மூலம்வாக்கியம்அமைப்பதைப்பற்றிஅறிவர்
CO3	எழுத்துக்களைஇணைத்தல், சரியானசொற்களால்வாக்கியம்அமைப்பதைப்பற்றிஅறிவர்
CO4	வினாவுக்குரியவிடையளித்தல் பற்றி அறிவர்
CO5	தன்விவரப்பட்டியல்தயாரிப்பதுபற்றிஅறிவர்
CO6	தமிழ்மொழியை அறியாதவர்கள் தமிழை எழுத படிக்கத் தெரிந்து கொள்வர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	H								
	CO2	M	H								

	CO3	M	H						M	H	M
	CO4	M	H								
	CO5	M	H								
	CO6	M	H								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
							✓				
4	Approval		Academic Council Meeting								

அலகு1 6

எழுத்துக்களைஒழுங்குபடுத்திச்சொற்களாக்குதல்- சொற்களைக்கொண்டுவாக்கியம்அமைத்தல்

அலகு2 6

இனமில்லாதவற்றைஎடுத்துஎழுதுதல்- விடுபட்டஎழுத்துக்களைஇணைத்தல்-
சரியானவாக்கியமாகமாற்றுதல்

அலகு3 6

வினாவுக்குரியவிடையளித்தல்

அலகு4 6

தன்விவரப்பட்டியல்தயாரித்தல்

அலகு5 6

ஆங்கிலப்பகுதியைத்தமிழாக்குதல்

பாட நூல்கள்:

1. □□.□□□□□□□□□□,□□□□□□□□□□ □□□□□□□□, □□□□□□ □□□□□□ □□□□□□□□□□, 201
2. மருதூர் அரங்கராசன்,"தவறின்றித் தமிழ் எழுத", ஐந்திணைப் பதிப்பகம், 2012
3. பாரதிதாசன், "தவறின்றித் தமிழ் எழுத", நாம் தமிழர் பதிப்பகம், 2013

□□□□□□□□□□

1. மு.சதிகபாட்சா, விடுபட்ட சொற்களின் எழுத்துக்கள், இராஜா பப்ளிகேஷன், 2013

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18NETA402	**சிறப்புத்தமிழ்** – II	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name&Department :□□□□□□□. □□.□□□□□□□ □□□□□□□ &□□□□□□□□□□□				

COURSE OBJECTIVES : நாட்டுப்புற இலக்கியத்தைப் பற்றிஅறியச்செய்தல்	
COURSE OUTCOMES (COs)	
CO1	நாட்டுப்புறப்பாடல்கள்பற்றிஅறியச்செய்தல்
CO2	விடுகதைகள்பற்றிஅறியச்செய்தல்
CO3	நம்பிக்கைகள்பற்றிஅறியச்செய்தல்
CO4	சமயவழிபாடுகள்பற்றிஅறியச்செய்தல்
CO5	பழமொழிகள்பற்றிஅறியச்செய்தல்
CO6	நாட்டுப்புறமருத்துவம் பற்றிஅறியச்செய்தல்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
							✓			

4	Approval		Academic Council Meeting

அலகு1 6
நாட்டுப்புறப்பாடல்கள்- தாலாட்டுப்பாடல்கள், குழந்தைப்பாடல்கள், விளையாட்டுப்பாடல்கள், தொழிற்பாடல்கள், காதல்பாடல்கள், கொண்டாட்டப்பாடல்கள்

அலகு2 6
விடுகதைகள்- நம்பிக்கைகள்–

அலகு3 6
சமயவழிபாடுகள்

அலகு4 6
பழமொழிகள்

அலகு 5 6
நாட்டுப்புறமருத்துவம்

பாடநூல்:
1. சு.சக்திவேல், "நாட்டுப்புறஇயல்ஆய்வு", மணிவாசகர்பதிப்பகம், 2015
2. சு.சண்முகசுந்தரம், "நாட்டுப்புறஇலக்கியவரலாறு", காவ்யாபதிப்பகம், 2017
3. நா. வானமாமலை, "தமிழர்நாட்டுப்பாடல்கள்", நியூசெஞ்சுரிபுக்ஹவுஸ், 2014

பார்வைநூல்கள்:
1. கி.வா. ஜகந்நாதன், "மலையருவி(நாடோடிப்பாடல்கள்)", அமுதநிலையம், 2012
2. சரசுவதிவேணுகோபால், தமிழகநாட்டுப்புறவியல், தாமரைவெளியீடு, 1981
3. கழனியூரன், நாட்டுப்புறவியல்கட்டுரைகள், காவ்யாபதிப்பகம், 2014

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCCA4L1	VISUAL PROGRAMMING WITH ORACLE LAB	L	T	P	C
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course –Computer Science/ MathematicsStudied in HigherSecondarystudies				
	Course Coordinator Name &Department:-Ms.V.Ramya/BCA				

COURSE OBJECTIVES:

Learners use the graphical user interface programming language which has a bulk of inbuilt user friendly tools for understanding programming language concepts and helps to enhance the intellectual skills of learners.

COURSE OUTCOMES (COs)

CO1	Ability to Perform a program using the development tools
CO2	Ability to handle and analyze fundamental computer programming operations
CO3	Examining, creating, and debugging programming projects using an IDE.
CO4	Validating user input through various input tools
CO5	Manipulate programs that include multiple forms and basic menu environment.
CO6	Comparing and contrasting source code and executable results

Mapping of Course Outcomeswith Program outcomes (POs) (1/2/3 indicatesstrength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PS O2	PSO3
2	CO1	H	L							H	
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	M	-								
	CO6	H	L								

3	Category	Humanities& Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Anyother	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

S.NO	LIST OF PROGRAMS
1.	SDI(Simple Calculatorusing Control Array)
2.	Multiple Forms(Banking Transactions)
3.	Menu Driven Program
4.	Common Dialog Control
5.	Matrix Manipulations
6.	String Manipulations
7.	ChangingColor and Size using Scroll Bar
8.	GraphicalShapesusing Tool Bar
9.	Inventory Management System
10.	EmployeeDatabase System
11.	Library Management System
12.	StudentDatabase System
13.	File System Controls
14.	Password Validation using DAO
15.	Object Linking and Embedding

CourseCoordinator **HOD**

U18MCCA4L2	TALLY LAB	L	T	P	C
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course – +2				
	Course Coordinator Name &Department:-Ms.S.BinaPani –Commerce				

COURSE OBJECTIVES:-

- . To gain good knowledge in accounting using Tally Software

COURSE OUTCOMES (COs)

CO1	Identify the main features of accounts using Tally
CO2	Express and develop Ledgers& trial balance
CO3	Demonstrate to create balance sheet
CO4	Draw the generate reports
CO5	Estimate the manage taxes
CO6	Design cashbook and Pass book

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H							H		
	CO2			H							
	CO3	H									
	CO4		H								
	CO5	H				M					
	CO6		H								

3	Category	Humanities& Social Studies(HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Anyother	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
	Approval	Academic Council Meeting								

S.NO	LIST OF PROGRAMS
1.	Startup Screen Component
2.	Processing Icon
3.	Main Features of Tally, QuitTally
4.	Creation of groups(Primary&Sub Groups)

5.	Creation of user defined group
6.	Creation of Ledgers, Alterations, Deletions
7.	To demonstrate trial balance
8.	Creation balance sheet
9.	Creation of cash book
10.	Creation of Pass book
11.	Demonstration of Voucher classes
12.	To calculate simple interest
13.	To calculate Compound Interest
14.	To createinterest reports
15.	To Learn all recent simple taxes
16.	Creation of simple journal and ledgers

Course Coordinator **HOD**

SEMESTER – V

U18MCCA501	**MULTIMEDIA AND ANIMATION**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course –Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:-Ms.V.Ramya/BCA				

COURSE OBJECTIVES:-

Learners gain the ability to create quality animation performance through a creative and professional portfolio using principles of animation, drawing, design, artistic expertise and innovation. Learners will have refined communications skills and the adaptability to work within a dynamic animation community.

COURSE OUTCOMES (COs)

CO1	Define a significant knowledge on fundamental and advanced aspects of animation, video and informational graphics.
CO2	Demonstrate progress in basic design shapes and color
CO3	Apply and interpret Multimedia data.
CO4	Inspect the vector graphics and 2D animations, making use of various tools and animation techniques provided by Flash
CO5	Compare about different types of media format and their properties.
CO6	Develop multimedia software skills at an intermediate level to complete projects using audio, text and visual imagery.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PS O2	PSO3
2	CO1	H	L								H
	CO2	H	L								
	CO3	H	-								
	CO4	M	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

UNITI 12

MULTIMEDIA: What Is Multimedia: Interactive Multimedia – Advantages Of Interactive Multimedia – Where To Use Multimedia – Text – Graphics – Audio – Film – Video. UNDERSTANDING TEXT: Typeface or Fonts – Types of Fonts. COMPUTER GRAPHICS: 2D Computer Graphics – 3D Computer Graphics API. UNDERSTANDING SOUND: Basic Sound Concept – Audio Formats and Quality Levels – AIF Format – AU Format – EA Format – MIDI Format – Mp3 Format. UNDERSTANDING VIDEO: Digital Vs Analog Video.

UNIT II 12

PHOTOSHOP: Fundamentals – Opening and Importing Images – Resolution – Models and Colour Spaces – Layers. PAINTING PIXELS: The Painting Tools – Erasing – Fills – Type. SELECTION AND ALLIED OPERATIONS: Marquee selection and cropping – Lasso Selection – Paths – Combining and Transforming Selections.

UNIT III 12

ADJUSTMENTS AND RETOUCHING: Tonal Adjustment – Colour Adjustments – Retouching By Hand. EFFECTS AND FILTERS: Blurring and Sharpening – Special Effects and Distortion – Layer Effects and LayerStyles.

UNIT IV 12

FLASH: Animation with Interacting – Basic Concepts – Drawing –Lines and Shapes – Strokes and Fill – Shapes and Brushes – Selection – Transformation and Reshaping – Importing Artwork and Manipulating Images. ANIMATION: Animating One Frame at a Time – Motion Tweening – Symbols and Instances – Shape Tweening – Sound.

UNIT V 12

ACTIONS: Buttons – Button action – Frame Action – Action and Movie Clip Symbols – Actions – Browsers and Networks – Beyond the Basic Actions. FLASH MX275: Interface Elements – Panels– Tools – Layer Folders – Accessibility – Video-Components – User Interface Components – Changing the Appearance of Components.

TEXT BOOKS

1.Vishnu Priya Singh, , "A Text Book of Multimedia", 1st Ed., Computech Pub. Ltd, New Delhi,. UNIT I, 2006.

2.Nigel Chapman and Jenny Chapman, "Practical Multimedia", 2nd Ed., Wiley – Dream Tech Pvt. Ltd. UNITS II, III, IV &V.

REFERENCE BOOKS

1. Thiagharajan and Anbumani, "Flash MX 2004", Tata McGraw Hill, NewDelhi.
2. Laurie Ulrich Fuller and Robert C. Fuller, "Photoshop CS3 Bible", Willey India Pvt.Ltd.,2017.

CourseCoordinatorHOD

U18MCCA502	SOFTWARE ENGINEERING	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Dr.S.Thirunirai Senthil/BCA				

COURSE OBJECTIVES :-

Helps the learners to understand theories, methods, and technologies applied for professional software development.

COURSE OUTCOMES (COs)

CO1	Gain knowledge about the fundamentals of Software Engineering.
CO2	Understand the Planning of a software Project
CO3	Applying various Software Cost Estimation Techniques
CO4	Analyze the various software design techniques
CO5	Comprehend the Coding and testing part of the project.
CO6	Understand the Software Quality Assurance and software maintenance tools

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
					✓						
4	Approval	Academic Council Meeting									

UNIT I **12**

Introduction to Software Engineering : Definitions – Size Factors- Quality and Productivity Factors – Managerial Issues- Planning a software Project: Defining the Problem – Developing a Solution – Strategy – Planning the Development Process – Planning an Organization Structure – Other Planning Activities.

UNIT II **12**

Software Cost Estimation : Software cost factors – Software Cost Estimation Techniques – Staffing – Level Estimation – Estimating Software Maintenance Costs – The Software Requirements Specification – Formal Specification Techniques – Languages and Processors for Requirements Specification.

UNIT III **12**

Software design: Fundamental Design Concepts – Modules and Modularization Criteria – Design Notations – Design Techniques – Detailed Design Considerations – Real-Time and Distributed System Design – Test Plans – Milestones, Walkthroughs, andInspections.

UNIT IV **12**

Implementation issues : Structured Coding Techniques – Coding Style – Standards and Guidelines – Documentation guidelines – Type checking – Scooping Rules – Concurrency Mechanism.

UNIT V **12**

Quality Assurance – Walkthroughs and Inspections – Static Analysis – Symbolic Execution – Unit Testing and Debugging – System Testing – Formal Verification: Enhancing Maintainability during Development – Managerial aspects of Software Maintenance – Source Code Metrics – Other Maintenance Tools and Techniques.

TEXT BOOKS

1.Richard Fairley,Software Engineering Concepts,McGrawHill, 2002.

REFERENCE BOOKS

1.R.S.Pressman,Software Engineering , Fourth Ed , McGraw Hill,1997.

Course Coordinator **HOD**

U18MCCA503	**PROGRAMMING IN ASP .NET**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course –Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Ms.S.Anupriya/BCA				

COURSE OBJECTIVES :-

Learners will be familiar with basics of the ASP .NET. Learners will understand the design and implementation of the complete applications over the web

COURSE OUTCOMES (COs)

CO1	Gain knowledge in developing and creating ASP .Net Applications
CO2	Understand the usage of web controls and forms
CO3	Apply development products of Microsoft Visual Studio.Net® products
CO4	Analyze the implementation and connect the automated system to a database stored on a web server.
CO5	Analyze how to link and publish Visual Studio.Net® applications to reflect a web application.
CO6	Examine an real time application using ASP .NET

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L							H	
	CO2	H	L								
	CO3	H	L								
	CO4	M	L								
	CO5	H	L								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					

4	Approval	Academic Council Meeting

UNIT I INTRODUCTION TO .NET FRAMEWORK 12

Genesis of .Net – Features of .Net - .Net binaries – Microsoft Intermediate Language – MetaData-.Net typesand.netnamespaces–CommonLanguageRuntime–CommonTypeSystem Common Language Specification - .Net Applications using command line compiler and visual studio .netIDE.

UNIT II BASICS OFASP.NET 12

Introducing ASP .NET – Creating and deploying ASP .NET applications – Web forms – Web controls – working with events – Rich web controls – Custom web controls – Validation controls Debugging ASP .NETpages.

UNIT III ADVANCED ASP .NET 12

ASP .NET configuration – Business objects – HTTP Handlers – Caching in ASP .NET – ASP.NET security – Localizing ASP .NET applications – Deployment projects.

UNIT IV BUILDINGWEBSERVICES 12

Introduction to web services – Web services Infrastructure – SOAP – Building a web service – Deploying and publishing web services – Finding web services – Consuming webservices.

UNIT V ADO.NET 12

Basics of ADO .NET – Changes from ADO – Data Table – Data Views – Data Set – Data Relation Type – ADO .NET Managed Providers – OLEDB and SQL Managed Providers – OLEDB Data Adapter Type.

TEXT BOOKS

1. Andrew Troelsen – **"C# and the .Net Platform"** – Apress – 2001.(Unit I andII)
2. MridulaParihar, et. al. – **"ASP .NET Bible"** – Wiley-dreamtech India Pvt. Ltd. –2002

REFERENCE BOOKS

1. David S. Platt – **"Introducing .Net"** – Microsoft Press –2002.
2. Alex Homer et. al. – **"Professional ASP .NET 1.1"** – Wiley-dreamtech India Pvt. Ltd. – 2004.
3. Rebecaa M. Riordan – **"ADO .Net step by step"** - MicrosoftPress.

Course Coordinator **HOD**

U18MECA011	Major Elective I :OBJECT ORIENTED ANALYSIS AND DESIGN	L	T	P	C
	Total Contact Hours - 60	4	0	0	4
	Prerequisite course –Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department :- Dr.S.Thirunirai Senthil/BCA				

COURSE OBJECTIVES :-

Learners will gain knowledge in object oriented modeling, class diagram, use case and component diagram.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in design the problemdomainusingunifiedobjectapproach.
CO2	Understanding the identification and categorize business, access and view layer objects of the application.
CO3	Apply the knowledge in creating Use case diagram,classdiagram.
CO4	Analyze the Component Diagrams and DeploymentDiagrams
CO5	Analyze the construction of software system by applying various modeling techniques
CO6	Examine an real time application by applying OOAD concepts

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
						✓					
4	Approval	Academic Council Meeting									

UNIT I INTRODUCTION TO UML 12

Importance of Modeling - Principles of Modeling - Object Oriented Modeling - Conceptual Model of the UML- Architecture - Software Development Life Cycle.

UNIT II STRUCTURAL MODELING 12

Classes – Relationships – Common Mechanisms – Diagrams

UNIT III CLASS & OBJECT DIAGRAMS 12

Terms – Concepts - Modeling Techniques for Class and Object Diagrams.

UNIT IV BEHAVIORAL MODELING 12

Interactions - Interaction Diagrams – Use cases – Use case Diagrams – Activity Diagrams.

UNIT V ARCHITECTURAL MODELING 12

Component – Deployment – Component Diagrams and Deployment Diagrams.

TEXT BOOKS

1. Grady Booch, James Rumbaugh and Ivar Jacobson (2004). "The Unified Modeling Language User Guide". Addison Wesley Longman Pvt. Ltd., Singapore

REFERENCE BOOKS

1. Grady Booch, James Rumbaugh and Ivar Jacobson (2000), "The Unified Modeling language Reference manual". Addison Wesley Longman Pvt.Ltd.,Singapore

Course Coordinator **HOD**

U18MECA012	**Major Elective I :CLOUD COMPUTING**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	4	0	0	4
	Prerequisite course –Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department :- Ms.V.Brindha/BCA				

COURSE OBJECTIVES :-

Learners will be familiar with world-leading IT technology with high international standard of service. Learners will understand the expertise of service.

COURSE OUTCOMES (COs)

CO1	Gain knowledge inidentifying the technicalfoundations of cloud systems architectures.
CO2	Understand the problems and solutions to cloud application problems.
CO3	Apply principles of best practice in cloud application design and management.
CO4	Analyze and definetechnical challenges for cloud applications and assesstheir importance.
CO5	Apply the implementation service with a quality control fromproject imitation to production
CO6	Examine an real time application using Cloud Computing by using various services.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	-								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
						✓				
4	Approval	Academic Council Meeting								

UNIT I FUNDAMENTALS OF GRID ANDCLOUD COMPUTING 12

Fundamentals – Cloud computing – History of Cloud Computing – Cloud Architecture – Cloud Storage – Why cloud computing Matters – Advantages of Cloud computing – Disadvantages of Cloud Computing – Companies in the Cloud Today – Cloud Services.

UNIT II DEVELOPING CLOUD SERVICES 12

Web-Based Application – Pros and Cons of Cloud Service Development – Types of Cloud Service Development – Software as a Service – Platform as a Service – Web Services – On-Demand computing – Discovering Cloud Services Development Services and Tools – Amazon Ec2- Google App Engine – IBM Clouds.

UNIT III CLOUD COMPUTING FOR EVERY ONE 12

Centralizing Email communications – collaborating on Schedules – Collaborating on To-Do Lists – Collaborating Contact Lists – Cloud computing for the Community – Collaborating on Group Projects and Events – Cloud Computing for theCorporation.

UNIT IV USINGCLOUDSERVICES 12

Collaborating on Calendars, Schedules and Task Management – Exploring Online Scheduling Applications – Exploring Online Planning and Task Management – Collaborating on Event Management – Collaborating on Contact Management – Collaborating on Project Management – Collaborating on Word Processing – Collaborating on Databases – Storing and Sharing Files – Evaluating Web Mail Services – Evaluating Web Conference Tools – Collaborating via Social Networks and Groupware – Collaborating via Blogs and Wikis.

UNIT V GRIDCOMPUTING 12

OGSA – Sample Use Cases – OGSA Platform Components – OGSI – OGSA Basic Services.Globus Toolkit – Architecture – Programming Model – High Level Services – OGSI.Net.Middleware Solutions.

TEXT BOOKS

1. Michael Miller, Cloud Computing : Web-Based Applications That Change the Way You Work and Collaborate Online, Que Publishing, August2008.

REFERENCE BOOKS

1.Haley Bear, Cloud Computing Best Practices for Managing and Measuring Processes for On-demand Computing, Applications and Data Centersin the Cloud with SLAs

Course Coordinator **HOD**

		L	T	P	C
U18MECA013	**Major Elective I : DATA MINING AND DATA WAREHOUSING**				
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course –Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department :- Ms.S.Anupriya/BCA				

COURSE OBJECTIVES :-

Learners will be familiar with the concepts of data ware house and data mining, which gives a complete description about the principles, used, architectures, applications, design and implementation of data mining and data ware housing concepts.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in mathematical foundations of data mining tools
CO2	Understand how to gather and analyze large sets of data to gain useful business
CO3	Understand and implement classical models and algorithms in data warehouses and data mining.
CO4	Characterize the kinds of patterns that can be discovered by association rule mining, classification and clustering.Analyzing and demonstrating basic data miningalgorithms, methods, and tools
CO5	Master data mining techniques in various applications like social, scientific and environmental context.
CO6	Develop skill in selecting the appropriate data mining algorithm for solving practical problems

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	h	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
						✓				
4	Approval	Academic Council Meeting								

UNIT I DataWarehouse 12

Data Warehouse roles and structures – What can a data warehouse do? The Cost of Warehousing data – Data Stores, Warehouses and Marts – The Data Warehouse environment – Data warehouse characteristics – The Data Warehouse architecture – Metadata, Metadata Extraction – Implementing the Data Warehouse – Designing and building the Data Warehouse – The data warehouse project plan – Data warehouse architecture, specification and development- Data Warehouse project successfactors.

UNIT II Introduction to Data Mining 12

Basic Data Mining tasks – Data mining versus knowledge discovery in data bases – Data Mining issues – Data Mining Metrics – Social implications of data mining - Data Mining from a database perspective – Data Mining Techniques – Introduction – A statistical perspective on Data Mining – Similarity measures – Decision trees – Neural networks –

Geneticalgorithms.

UNIT III Classification 12

Introduction – Statistical based algorithms – Distance based algorithms – Decision tree based algorithms – Neural networks based algorithms – Rule based algorithms – Combining Techniques.

UNIT IV Clustering 12

Introduction – Similarity and distance measures – Outliers – Hierarchical algorithms – Partitional algorithms – Clustering large data bases – Clustering with categorical attributes – Association Rules – Introduction – Large Item – sets – Basic Algorithms.

UNIT V WebMining 12

Web Mining – Introduction – Web Content Mining – Web Structure Mining – Web Usage Mining.

TEXT BOOKS

1.MargaretH.Dunham. "Data Mining Introductory and Advanced Topics".Pearson Education –2003.

REFERENCE BOOKS

1.George M. Maracas'. "Modern Data Warehousing, Mining and Visualization: Core concepts", Pearson Education – 2003

Course Coordinator **HOD**

U18MCCA5L1	PROGRAMMING IN ASP .NET LAB	L	T	P	C
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course – Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department :- Ms.S.Anupriya/BCA				

COURSE OBJECTIVES :-

Learners willgain ability to design and implement the complete applications over the web

COURSE OUTCOMES (COs)

CO1	Implement the basic concept of console applications like string manipulation, exception handling.
CO2	Understand the technical code to implement windows applications
CO3	Apply the programs using predefined functions
CO4	Analyze Web Applications
CO5	Develop applications that connect database
CO6	Examine web pages using ASP .NET

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L							H	
	CO2	H	L								
	CO3	H	-								
	CO4	H	L								
	CO5	M	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

S.NO	ASP.NET PROGRAMS
	CONSOLE APPLICATIONS
1	String Manipulation
2	Area of Rectangle, Square, Circle
3	Swapping of Two Numbers(Using Function)
4	Conversion of Celsius to Fahrenheit & Fahrenheit to Celsius
5	Exception Handling
	WINDOWS APPLICATIONS
6	Convert Case & Display Day, Month,& Year
7	Menus Using Text Editor
8	Quiz Program
9	Student Progress Details
	WEB APPLICATIONS
10	Creation of Customer Details(Using Standard Web Controls)
11	Creation of Biodata(Using Html Server Controls)
12	Creation of Master Page(Using Rich Web Controls)
13	Display Database(Using Data Controls)
14	Creation of Database(Manipulate With Report)

Course Coordinator **HOD**

U18MCCA5L2	MULTIMEDIA AND ANIMATION LAB	L	T	P	C
	Total Contact Hours – 30	0	0	4	2
	Prerequisite course –Computer Science/ Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name & Department:-Ms.V.Ramya/BCA				

COURSE OBJECTIVES:

Learn the various photo editing features and animation techniques and demonstrate proficiency in developing the multimedia presentations.

COURSE OUTCOMES (COs)

CO1	Organize the basic tools and components of a multimedia project
CO2	Perform designing, animation, visual effects and gaming
CO3	Create simple shapes using animation editing software and design simple animation
CO4	Handle audio visual or virtual models
CO5	Sketches to visualize the lead of any communication, education or entertainment projects.
CO6	Constructs high quality e-learning design and solutions to enhance cognitive skills

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L							H	
	CO2	H	L								
	CO3	M	L								
	CO4	H	L								
	CO5	H	-								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
					✓					
4	Approval	Academic Council Meeting								

LIST OF PROGRAMS

Photoshop

1. Create an image using differentproperties.
2. Picture manipulation usingfilter.
3. Design pictures usinglayers.
4. Design college IDCard.
5. Design Marriage Invitation.

Flash

1.Design acar.
2.Move aBall.
3.Human Movement usinganimation.
4.Create anAdvertisement.
5.Develop a webpage using Photoshop andFlash.

CourseCoordinator **HOD**

SEMESTER – VI

U18MCCA601	COMPUTER NETWORKS	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course - Nil				
	Course Coordinator Name &Department :- Ms. P. Jennifer/CS				

COURSE OBJECTIVES :-

Learners will gain knowledge in computer networks and concentrates on building a firm foundation for understanding Data Communications and Networks.

COURSE OUTCOMES (COs)

CO1	Recall the layers of OSI and TCP/IP networks.
CO2	Identify the solution for the error control and flow control problems.
CO3	Explain the working principles of IP layer and its routing algorithms.
CO4	Analyze the functionalities of transport layer protocols and its congestion control mechanism.
CO5	Apply the functionalities of application layer protocols.
CO6	Analyze the different types of network devices and their functions

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L						H		L
	CO2	H	-								
	CO3	H	L								
	CO4	M	-								
	CO5	M	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNITI **12**

Introduction – Network Hardware – Software – Reference Models – OSI and TCP/IP models – Example networks: Internet, ATM, Ethernet and Wireless LANs

UNITII **12**

Physical layer – Theoretical basis for data communication - guided transmission mediaWireless transmission - Communication Satellites – Telephones structure –local loop, trunks and multiplexing, switching.

UNITIII **12**

Data linklayer: Design issues – errordetection and correction.Elementary data linkprotocols – slidingwindowprotocols – Data Link Layer in the Internet - Medium Access Layer – Channel Allocation Problem – Multiple Access Protocols.

UNITIV **12**

Network layer - design issues – Routingalgorithms - Congestion control algorithms – IP protocol – IP Address – Internet ControlProtocol.

UNITV **12**

Transport layer - design issues - Connection management - Addressing, Establishing& Releasing a connection – Simple Transport Protocol – Internet Transport Protocol (TCP) - Network Security:Cryptography.

TEXT BOOKS

1.S.Tanenbaum, 2003, Computer Networks, Fourth Edition, - Pearson Education, Inc, (Prentice hall of India Ltd),Delhi.

REFERENCE BOOKS

1. B. Forouzan, 1998, Introduction to Data Communications in Networking, Tata McGraw Hill, NewDelhi.
2. F. Halsall, 1995, Data Communications, Computer Networks and Open Systems, AddisonWessley.
3. D. Bertsekas and R. Gallagher, 1992, Data Networks, Prentice hall of India, New Delhi.
4. Lamarca, 2002, Communication Networks, Tata McGraw Hill, New Delhi

Course Coordinator **HOD**

U18MCCA602	SOFTWARE TESTING	L	T	P	C
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course - Nil				
	Course Coordinator Name &Department :- Ms.P.Jennifer/CS				

COURSE OBJECTIVES :-

Learners will gain knowledge in fundamental concepts of software testing.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in software testing methods.
CO2	Design and conduct a software test process for a software project.
CO3	Identify the needs of software test automation anddevelop a test tool to support test automation**.**
CO4	Identify various software testing problems, and solve these problems by designing and selecting software test models
CO5	Gain skills to communicate with their teammates to conduct their practice-oriented software testing projects
CO6	Apply Test planning and process documents

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L							L	H
	CO2	M	-								
	CO3	H	L								
	CO4	M	L								
	CO5	H	L								
	CO6	M	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNITI **12**

Software Development Life Cycle models: Phases of Software project – Quality, Quality Assurance, Quality control – Testing, Verification and Validation – Process Model to represent Different Phases - Life Cycle models. White-Box Testing: Static Testing – Structural Testing – Challenges in White-Box Testing.

UNITII **12**

Black-Box Testing: What is Black-Box Testing? - Why Black-Box Testing? – When to do Black-Box Testing? – How to do Black-Box Testing? – Challenges in White Box Testing -

Integration Testing: Integration Testing as Type of Testing – Integration Testing as a Phase of Testing – Scenario Testing – Defect Bash.

UNITIII **12**

System and Acceptance Testing: system Testing Overview – Why System testing is done? – Functional versus Non-functional Testing - Functional testing - Non-functional Testing – Acceptance Testing – Summary of Testing Phases.

UNITIV **12**

Performance Testing: Factors governing Performance Testing – Methodology of Performance Testing – tools for Performance Testing – Process for Performance Testing – Challenges. Regression Testing: What is Regression Testing? – Types of Regression Testing – When to do Regression Testing – How to do Regression Testing – Best Practices in RegressionTesting.

UNITV **12**

Test Planning, Management, Execution and Reporting: Test Planning – Test Management – Test Process – Test Reporting –Best Practices. Test Metrics and Measurements: Project Metrics – Progress Metrics – Productivity Metrics – Release Metrics.

TEXT BOOKS

1. Software Testing Principles and Practices, Srinivasan Desikan&Gopalswamy Ramesh, 2006, Pearson Education. (UNIT-I: 2.1-2.5, 3.1-3.4 UNIT-II: 4.1-4.4, 5.1-5.5 UNIT III: 6 .1-6.7 (UNIT IV: 7.1-7.6, 8.1-8.5 UNIT-V: 15.1-15.6, 17.4-17.7)

REFERENCE BOOKS

1.Effective Methods of Software Testing, William E. Perry, 3 rd ed, Wiley India. 2. Software Testing, Renu Rajani, Pradeep Oak, 2007, TMH.

Course Coordinator **HOD**

U18MECA021	**MAJOR ELECTIVE - II : NETWORK PROGRAMMING**	**L**	**T**	**P**	**C**
	Total Contact Hours - 60	3	1	0	4
	Prerequisite course - Nil				
	Course Coordinator Name &Department :- Ms. P.Jennifer/CS				

COURSE OBJECTIVES :-

Learners will understand the use of client/server architecture in application development and use elementary and advanced socket system calls

COURSE OUTCOMES (COs)

CO1	Gain knowledge in networking.
CO2	List the network protocols
CO3	Identify several common programming interfaces for network communication.
CO4	Apply advanced knowledge of programming for network communications.
CO5	Describe the knowledge of the TCP/UDP Sockets.
CO6	Ability to create an application using sockets and network programming

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L						**H**		
	CO2	H	L								
	CO3	M	L								
	CO4	M	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
						✓				

4	Approval	Academic Council Meeting

UNIT-I : Introduction toNetwork Programming **12**

OSI model, Unix standards, TCP and UDP & TCP connection establishment and termination, Buffer sizes and limitation, standard internet services, Protocol usage by common internet application.

UNIT-II:Sockets **12**

Address structures, value – result arguments, Byte ordering and manipulation function and related functions Elementary TCP sockets – Socket, connect, bind, listen, accept, fork and exec function, concurrent servers. Close function and relatedfunction.

UNIT-III : TCP client server **12**

Introduction, TCP Echo server functions, Normal startup, terminate and signal handling server process termination, Crashing and Rebooting of server host shutdown of server host.

UNIT – IV: I/O Multiplexing andsocketoptions **12**

I/O Models, select function, Batch input, shutdown function, poll function, TCP Echo server, getsockopt and setsockopt functions. Socket states, Generic socket option.

UNIT- V :ElementaryUDPsockets **12**

Introduction UDP Echo server function, lost datagram, summary of UDP example, Lack of flow control with UDP, determining outgoing interface with UDP. Elementary name and Address conversions: DNS, gethost by Name function, Resolver option.

TEXT BOOKS

1. W.Richard Stevens, UNIX Network Programming, Sockets API, Volume I, 3rd Edition, PHI , 2010.
2. W.Richard Stevens, UNIX Network Programming, Volume II, 1st Edition, PHI,2009.

REFERENCE BOOKS

1. T Chan, "UNIX Systems Programming using C++", 1st Edition, PHI,2010.
2. Graham Glass, King abls, "UNIX for Programmers and Users", 3rd Edition,PearsonEducation,2010.
3. M.J. Rochkind, "Advanced UNIX Programming", 2nd Edition, Pearson Education,2008

Course Coordinator **HOD**

	MAJOR ELECTIVE - II : C#	L	T	P	C
U18MESC022	Total Contact Hours - 60	3	1	0	4
	Prerequisite course - Nil				
	Course Coordinator Name &Department :- Dr. K.Rajakumari - Dept of CS				

COURSE OBJECTIVES :-

Learners will gain practical knowledge to use the features of Dot Net Framework along with the features of C#

COURSE OUTCOMES (COs)

CO1	Gain knowledge to Implement simple console application programs using C#
CO2	List the applications using OOPs concepts
CO3	Compare Web pages with dynamic web pages.
CO4	Design window based applications using various controls
CO5	Develop web based applications by connecting a database with Data control
CO6	Examine deployment of web based applications using web controls

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L						H		
	CO2	L	L								
	CO3	H	-								
	CO4	H	L								
	CO5	H	L								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
						✓					
4	Approval	Academic Council Meeting									

UNIT I: INTRODUCTIONTOC# 12

Introducing C#, Understanding .NET, overview of C#, Literals, Variables, Data Types, Operators and Expressions, Branching, Looping, Methods, Typecasting

UNIT – II: OBJECT ORIENTED ASPECTSOFC# 12

Arrays: Single Dimensional Array - Two Dimensional Array- System Array Class- Array List, String: Manipulating String, Structure, Enumerations, Class, Objects, Constructors and its types

UNIT -III: ADVANCE CONCEPTINC# 12

Inheritance, polymorphism, sealed class and methods, interface, operator overloading, delegates, events, errors and exception, Threading.

UNIT -IV: APPLICATION DEVELOPMENTON.NET **12**

Visual studio IDE features, introduction to Window forms, components, control: textbox, label, image ,linklabel, status bar, checkedlistbox, combobox, listbox, listview, radiobutton, button, panel, groupbox, dialog box, menustrip control, data control, date and time control

UNIT -V: WEB BASED APPLICATION DEVELOPMENTON .NET **12**

Web controls - Rich Web Control- Data Control- Validation Controls- Login Control ADO.NET Architecture – ADO.NET Connected and DisconnectedModels–XML and ADO.NET – Simple and Complex Data Binding.

TEXT BOOKS

1. E.BALAGURUSWAMY, "Programming in C# ", A primer, Third Edition, Tata McGraw-Hill Education, 2010.

REFERENCE BOOKS

1. Jesse Liberty, "Programming C#", Second Edition, O'Reilly Press,2002.
2. Robinson et al, "Professional C#", Fifth Edition, Wrox Press,2002.
3. Herbert Schildt, "The Complete Reference: C#", Tata McGraw Hill,2004.

Course Coordinator **HOD**

U18MECA023	**PHP**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – Computer Science / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department :- Ms.S.Anupriya/BCA				

COURSE OBJECTIVES :- Learners will gain practical experience in the overall view of web technologies and its programming with PHP.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in basic concepts of PHP and its advantages over other languages.
CO2	Understand HTML form elements that work with any server-side language.
CO3	Understand the concept of functions, arrays , strings and databases in PHP
CO4	Ability to validate user input.
CO5	Analyze to perform various MySQL database queries
CO6	Examine software using MYSQL database.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L							H	
	CO2	H	L								
	CO3	M	L								
	CO4	H	-								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
						✓				
4	Approval	Academic Council Meeting								

UNIT I – BASICSOF PHP **12**

Introduction to PHP – what does PHP Do? – a brief history of PHP – language basics lexical structure – data types – variables – expressions and operators – flow control statements – including code – embedding PHP in web pages.

UNIT II – FUNCTIONS&STRINGS **12**

Functions : Calling a function – defining a function – variable scope – function parameters – return values – variable functions – anonymous functions. Strings: Accessing individual characters – cleaning strings – encoding and escaping – comparing strings – manipulating and searching strings – regular expression.

UNIT III -ARRAYS **12**

Arrays: Indexed Vs associative arrays – identifying elements of an array – storing data in arrays - multidimensional arrays – extracting multiple values – converting between arrays andvariables-traversing arrays –sorting.

UNIT IV – OOPs Concept andPHPForms **12**

Object-Oriented Programming in php: Class, Objects, Inheritance, Interface, Abstraction, Constructor,Destructor,Magic Methods – php Form: Create a form, POST method, GET method, GET vs POST Methods, Processing the registration form data – form validation

UNIT V - MYSQL DATABASESIN PHP **12**

Working with MYSQL Databases: connecting to and disconnecting from the server – Entering queries – Creating and using a database – Creating and selecting a database – working with tables – loading data into a table – Retrieving information from a table – selecting all data – selecting particular rows – selecting particular columns – sorting rows – date calculations – working with NULL values – pattern matching – counting rows – using more than one tables – Sessions Cookies

TEXT BOOKS

1. Rasmus Lerdorf, Kevin Tatroe, Bob Kaehms, Ric McGredy (2002),Programming PHP, O'REILLY(SPD). (Unit I,II&III)
2. Lee Babin, Nathan A. Good, Frank M. Kromann, Jon Stephens (2005), "PHP 5 Recipes, A problem solution approach", après.(Unit IV &V)
3. The PHP Complete Reference, Steven Holzner, McGrawHillEducation,2007

REFERENCE BOOKS

1.Vikram Vaswani (2008), PHP: A BEGINNER'S GUIDE,McGraw-Hill
https://www.guru99.com/php-tutorials.html

Course Coordinator **HOD**

U18MCCA6L1	NETWORK PROGRAMMING LAB	L	T	P	C
	Total Contact Hours - 30	0	0	4	2
	Prerequisite course - Computer Science / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department :- Ms.S.Surya/ Dept of CS				

COURSE OBJECTIVES :-

Learners will understand the use of client/server architecture in application development and use elementary and advanced socket system calls

COURSE OUTCOMES (COs)

CO1	Implement simple networking concepts
CO2	Identify the application using Client Server Communication
CO3	Implement programs using TCP and UDP based sockets.
CO4	Compare interaction between Echo Server and Echo Client
CO5	Apply protocols in real time programs.
CO6	Examine the application to retrieve Remote Data File & RPC

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H	M	
	CO2	H	-								
	CO3	H	-								
	CO4	H	-								
	CO5	M	L								
	CO6	H	-								
3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
						✓					
4	Approval	Academic Council Meeting									

S.NO.	LIST OF PROGRAMS
1.	IP Address of Local Machine
2.	Ping Server
3.	Echo Server and Echo Client
4.	Client Server Communication Using Object
5.	Time and Date Server
6.	TCP Server
7.	UDP Server
8.	Chat Server
9.	Address Resolution Protocol
10.	Multiple Client Handling
11.	Retrieving Remote Data File
12.	Remote Procedure Call

Course Coordinator **HOD**

U18MCCA6L1	**C# Lab**	**L**	**T**	**P**	**C**
	Total Contact Hours - 30	0	0	4	2
	Prerequisite course - Computer Science / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department :- Dr.S.Brintha Rajakumari /Dept of CS				

COURSE OBJECTIVES :-

Learners will gain practical knowledge to use the features of Dot Net Framework along with the features of C#

COURSE OUTCOMES (COs)

CO1	Implement simple console application programs using C#
CO2	Develop applications using OOPs concepts
CO3	Design dynamic web pages.
CO4	Design window based applications using various controls
CO5	Analyze web based applications by connecting a database with Data control
CO6	Apply concept to deploy web based applications

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L							M	L
	CO2	H	L								
	CO3	M	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
						✓					
4	Approval	Academic Council Meeting									

S.NO.	LIST OF PROGRAMS
Console Applications	
1	Classes and Objects
2.	Jagged Array
3.	Overloading
4.	Overriding
5.	Interface
6.	Structure
7.	Constructor
8.	Sealed Class
9.	Delegates
10.	Exception Handling
WebBased Applications	
11.	Navigation Control
12.	Validation Control
13.	Login Control
14.	Repeater Control
15.	Data Control

Course Coordinator **HOD**

U18MCCA6L1	PHP LAB	L	T	P	C
	Total Contact Hours - 30	0	0	4	2
	Prerequisite course - Computer Science / Mathematics Studied in Higher Secondary studies				
	Course Coordinator Name &Department :- Ms.S.Anupriya/BCA				

COURSE OBJECTIVES :-

Learners will gain practical experience in the overall view of web technologies and its programming with PHP.

COURSE OUTCOMES (COs)

CO1	Create PHP scripts to handle HTML forms
CO2	Create PHP programs that use various PHP library functions, and that manipulate files and directories
CO3	Develop programs for downloading files from servers
CO4	Develop program to store the cookie and session status
CO5	Analyse and solve various database tasks using the PHP language
CO6	Develop web based applications with database connection

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L								
	CO4	M	L							H	
	CO5	H	-								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

S.NO.	LIST OF PROGRAMS
1	A program to find the factorial of a number.
2	A program using Conditional Statements.
3	A program to find the maximum value in a given multidimensional array.
4	A program to find the GCD of two numbers using user-defined functions.
5	Design a simple web page to generate multiplication table for a given number.
6	Design a web page that should compute one‟s age on a given date.
7	A program to download a file from the server.
8	A program to store the current date and time in a COOKIE and display the „Last Visited‟ date and time on the web page.
9	A program to store page views count in SESSION, to increment the count on each refresh and to show the count on web page.
10	A program to draw the human face.
11	A program to design a simple calculator.
12	Design an authentication web page in PHP with MySQL to check username and password.

Course Coordinator **HOD**

U18EECA6P1	PROJECT (DISSERTATION AND VIVA-VOCE)	L	T	P	C
	Total Contact Hours - 30	0	0	20	10
	Prerequisite course – Computer Science / Mathematics Studied in Higher Secondary				
	Course Coordinator Name & Department: -Dr.D.Kerana Hanirex/BCA				

COURSE OBJECTIVES :-

Learner understand the current scenario in computing technology and present the research report on their findings as per the acceptable format.

COURSE OUTCOMES (COs)

CO1	List out the concept and objectives, nature, types and methods of project.
CO2	Choose the process and steps involved in preparation of project work, research gap
CO3	Practice the research design, and methodology , sampling techniques & sampling design
CO4	Calculate the statistical tools in the project for data analysis
CO5	Measure the major findings, suggestions and conclusion
CO6	Design the model for project report.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PS O2	PSO3
2	**CO1**	H	L						H	L	M
	CO2	H	L								
	CO3	H	L								
	CO4	H	-								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
										✓
4	Approval	Academic Council Meeting								

PROJECT (DISSERTATION AND VIVA-VOCE) 10

The project topics are to be finalized to the students at the end of the second semester with a time schedule to carryout various stages of work. During the semester vocation, the data Collection may be commenced. The theme selected by each student for the Dissertation should be related to various problems and issues pertaining to Computer Application. Each candidate should submit three copies of dissertation as per the guidelines to the department concerned.

	Marks
Dissertation	**150**
Viva- Voce Examination	**50**

Course Coordinator **HOD**

SKILL BASED ELECTIVES

U18SEBC001	**BUSINESS PROCESS OUTSOURCING-MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours– 30	2	0	0	2
U18MCBC204	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name& Department:-Ms. J.Saranya/Commerce & Economics				

COURSE OBJECTIVES:-

- To familiarize the students with the basic fundamentals of BPO.
- To impart knowledge on type of BPO and call centers .
- To enable the students onthe conceptHealthcare BPO & Transaction BPO.
- To peep into the concept of Human Resource BPO and the career opportunities in BPO.

COURSE OUTCOMES(COs)

CO1	Describe the basic fundamentals of BPO.
CO2	Discuss and develop the awareness about Types of BPOs and Call Centers
CO3	Identify the concept of Health care BPOs
CO4	Examine the concept of Transaction BPOs
CO5	Develop the confidence in Human Resource BPO and career opportunities in BPOs
CO6	Formulate the Types of Transaction Processing BPO in India

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H							H		
	CO2				H						
	CO3			H							
	CO4		M								
	CO5	M									
	CO6		H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval		Academic Council Meeting

UNIT-I **6**

Business Process Outsourcing– Basics – Benefits of BPO– BPO companies in India.

UNIT-II **6**

BPO Industry – Employment Opportunities– types of BPO – Call centers– Types of Call Centers–Issues and Problems.

UNIT-III **6**

Health Care-BPO - Structure of foreign Health Care sector– Future Trends and Threats.

UNIT-IV **6**

Transaction Processing BPO– Elements of Back Office services– Types of Transaction ProcessingBPO in India.

UNIT-V **6**

Human Resource BPO-Reasons for outsourcing HR– Activities involved in HR BPO– HROutsourcing Trends– Carrier in HR BPO.

Text Books:

1. John K. Holvey, Borboro Murphy Melby, Business Process Outsourcing–Wiley Publisher-2007
2. SarikaKulkarni –Business Process Outsourcing–Jai co Publishing house – 2005
3. .RickL.Click, Thomas N.Duening,BusinessProcess Outsourcing–John Willey &sons,Publisher 2004

Reference Books:

1. Deepak Shikapur – BPO DIGEST– Ameya (Inspiring books) – 2004.
2. Clifton – System analysis for business data processing– Prentice hall Publications.
3. Anandkumar, V. &Biswas, S., 2008. Business Process Outsourcing, Sage Publications Pvt. Ltd

Course Coordinator **HOD**

U18SEBC002 U18MCBC204	CUSTOMER RELATIONSHIP MANAGEMENT	L	T	P	C
	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name& Department:-Ms. R.Priya/Commerce & Economics				

COURSE OBJECTIVES:-

- To familiarize the students with the basic fundamentals of CRM.
- To impart knowledge about process and importance of CRM.
- To enable the students on the concept to technological solutions to CRM.
- To expose the student on Trends and challenges in CRM.

COURSE OUTCOMES(COs)

CO1	Recognize the Familiarize with the basic fundamentals of CRM.
CO2	Demonstrate the Can develop awareness about process and importance of customer
CO3	Practice to be aware of the concept of technological applications in CRM.
CO4	Correlate respond to the concept of CRM software solutions forB2C and B2B markets
CO5	Validate the Develop confidence on trends and challenges
CO6	Design the Customer Data base and Information Systems

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO	PO4	PO5	PO6	PO	PSO1	PSO2	PSO3
2	CO1	H		H					H		
	CO2	H									
	CO3	H		H							
	CO4		H								
	CO5	H		H							
	CO6		H		M						

3	Category	Humanities &Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core(PC)	Core Elective (CE)	Non-Major Elective(NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	

4	Approval	Academic Council Meeting

UNIT–I **6**

Customer Relationship Management Introduction - Meaning and Definition - Importance – Benefits and difficulties of CRM.

UNIT–II **6**

CRM ProcessandImplementation Introduction-customer Retention- Customer satisfaction- Importance of customer retention-CRM processorB2B markets

UNIT–III **6**

Technological Support in CRM Introduction-Types of Technological Applications in CRM.

UNIT–IV **6**

Customer Databases and Information Systems –CRM SoftwareSolutionsfor B2C and B2B Markets .

UNIT–V **6**

E-CRM – Emerging Trend in CRM Introduction - Challenges involved in formulating and implementing-CRM strategies.

TEXT BOOKS:

1. Balasubramaniyan.K,Essence of customers relationship management, learn tech press
2. Jagdish N Sheth, AtulParvatiyar, G Shainesh –customers relationship management-McGraw HillPublisher, 2000
3. Roger. J Baranand Robert J. Galka-customers relationship management ,Routledge publisher 2013

REFERENCE BOOKS:

1. M.Peerumohamed, customer relationship management, Vikas publications
2. Kaushikmukerjee, customer relationship management PHI
3. customerrelationshipmanagement G Shainesh&.Jagdish N Sheth

Course Coordinator **HOD**

U18SEBC003	ENTREPRENEURIAL DEVELOPMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Commerce / Mathematics Studied in Higher Secondary Studies.				
	Course Coordinator Name & Department :-Mr.G.Santhoshkumar / Commerce				

COURSE OBJECTIVE: -

- To familiarizethestudentswiththe basic fundamentals ofEntrepreneurship.
- To impartknowledge on Projectidentification,selection and formulation.
- To enablethestudents onthe conceptoftypes oforganization.
- To peepinto the conceptofcommercialbanks.
- To enablethestudents onthe conceptofwomenentrepreneurs

COURSE OUTCOMES (COs)

CO1	Underlinethe CharacteristicsOfEntrepreneur–EntrepreneurandIntrapreneur
CO2	Explain theIdentification– Selection ofthe Project
CO3	Apply Selection ofTypes of Organization– Sole Proprietorship- Partnership Joint Stock Company
CO4	Appraise toInstitutional financeto entrepreneurs
CO5	Estimatethe FactorsInfluencing TheChoiceOfOrganization
CO6	Develop theRole and Problems of Women Entrepreneurs

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	-	-	-	-	-	-			H
	CO2	-	H	-	-	-	M	H			
	CO3	-	H	-	-	-	M	M			
	CO4	M	-	-	-	-	M	M			
	CO5	-	-	-	-	-	-	-			
	CO6	-	-	H	-	-	-	-			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	
4	Approval		Academic Council Meeting							

UNIT-I **6**

Meaning OfEntrepreneur – EntrepreneurandIntrapreneur– Qualities OfEntrepreneur– Characteristics OfEntrepreneur –TypesOfEntrepreneur –Function OfAn Entrepreneur

UNIT-II **6**

ProjectIdentification– Selection ofthe Project– Project Formulation–Preparation OfProject Report.

UNIT-III **6**

Selection ofTypes OfOrganization – Sole Proprietorship-Partnership Joint Stock Company– Factors Influencing TheChoiceOfOrganization.

UNIT– IV **6**

Institutional financeto entrepreneurs- commercial banks–IDBI,IFCI,ICICI,IRBI, SFC, DICs, SIDC, SIDBIAnd EXIMBank

UNIT– V **6**

Women Entrepreneurs – Role – Problems of Women Entrepreneurs – Suggestions ForDevelopment OfWomen Entrepreneurs

TEXT BOOKS:

1. C.B. Gupta, Entrepreneurship Developmentin India–Sultan Chand
2. S.S. Khanka, EntrepreneurshipDevelopment, S. Chand&Co., New Delhi.
3. Gupta C. Band SrinivasanN. P Entrepreneurship Development, Sultan Chand&Sons, New Delhi

REFERENCE BOOKS:

1. P. Sarvanavel, E Entrepreneurship Development,EssPee Kay Publishing House
2. JaswerSingh Saini, Entrepreneurship Development, Deep and Deep Publication,NewDelhi
3. Jayashree Suresh, Entrepreneurship Development-MarghamPublication, Chennai

CourseCoordinator **HOD**

U18SEBC004 U18MCBC204	HUMAN RESOURCE MANAGEMENT	L	T	C
	Total Contact Hours– 30	2	0	2
	Prerequisite course – Higher Secondary Level			
	CourseCoordinatorName&Department:-Ms. R.Velanganni/Commerce & Economics			

COURSE OBJECTIVES:-

- TolearntheimportanceofHR.
- Toimpartknowledge and importantfactorsinHR.
- To enable the students onthe needs and methods oftraining.

COURSE OUTCOMES(COs)

CO1	Identify theImportance of Human Resource and objectives.
CO2	Describe the Human Resource Planning
CO3	Practice to Sources of Recruitment-Selection– Steps in Selection
CO4	Analyze Needs of training– Methods of Training
CO5	Evaluate the Process and Methods of Performance Appraisal
CO6	Formulate the Qualities of Personnel Manager

Mapping of CourseOutcomeswith Program outcomes (POs)(1/2/3 indicates strength of correlation) 3-High, 2-

1	COs/Pos	PO1	PO2	PO 3	PO4	P O	PO6	PO7	PS O1	PS O2
2	CO1	H	M	-	-	-	-	-	H	
	CO2	M	H	-	-	-	-	-		
	CO3	H	M	-	-	-	-	-		
	CO4	H	M	-	-	-	-	-		
	CO5	H	M	-	-	M	-	-		
	CO6	H	M	-	-	-	-	-		

3	Category	Humanities &Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core(PC)	CoreElective (CE)	Non-Major Elective(NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/
									✓	
4	Approval	AcademicCouncilMeeting								

UNIT-I **6**

Definition – ImportanceofHuman Resource– Objectives– Qualities of Personnel Manager.

UNIT-II **6**

Human ResourcePlanning– Importance factors– Steps in HR Planning.

UNIT-III **6**

Recruitment– Objectives– Sources of Recruitment-Selection – Steps in Selection.

UNIT-IV **6**

Training – Definition– Needs of training – Methods of Training– On thejobtraining– Off the job

Training.

UNIT-V **6**

PerformanceAppraisal-Objectives – Process– Methods of PerformanceAppraisal.

TEXT BOOKS:

1. L.M. Prasad– Human ResourceManagement– S. Chand &Sons– 2013.
2. C.B. Mamoria, S.V. Gankar– Personnel Management – Himalaya Pub.– 2012.
3. A.M. Sharma, Human ResourceManagement, HimalayaPublishingHouse, 2005

REFERENCE BOOKS

1. S.S. Khanka–Human ResourceManagement– S. Chand Ltd.– 2007
2. Gary Dessler–Human ResourceManagement– PrenticeHall– 8th Edition –2000.

3.A Handbook of Human Resource Management Practice,2012.

U18SEBC005 & U18MCBC204	MARKETING MANAGEMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	CourseCoordinator Name & Department:- G.Santhoshkumar/ Commerce & Economics				

COURSE OBJECTIVES :-

- To understand thefundamentals ofmarketing and its role.
- To examine the factorsinfluencing buying behavior.
- To enablethestudents topromote advertising andits salesscope

COURSE OUTCOMES (COs)

CO1	State the Fundamentals of Marketing– Role of Marketing.
CO2	Describe the Factors influencing buying behavior
CO3	Interpret the Marketing segmentation– Needs-Types of segmentation
CO4	Compare to New product development process– Product life cycle
CO5	Revise the Awareness of consumer rights in the market place
CO6	Collect the Advertising– Scope of Advertising

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1		H						H		
	CO2	M	H	M							
	CO3	H			M						
	CO4					M					
	CO5	H		M							
	CO6		H			M					

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval		Academic Council Meeting

UNIT-I **6**

Marketing-Definition– Fundamentals of Marketing– Role ofMarketing–Relationship of marketing with other functional areas–Marketing Mix

UNIT– II **6**

Buyer Behaviour – Buying motives– Factors influencingbuying behavior-Marketing segmentation–Needs-Types of segmentation

UNIT-III **6**

TheProduct– Characteristics– Benefits– Classifications– New product development process–Product life cycle – Branding– Packaging

UNIT-IV **6**

Physical Distribution-Importance-Various kinds of Marketing Channels– Distribution Problems- Awareness of consumer rights in themarket place.

UNIT-V **6**

Advertising – ScopeofAdvertising – Personal selling– Direct selling and Sales Promotions.

TEXT BOOKS:

1. BerkovizKerinHontleyRudelivs, MARKETING, New York, McgrawHill Publications.
2. GonyArmstrong, Philip Kotler, Marketing anIntroduction, Pearson Education Asia.
3. Philip Kotler, Marketing Management (Millennium ed.,)NewDelhi, PrenticeHallofIndia(P) Ltd.

ReferenceBooks:

1. RajanSaxena, MarketingManagement, 2nd edition, New Delhi, Tata McgrawHillPublishingCo.Ltd.
2. V.S. Ramasamy and S. Namakumari, Marketing Management, Planning,Implementation& control, New Delhi, Macmillan
3. Chisnall, P.M. (1997) Marketing Research, Fifth Edition, London: McGraw-Hill.

Course Coordinator **HOD**

U18SEBC006	OFFICE MANAGEMENT	L	T	P	C
	Total Contact Hours– 30	2	0	0	2
U18MCBC204	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name& Department:-Dr. M.Sankar /Commerce & Economics				

COURSE OBJECTIVES:-

- To peep into the concept, importance of office management.
- To impart knowledge on features and classification of Communication.
- To expose handling correspondence and market registers

COURSE OUTCOMES(COs)

CO1	Record the Concept and Importance of Office and Office Management.
CO2	Report the Arrangement and adjustment : Furniture, allotment of seats
CO3	Apply to Handling of correspondence and market registers
CO4	Experiment the preparation and play of manuals and charts
CO5	Select the Office staff –Selection-training-Supervision
CO6	Summarise Office Accommodation and Environment

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H							H		
	CO2				H						
	CO3		H								
	CO4		M								
	CO5			H							
	CO6						H				

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval	Academic Council Meeting

UNIT I **6**

Introduction – Concept and Importance of Office and Office Management-Office Accommodation and

Environment-Reception: Importance, shape and size, control

UNIT II **6**

Communication: Feature, classification, barriers -Arrangement and adjustment: Furniture, allotment of seats, chambers, cabins rooms etc .

UNIT III **6**

Handling of correspondence and market registers, filling forms and stationery-Office Machines - Kind of office machines.

UNIT IV **6**

Use of machines, installing, handling, maintenance–Manuals and charts-Advantages of office manuals charts -preparation and play of manuals and charts.

UNITV **6**

Office staff– Selection-training -Supervision-span of supervision

TEXT BOOK:

1. Ghosh&Agarwal, Office Management, S.Chand&Company– New Delhi
2. R.S.N. Pillai, Bagavathi, Office Management, S.Chand&Company – New Delhi,2013
3. Dr.R.K. Chopra, PriyankaGauriOffice Management, Himalaya Publishing House, 2017

REFERENCE BOOKS:

1. G.S. Sudha, General Management, PustakPrakashan,NewDelhi
2. Rajendrapaul,ModernCommunication&Techniques, S.Chand&Company–New Delhi
3. v. Balachandran, Office Management, Tata Mcgraw-hill education,2009

Course Coordinator **HOD**

U18SEBC007	RETAIL MARKETING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. J. Saranya, Commerce				

COURSE OBJECTIVES:-

- To familiarize the functions and types ofRetailing.
- To impart knowledge on Retail consumer behavior and itstypes.
- To expose the student on promoting sales, public relation andadvertising.

COURSE OUTCOMES (COs)

CO1	Recall the Characteristics - Functions of retailing - Types of Retailing
CO2	Express the - Retail Consumer buying behavior and types
CO3	Schedule the Retail Organization Structure
CO4	Categorize to Factors affecting store lay out
CO5	Assess the Sales promotion - Advertising
CO6	Point out the Retail Marketing Mix

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	H						H		
	CO2		H	H		M					
	CO3	H					M				
	CO4		H								
	CO5	H	H	M							
	CO6	H	M					M			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									☐	

4	Approval		Academic Council Meeting

UNIT-I **6**

Retailing – Definition – Importance – Characteristics - Functions of retailing - Types of Retailing

UNIT-II **6**

Retail Marketing Mix - Retail Consumer buying behavior and types – Segmentation - Types of segmentation

UNIT-III **6**

Retail Organization Structure-Major Functional Areas-Careers in Retailing

UNIT-IV **6**

Store layout-Types of lay out-Factors affecting store lay out

UNIT-V **6**

Sales promotion - Advertising - Public Relation - Personal selling

TEXT BOOKS:

1) George E.Belch and Michael A.Belch, Advertsing and Promotion, McGraw HillCompany
2) Ronald, Karen Whitehillking,andJ.Thomas Russell, Kleppner's Advertising Procedure, Pearson Education International, PrenticeHall
3) A. Siva Kumar, Retail Marketing, Anurag Jain for Excel Books, 2007.

REFERENCE BOOKS:

1) Malcolm Sullivan, Denn's Adcock, Retail Marketing, S.Chand Publishers, 2002.
2) Gupta, Advertising and Sales Promotion, EPHPublisher
3) Sarangi, Advertising and Sales Promotion, AsianBooks

CourseCoordinator **HOD**

U18SEBC008 U18MCBC204	SALESMANSHIP ANDADVERTISING	L	T	P	C
	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	CourseCoordinator Name&Department:-Ms. S.Binapani/ Commerce & Economics				

COURSE OBJECTIVES:-

- To understandtheimportance, role,objectiveofadvertising.
- To impartknowledge onimportanceofsalesmanship

To analyzethetypesofadvertising and its benefits

COURSE OUTCOMES(COs)

CO1	Define the objectives of Advertising.
CO2	Classify thetypes of Advertising-Commercial and Non-Commercial Advertising
CO3	Discover Advertising benefits and criticism
CO4	Explain the importance of salesmanship
CO5	Computethe Qualities andResponsibilities ofsales managers
CO6	Examine thetypes of salesorganization-Sales management job

Mapping of CourseOutcomes with Program outcomes (POs)
(1/2/3 indicates strengthof correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	H						H		
	CO2	H									
	CO3		M								
	CO4	H		M							
	CO5										
	CO6	H	H								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT-I **6**

Definition-Importance-Role ofAdvertising-Nature-Objectivesand Scopeof Advertising

UNIT-II **6**

Types of Advertising-Commercial and Non-Commercial Advertising-Primary demand and selective demand advertising

UNIT-III **6**

Advertising-benefits and criticism-Media selection-measuring advertising effectiveness

UNIT-IV **6**

Introduction to thesalesmanship-Importanceof salesmanship-training andcompensating sales men

UNIT-V **6**

Qualities and Responsibilities ofsales managers-Types of sales organization-Sales management job

TEXT BOOKS:

1. GeorgeE.BelchandMichael A.Belch, Advertsingand Promotion, McGraw Hill Company
2. Ronald, KarenWhitehillking,andJ.Thomas Russell, Kleppner's Advertising Procedure, PearsonEducation
International, PrenticeHall.
3. P. Saravanavel& S. Sumathi, advertising and salesmanship Marghampublications,

REFERENCE BOOKS

1)Sarangi, Advertising and Sales Promotion, Asian Books
2. Gupta, Advertising and Sales Promotion, EPHPublisher.
.3. A Handbook of Human Resource Management Practice,2012.

CourseCoordinator **HOD**

U18SEEN001	SOFT SKILLS	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite – Higher Secondary Level				
	Course coordinator name & Dept: Mrs.B.CAROLINE– English				

COURSE OBJECTIVES:-To effectively complement the already existing Hard Skills so that the combination becomes a winning blend that could project the candidate's true worth in proper perspective.

COURSE OUTCOMES (COs)

CO1	Remember the personal as well as professionals goals of the students
CO2	Understand the manners during professional meetings
CO3	Apply the right reasons of stress
CO4	Analyze the importance of communication skills
CO5	Evaluate the excellence in both personal and professional life
CO6	Create the Growth & development of soft skills
Category	OE

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L								
	CO4	H	L						H		
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	

4	Approval	Academic Council Meeting

UNIT I Soft Skills **6**

Introduction to soft skills
Types of soft skills
Developing positive attitude, forming values and self confidence

UNIT II Interpersonal skills **6**

Developing interpersonal relationship, team building, table manners, organizing meetings, stress and time management

UNIT- III Communication Skills 6

Types of communication ,Art of listening ,Art of reading ,Art of writing,Art of speaking

UNIT IV Corporate Skills 6

Presentation skills, developing body language, practicing etiquette, and mannerism, dress for success

UNIT V Placement Skills 6

Personal interviews, writing resume/ CV- interviews skills career planning, public speak in motivation skills and personality

Text books

1. S.P.Danavel, English and Communication for Students of Science and Engineering.
2. Murali Krishna Moishra, Communication Skills for Engineers.

Reference

1. Developing the leader within you John C. Maxwell.
2. Meena. K and V. Ayothi (2013) A Book on development of soft skills (soft skills: A road map to success), P.R. publishers & Distributors, no. B-20&21,v.m.m. complex, Chatiram bus stand, tiruchirappalli.-620002

Course Coordinator **HOD**

U18SESC001	COMPUTER APPLICATIONS	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- N.Mathimagal & BCA				

COURSE OBJECTIVES:-

The learner will have the knowledge about the basic operations of a computer system, computer applications software, input, and output and storage devices.

COURSE OUTCOMES (COs)

CO1	Define the Characteristics, History, Classification, Personal Computers and Applications.
CO2	Demonstrate understanding of the basic operations of a computer system.
CO3	Explain the principles of operations of computer systems used in a particular application, specifically in terms of the systems' hardware and software components.
CO4	Discuss the various types of Processors, Input and Output devices, OS & DOS command.
CO5	Identify the suitable Storage Devices and Software's to solve the problem.
CO6	Use computer applications software to solve problems.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	-								
	CO4	H	L								
	CO5	M	-								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	

4	Approval	Academic Council Meeting

UNIT I **6**

Brief History of Development of Computers, Computer System Concept, Computer System Characteristics, Capabilities and Limitations, Types of Computers-Personal Computer (PCs) - IBM PCs, Types of PCs- Desktop, Laptop, Notebook, Palmtop, etc. Basic Components of a Computer System - Control Unit, ALU, Input/ Output Unit- Memory, Storage Fundamentals - Primary Vs Secondary memory.

UNIT II **6**

Input Devices: Keyboard, Mouse, Joystick, Scanners, Digital Camera, MICR,OCR, OMR, , Light pen, Touch Screen.

UNIT III
6

Output Devices: Monitors - Characteristics and types of monitor, Size, Resolution, Refresh Rate, Dot Pitch, Video Standard - VGA, SVGA, XGA etc. Printers - Daisy wheel, Dot Matrix, Inkjet, Laser. Plotter, Sound Card and Speakers.

UNIT IV
6

Various Storage Devices - Magnetic Disks, Hard Disk Drives, Floppy, Disks, Optical Disks

UNIT V **6**

Computer Software, Need, Types of Software - System software, Application software System Software - Operating System, Compiler, Assemblers, Interpreter.

TEXT BOOKS

1. Computers Today by S.K. Basandra- Galgotia Publications,First Edition Oct 1987.
2. Elementary Computer Application by Dr.ReetaKumari , ArchanaKumari ,First Edition Oct 2019.
3. Computer Fundamentalsby PritiSinha, Pradeep K., Sinha,Third Edition, McGraw-Hill 2018.

REFERENCE BOOKS

1. Fundamentals of Information Technology, Aalexis Leon & Mathews Leon- Vikas Publishing House- New Delhi dos Quick Reference by Rajeev Mathur- GalgotiaPublications.
2. Basic Computer Course Made Simple, Satish Jain/Shalini Jain/M.Geetha ,Pearson, Sep2018.
3. Computer Basic , G. Manjunath,Pearson, Sep2019.
4. Computer Basics: For a Literate Living, Bittu KumarMcGraw hill, Sep2018.

Course Coordinator **HOD**

U18SESC002	MULTIMEDIA	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- N.Mathimagal & BCA				

COURSE OBJECTIVES:-

The learner will have the knowledge about the principles of different types of media and able to identify the proper applications of multimedia, how multimedia can be used in various application areas, and evaluate the appropriate multimedia systems and develop effective multimedia applications.

COURSE OUTCOMES (COs)

CO1	Gain knowledge of basic concepts of multimedia
CO2	Analyze the multimedia application problems.
CO3	Discuss the Video capturing, Sound capturing, editing concepts.
CO4	Identify the basic multimedia design principles.
CO5	Demonstrate the multimedia system and Design Process
CO6	Test real time application using a multimedia concept.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	M	L								
	CO3	H	-								
	CO4	H	L								
	CO5	M	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Multimedia Fundamentals: Concept of multimedia, Fundamental criteria for the design of a multimedia presentation, Multimedia Application Goals & Objectives, opportunities in multimedia production.

UNIT II **6**

Role of multimedia-development of team members, avoiding problems in planning a multimedia application.

UNIT III **6**

Multimedia Building Blocks: Text, Graphics, Video capturing, Sound capturing, editing.

UNIT IV **6**

Basic design principle: proximity, visual hierarchy, Symmetry, Asymmetry, Repetition, unity, Contrast, dynamics, Emphasis, Multimedia Authoring tools.

UNIT V **6**

Design, Development and evaluation of multimedia a system, Development of user interface design, Design Process.

TEXT BOOKS

1. John Villamil, Casanova, Louis Molina, "An introduction tomultimedia".
2. Mohammad Dastbaz, "Designing Interactive MultimediaSystems".
3. "Multimedia: Making it Work" , Tay Vaughan, Ninth Indian Edition.

REFERENCE BOOKS

1. Stephen McGloughlin, "Multimedia on theweb".
2. "Fundamentals of Multimedia", Pearson Education International.
3. "Multimedia: Computing Communications & Applications", Ralf Steinmetz, Pearson Education.
4. Bohdan O. Szuprowicz, "MultimediaNetworking".

Course Coordinator **HOD**

U18SESC003	ADVANCED EXCEL	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Ramya & BCA				

COURSE OBJECTIVES: -

Learners able to understand the basic concept of excel and use various functions in Excel Sheet.

COURSE OUTCOMES (COs)

CO1	Identify the different components of the Excel worksheet
CO2	Construct formulas to manipulate numeric data in an Excel Worksheet
CO3	Change the appearance of an Excel spreadsheet
CO4	Use the functions that are stored in Excel.
CO5	Differentiate between formulas and functions in Excel.
CO6	Access and manipulate data using the database functions of Excel.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	-						H		
	CO2	H	L								
	CO3	M	-								
	CO4	M	-								
	CO5	H	L								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	

4	Approval	Academic Council Meeting

UNIT I **6**

Uses of Advance Excel Formulas -VLOOKUP, HLOOKUP, SUMIF, SUMIFS, SUMPRODUCT, DSUM, COUNTIF, COUNTIFS, IF, IFERROR, ISERROR, ISNA, ISNUMBER, ISNONTEXT, OR, AND, SEARCH, INDEX, MATCH etc

UNIT II **6**

Various Methods and Uses of IF Conditions , Usage of "IF" Conditions? , Creation of Multiple IF Conditions in One Cell , Use the IF Conditions with the Other Advance Functions, How to use nested IF statements in Excel with AND, OR Functions Sorting, Data Forms, Adding Data Using the Data Form, Finding Records Using Criteria

UNIT **6**

Filtering Data, AutoFilter, Totals and Subtotals, Row, Various Methods of Filter and Advance Filter options , Creating and Updating Sub totals , Various Method of Sorting Data ,Creating, Formatting and Modifying Chart.

UNIT IV **6**

Customizing the Quick Access Tool Bar , Managing Windows ,Multiple Windows , Splitting Windows.

UNIT V 6

Various Methods and Options of Pivot Table, Using the Pivot Table Wizard, Changing the Pivot Table Layout, Subtotal and Grand total Options, Formatting, and Grouping items

TEXT BOOKS:

1. Jordan Goldmeler, "Advanced Excel Essentials" ,APress, 2015 edition.
2. Excel Basics Book by Ian Lamont.
3. Excel for Beginners – M.L. Humphery.

REFERENCE BOOKS:

1. John Walkenbach, "Microsoft Excel 2013 Bible",Wiley Publications,2013.
2. Excel Formulas and Functions For Dummies Book by Ken Bluttman and Peter G. Aitken.
3. Advanced Excel Essentials Book by Jordan Goldmeier.
4. Excel 2019 Bible Book by John Walkenbach, Michael Alexander, and Richard Kusleika

Course Coordinator **HOD**

U18SESC004	WEB DESIGNING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Ramya & BCA				

COURSE OBJECTIVES: -

To gain knowledge in basic web designing concepts.

COURSE OUTCOMES (COs)

CO1	Define the web basics and server side scripting.
CO2	Execute the HTML coding and linking process.
CO3	Analyze the hyperlinks and special characters.
CO4	Relate the Embedded Style Sheets & Linking External Style Sheets.
CO5	Use the backgrounds and user style sheets.
CO6	Test real time application using web designing concept.

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L							H	
	CO2	M	L								
	CO3	H	-								
	CO4	H	-								
	CO5	H	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I

6

Introduction - The Internet in Industry and Research - Evolution of the Internet and World Wide Web - Web Basics – Client Side Scripting versus Server Side Scripting.

UNIT II

6

Introduction – First HTML example – Headings – Linking - Images, alt Attribute, Void Elements.

UNIT 6

Using Images as Hyperlinks-Special Characters and Horizontal Rules – Lists – Tables.

UNIT IV

6

Introduction - Inline Styles - Embedded Style Sheets - Linking External Style Sheets

UNIT V

6

Backgrounds - Element Dimensions - Box Model and Text Flow - Drop-Down Menus - User Style Sheets.

TEXT BOOKS

1. Paul Deitel, Harvey Deitel, Abbey Deitel, "Internet & World Wide Web: How To Program", 5th Edition, Pearson Publication, 2012.
2. Jennifer Niederst Robbins, "Learning Web Design", Fourth Edition, O'Reilly Media, 2012.
3. Thomas Michaud, "Foundations of Web Design, Introduction to HTML & CSS", Pearson Publication, 2014.

REFERENCE BOOKS

1. Bayross, "Web Enable Commercial Application Development Using HTML, DHTML, JavaScript, Perl CGI", BPB Publications.
2. T. A Powell, "Complete Reference HTML (Third Edition)", TMH, 2002.
3. HTML & CSS: Design and Build Web Sites Book by Jon Duckett.
4. Learning Web Design Book by Jennifer Niederst Robbins.

CourseCoordinator **HOD**

U18SESC005	PHOTOSHOP	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Brindha & BCA				

COURSE OBJECTIVES: -

Learners can apply methods to specific 3D Images and to identify various designs appropriate for Animation.

COURSE OUTCOMES (COs)

CO1	Gain knowledge to Create and save Images in fundamental computer applications
CO2	Define the title bar, menu bar, option bar, image title bar in photo shop program.
CO3	Examine Zooming & Panning an Image while Working with Images.
CO4	Analyze Color manipulations & Working with Toolbox
CO5	Compare the Working with layers.
CO6	Relate real time application using 3D image and Animation.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PS O1	PS O2	PS O3
2	**CO1**	H	-						H		
	CO2	H	L								
	CO3	M	-								
	CO4	H	L								
	CO5	H	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I

6

Introduction to Adobe photoshop, Getting started with photoshop, creating and saving a document in photoshop, page layout and background.

UNIT II

6 Photoshop program window-title bar, menu bar, option bar, image window, image title bar, status bar, ruler, palettes, toolbox, screen modes, saving files, reverting files, closing files.

UNIT III

6

Images: working with images, image size and resolution, image editing, color modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids-Cropping & Straightening an Image, image backgrounds, making selections.

UNIT IV

6

Working with toolbox: working with pen tool, save and load selection-working with erasers-working with text and brushes-Color manipulations: color modes- Levels – Curves - Seeing Color accurately - Patch tool

UNIT V

6

Layers: Working with layers- layer styles- opacity-adjustment layers.

TEXT BOOKS

1. Reema Thareja , "Fundamentals of Computers", Oxford University Press.
2. Photoshop: Beginner's Guide for Photoshop - Digital Photography, Photo Editing, Color
3. Adobe Creative Team, "Adobe Photoshop Classroom in a Book".

REFERENCE BOOKS

1. Adobe Creative Team, "Adobe Photoshop Classroom in a Book".
2. Adobe Photoshop CC For Dummies.
3. Adobe Photoshop CC for Photographers 2018.
4. Photoshop CC Essentials for Photographers.

CourseCoordinator **HOD**

U18SESC006	FLASH	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Brindha & BCA				

COURSE OBJECTIVES: -

Learners can identify methods appropriate for Basic Animation and apply methods to design with flash.

COURSE OUTCOMES (COs)

CO1	Define working with flash, drawing with flash using Animation tools and Mixer.
CO2	Classify working with multiple objects, importing color palettes
CO3	Analyze Basic animation and working in the timeline,
CO4	Identify Frames, key frames, deleting, copying and reversing frames
CO5	Organize the Shape tweening and shape hinting in motion
CO6	Apply methods to design with flash

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	M	-								
	CO5	H	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	

4	Approval	Academic Council Meeting

UNIT I **6**

Working with flash, drawing with flash, drawing with the pencil, modifying lines, drawing with the pen, the oval and rectangle tools, free transform tool, envelope modifier, the brush tool, using the mixer.

UNIT II

6

Adding custom colors to color palette, importing color palettes, working with multiple objects, grouping objects.

UNIT III

6

Basic animation and working in the timeline, the timeline, movie properties.

UNIT IV **6**

Frames vs. key frames, deleting, copying, and reversing frames, frame-by-frame vector animation, Animation on an image.

UNIT V **6**

Shape tweening , shape hinting , Shape tweening text , edit multiple frames , animating gradients, basic motion tweening.

TEXT BOOKS:

1. Nick Vandome ,"FLASH 5 in easy steps", ,Dreamtech press,2001
2. Tattoo Lettering Book Reference Flash Book (Volume 2) Spiral-bound – jan 2001 by Various Artists
3. The Flash Book: How to fall hopelessly in love with your flash, and finally start taking the type of images you bought it for in the first place Kindle Edition by Scott Kelby-2013

REFERENCE BOOKS:

1. E A Vander Veer &Chris Graver, "Flash CS3",Orelly Publications,2009.
2. Nick Vandome ,"FLASH 5 in easy steps", ,Dreamtech press,2010
3. Thiagharajan and Anbumani, "Flash MX 2004", Tata McGraw Hill, NewDelhi.
4. Laurie Ulrich Fuller and Robert C. Fuller, "Photoshop CS3 Bible", Willey India Pvt.Ltd.,2017.
5. V. K. Jain, "Multimedia and Animation Paperback", 1st Edition, 1 January 2019.

CourseCoordinator **HOD**

U18SESC007	COMPUTER HARDWARE AND NETWORKING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi / CS				

COURSE OBJECTIVES :-

Learners familiar with the basic concepts of Microprocessor, Controller, Server and to demonstrate the traditional imperative design of CPUs, cards, PCs and BIOS.

COURSE OUTCOMES (COs)

CO1	Define the structure of Micro Processor and PCs and CPUs
CO2	State the structure of PC architecture and the study of various PCs
CO3	Describe the basics of Processor
CO4	Study the CPU, Chips, Processor and Controllers
CO5	Examine the working of Internal Components cards and Higher Level Processor
CO6	Relate the Backups, Switches Routers, BIOS, Floppy Disk and zip Driver

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	-						H		
	CO2	H	L								
	CO3	H	L								
	CO4	M	-								
	CO5	H	L								
	CO6	M	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	

4	Approval	Academic Council Meeting

UNIT I

6

Microprocessor System - Introduction of System overview, Introduction to Processors, Memory Interfacing, Interfacing I/O Devices, Interfacing Data Converters, Display Interface, Serial I/O and Data Communication, Higher level Processors.

UNIT II

6

Introduction to PC Architecture Study of PC-AT/ATX System, Pentium, Core, Core 2 Cord, Core 2 Duo, I3, I5, I7.

UNIT III

6

Processor Basics of Processor and CPU Block Diagram of Computer and Computer Generation Motherboards, Chipset and Controllers, BIOS and the Boot Process, Computer Memory.

UNIT IV

6

Internal Components IDE and SATA Devices: Hard Disk Drive and CD/DVDs Drives, SCSI Devices, Floppy Disk, Zip Drive, Backup Drive, Expansion Cards- LAN Card, IDE Card , VGA and SVGA Cards, Sound Card, Interface Cards, I/O cards, Video Cards, USB Card, Fire-Wire Cards, Internal Ports, Cables and Connector Types.

UNIT V

6 Introduction of Network Cable like UTP, STP, Fiber Optics, Hub, Unmanageable Switch, Manageable Switch, Router, Modem, Wi-Fi, Access Point, PCI Wireless Card, USB Wireless Device, Print Server, USB Network Sharer, Backup Device, Server Hardware etc.

TEXT BOOKS

1. Ramesh Gaonkar, "Microprocessor Architecture Programming and Application with the 8085", Penram International Publication.
2. Troubleshooting, Maintaining and Repairing PCs Stephen J Bigelow Tata MCGraw Hill Publication 2004
3. Computer Networks Andrew S.Tanenbaum Prentice-Hall of India, New Delhi 2002

REFERENCE BOOKS

1. M.L. Gupta, "Electronics and Radio Engineering", Dhanpat rai & Sons, New Delhi.
2. B. Govinda rajalu, "PC AND CLONES Hardware, Troubleshooting and Maintenance", Tata Mc-graw-Hill Publication.
3. Stephen J. Bigelow, "PC Troubleshooting and Repair", Dream tech Press, New Delhi.
4. Data Communication and networking Behrouz A.Forouzan Tata Mc-Graw Hill, New Delhi 2006
5. Data and Computer Communications William Stallings Prentice-Hall of India Eighth Edition.

Course Coordinator **HOD**

U18SESC008	COMPUTER PROGRAMMING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi/ CS				

COURSE OBJECTIVES :-

Learners will be familiar with the programming language C, Algorithm, and Design the flowchart and implement the programs using the concept such as Functions, Pointers and Strings.

COURSE OUTCOMES (COs)

CO1	Apply and Write the clear, structure and Looping of elementary C programs.
CO2	Explain algorithmic thinking and apply it to programming.
CO3	Describe problem-solving techniques.
CO4	Ability to use C with Various operators Expressions and Decision making control.
CO5	Write Code using Arrays with single dimensions, Two dimensions and Multidimensional and Various Strings operations
CO6	Examine programs using Functions, Pointers, Structures and Union

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	H	-						H	
	CO2	H	L							
	CO3	H	L							
	CO4	H	-							
	CO5	M	L							
	CO6	H	-							

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I

6

Generation and Classification of Computers, Basic organization of a Computer, Number System, Binary, Decimal, Conversion, Problems.

UNIT II

6

Algorithm, Pseudo code, Flow Chart, Problem formulation, Problem solving , Introduction to "C" programming, Fundamentals, Structure of C Program , compilation and linking processes, Constants, Variables, Data Types.

UNIT III

6

Expressions using operators in C, Managing input and output operations, Decision making and Branching, Looping Statements.

UNIT IV

6

Arrays, Initialization, Declaration, One Dimensional and Two Dimensional Arrays, String, String Operations, String Arrays.

UNIT V

6

Function, Definition of Function, Declaration of Function, Recursion, pointers, pointer and arrays, Structure data type, Structure definition, Structure declaration, Structure within a structure, Union, Storage classes, Pre-processor directives.

Text Books

1. Anita Goel and Ajay Mittal, "Computer Fundamentals and programming in C", Dorling Kindersley (India) Pvt Ltd., Pearson Education in South Asia 2011.
2. PradipDey, ManasGhosh, "fundamentals of computing and programming in c", First edition, Oxford University Press, 2009.
3. Yashavant P. Kanethar, "Let Us C", BPB Publications, 2011.

Reference Books

1.Byron S Gottfried," Programming with C",Schaum'sOutlines,2nd Edition,Tata McGraw-Hill 2006.

2.Dromey R.G., "How to Solve it by Computer", Pearson Education, Fourth Reprint, 2007.

3.Kernighan., B.W and Ritchie, D.M, " The C Programming Language", Second Edition, Pearson Education, 2006.

Course Coordinator **HOD**

U18SESC009	OFFICE AUTOMATION TOOLS	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi / CS				

COURSE OBJECTIVES :-

Learners will create an awareness among the application of computers and information technology.

COURSE OUTCOMES (COs)

CO1	State the basic skills and practices for MS –DOS.
CO2	Gain the knowledge of MS WORD.
CO3	Analysis the power point presentation concepts.
CO4	Discuss the EXCEL and formula processing.
CO5	Use the PowerPoint template.
CO6	Applying the computer excel formula.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	-								
	CO3	M	-								
	CO4	M	-								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
									✓		
4	Approval	Academic Council Meeting									

UNIT I **6**

Text Manipulations- font size, style, color. Alignment- left, right and justify, paragraph alignment, Usage of Numbering, Bullets, Footer and Headers, Usage of Spell check, and Find & Replace, Text Formatting, Picture insertion and alignment.

UNIT II **6**

Insertion – Table, chart, clip art, shapes, borders. Creation of documents, saving of documents, using templates, Creation templates, Mail Merge Concepts, Copying Text & Pictures from Excel.

UNIT III **6**

Creating of Excel sheet, Cell Editing, Usage of Formulae and Built-in Functions, File Manipulations, Data Sorting, Worksheet Preparation, Drawing Graphs, Usage of Auto Formatting.

UNIT IV **6**

Start power point, Create blank presentation, Selecting slide layout , Insert new slide, Editing presentation , Designing and formatting presentation , Change font, font color, size, style of text, Bullet and numbering, Slide design, layout, change background , preparing slide show presentation.

UNIT V **6**

Inserting Clip arts and Pictures, Frame movements, Insertion of new slides.Preparation of Organization Charts, Presentation using Wizards, Usage of design templates, working with tables, graphics and animation, working with graphs and organization charts.

TEXT BOOKS:

1. Joyce Cox, Joan Lambert and Curtis Fryc, "Step by Step Microsoft Office Professional 2010", Microsoft press edition.
2. Ralph T.Reilly, "The Handbook of Office Automation", iUniverse Publications,2012.
3. Learning of MS –Office 2007 – Ramesh Bangia
4. 2007 Microsoft Office System and Your Windowsbased PC – Window Vista
5. Microsoft Office Professional 2010 Step by Step Paperback – 1 January 2010 by Cox Et Al

REFERENCE BOOKS:

1. Microsoft office word 2007 Torben large frandsen
2. Microsoft office word 2008 Stephen moffat
3. Microsoft office word 2010 Advance – Gay B.Shelly
4. Microsoft Office 2010 by Bittu Kumar
5. Learning Microsoft Word 2010 by Bangia Ramesh

Course Coordinator **HOD**

U18SEMA001	QUANTITATIVE APTITUDE – I	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Number Series with its applications.
CO2	Understand the concept of Data Interpretation
CO3	Apply suitable algorithms in Loss & Discount
CO4	Analyze the Rates, Time and Distance
CO5	Evaluate problems Simple Interest
CO6	Create an real time application compounds and mixtures

Mapping of Course Outcomes with Program outcomes (POs)

(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			
3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT I NUMBER SYSTEM **6**

Numbers, Number Series, Number Theory, Arithmetic & Geometric Ratio

UNIT II STATISTICS **6**

Average, Ages, Data Interpretation.

UNIT III PERCENTAGE AND APPLICATIONS **6**

Percentage, Profit, Loss & Discount, Simple Interest, Compound Interest

UNIT IV TIME

6

Rates, Time and Distance, Train Problems, Boats and Streams, Time and Work.

UNIT V RATIO AND PROPORTION **6**

Allegations of compounds and mixtures.

Text Books:

1. Aggarwal.R.S(2018) "Quantitative Aptitude" by, S.Chand Publications.

2. Aggarwal.R.S(2018) "A modern approach to Logical approach" by, S.Chand Publications.

3. AbhijitGuha, (2014) "Quantitative Aptitude for competitive examinations" by Tata McGraw-HillPublications.

Reference Books:

1.AbhijitGuha, "Quantitative Aptitude"- Mc Graw Hills Publishers.

2. Aggarwal.R.S(2018) "A modern approach to Logical approach" by, S.Chand Publications.

3. RS Aggarwal, (2018) "A Modern Approach to Verbal & Non-Verbal Reasoning",S. Chand Publications.

CourseCoordinator **HOD**

U18SEMA002	QUANTITATIVE APTITUDE – II	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Inverse, Compound equation.
CO2	Understand the circular arrangement.
CO3	Apply suitable direction of Permutations and combinations test.
CO4	Analyze the Heights and Distance
CO5	Evaluate problems on Simple Interest
CO6	Create a real time application of Date and time.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									□	

4	Approval		Academic Council Meeting

UNIT I SOLVING ABILITY
6
Simple equations –Variation-Direct, Inverse, Compound

UNIT II PROBABILITY
6
Problems on Linear and circular arrangement.

UNIT III REASONING ABILITY
6
Coding and decoding – Direction Permutations and combinations test- Lateral reasoning-Blood relations-Paragraph based puzzles.

UNIT IV TRIGONOMETRY **6**
Heights and Distance.

UNIT V CLOCKS AND CALENDERS **6**
Interpretation of Date and time.

Text Books:

1. Aggarwal.R.S(2018) "Quantitative Aptitude" by, S.Chand Publications.

2. Aggarwal.R.S(2018) "A modern approach to Logical approach" by, S.Chand Publications.

3. AbhijitGuha, (2014) "Quantitative Aptitude for competitive examinations" by Tata McGraw-HillPublications.

Reference Books:

1.AbhijitGuha, "Quantitative Aptitude"- Mc Graw Hills Publishers.

2. Aggarwal.R.S(2018) "A modern approach to Logical approach" by, S.Chand Publications.

3. RS Aggarwal, (2018) "A Modern Approach to Verbal & Non-Verbal Reasoning",S.Chand Publications.

CourseCoordinator **HOD**

U18SEMA002	REGRESSION ANALYSIS WITH SPSS	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Ms.S.Kavitha /Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge Qualitative Variable on Nominal Scale, Ranked.
CO2	Understand the Deleting and Rearranging Items from the Viewer
CO3	Apply suitable direction Permutations and combinations test.
CO4	Analyze the Pie Chart, Scatter Plot and Dot plots
CO5	Evaluate data questionnaire Analysis
CO6	Create an real time application and test of hypotheses

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR

4	Approval	Academic Council Meeting

Unit 1: Introduction **6**

Observations and Variables, Quantitative or Measurement Variable on Interval Scale, Qualitative
Variable on Nominal Scale, Ranked Variable on Ordinal Scale.

Unit 2: SPSS Data File **6**

Opening a Data File in SPSS – Variable View, Data View, Entering Data into the Data Editor, Saving the Data File. Editing and Manipulating Data: Inserting a New Variable, Rearranging the Order of Variable in the Variable View, Deleting and Rearranging Items from the Viewer. Usage of Data, Transform, Analyse and Graphs menus – Editing and copying and printing SPSS output – Importing Data from Excel File.

Unit3:Descriptive Statistics with SPSS **6**

Charts and Graphs: Simple Bar charts, Pie Chart, Scatter Plot and Dot plots, Line graphs, Histogram.

Unit 4: Correlation and Regression Analysis with SPSS **6**

Simple correlation (Karl Pearson's Method) - Rank correlation (Spearman's method) – Simple linear regression equation, Scatter plot and line of best fit – Questionnaire Analysis (Uni-variate and Bi- variate tables) – Chi square test with SPSS for independence of Attributes.

Unit 5: correlation and Testing of Hypothesis **6**

Partial and multiple correlation coefficients. Simple linear regression model: Description of data model - Estimation and test of hypotheses.

Books for Study:

1. AnanthiSheshasayee and Sheshasayee, G, (2003), Computer Applications in Business and Management, Margham Publications, Chennai.
2. Rajathi, A. and Chandran, P. (2010), SPSS for you, MJP Publishers, Chennai.
3. Chatterjee, S and Price, B (1977), Regression Analysis by Example, John Wiley and Sons, New York
4. Kapoor, V. K and Gupta, S. C (2002), Fundamentals of Mathematical Statistics, Sultan Chand and Sons, New Delhi.

Books for Reference:

1. Singh, V. P. and Singh, M. (1998), MS-Excel, Megabyte Series, Asian Publishers, New Delhi.
2. Andy Field (2006), Discovering Statistics Using SPSS, SAGE Publications, London.
3. Johnston, J (1972), Econometric Methods, McGraw-Hill Pvt. Ltd, New York.
4. Draper, N. R and Smith, H (1998), Applied Regression Analysis, 3rd edition, John Wiley and Sons, USA.

CourseCoordinator HOD

Department of Economics

I SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
1.	HS	U18HSTA101	Tamil –I	5	3	0	0	3
2.	HS	U18HSHI101	Hindi - I	5	3	0	0	3
3.	HS	U18HSFR101	French - I	5	3	0	0	3
4.	HS	U18HSEN102	English - I	5	3	0	0	3
5.	MC	U18MCEM101	Indian Economic development - I	5	3	1	0	4
6.	NC	U18NCEM102	Principles of Accounting	5	3	1	0	3
7.	MC	U18MCEM103	Industrial organisation & management	5	3	1	0	4
8.	MC	U18MCEM104	Business Communication	5	3	1	0	4
Total				**30**	**18**	**4**	**0**	**21**

II SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
1.	HS	U18HSTA201	Tamil – II	4	3	0	0	3
2.	HS	U18HSHI201	Hindi – II	4	3	0	0	3
3.	HS	U18HSFR201	French - II	4	3	0	0	3
4.	HS	U18HSEN202	English - II	4	3	0	0	3
5.	MC	U18MCEM201	Indian Economic Development - II	5	3	1	0	4
6.	NC	U18NCEM202	Principles of Management	5	3	1	0	3
7.	MC	U18MCEM203	Business Statistics	4	3	1	0	4
8.	MC	U18MCEM204	Entrepreneurial Development	4	3	1	0	3
9.	HS	U18HSCH201	Environmental Studies	2	2	0	0	2
10.	HS	U18HSBC202	Value Education	2	2	0	0	2
Total				**30**	**22**	**4**	**0**	**24**

III SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
1.	MC	U18MCEM301	Micro Economics – I	4	4	0	0	4
2.	NC	U18NCEM302	Basic of Cost & Management Accounting	4	2	1	0	3
3.	MC	U18MCEM303	Marketing	5	4	0	0	3
4.	MC	U18MCEM304	Rural Banking	5	2	1	0	3
5.	MC	U18MCEM305	Monetary Economics - I	5	3	1	0	4
6.	MC	U18MCEM306	Human Resources Management	5	2	1	0	3
7.	NME	U18NETA301	Non Major : I – Basic Tamil – I	2	2	0	0	2
8.	NME	U18NETA302	Special Tamil – I	2	2	0	0	2
Total				**30**	**19**	**4**	**0**	**22**

IV SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
1.	MC	U18MCEM401	Micro Economics - II	5	3	1	0	4
2.	MC	U18MCEM402	Agricultural Economics	4	2	1	0	3
3.	NC	U18NCEM403	Capital Markets	4	2	1	0	3
4.	MC	U18MCEM404	Monetary Economics - II	5	3	1	0	4
5.	MC	U18MCEM405	Business Organization	4	2	1	0	3
6.	MC	U18MCEM406	Principles of Insurance	4	2	1	0	3
7.	NE	U18NETA401	Non Major : II- Basic Tamil – II	2	2	0	0	2
8.	NE	U18NETA402	Special Tamil – II	2	2	0	0	2
9.	SE		Skill Based Elective-I	2	1	0	2	2
Total				**30**	**17**	**6**	**2**	**24**

V SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
1.	MC	U18MCEM501	Managerial Economics	4	3	1	0	4
2.	MC	U18MCEM502	Fiscal Economics - I	4	3	1	0	4
3.	MC	U18MCEM503	Macro Economics - I	5	2	1	0	3
4.	NC	U18NCEM504	Urban Economics	4	2	1	0	3
5.	MC	U18MCEM505	International Economics - I	5	3	1	0	4
6.	ME		Major Elective - I	4	3	1	0	4
7.	SE		Skill Based Elective-II	2	1	0	2	2
8.	SE		Skill Based Elective-III	2	1	0	2	2
Total				**30**	**18**	**6**	**4**	**26**

VI SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
1.	MC	U18MCEM601	Fiscal Economics - II	4	3	1	0	4
2.	MC	U18MCEM602	Macro Economics - II	5	2	1	0	3
3.	MC	U18MCEM603	International Economics - II	5	3	1	0	4
4.	ME		Major Elective : I	4	3	1	0	4
5.	EE	UI8EEEM6P1	Project	10	0	0	20	10
6.	HS	U18HSEM6L1	Extension Activities	2	0	0	2	1
Total				**30**	**11**	**4**	**22**	**26**

LIST OF SKILL BASED ELECTIVES
Choose any three courses – one in semester IV & two in semester V

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18SEBC001	Business Process Outsourcing – Management	2	2	0	0	2
2	U18SEBC002	Customer Relationship Management	2	2	0	0	2
3	U18SEBC003	Entrepreneurial Development	2	2	0	0	2
4	U18SEBC004	Human Resource Management	2	2	0	0	2
5	U18SEBC005	Marketing Management	2	2	0	0	2
6	U18SEBC006	Office Management	2	2	0	0	2
7	U18SEBC007	Retail Marketing	2	2	0	0	2
8	U18SEBC008	Salesmanship and Advertising	2	2	0	0	2
9	U18SEEN001	Soft Skills	2	2	0	0	2
10	U18SESC001	Computer Application	2	2	0	0	2
11	U18SESC002	Multimedia	2	2	0	0	2
12	U18SESC003	Advanced Excel	2	2	0	0	2
13	U18SESC004	Web Designing	2	2	0	0	2
14	U18SESC005	Photoshop	2	2	0	0	2
15	U18SESC006	Flash	2	2	0	0	2
16	U18SESC007	Computer Hardware and Networking	2	2	0	0	2
17	U18SESC008	Computer Programming	2	2	0	0	2
18	U18SESC009	Office Automation Tools	2	2	0	0	2
19	U18SEMA001	Quantitative and Aptitude Reasoning -I	2	2	0	0	2
20	U18SEMA002	Quantitative and Aptitude Reasoning-II	2	2	0	0	2
21	U18SEMA003	Regression Analysis with SPSS	2	2	0	0	2

LIST OF MAJOR ELECTIVE – I
Choose any one in Semester V

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18MEEM011	Industrial Economics✓	4	4	0	0	4
2	U18MEEM012	Personality Development					
3	U18MEEM013	Event Management					
Total			**4**	**4**	**0**	**0**	**4**

LIST OF MAJOR ELECTIVE – II
Choose any one in Semester VI

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18MEEM021	Indirect Taxes					
2	U18MEEM022	Financial Market					
3	U18MEEM023	Soft Skills for Employability ✓	4	4	0	0	4
Total			**4**	**4**	**0**	**0**	**4**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18HSTA101	**தமிழ் – I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். த. கிறிஸ்டல் ரெஜி & தமிழ்த்துறை				

COURSE OBJECTIVES : இருபதாம் நூற்றாண்டு இலக்கியத்தை அறியச் செய்தல்

COURSE OUTCOMES (COs)

CO1	பாரதியார், பாரதிதாசன், கவிமணி ஆகியோரின் மரபுக்கவிதைகளை அறிவர்
CO2	கண்ணதாசன், அப்துல்ரகுமான், நா.முத்துக்குமார் ஆகியோரின் புதுக்கவிதைகளை அறிவர்
CO3	இருபதாம் நூற்றாண்டு உரைநடை கட்டுரைகளை அறிவர்
CO4	இருபதாம் நூற்றாண்டு சிறுகதைக்கலையின் நுட்பத்தை அறிவர்
CO5	இக்கால இலக்கிய வரலாற்றைப் பற்றி அறிவர்
CO6	இருபதாம் நூற்றாண்டு இலக்கியத்தைப் பற்றி அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

அலகு 1 **9**

மரபுக்கவிதைகள்: பாரதியார் - தேசிய கீதங்கள் - தமிழ் நாடு - செந்தமிழ் நாடு, தமிழ்
பாரதிதாசன் - தமிழ் - இன்பத் தமிழ், எங்கள் தமிழ்
கவிமணி தேசிக விநாயகம் பிள்ளை - வாழ்க்கைத் தத்துவங்கள், வாழ்க்கை நிலையாமை

அலகு 2 **9**

புதுக்கவிதைகள்: கண்ணதாசன் - அழுகை, பிறப்பின் வருவது யாதெனக் கேட்டேன்!
அப்துல்ரகுமான் - கல்லின் காயம், பாருக்குள்ளே நல்ல நாடு
நா.முத்துக்குமார் - வளர்தலும் வளர்தல் நிமித்தமும், கை நீட்டினால் தண்ணீர் வரும் குழாய்

அலகு 3 **9**

கட்டுரைகள்: திரு.வி.கலியாணசுந்தரனார் - பாஷை வளர்வதெப்படி
அறிஞர் அண்ணா - வீட்டிற்கோர் புத்தகசாலை
வ.சுப. மாணிக்கம் - தேசிய மறை திருக்குறள்

அலகு 4 **9**

சிறுகதைகள்: வ.வே.சு. ஐயர் - குளத்தங்கரை அரசமரம் - 'தமிழ்ச் சிறுகதையின் தந்தை - தமிழின் முதல் சிறுகதை'
மௌனி - அழியாச்சுடர் - 'தமிழ்ச் சிறுகதையின் திருமூலவர்'
புதுமைப்பித்தன் - காஞ்சனை - 'தமிழ்ச் சிறுகதையின் மன்னன்'

அலகு 5 **9**

இக்கால இலக்கிய வரலாறு: இருபதாம் நூற்றாண்டு கவிதை இலக்கிய வரலாறு
இருபதாம் நூற்றாண்டு உரைநடை இலக்கிய வரலாறு
இருபதாம் நூற்றாண்டு சிறுகதை இலக்கிய வரலாறு

பாட நூல்கள்:

1. தி.சா.ராஜு, "பாரதியார் & பாரதிதாசன் கவிதைகள்", வானவில் பிரசுரம், 1977
2. சி.தேசிக விநாயகம் பிள்ளை, "கவிமணி கவிதைகள்", பூம்புகார் பதிப்பகம், 2011
3. கண்ணதாசன், "கவிஞர் கண்ணதாசன் கவிதைகள்", கண்ணதாசன் பதிப்பகம், 2012
4. அப்துல் ரகுமான், "கவிக்கோ கவிதைகள்', நேஷனல் பப்ளிஷர்ஸ், 2013
5. நா.முத்துக்குமார், "கவிதைகள்-அனா ஆவன்னா, பட்டாம்பூச்சி பதிப்பகம், 2016
6. இராமச்சந்திரன், "திரு.வி.க.வின் தேசபக்தன் கட்டுரைகள்",புவனேஸ்வரி பதிப்பகம்,2001
7. அண்ணா, 'சொற்பொழிவு-வீட்டிற்கோர் புத்தகசாலை', முத்தமிழ் நிலையம், 2008

பார்வை நூல்கள்:

1. ந.வேலுசாமி, "திருக்குறளை தேசிய நூலாக அறிவிக்க வேண்டும்", Coral Publisher, 2017
2. வ.வே.சு.ஐயர், "குளத்தங்கரை அரசமரம்", வ.உ.சி.நூலகம், 2007
3. மௌனி, "மௌனி படைப்புகள்", காலச்சுவடு பதிப்பகம், 2010
4. புதுமைப்பித்தன், "காஞ்சனை", அன்னம் பதிப்பகம், 2013

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18HSHI101	Hindi-I	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Hindi as second language in Grade 12				
	Course Coordinator Name &Department:- Dr. K. MustakHusaain / Department of Hindi				

COURSE OBJECTIVES :-
To understand , read, write and speak Hindi language with grammatical.

COURSE OUTCOMES (COs)

CO1	Remember the behavior
CO2	Understand the importance of money by story
CO3	Apply the concept of Hindi grammar
CO4	Analyze the usage of translation from English to Hindi
CO5	Evaluatethe unseen passage to answer the questions
CO6	Create the knowledge in Hindi Language

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

UNIT I **9**
NAVEEN GADYA CHAYANIKA – 2 - Bholaram ka jeev - Mehamaan se Bhagavaan bachaaye - Numberovali Thijori – Kaffan - Gunda

UNIT II **9**
NON DETAILED TEXT: KAHANI KUNJ - Stories: 6 – 10 only

UNIT III **9**
GRAMMAR: SHABDA VICHAR ONLY - NOUN, PRONOUN, ADJECTIVE, VERB, TENSE, CASE ENDINGS - Theoretical & Applied

UNIT IV **9**
TRANSLATION - English – Hindi only - ANUVADH ABHYAS – III - 1 – 15 Lessons Only

UNIT V **9**

COMPREHENSION - 1 Passage from ANUVADH ABHYAS – III (16 – 30)

TEXT BOOKS:

UNIT 1 - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017
UNIT II - Govind Prakashan, Sadhar Bagaar, Mathura, Uttar Pradesh – 281001 - Editor: Dr V.P. Amithab
UNIT III - Vyakaran Pradeep by Ramdev - Hindi Bhavan, 36, Tagor Town, Allahabad – 211002.
UNIT IV - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017.
UNIT V - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18HSFR101	FRENCH-I	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – French as second language in Grade 12				
	Course Coordinator Name & Department :- Ms. Tushita Naidu K / Départements De Française				

COURSE OBJECTIVES :-
Initier les étudiants aux principes de base et à la pratique de la communication orale et écrite.

COURSE OUTCOMES (COs)

CO1	Comprendre les bases de la langue.
CO2	Analyser les modèles de phrases et former la grammaire.
CO3	Pour apprendre les bases de la grammaire ainsi que ses principes.
CO4	Se souvenir de l'anatomie des conjugaisons.
CO5	Créer des dialogues et des conversations par eux-mêmes dans la langue et pratiquer des compétences orales et écrites.
CO6	Se souvenir des règles nécessaires de la langue

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

UNIT I - Vous comprenez **9**
Alphabets - French Accents - Les Nombres – Pronunciations.

UNIT II Au travail! **9**
Masculine Singular and Feminine singular - Conjugaison des verbes (present tense) -
Les articles définis.

UNIT III En se detend? **9**
Conjugaison (faire-aller-venir-Vouloir-Pouvoir-Devoir)

UNIT IV Racontez-moi **9**

La date et l'heure – les saisons – les couleurs

UNIT V Bon voyage! **9**

Adjectifs demonstratives - Adjectifs possessives - Les Voyages / les transport-Bon appétit!-Article partitif - Emploi des articles - Interrogation (Forme avec inversion) - Les repas - La fête

TEXT BOOKS:

A1 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
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Department of Economics

U18HSEN102	**ENGLISH I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept: Mrs. SHEEBA - English				

COURSE OBJECTIVES:- :- To use English effectively for study purpose and enable the learner to communicate appropriately in real life situation.

	COURSE OUTCOMES (COs)
CO1	Remember and recall the words according to the given context.
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarizes the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.

Mapping of Course Outcomes with Program outcomes (POs) (L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O1	PSO2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L								
	CO4	H	L						H		
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓							
4	**Approval**	Academic Council Meeting							

UNIT-I POETRY **9**

Lucy Gray -William Wordsworth – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Ulysses -Alfred Lord Tennyson** - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **The Road Not Taken** – **Robert Frost** - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT-II – ONE ACT PLAYS **9**

The Boy Comes Home - A.A.Milne – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Referee - W.H.Andrews and Geoffrey Dearmer -** Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT -III SHORT STORIES **9**

The Unicorn in the Garden – **James Thurber -** Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Avenger** – **Anton Chekov -** Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT IV PROSE **9**

Six Thinking Hats - Edward de Bono – Author Biography - Self analysis technique, Summary; **My Early Days - Abdul Kalam -** Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **I Have a Dream (Speech) - Martin Luther King -** Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT V **9**

Introduction to Basics of Communication – Definitions – Types – Listening, Speaking, Reading & Writing

TEXT BOOKS:

1. Six Thinking Hats by Edward de Bono, Little Brown and Company, 1985
2. My Early Days by Abdul Kalam, October 7, 2013

REFERENCE BOOKS:

1. Strings of Gold (Part- II) Edited by Prof. Jasbir Jain (MacMillan), 2007
2. Basic Communication Skills for Technology by Rutherfoord (Dorlig Kindersly), 2007
3. English for Professionals A Practice Book of Communication Skills in English by Dr.Miglani (Vayu Education of India), 2010.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM101	**INDIAN ECONOMIC DEVELOPMENT - I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. S. Robin / Commerce & Economics				

COURSE OBJECTIVES: -

- To familiarize the students with the basic fundamentals of economic growth and development.
- To teach the students the role of agriculture and capital formation in the economic development of India.

COURSE OUTCOMES (COs)

CO1	State the concepts of economic growth and development.
CO2	Discuss about capital formation.
CO3	Predict the role of human capital
CO4	Analyze the concept of Agriculture and its contribution in economic development.
CO5	Employ the role of technology.
CO6	Prepare savings and investment pattern.

Mapping of Course Outcomes with Program outcomes (POs) (L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	M								
	CO2	H	H								
	CO3	H	H								
	CO4	H	M								
	CO5	M	H								
	CO6	H	M							**H**	

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
					✓					
4	Approval	Academic Council Meeting								

UNIT- I **12**

Concept of Economic Growth and economic development - Factors determining economic development - Features of Indian Economy.

UNIT- II **12**

Capital formation - Savings and investment pattern – Indian national income - Sectoral contributions since 1991.

UNIT- III **12**

Concept of Human Resources - Role of human capital - Production policy - Human Development Index (HDI).

UNIT- IV **12**

Agriculture - Its contribution to economic development - Food problem and food security - Recent trends in agriculture.

UNIT- V **12**

Role of technology - Green Revolution - agricultural productivity.

TEXT BOOKS:

1. Sandeegarg, Indian Economic Development, Dhanpat Raj Publications, 2019.
2. H.L.Ahuja" Development Economics", S.Chand. 2016.
3. Dr.S.Sankaran,"Indian Economy", Margham Publications 2018.

REFERENCE BOOKS:

1. Gaurav jain, Indian Economic Development, New Blocks & Printers Pvt Ltd, 1 Jan 2019.
2. A.V. Balakrishnan, Economic Development in India, Access publishing, 29 June 2018.
3. Ruddar Datt & K.P.M.Sundharam–Indian Economy - S.Chand &Company Ltd, New Delhi, 2013.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
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Department of Economics

U18NCEM102	**PRINCIPLES OF ACCOUNTING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	2	1	0	3
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Mr.G.Vinothini / Commerce & Economics				

COURSE OBJECTIVES: -

- To familiarize the students with the basic fundamentals of accounting.
- To impart knowledge on final accounts of sole trading concern

COURSE OUTCOMES (COs)

CO1	Identify the basic fundamentals of accounting.
CO2	Practice the methods of final accounts for sole trading
CO3	Apply the concept of income and expenditure and receipts and payments.
CO4	Analyze the concept of depreciation accounting
CO5	Prepare Bank Reconciliation Statement
CO6	Examine the principles of Partnership Account

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	M	M					**M**			
	CO2	M	H		**H**						
	CO3	M	M								**H**
	CO4	M	L								
	CO5	L	H								
	CO6	L	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
						✓				
4	Approval	Academic Council Meeting								

UNIT-I 9

Introduction – Accounting Concepts and Conventions – Accounting Equation – Book Keeping – Journal – Ledger
– Trial Balance.

UNIT-II 9

Preparation of Final Accounts of a Sole Trading Concern (Simple Adjustments.)

UNIT-III 9

Average Due Date – Bank Reconciliation Statement.

UNIT- IV 9

Depreciation – Meaning, Causes, Types – Straight Line Method – Written Down Value Method (Change in Method excluded).

UNIT- V 9

Partnership Accounts – I – Admission of a partner – Retirement of a partner.

TEXT BOOKS:

1. Ca D. G Sharma&dr. S. K Agrawal, Principles & Practice of Accounting, Taxmann's Publication, 2019.
2. PC Tulsian & Bharat Tulsian, Principles & Practice of Accounting, McGraw hill Publication, 2018.
3. Dr. Vishal Saxena Principles & practice of Accounting Bharat law house Pvt Ltd.

REFERENCE BOOKS:

1. Dr. Vishal Saxena, Principles & Practice of Accounting, Bharat Law House, Delhi, Jan 2018.
2. P. Mohana Rao, Fundamentals of Accounting For CPT, Prentice Hall India Learning Pvt. Ltd.
3. Principles of Accounting, Volume 1: Financial Accounting-Mitchell Franklin, Patty Graybeal, Dixon Cooper, OpenStax (Editor)

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM103	**INDUSTRIAL ORGANISATION AND MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	0	1	4
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. V.Saillaja / Commerce & Economics				

COURSE OBJECTIVES: -

- To familiarize the students with the business concepts.
- To impart knowledge on forms of business organization
- To enable the student to understand the importance of Industrial organization.

COURSE OUTCOMES (COs)	
CO1	Define the nature and scope of business
CO2	Discuss the factors to be considered in the establishment of an organization.
CO3	Utilize the concept of various forms of organization.
CO4	Compare the basics of delegation of responsibility and authority
CO5	Discuss the pros and cons of narrow and wide spans of control
CO6	Sketch the need of organization and organizational hierarchy in large concerns.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3			**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L	L							
	CO2	H	M	L							
	CO3	H	H	H							
	CO4	L	H	M							H
	CO5	M	M	M							
	CO6	L	M	H							
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT- I **12**

Meaning and definition of business - essential characteristics of business - Types of business - nature and scope of business - objectives of modern business – essentials of successful business - meaning of business organization.

UNIT- II **12**

Need of organization - organizational hierarchy in large concerns - top management organization - staff units and committee - Factors to be considered in the establishment of an organization.

UNIT- III **12**

Forms of business organizations - sole trader, partnership firm, Joint Hindu Family Firm, joint stock companies, co-operative undertakings, public utilities, public enterprises.

UNIT- IV **12**

Authority relationship -line function and staff - basics of delegation of responsibility and authority – centralization and decentralisation of authority and pros and cons of each.

UNIT- V **12**

Span of control - pros and cons of narrow and wide spans of control - optimum spans.

TEXT BOOKS:

1. S. K Basu, K. C. Sahu & B. Rajiv, Industrial Organization and Management, PHI Learning Publication, 2012
2. Dr. O. P.Khanna , Industrial Organization and Management 19 Jan 2017
3. Dennis W.Carition and Jeffrey M.Perloff Modern Industrial organization 1st June 2004.

REFERENCE BOOKS:

1. Jean Tirole, The Theory of Industrial Organization, PHI publication, 2010
2. Stephen Martin, Industrial Organization - A European Perspective, Oxford University press, 2001.
3. Elbourne – Fundamentals of Industrial Organisation, 1st June 2004.
4. Naw Nihal Singh - Scientific Management of Small Scale Industries, 1st June 2015.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM104	**BUSINESS COMMUNICATION**	**L**	**T**	**P**	**C**
	Total Contact Hours –	3	1	0	4
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. R.Velanganni / Commerce & Economics				

COURSE OBJECTIVES: -

- To understand the concept, process and importance of communication.
- To develop skills of effective communication - both written and oral

COURSE OUTCOMES (COs)

CO1	List the principles for effective communication and barriers of communication.
CO2	Explain the various methods of communication.
CO3	Describe the essentials of business letter
CO4	Familiarize modern forms of communication
CO5	Illustrate the concept of correspondance and meetings.
CO6	Differentiate the different types of correspondance.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	M							
	CO2	H	H	M							
	CO3	H	H	M							
	CO4	H	M	H							H
	CO5	H	H	M							
	CO6	H	M	L							

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT- I **12**

Definition – Nature – Purpose – Importance – Types – Process of Communication – Principles for effective Communication – Barriers to Communication.

UNIT- II **12**

Introduction – classification – verbal communication – written- oral – Nonverbal communication –Body language - Directions – Dimensions of communication

UNIT - III **12**

Meaning – Essentials of a Good Business Letter – Layout – Types – Enquiry – Order – Complaint – Sales – Circular – Agency – Cover – Goodwill.

UNIT - IV **12**

Bank Correspondence – Insurance Correspondence – Agency Correspondence – Report Writing – Mailing – Agenda – Minutes – Memorandum – Curriculum Vitae

UNIT - V **12**

Modern forms of communication: Fax – E mail – video Conferencing – Internet – Websites and their uses in business.

TEXT BOOKS:

1. Asha Kaul, Business Communication, PHI Publication, 2nd Edition, 30 may, 2007
2. P. D Chaturvedi & Mukesh Chaturvedi, Business Communication Concepts, Cases and Applications, Pearson publication, 2nd Edition, 30 June, 2017.
3. Peter W. Cardon, Business Communication 2nd Edition,1 january2015

REFERENCE BOOKS:

1. Dr V. K. Jain &Dr. OmPrakash Biyani, Business Communication, S. Chand Publication, 1 Nov, 2007.
2. Varinder Bhatia, Business Communications including Technical Communication, Khanna publishers, Jan 2013.
3. N.S.Raghunathan & B.Santhanam,Margham Publications,Jan 2015.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
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Department of Economics

U18HSTA201	**தமிழ் - II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். த. கிறிஸ்டல் ரெஜி & தமிழ்த்துறை				

COURSE OBJECTIVES : சிற்றிலக்கியம் மற்றும் சமய இலக்கியத்தை அறியச் செய்தல்

COURSE OUTCOMES (COs)

CO1	தூது,பள்ளு,குறவஞ்சி என்ற சிற்றிலக்கியங்கள் பற்றி அறிவர்
CO2	சைவ இலக்கியமான தேவாரம், திருவாசகம், அற்புதத்திருவந்தாதிப் பற்றி அறிவர்
CO3	வைணவ இலக்கியமான நாலாயிர திவ்யப் பிரபந்தம் பற்றி அறிவர்
CO4	பௌத்த, இசுலாம், கிறித்துவ சமய இலக்கியங்களைப் பற்றி அறிவர்
CO5	சிற்றிலக்கியம் மற்றும் சமய இலக்கிய வரலாறு பற்றி அறிவர்
CO6	சிற்றிலக்கியம் , சமய இலக்கியம் பற்றிய தெளிவான அறிவைப் பெறுவர்

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								Seminar/

4	Approval		Academic Council Meeting

அல 1 **9**
அழகர் களதளவடு - 1 - 20
மக டறபளஞ - நாடடு வளம -
திர ஞக றறாலக - றை தி மதலவளம - 1 - 5
றவஞி றிஞை

அல 2 **9**
அறபை திர வநநாதி - 1 - 5
தவாரம - திர சவணகாடடுப பதிகம - - 1 -
திர வாெகிம - திர ெொழல - 1 -
ாணிதவாெகிம 10

அல 3 **9**
நாலாயிர திவயப - மை - சபரியாழவார - 1 -
நாலாயிர திவயப பிரபந்ை - திர பபாதவ - ஆணடாள - 1 - 10
நாலாயிர திவயப பிரபந்ை - திர மாதல - சைாணடரடிபசபாடி ஆழவார - 1 - 5

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அல **4** **9**

ஆசிய தஜாதி - கர தணக கடல - அறஷதர
பராபரகணண - ணங - 1 - 20
இதயச - பாடுகள்ன - கணணைாென

அல **5**

9

சிறறிலகக்ய வரலாறு - ெமய இலகக்ய வரலாறு

பாரதவ னலகள:

1. கதிர மர, "அழகர களதளவடு த", ெராரைா பதிபபகம, 2011
2. கதிர மர, "மக டற பளளு யலமம உதரயம", ெராரைா பதிபபகம, 2017
3. பலிரரக தகசிகன, "திர கறறாலக றவஞசி", செணபகா பதிபபகம, 2010
4. மிழமைன, "அறபைதிரவநைாதி", பாரி நிதலயம, 2011
5. தொ.கநைெராமி "பனனிரு திரமத ற", உலகைமிழாராயெசி நிறவனம, 2008
6. .தகாதவநைன, "நாலாயிரம திவயப பிரபநைம யலமம எளிய உதரயம", ெராரைா பதிபபகம, 2015
7. கமலா மரகன, "ஆசிய தஜாதி யலமம உதரயம", ெராரைா பதிபபகம, 2012
8. கமலா மரகன, "பராபரகணணி யலமம உதரயம", ெராரைா பதிபபகம, 2013
9. கணணைாென, "இதயசு காவயம", கணணைாென பதிபபகம, 2014
10. ச.ஆனநைன, “மிழ இலகக்ய வரலாற", பாரி நிதலயம, 2018

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
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SEMESTER –II

U18HSHI201	Hindi	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Hindi as second language in Grade 12				
	Course Coordinator Name & Department:- Dr. K. MustakHusaain / Department of Hindi				

COURSE OBJECTIVES: -
To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)	
CO1	Remember of Ramayana In Sabari part
CO2	Understand the historical stories
CO3	Apply the concept of translation
CO4	Analyzeand develop the letter writing skills
CO5	Evaluateand develop the speaking skills
CO6	Create knowledge in letter writing and speaking skills

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

UNIT I **09**
MODERN POETRY - SHABARI

UNIT II **09**
ONE ACT PLAY - EKANKI SANKALAM

UNIT III **09**
TRANSLATION - HINDI – ENGLISH ONLY

UNIT IV **09**
LETTER WRITING - Leave letter - Job Application - Ordering books - Letter to Publisher - Personal letter

UNIT V **09**

CONVERSATION - Doctor & Patient - Teacher & Student - Storekeeper & Buyer - Two Friends - Booking clerk & Passenger at Railway station – Auto rickshaw driver and passenger.

Text Books:

By Naresh Mehtha,Veerendra Kumar Mishra

Reference Books:

UNIT 1 – Publisheres - LokbharathiPrakashan ,1 Floor, DuebariBuilding,Mahathma Gandhi Marg, Allahabad – 1.
UNIT II – Publishers – Vani Prakasam, New Delhi-110002
UNIT III – Publishers – Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

CourseCoordinator **HOD**

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U18HSFR201	French-II	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – French as second language in Grade 12				
	Course Coordinator Name & Department :- Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES :-
Présenter aux élèves la complexité de la grammaire et comment la surmonter avec des règles simples.

COURSE OUTCOMES (COs)

CO1	Être capable d'interpréter la langue.
CO2	Se familiariser avec les approches méthodologiques de l'étude des textes littéraires et culturels, telles que la lecture attentive, la contextualisation socio-historique et la théorie littéraire et culturelle.
CO3	Acquérir une maîtrise avancée du français parlé et écrit.
CO4	Encourager le développement de compétences en linguistique, en traduction et en études comparatives.
CO5	Se souvenir de l'anatomie des conjugaisons au passé.
CO6	Pour évaluer le texte donné de manière critique et améliorer les compétences en communication.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H		
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval	Academic Council Meeting

UNIT I -Quelle journee! 9
La Conjugaison pronominale -L'imperatif -L'expression de la quantite (peu-in peu de- quelque – etc.)

UNIT II - Qu'on est bien ici ! 9
Prepositions et adverbs de lieu - Verbs experimant un deplacement (employ des prepositions)
Le lodgement/la localisation/ l'orientation/l'etat physique/le temps qu'il fait

UNIT III -En se detend? 9

L'imparfait-Emplois du passé compose et de l'imparfait-Expression de la duree-L'enchainement des idees (alors, donc, mais) /Le sens reciproque

UNIT IV- On s'appelle? 9

Les pronoms complements direct -Les pronoms compliments indirects de personne -c'est/ il est-Imperatif des verbs avec pronoms-La fornation des mots

UNIT V Un bon conseil ! 9

Expression du deroulement de l'action--passe recent--Present progressif-future proche-Les phrases rappotrees-La place de l'adjectif- La proposition relative finale avec -qui

TEXT BOOKS:

A1 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

Course Coordinator **HOD**

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U18HSEN202	**ENGLISH II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator Name & Dept.: Mr.S.KUMARESAN - English				

COURSE OBJECTIVES:- To have a better understanding of the English language skills and its implementation it in day to day life activities.

	COURSE OUTCOMES (COs)
CO1	Remember and recall the concepts of English language
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarize the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.

Mapping of Course Outcomes with Program outcomes (POs) (L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PS O1	PSO2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L						H		
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								

4	**Approval**	Academic Council Meeting

UNIT 1: PROSE **9**

The Refugee – **K.A. Abbas** – Author Biography – Plot – Theme - Summary - Critical analysis; **The Lion and the Lamb** – **Leonard Clark** – Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2: POETRY **9**

The Solitary Reaper – **William Wordsworth** – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Gift** – **Alice Walker**- Author Biography - Theme – Poetic devices – Annotations

- Summary – Critical analysis

UNIT 3: SHORT STORIES **9**

The Fortune -Teller – **Karel Capek** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **The Postmaster** – **Rabindranath Tagore** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 4: ONE-ACT PLAYS **9**

The Death Trap – **Saki (H.H. Munro)** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **The Dear Departed**: **A Comedy in One-Act – Stanley Houghton**- Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 5: GRAMMAR **9**

Communicative Grammar - Seeking and giving information – statements and questions
Being informal – phrasal verbs, Expressing ability, possibility, etc – Modals and other devices

TEXT BOOKS:

1. The Death Trap by Saki, The Novels and Plays of Saki, 2001
2. Pooja Khanna, "English Communication", S.CHAND Publishing, 2016
3. Rabindranath Tagore, "The Postmaster", Penguin India, 2000

REFERENCE BOOKS:

1. K.A.Abbas Suresh Kohli, "An Evening in Calcutta", HarperCollins, 2015
2. Stanley Houghton, "Five one act plays", Alpha Edition, 2019
3. Edited Prof. Jasbir Jain, "Strings of Gold (Part- II)", MacMillan, 2016

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM201	INDIAN ECONOMIC DEVELOPMENT II	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department: - . Ms. R.Velanganni / Commerce & Economics				

COURSE OBJECTIVES: -

- To make the students understand the role of foreign trade, transport and planning in Economic development.
- To impart knowledge on Indian economy.

COURSE OUTCOMES (COs)

CO1	Identify the role of industries in Economic Development
CO2	Choose the concept of industrial relations.
CO3	Apply the infrastructure towards the roadways, railways, shipping and airways
CO4	Analyze the concept of Indian Five Year Plans
CO5	Evaluate the practical aspects of EXIM policy.
CO6	Assess the rural employment generation schemes.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO 3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M	M							
	CO2	H	H	M							
	CO3	H	H	M						H	
	CO4	H	M	H							
	CO5	M	H	L							
	CO6	H	M	M							

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT – I **12**

Role of industries in Economic Development - Concept of Micro, Small, Medium Enterprises (MSMEs) - Industrial Finance

UNIT – II **12**

Industrial Relations - Trade Unions and Labour Unrest - Social Security Schemes - Rural Employment Generation Schemes.

UNIT - III **12**

Infrastructure - Roadways, railways, shipping and airways – communication.

UNIT – IV **12**

Planning in India - A brief resume of Indian Five Year Plans - Concept of inclusive growth - Recent Plans.

UNIT – V

Globalization - EXIM policy - India's foreign trade and balance of payments - WTO and India. **12**

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TEXT BOOKS:

1. Dhingra, I.C., Indian Economy, Sultan & sons, 1 January 2016
2. V.K. Puri. S.K. Misra, Indian Economy, Badla publication, 1 January 2018
3. Sandeep Garg, Indian Economy development, Dhanpat raj Publications 2019

REFERENCE BOOKS:

1. Jhingan, M.L. - Economics of Development and planning, Vrinda Publications P Ltd., India, 20 February 2014.
2. Sankaran, Indian Economy, Margham Publications, 1 Jan 2014.
3. Dr.S.Sankaran,"Indian Economy", Margham Publications 2018.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
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Department of Economics

U18NCEM202	**PRINCIPLES OF MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	1	0	3
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Mr. G.Santhoshkumar / Commerce & Economics				

COURSE OBJECTIVES: -

- To enable the students to understand the concept of management.
- To provide knowledge on the planning in the organization.

COURSE OUTCOMES (COs)

CO1	Define the basic concept of management in the organization
CO2	Discuss the characteristics, process and elements of planning.
CO3	Interpret the steps involved in selection process and training methods.
CO4	Distinguish between the authority and responsibility and centralisation and decentralisation.
CO5	Evaluate the importance of direction and control process.
CO6	Organize the requisites and types of coordination.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1		H	H					H		
	CO2		M					H			
	CO3		M					H			
	CO4		H					M			
	CO5			M	H						
	CO6	H						M			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
						✓					
4	Approval	Academic Council Meeting									

UNIT- I **9**

Management- Definition-nature –Functions of Management- Difference between administration and management – Henry fayol's principles of management.

UNIT- II **9**

Planning – Definition – Characteristics – Elements of a good planning – Planning Process – Benefits and Limitations of Planning-Decision Making- Characteristics- Process.

UNIT- III **9**

Organising – Definition – Authority and Responsibility – Delegation – Centralisation and Decentralization**.**

UNIT- IV **9**

Staffing – Definition – Recruitment – Selection – Training – Performance appraisal-Co-ordination-Importance – Requisites for excellent coordination – Types of Coordination

UNIT- V **9**

Direction and Controlling – Characteristics of Direction – Importance of Direction – Characteristics of Control – Importance of Control – Control Process.

TEXT BOOKS:

1. Gupta. C.B, Business management, Sultan Chand & sons, 1 January 2013
2. P.C. Tripathi, P.N .Reddy, Principles of management, McGraw Hill Education, 30 Jun 2017, 6th edition.
3. Dr.G.K. Vijayaragavan and Dr. Sivakumar Principles of management Lakshmi Publications 2013

REFERENCE BOOKS:

1. Prasad. Principles and practice of management, sultan Chand & sons, 1 January 2015
2. James Stoner. A.F. and Freeman. R. E, Daniel R. Gilbert, Management, Pearson Education India, 1 Jan 2003, 6th Edition.
3.P.Srinivasan,"Principles of Management"Margham publishers,2005.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
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Department of Economics

U18MCEM203	**BUSINESS STATISTICS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. M.M. Shanmugapriya / Commerce & Economics				

To provide theoretical appreciation and use of science of statistics to make better decisions
To expertise with statistical tools and techniques for social science research
To understand statistical tools for quantitative analysis.
To educate the students on quantitative analysis and to use statistical techniques business data.
To understand the statistical tools for research and business decision making.

COURSE OUTCOMES

CO1	Define the diagrammatic and graphical representation of data
CO2	Express the theoretical appreciation and use of science of statistics to make better decisions
CO3	Generalize their enriched knowledge on statistical tools for quantitative analysis
CO4	Correlate the experience on statistical tools and techniques for social research and performance appraisal
CO5	Estimate the use of statistical techniques for analysis of business data.
CO6	Formulate the Time series Aanlysis

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO 3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H		H							
	CO2	H	M	H							
	CO3	H	M	H					H		
	CO4	H		H							
	CO5	H					H				
	CO6	H	M	H				H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT – I 12
Introduction - Classification and Tabulation of statistical data - Diagrammatic and graphical representation of data.

UNIT – II 12
Measures of Central tendency - Mean, median and mode - Dispersion, Range, Quartile Deviation, Mean
Deviation, Standard Deviation - Measures of Skewness.

UNIT – III 12
Correlation - Karl Pearson's Coefficient of Correlation-Spearman's Rank Correlation- Regression Lines and Coefficients.

UNIT – IV 12
Theoretical Distribution – Binomial, Normal and Poisson distribution.

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UNIT – V 12

Time Series Analysis - Trend - Seasonal Variation- Index Numbers- Introduction- Construction of Index numbers- Laspeyres Method, Paasches method.

TEXT BOOKS:

1. S.P. Gupta, Statistical Methods, Sultan Chand and Sons, 1 January 2012.
2. Dr. P.R. Vittal, Business Statistics and Operations Research, Margham Publications, 1 January 2012
3. David M. Levine and David Stephan Business Statistics, 03 January 2015

REFERENCE BOOKS

1. SP. Rajagopalan R. Sattanathan, Business Statistics, Vijay Nicole Imprints Pvt ldt, 2015
2. J.K Sharma, Fundamentals of Business Statistics, Vikas Publishing House, 1 Jan 2014,2nd edition.
3. M.Girija et al : Introduction to Statistics – Vrinda Publications (P) Ltd., Delhi, 2009.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
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U18MCEM204	**ENTREPRENEURIAL DEVELOPMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	1	0	3
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. S. Bharanichelvi / Commerce & Economics				

COURSE OBJECTIVES: -

- To enable the students to understand the concept of Entrepreneur.
- To provide knowledge on the Entrepreneurial Traits - Small Scale Industries

COURSE OUTCOMES (COs)

CO1	Remember the evolution of the concept of entrepreneur and functions of entrepreneur.
CO2	Understand the detailed concept of Project Identification.
CO3	Relate the theories and factors of Entrepreneurial Motivation.
CO4	Analyze the sources and factors determining Capital Structure
CO5	Appraise the sources of institutional support to entrepreneurs.
CO6	Create an awareness of women entrepreneurs and their problems.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	L							
	CO2	H	H	S							
	CO3	M	M	S							H
	CO4	L	S	M							
	CO5	M	H	M							
	CO6	H	M	H							
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT-I **9**

Evolution of the concept of Entrepreneur - Characteristics, Functions & types of Entrepreneur. Entrepreneurship

- Role of Entrepreneurship in Economic Development -Women Entrepreneurs – Problems of Women Entrepreneurs - Factors affecting Entrepreneurial Growth – economic, non-economic & governmental – Intrapreneur**.**

UNIT-II **9**

Entrepreneurial Motivation : Motivation theories, Factors of Motivation - Entrepreneurial Traits - Small Scale Industries - Role and its problems in Economic Development - Entrepreneur Development Programmes - Objectives and phases. Entrepreneurial Competencies – meaning traits, major competencies, developing competencies.

UNIT-III **9**

Project Identification - Project Classification - Project Selection - Project Formulation - Financing of projects - Project Report - content and significance – Planning Commission's guidelines for formulating project reports - Project Appraisal- Methods of Project Appraisal.

UNIT-IV **9**

Institutional Finance to Entrepreneurs – Sources and Factors Determining Capital Structure – Commercial Banks, Financial Institutions: IDBI, IFCI, ICICI, IRBI, SFC, DICs, SIDC, SIDBI & EXIM Bank.

UNIT-V **9**

Institutional Support to Entrepreneurs – NSIC, SIDO, SISIs, & TCOs -Taxation benefits to Small Scale Industries
– Industrial Sickness: Symptoms, Causes, Consequences and Corrective Measures.

TEXT BOOKS:

1. Dr.S.S.Khanka, Entrepreneurial development, S.Chand, 1December 2007.
2. Jayashree Suresh, Entrepreneurial development, Margham publication, 1 January 2012.
3. Dr.S.Senthil and M.Arokiaraj Entrepreneurial development Suchitra publication 2013.

REFERENCE BOOKS

1. Sangeeta Sharma, Entrepreneurship development, PHI Learning Private Limited, 1 Jan 2017.
2. Ranbir Singh, Entrepreneurship development S K kataria, July 6, 2015.
3. C.B.Gupta& Dr. N.P.Srinivasan - Entrepreneurship Development in India - Sultan Chand & Sons, New Delhi, 2002.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18HSCH201	**ENVIRONMENTAL STUDIES**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course –Higher Secondary studies				
	Course Coordinator Name & Department:- – Dr. G. Gurumoorthy / Chemistry				

COURSE OBJECTIVES :-

To make the students learn about the science from the basic and understood all theoretical background with all concepts thoroughly to protect the habitat of biotic and abiotic ecosystem.

COURSE OUTCOMES (COs)

CO1	Remember the fundamental concept of environmental impact and importance of natural Resources
CO2	Understand about the Ecosystem, Biodiversity and its conservation
CO3	Understand the various environmental pollution, effects and prevention.
CO4	Apply the environmental legislations and environmental production act.
CO5	Apply the human rights, value education, environment and human health: women and child welfare, public awareness
CO6	Analyze the local area, local polluted site and local simple ecosystem.

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L	H			H		H		
	CO2	H	L	H			H				
	CO3	H	L	H			H				
	CO4	H	L	H			H				
	CO5	H	L	H			H				
	CO6	H	L	H			H				

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

Unit – I: Introduction to Environmental Sciences: Natural Resources: 6

Environmental sciences – relevance – significance – public awareness – forest resources – water resources – mineral resources – food resources – conflicts over resource sharing – exploitation – land use pattern – environmental impact – fertilizer – pesticide Problems - case studies.

Unit – II: Exosystem, Biodiversity and its conservation: 6

Ecosystem – concept – structure and function – producers, consumers and decomposers –food chain – food web – ecological pyramids – energy flow – forest, grassland, desert and aquatic ecosystem – definition – genetic, species and ecosystem diversity – biodiversity – definition – genetic, species and ecosystem diversity – values and uses of biodiversity – biodiversity at global, national (india) and local levels – hotspots, threats to biodiversity – conservation of biodiversity – insitu and ex-situ.

Unit – III: Environmental Pollution and Management **6**

Environmental pollution – causes – effects and control measures of air, water , marine, soil, solid waste. Thermal, nuclear pollution and disaster management – floods, earth quake, cyclone and land slides, role of individuals in prevention of pollution – pollution case studies.

Unit – IV: Social issues – Human population: **6**

Urban issues – energy – water conservation – environmental ethics – global warming – resettlement and rehabilitation issues – environmental legislations – environmental production act. 1986 – air, water, wildlife and forest B.C.A.: syllabus (CBCS) conservation act - population growth and explosion – human rights and value education – environmental health – HIV/AIDS – role of it in environment and human health – women and child welfare – public awareness – case studies.

Unit – V: Field Work: **6**

Visit to a local area / local polluted site / local simple ecosystem – report submission.

Text Book:

1. K. Kumarasamy, A. Alagappa Moses and M. Vesanthy, Environmental Studies, 2004, Bharathidasan University Pub, 1, Trichy.
2. Y. K. Singh, Environmental Science, 2006, New Age International (P) Limited, New Delhi.
3. Divya Agarwal and Manoj K. Agarwal, Environmental Science, 2014, Astral International Pvt. Ltd,New Delhi.

Reference book:

1. Rajamannar, 2004, Environmental Studies, EVR College Pub, Trichy.
2. S. Kalavathy, (ED.) 2004, Environmental Studies, Bishop Heber College Pub. Trichy.
3. G. TylerMiller, Scott Spoolman, 2018, Environmental science, 16th edition.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18HSBC202	VALUE EDUCATION	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary level				
	Course Coordinator Name & Department:- Ms. G. Vinothini, Commerce & Economics				

- **COURSE OBJECTIVES**
- To enable the students to understand the Social values.
- To provide knowledge on the features for life.
- To acquire the knowledge on Human rights.
- To impart the knowledge on Environment and Ecological balance.
- To educate the knowledge on Social evils..

COURSE OUTCOMES (COs)

CO1	Recall the basic concept of human values, Social Value role of medias, Self-introspection – Self esteem
CO2	Understand the duties and responsibilities of individuals and role of media
CO3	Apply Salient features for life, : Truth, commitment,, honesty and integrity, forgiveness and love and also positive creative thinking
CO4	Demonstrate Universal declaration of Human rights, peace and nonviolence – Dr. APJ Abdul Kalam's ten points for enlightened citizenship.
CO5	Analyze living and nonliving environmental balance, Ecological balance and conservations and enrichment
CO6	Manipulate the awareness on Corruption, crime, terrorism, Alcoholism, Drug addiction, Dowry

Mapping of Course Outcomes with Program outcomes (POs)
(H/M/L indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	M					H		
	CO2	H	H	H		L					
	CO3	M	H	M	M						
	CO4	H	M	L							
	CO5	H	H	M			M				
	CO6	M	M	L							
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)	
	Approval	Academic Council Meeting									

UNIT I **6**

Value education: Definition- relevance to present day – concept of human values – self introspection – Self-esteem- duties and responsibilities of individuals- Social values- role of media in value building.

UNIT II **6**

Salient features for life: Truth, commitment, honesty and integrity, forgiveness and love, empathy and ability to sacrifice, care, unity and inclusiveness, Team work- positive creative thinking.

UNIT III **6**

Human rights: Universal declaration of Human rights- human rights violation – National integration – peace and non violence – Dr. APJ Abdul Kalam's ten points for enlightened citizenship.

UNIT IV **6**

Environment and Ecological balance: Interdependent of all being – living and non living – the binding of man and nature – Environmental conservations and enrichment.

UNIT V **6**

Social evils: Corruption – cyber crime, terrorism, Alcoholism, Drug addiction, Dowry – Domestic violence – Untouchability – female infanticide – atrocities against women – How to tackle them.

TEXT BOOK

1. N. Arumugam, S. Mohana, Lr. Palkani- value based education- Saras Publication, 2009
2. DN Ghose, Value Education- dominant publishers, 2005
3. M.G. Chitakra, Education and Human values, A.P.H Publishing Corporation. New Delhi

REFERENCE BOOKS

1) For Life, for the future: Reserves and Remains – UNESCO Publications.
2) Values, A Vedanta kesari presentations, Sri Ramakrishna Math, Chennai
3) Kaul, G.N.: Values and Education in Independent Indian,
Associated Publishers, Mumbai, 1975

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM301	**MICRO ECONOMICS – I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	4	0	0	4
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. S.Binapani / Commerce & Economics				

COURSE OBJECTIVES:-

- To familiarize the students with the basic of macroeconomics.
- To impart knowledge on Consumer behavior.
- To enable the students on the concept of Income and substitution effect.

COURSE OUTCOMES (COs)

CO1	Identify the indifference Curve, Consumer Equilibrium and Substitution Effect.
CO2	Understand the concept of demand, supply, demand schedule and utility.
CO3	Demonstrate the Law of variable proportions and Laws of returns.
CO4	Examine about ordinal utility analysis with consumer choices
CO5	Evaluate the factors of production and short run and long run production function
CO6	Compose the Price Elasticity of Demand with graphical representation.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	H	M					H		
	CO2	H	H	H							
	CO3	H	H	M							
	CO4	M	H	H							
	CO5	M	H	H							
	CO6	H	M	H							
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT – I **12**

Definitions: Adam Smith, Marshall, Lionel Robins, Samuelson. Nature and scope of Economics – Micro

Economics Vs Macro Economics - Inductive Method Vs deductive Method - Positive vs Normative.

UNIT – II **12**

Consumer behavior - Law of Diminishing Marginal Utility - Law of Equi-Marginal Utility - Demand - Demand schedule & Demand Curve Determinants of demand - Contraction & Extension; Increase & Decrease of Demand

- Causes of downward sloping demand curve.

UNIT – III **12**

Hick's indifference curve analysis - Consumer equilibrium using indifference curve analysis - Income and substitution effect - Consumer surplus.

UNIT – IV **12**

Elasticity of demand - Definition and Types of Elasticity of Demand - Measurement of Price Elasticity of Demand - Determinants of price elasticity of demand - Supply: Supply schedule – Drawing supply curve from supply schedule - Demand and supply equilibrium - Graphical representation.

UNIT – V **12**

Factors of production - Production Function - Short run and long run production function - Law of variable proportions - Laws of returns - Iso- quants - Producer's equilibrium.

TEXT BOOKS:

1. Robert Pindycle, Micro Economics, Pearson Publications, 8th Edition, 2018.
2. H.L. Ahyja, Priniciples of Micro Economics, S. Chand Publications, 20th Edition, 2017.
3. N. Gergory Mankiw, Prinviples of Microeconomics,SWE Punlication, 4th Edition 2010.

REFERENCE BOOKS

1. S.P.S. Chauhan, Micro Economics, PHI Learning Pvt. Ltd., 2nd Edition, 2016
2. D.N.Dwivedi, M.E.T. & Applications, Vikas Publications, 3rd Edition, 2016.
3. Jeffrey M. Perloff, Micro Economics, Pearson, 7th Edition 2014.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18NCEM302	BASICS OF COST AND MANAGEMENT ACCOUNTING	L	T	P	C
	Total Contact Hours – 45	2	1	0	3
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. S. Bharanichelvi / Commerce & Economics				

COURSE OBJECTIVES:-

- To familiarize the students with the basic of cost accounting.
- To impart knowledge on material cost.
- To enable the students on the concept of management accounting.

COURSE OUTCOMES (COs)

CO1	Remember the basic concept of cost accounting.
CO2	Practice the cost sheets with simple problems.
CO3	Illustrate the cost sheet of Accounting.
CO4	Differentiate between the financial cost and management accounting.
CO5	Evaluate the scope and objectives of management accounting
CO6	Construct the concept of budgets and budgetary control.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	M								H
	CO2	H	M								
	CO3	M	M								
	CO4	H	H								
	CO5	M	H								
	CO6	H	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
						✓				

4	Approval	Academic Council Meeting

UNIT-I **9**

Cost Accounts - meaning scope and objectives of cost Accounting.

UNIT – II **9**

Different types of costs - Material costs - Labour costs and overheads – Cost sheet (simple problems)

UNIT – III **9**

Management Accounting - Definition - Scope and objectives - Distinction between financial cost and Management Accounting.

UNIT – IV **9**

Cost - Volume - Profit Relationship - Break even Analysis - Graphical Representation.

UNIT – V **9**

Budgets – Budgetary Control.

TEXT BOOKS:

1. R.S.N. Pillai, V.Bagavathi, Cost Accounting, S Chand Publications, 9th Edition, 2017.
2. M.N. Arora, Text book of Cost and Management Account, Vikas Publications, 9th Edition, 2010.
3. Dr. S. N Maheswhwari, Cost and Management Accounting, Sultan Chand & Sons, 4th Edition 2015.

REFERENCE BOOKS:

1. T.S. Reddy, Dr. Hariprasad, Management Accounting, Margham Publications, 5th Edition, 2017.
2. R.S.N. Pillai, V. Bagavathi, Management Accounting, S.Chand Publications, 1st Edition, 2010.
3. Dr. S. N Maheswhwari, Cost and Management Accounting, Sultan Chand & Sons, 4th Edition 2015.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM303	MARKETING	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	2	1	0	3
	Prerequisite – Nil				
	Course Coordinator Name & Department:- Mr.G.Santhosh kumar / Commerce & Economics				

COURSE OBJECTIVES:-

- To familiarize the students with the marketing concepts and practices.
- To identify the factors influencing buyer behavior
- To develop an understanding of concept of segmentation and target market.

COURSE OUTCOMES (COs)

C01	Remember the knowledge on basic concept of marketing and marketing orientation.
C02	Understand the factors influencing the buyer behavior.
C03	Apply the various methods of sales forecasting ,sales promotion, strategies, Publicity
C04	Analyse the pricing objectives and pricing policies of the product.
C05	Evaluate the need and basis of segmentation and Personal selling.
C06	Create a process of new product development and product life cycle.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	H							
	CO2	H	H	H							
	CO3	M	M	M							H
	CO4	H	H	M							
	CO5	H	M	M							
	CO6	H	H	H							
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT – I **9**

Introduction to Marketing- Meaning – Definition & Functions of Marketing - Marketing Orientation- Role & Importance of Marketing – Classification of Marketing - Factors affecting the marketing functions.

UNIT – II **9**

Buyer Behavior - Consumer goods and Industrial goods - Buying motives - Factors influencing buyer Behavior - Market segmentation - Need and basis of Segmentation - Targeting – positioning.

UNIT – III **9**

Sales Forecasting – Various methods of sales Forecasting-The Product - Characteristics - benefits – classifications - consumer goods - industrial goods – New Product Development process - Product Life Cycle - Branding - Packaging.

UNIT – IV **9**

Pricing – Significance of Price in Marketing - Factors influencing Price of the Product - Pricing Objectives and Policies - Kinds of Pricing Decision – Pricing of New Product – Important Problems in Pricing – Sales Management Motivation, Compensation and Control of Salesman.

UNIT – V **9**

Sales Promotion-Meaning – Function and Importance – Reasons for Increased use of Sales Promotion – Advertising – Publicity – Public Relation - Personal Selling - Direct selling and Sales promotion.

TEXT BOOKS

1. Dr. L. Natrajan, Marketing Management, Margham Publications, 1st Edition, 2017
2. Dr. J.Jayasankar, Marketing, Margham Publications,3rd Edition, 2009
3. Ashok Jain, Marketing Management, Vikash Publications, 3rd Edition, 2010.

REFERENCE BOOKS

1. Philip kotler - The millennium Edition, Prentice Hall of India Private Limited, New Delhi,12th Edition, 2007
2. Dr. R.D. Rudani, Basics of Marketing management, S. Chand publications, 4th Edition. 2010.
3. Philip Kotler, Principles of Marketing, Pearson, 17th Edition. 2015.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM304	**RURAL BANKING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	2	1	0	3
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. R.Catherine/ Economics				

COURSE OBJECTIVES:-

- To familiarize the students with the basic of rural economy.
- To impart knowledge on Indian Agriculture.

COURSE OUTCOMES (COs)

C01	Identify the concept of rural banking and importance of agriculture, industry, trade and other activities.
C02	Explain the backwardness of Indian agriculture and rural poverty.
C03	Apply the causes and consequences of rural poverty
C04	Analyse the eradication of rural poverty during five year plans.
C05	Examine the causes and consequences of rural indebtedness.
C06	Discuss the measures to promote rural savings and mode of savings in rural India.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	M	H	H							
	CO2	M	M	M							
	CO3	M	H	M						H	
	CO4	M	M	H							
	CO5	M	H	H							
	CO6	M	H	H							

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT – I **9**

Features of Rural Economy in India and Tamil Nadu – Size - Structure and Issues - Relative Importance of agriculture, industry, trade and other activities

UNIT – II **9**

Backwardness of Indian agriculture - Production pattern in villages - Land tenure and methods of production – Low yield per acre - Cause for backwardness - Effects of Backwardness - Suggestions.

UNIT – III **9**

Rural poverty - Meaning - Extent of rural poverty – Causes and consequences - Eradication of poverty - Remedies - Eradication of rural poverty during five year plans.

UNIT – IV **9**

Rural indebtedness - Causes - Consequences – Suggestions to solve the problem of rural indebtedness – Steps taken to solve the problem

UNIT – V **9**

Saving pattern in rural India - Causes for low saving in rural sector - Measures to promote rural savings – Mode of savings in rural India.

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

TEXT BOOKS:

1. K.R.Gupta, Rural Development in India, Atlantic Publications, 1 Dec 2010.
2. Indian Institute of Banking & Finance, Rural Banking, Macmillan Education.
3. S. N Thakur, Rural Banking and Agricultural Finance in India, Solar Books Publisher, 2017.

REFERENCE BOOKS

1. Kalra M.L. (1998) "Banking in the 21st Century: Challenges and Opportunities" in Indian Banking towards 21st century
(Ed.A.S.Chawala, K.K.Uppal and Keshav Malhotra) Deep and Deep Publications, New Delhi.
2. Bhaktapada Roy, Rural Banking & Poverty Alleviation, Abhijeet Publications, 1 June 2008.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM305	**MONETARY ECONOMICS – I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. V.Saillaja / Commerce & Economics				

COURSE OBJECTIVES:-

- To enable the students on the concept of monetary standards.
- To peep into the concept of money supply.
- To expose the student on business cycle.

COURSE OUTCOMES (COs)

CO1	Relate the concept of Capitalist, Socialist, Mixed & Money.
CO2	Describe the Fisher's equation, Cambridge equation, Monetary standard & Money supply.
CO3	Apply the concept of monetary standard, Indian Currency system, Development & Problem
CO4	Examine the concept of RBI, Keynesian, Patinkin, Friedman's quantity theory of money.
CO5	Demonstrate the business cycle, Phases, Types & Theories.
CO6	Compute the remedies for Inflation & Deflation.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	M	H						H		
	CO2	M	H								
	CO3	M	H								
	CO4	M	H								
	CO5	M	M								
	CO6	M	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT – I **12**

Money - Functions and classification - Role of money in capitalist, socialist and mixed economies.

UNIT – II **12**

Value of money - Fishers equation - Cambridge equation - superiority of Cambridge equation over Cash Transaction.

UNIT – III **12**

Monetary standards - Paper currency -Systems of note issue - Indian currency system - Development and problems.

UNIT – IV **12**

Factors influencing money supply - Money supply and price level - Keynesian approach - Neutrality of money – Real balance effect - Patinkin - Friedman's Restatement of quantity theory of Money.

UNIT – V **12**

Business Cycles: - Phases, types and Theories – Inflation: Causes, types and remedies - Effects of inflation on Production, Consumption and distribution - Deflation - effects and control.

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

TEXT BOOKS

1. Jhingan .M.L. : Monetary Economics, Vrinda Publications Pvt. Ltd., 16 Apr, 2014
2. Suraj B Gupta, Monetary Economics, S Chand, 2011.
3. Dr. M.L. Seth, Monetary Economics, Lakshmi Narain Agarwal. 2018.

REFERENCE BOOKS:

1. Sankaran .S : Monetary Economics, Margham Publications, 1 Jan 1983.
2. Seth M.L. : Money, Banking and International Trade
3. Vaish .M.C. : Monetary Theory, Vikas Publishing House Pvt. Ltd., 25 Nov 2005, 16th Edition

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM306	**HUMAN RESOURCES MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	2	1	0	3
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Mr. S.Binapani/ Commerce & Economics				

COURSE OBJECTIVES:-

- To provide the students to understand the functions, process and task of human resource management.
- To give exposure to students about the basic concept for organizational effectiveness through the technique of applying human resource management.

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COURSE OUTCOMES (COs)

CO1	Remember the knowledge about evolution and growth of HRM and its functions.
CO2	Understand the basic knowledge of management and its tools, Training and Performance appraisal methods.
CO3	Apply the process of Performance appraisal and motivation theories.
CO4	Compare the changing roles, problems and challenges of a HR manager.
CO5	Employ the training and development programmes and sources of Recruitment and Selection.
CO6	Examine the steps in HR Planning and Job Analysis, Description and Specification.

Mapping of Course Outcomes with Program outcomes (POs) (L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	L								
	CO2	M	H								
	CO3	H	H								H
	CO4	M	H								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT-I **9**

Human Resource Management - Definition – Objectives – Functions - evolution and growth of HRM– qualities of a good HR manager – Changing roles of a HR Manager - problems and challenges of a HR manager – Differences between Personnel Management and HRM.

UNIT-II **9**

Planning the Human Resources: Definitions of human resource planning – objectives – steps in human resources planning – job analysis – job description – job specification.

UNIT-III **9**

Recruitment & Selection: Recruitment and selection – objectives of recruitment – sources – internal and external recruitment – application blank – testing – interviews.

Training & Development – principles of training – assessment of training needs – on the job training methods - off the job training methods – evaluation of effectiveness of training programmes.

UNIT-IV **9**

Performance Appraisal – process – methods of performance appraisal – appraisal counseling – Motivation process – theories of motivation – managing grievances and discipline.

UNIT-V **9**

Knowledge Management- introduction, meaning, objectives – distinguish between management information system(MIS) and knowledge management (KM) – tools and technologies – knowledge management matrix.

TEXT BOOKS

1. L.M. Prasad – Human Resource Management – S. Chand & Sons, 3rd Edition, 2006.
2. C.B. Mamoria, S.V. Gankar – Personnel Management – Himalaya Publications, 2012.
3. C.B. Gupta, Human Resource Management, Sultan Chad & Sons, 2017.

REFERENCE BOOKS

1. Gary Dessler – Human Resource Management – Prentice Hall – 8th Edition – 2010.
2. S.S. Khanka – Human Resource Management – S. Chand & Sons Pvt.Ltd. Publications, 2010.
3. C.B Gupta, Modern Human Resource Management, S Chand, 2016.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18NETA301	**அடிப்படைத் தமிழ் - I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : திருமதி. அ.கோ.ஸ்ரீதேவி & தமிழ்த்துறை				

COURSE OBJECTIVES : தமிழ் மொழியினைப் பயிற்றுவித்தல்

COURSE OUTCOMES (COs)

CO1	தமிழ் எழுத்துக்களில் உயிர் எழுத்துக்களை அறிவர்
CO2	தமிழ் எழுத்துக்களில் மெய் எழுத்துக்களை அறிவர்
CO3	தமிழில் எண்கள், நாட்கள் பற்றி அறிவர்
CO4	தமிழ் மாதங்கள் பற்றி அறிவர்
CO5	உறவு முறை பெயர்களைப் பற்றி அறிவர்
CO6	தமிழ்மொழியை அறியாதவர்கள் தமிழை எழுத படிக்கத் தெரிந்து கொள்வர்

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	M	H						M	M	M
	CO2	M	H								
	CO3	M	H								
	CO4	M	H								
	CO5	M	H								
	CO6	M	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
							✓			

4	Approval		Academic Council Meeting

அலகு 1 **6**

தமிழ் எழுத்துக்களை அறிமுகம் செய்தல் - உயிர் எழுத்துக்கள், மெய் எழுத்துக்கள்

அலகு 2 **6**

குறில், நெடில் எழுத்துக்கள், வல்லினம், மெல்லினம், இடையினம்

அலகு 3 **6**

எண்கள் - ஒன்று முதல் ஐம்பது வரை, பத்து இலக்க எண்கள், நூறு இலக்க எண்கள், ஆயிரயிலக்க எண்கள்

அலகு 4 **6**

தமிழில் நாட்கள், தமிழ் மாதங்கள், ஆங்கில மாதங்கள்

அலகு 5 **6**

உறவு முறை பெயர்கள் - பெயர் சொற்கள் - வினைச் சொற்கள்

பாட நூல்கள்:

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

1. என்.ஹெச்.எம், "தமிழ் எழுத்துகள்", புரோடிஜி தமிழ், 2009
2. அருணா, "என் சுவடி வாய்பாடு", அருணா பப்ளிகேசன்ஸ்
3. ஆசிரியர் குழு, எண்கள் , புரோடிஜி தமிழ், 2009

பார்வை நூல்கள்:

1. ஆறுமுகநாவலர், "தமிழ் இலக்கணம்", பாரி நிலையம், 2012
2. கழகப் புலவர் குழுவினர், "நன்னூல் – எழுத்ததிகாரம்", கழக வெளியீடு, 1996
3. ராஜு, "வாய்பாடு", சாரதா பதிப்பகம், 2013

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18NETA302	**சிறப்புத்தமிழ் – I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	4	0	0	4
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். ஜெ.அந்தோணி ஜெயஷீலா & தமிழ்த்துறை				

COURSE OBJECTIVES : தமிழர் நாகரீகம் பண்பாடு பற்றி அறியச் செய்தல்

COURSE OUTCOMES (COs)

CO1	பழங்கால தமிழரின் சமூக அமைப்பைப் பற்றி அறிவர்
CO2	பண்டைத் தமிழர் திருமணமுறை நல்லறம் - குடும்ப வாழ்வு பற்றி அறிவர்
CO3	பண்டைத் தமிழரின் கல்வி, வானியல் அறிவு பற்றி அறிவர்
CO4	தமிழரின் உணவு, உடை, உறையுள் - சங்க கால விழாக்கள் பற்றி அறிவர்
CO5	பண்டைத் தமிழரின் கல்வி, வானியல் அறிவு பற்றி அறிவர்
CO6	தமிழர் நாகரீகம் பண்பாடு பற்றி அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	M			H				H	M	M
	CO2	M			H						
	CO3	M			H						
	CO4	M			H						
	CO5	M			H						
	CO6	M			H						

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
							✓			
4	Approval		Academic Council Meeting							

அலகு **1** **6**
நாகரிகமும் பண்பாடும் - சங்க காலத்து அரசியல் நிலை - சங்ககாலத் தொழிற்பிரிவினரும் சமூக அமைப்பும் - மகளிர் நிலை

அலகு **2** **6**
பண்டைத் தமிழர் திருமணமுறை நல்லறம் - குடும்ப வாழ்வு பற்றிய தமிழர் கொள்கை –

அலகு 3 **6**
பண்டையத் தமிழரின் உணவு, உடை, உறையுள் - சங்க கால விழாக்கள்

அலகு **4** **6**
பண்டைத் தமிழரின் கல்விநிலை - பண்டைத் தமிழரின் வானியல் அறிவு

அலகு 5 **6**

பண்டைத் தமிழரின் விளையாட்டும் பொழுதுபோக்கும் - மருத்துவக் கலை

பாட நூல்:

1. அ.தட்சிணாமூர்த்தி, "தமிழர் நாகரிகமும் பண்பாடும்", ஐந்திணைப் பதிப்பகம், 2017
2. ஞா.தேவநேயப் பாவாணர், "பண்டைத் தமிழர் நாகரிகமும் பண்பாடும்", பூம்புகார் பதிப்பகம், 2017
3. கே கே பிள்ளை, "தமிழக வரலாறு மக்களும் பண்பாடும்", உலகத் தமிழாராய்ச்சி நிறுவனம், 2015

பார்வை நூல்கள்:

1. நா. வானமாமலை, தமிழர் பண்பாடும் தத்துவமும், அலைகள் வெளியீட்டகம், 2016
2. பேரின்பன், தமிழர் வரலாறு:சில கேள்விகளும் தேடல்களும், அலைகள் வெளியீட்டகம், 2011
3. மா.இராசமாணிக்கனார், தமிழக வரலாறும் தமிழர் பண்பாடும், செண்பகா பதிப்பகம், 2012

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM401	MICRO ECONOMICS-II	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. S.Jeyanthy / Economics				

COURSE OBJECTIVES:-

- To provide the student with knowledge about cost types and market structure.
- To introduce the students about various theories of rent.
- To gain information regarding monopolistic and oligopolistic competition.
- To learn basic ideas about interest and modern theories of profit.

COURSE OUTCOMES (COs)

CO1	Identify the types of cost, Cost Function, Cost Curves in Accounting and Economics.
CO2	Disucss the concept of price and output determination in Market Structure.
CO3	Apply the Functional and personal distribution of income.
CO4	Analyze in Modern theories of wages and rent by Marshall.
CO5	Explain the Modern theories of profit.
CO6	Prepare a concept of LM Model of interest determination in economics

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	**H**	**M**	**M**					H		
	CO2	**H**	-	-	**M**						
	CO3	**M**	**H**	-	-						
	CO4	**H**	-	-	**M**						
	CO5	-	**H** -	**H**	-						
	CO6										
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT – I 12

Cost - Types - Accounting and Economic costs – Opportunity cost - TC, AC & MC curves - Cost functions - Short run cost Curves - Long run cost Curves - Revenue Curves - Total, average, marginal revenue curves – Relationship between AR and MR.

UNIT – II 12

Market Structure - Perfect competition - Characteristics - Price and output determination - Monopoly –
Characteristics - Equilibrium Price and output - Price Discrimination.

UNIT – III 12

Monopolistic competition - Characteristics - Price and output determination - Group equilibrium - Oligopoly - Features - Types - Price Leadership - Kinked demand curve.

UNIT- IV 12

Functional and personal distribution of income – Marginal productivity theory of factor pricing - wages: Real and nominal - Modern theories of wages - Trade Union and collective bargaining. Rent: Ricardian, Marshall and Modern theories of rent.

UNIT – V 12

Interest: Loanable fund theory - Keyne's liquidity preference theory - IS - LM Model of interest determination - Profit: Modern theories of profit - Innovation - Risk and Uncertainty bearing.

TEXT BOOKS

1. G. S. Meddals, Micro Economics Theory & Applications, Tata Mcgraw Hill publishers, 6th Edition, 2012.
2. H.L. Ahyja, Priniciples of Micro Economics, S. Chand Publications, 20th Edition, 2017.
3. N. Gergory Mankiw, Prinviples of Microeconomics,SWE Punlication, 4th Edition 2010.

REFERENCE BOOKS

1. Robert, S.Pinoych, Micro Economics, Pearson Publications, 7th Edition 2014.
2. Oliver Blancherd, Micro Economics, Pearson Publications, 2015.
3. Jeffrey M. Perloff, Micro Economics, Pearson, 7th Edition 2014.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM402	**AGRICULTURAL ECONOMICS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	2	1	0	3
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. R.Priya / Commerce & Economics				

COURSE OBJECTIVES:-

- To enable the students to understand fundamentals of traditional agriculture and rural economics
- Provide information regarding agricultural policies in India.
- Introduce advance farming practices and agricultural marketing.

COURSE OUTCOMES (COs)

CO1	Define the basic concept of agricultural and rural economics
CO2	Discuss the uses of land, water, rural transport and Rural Social Infrastructure.
CO3	Apply the principles of land utilization and Land Tenures and Farming Systems
CO4	Analyze the trends in Rural Unemployment and agricultural wages in India.
CO5	Examine the regulated and Organised Markets in Agricultural marketing
CO6	Identify interdependence between Agriculture and Industry and problems in Rural.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	**M**	**H**								
	CO2	**M**	**H**							H	
	CO3	**M**	**H**								
	CO4	**M**	**H**								
	CO5										
	CO6										
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT– I 9

Nature and scope of Agricultural and Rural Economics - Traditional Agricultural and Modernization - Role of Agriculture in Economic Development - Interdependence between Agriculture and Industry - Issues and problems in Rural.

UNIT – II 9

Use of Land - Water - Energy - Rural Transport – Communication - Banking - Extension Service - Rural Electrification - Rural Social Infrastructure

UNIT – III 9

Farming practices - Recent trends - Principles of Land Utilization - Distribution - Land Tenures and Farming Systems - Land Reform Measures - Problems of Marginal and Small Farmers.

UNIT– IV 9

Rural Labour Supply - Nature - Extent - Trends in Rural Unemployment - Agricultural Wages in India - Non Farm Employment.

UNIT – V 9

Agriculture Marketing - Marketing Structure – Regulated and Organised Markets - Co-operative Marketing Bodies - Agricultural Policy in India.

TEXT BOOKS:

1. John Penson, Oral Chapps, Introduction to Agricultural Economics, Pearson Publications, 6th Edition, 2019.
2. K. Nirmal Ravi Kumar, Agricultural Economics, Astral International Pvt. Limted. 2016.
3. H. Evan Drummond, Agricultural Economics, Pearson, 3rd Edition, 2010.

REFERENCE BOOKS:

1. S. Subbareddy, P. Raguram, Agricultural Economics – II, Oxford University, 2nd Edition, 2015.
2. R.K. Lekhi, Johinder Singh, Agricultural Economies an Indian perspective, Kalyani Publications, 2nd Edition, 2013.
3. John B. Person, Introduction to Agricultural Economics, Pearson, 7th Edition, 2017.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18NCEM403	**CAPITAL MARKETS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	2	1	0	3
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- R.Priya / Commerce & Economics				

COURSE OBJECTIVES:-

- To inculcate Knowledge on Capital Markets.
- To make the students know the importance of capital markets to the Business.

COURSE OUTCOMES (COs)

CO1	Identify the sources and players in capital market.
CO2	Discuss about the capital markets and its functions and structures
CO3	Describe the recent trends and changes in Indian capital market and Economic Liberalization.
CO4	Infer the issue of shares and the functions of SEBI.
CO5	The student should be able to apply their knowledge about capital markets in to raise funds from various sources.
CO6	Analyze about the difference between capital and Money market and the promotion strategies of private sector banks and mutual funds.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	**M**	**H**	**H**	-	-	**H**	-			
	CO2	**H**	**H**	-	-	-	-	**M**			
	CO3	**H**	-	-	**H**	**M**	**H**	-			
	CO4	**H**	-	**M**	-	-	-	**H**			H
	CO5	**H**	-	-	-	-	-	**H**			
	CO6	**H**	-	**M**	-	**H**	-	**H**			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT – I **9**

Capital Market - Definition - Growth of Capital Markets -Functions - Structure of Capital Market

UNIT – II **9**

Long Term finance - sources - Financial Institutions – LIC - UTI - IDBI - ICIO - Mutual Funds

UNIT III **9**

Corporate Securities - Equity Shares - Preference Shares - Debentures and Bonds - Global Depository Receipts.

UNIT – IV **9**

Public Issue of Shares - Primary market – Secondary Market - Issue of shares at par and at premium – Functions of Stock Exchanges - Role of Securities and Stock Exchange Board of India (SEBI).

UNIT – V **9**

Recent Trends in Capital Market Operations: Introduction – Recent Change in Indian Capital Market – Economic liberalisation- Promotion More Private Sectors Banks – Promotion of Mutual Funds

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

TEXT BOOKS:

1. Asheesh Pandey, Capital Market & Financial System in India, New Century Publications, 2014
2. Gary Strumeyer, Capital Markets, Wiley publication, 1st Edition, 2017.
3. Siddharth, G. Dastidar, Capital Markets and Investment Reading Light Publication, 1st Edition, 2017

REFERENCE BOOKS

1. N.S.Zad, Capital Market and Security laws, 5th Edition, 2019.
2. Phull Kulwant singh , Capital Market in India, New Century Publications,2017
3. Robert T.Slee Pricate Capital Markets, Wiley publication, 2nd Edition, 2011

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM404	**MONETARY ECONOMICS-II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms.S.Binapani /Commerce & Economics				

COURSE OBJECTIVES:-

- Gain familiarity with nationalization of banks.
- Give in-depth knowledge on commercial banks.
- Enable students to learn more about recent reforms in banking sector.
- Introduce basic ideas about euro currency.

COURSE OUTCOMES (COs)

CO1	List the functions of Commercial Banking.
CO2	Explain the critical appraisal of the progress of commercial banking after nationalization
CO3	Interpret the functions of Reserve Bank of India.
CO4	Analyze the important features of the market and role and objective SDR scheme.
CO5	Examine the role of NABARD, SIDBI in Agricultural and Industrial Development
CO6	Prepare the objectives of Monetary Policy.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	**M**	**H**	**H**					H		
	CO2	**H**	**H**	-							
	CO3	**H**	-	-							
	CO4	**H**	-	**M**							
	CO5	**H**	-	-							
	CO6	**H**	-	**M**							

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT – I **12**

Commercial Banking - Structure and Functions – Credit Creation - Balance Sheet of a Bank

UNIT – II **12**

Nationalisation of Banks - A critical appraisal of the progress of commercial banking after nationalization - Recent reforms in banking sector in India - Inclusive Banking - Micro Finance

UNIT – III **12**

Central Banking - Functions of Reserve Bank of India – Its role in agricultural and industrial development - RBI and credit control - Monetary Policy - Objectives - RBI and monetary policy

UNIT – IV **12**

Role of NABARD, SIDBI in Agricultural and Industrial Development

UNIT – V **12**

Euro currency - Important features of the market – An evaluation of the currency - IMF - Role, objectives – SDR scheme - India and World Bank.

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

TEXT BOOKS

1. Jhingan .M.L. : Monetary Economics, Vrinda Publications Pvt. Ltd., 16 Apr, 2014
2. Suraj B Gupta, Monetary Economics, S Chand, 2011.
3. Dr. M.L. Seth, Monetary Economics, Lakshmi Narain Agarwal. 2018.

REFERENCE BOOKS:

1. Sankaran .S: Monetary Economics, Margham Publications, 1 Jan 1983.
2. Seth M.L. : Money, Banking and International Trade
3. Vaish .M.C : Monetary Theory, Vikas Publishing House Pvt. Ltd., 25 Nov 2005, 16th Edition.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM405	**BUSINESS ORGANIZATION**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	2	1	0	3
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. S.Robin/ Commerce & Economics				

COURSE OBJECTIVES

- Introduce business organization and its types.
- Give in-depth knowledge about various forms of business organization.
- Enable students to learn more about public utilities and public enterprises.
- Gain familiarity on business environment.

COURSE OUTCOMES (COs)

CO1	Outline the basic concept of business and its essentials.
CO2	Describe the various forms business organisations.
CO3	Apply the methods for raising finance for capital.
CO4	Analyze the types and forms of business combination.
CO5	Discover the need and importance of capital rising for corporate sector.
CO6	Identify the elements of business environment and factors influencing location of industry.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	**M**	**M**	-	-	-	-	-			
	CO2	**M**	**M**	-	-	-	-	-			
	CO3	**M**	**M**	-	-	L	-	-			
	CO4	**H**	**L**	-	L	-	H	-			H
	CO5	**H**	**M**	-	-	-	-	-			
	CO6	**H**	**M**	-	-	-	-	-			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					

4	Approval		Academic Council Meeting

UNIT –I **9**

Meaning and definition of business - Essential characteristics of business - types of business - nature and scope of business - objectives of modern business – essentials of a successful business - meaning of business organization.

UNIT – II **9**

Forms of Business Organizations - Sole Trader, Partnership Firm, Joint Hindu Family Firm, Joint Stock Companies, Co-operative Undertakings, Public Utilities, Public Enterprises.

UNIT – III **9**

Capital raising for corporate sector - need and importance - methods of raising finance - issue of shares, debentures - assistance from industrial financial institutions.

UNIT – IV **9**

Business Combination: Meaning, objects, causes, types and forms of combination - combination in India – Control of Combination – Rationalizations.

UNIT – V **9**

Business Environment - Meaning, significance, elements of business environment - (Political, economic, social

and legal environments) factors influencing location of industry, size of business units, optimum firm & industrial estates

TEXT BOOKS:

1. C.B. Gupta, Organization and Management, Sultan Chand & Sons, 2010.
2. Matthew J. Giblin, Organization and Management, SAGE Publications 1st Edition 2013.
3. Dr. Padmakar Asthana, Business Organisation, Sahitya Bhawan Publications (2018).

REFERENCE BOOKS

1. Y. K. Bhushan, Fundamentals of Business Organization and Management, Sultan Chand & Sons Publications, 19th Edition, 2013.
2. V.S.P. Rao, Business Organization and Management. Himalaya Publishing House-2012.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM406	**PRINCIPLES OF INSURANCE**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	2	1	0	3
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms.G.Vinothini/ Commerce & Economics				

COURSE OBJECTIVES:-

The objectives of the course are to

- Provide a basic understanding of the Insurance Mechanism
- Identify the relationship between Insurers and their Customers and the importance of Insurance Contacts
- give an overview of Marine, Fire and Micro insurance

COURSE OUTCOMES (COs)

CO1	List the purpose, need and importance of insurance.
CO2	Determine the Principles and Practice of life assurance
CO3	Compute the behaviour of the different Insurance and recovery from the company
CO4	Analyze the conditions of marine insurance and its types of losses.
CO5	Apply the Procedure for claims and Settlement
CO6	Discuss the basic principles of Fire Insurance Contracts

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	**M**		**H**							
	CO2	**M**		**H**							
	CO3	**M**		**H**							
	CO4	**M**		**H**							H
	CO5	**M**		**H**							
	CO6	**M**		**H**							

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					

4	Approval		Academic Council Meeting

UNIT-I 9

The basics and nature of insurance – evolution and nature of insurance – different classes of insurance –importance of insurance – Purpose and need of insurance

UNIT-II 9

Life Insurance – Principles and Practice of life assurance. Life assurance contracts, their nature and characteristics, Parties to the contract and their rights and duties Objects – Types of Life policies – Surrender Value – Procedure for claims – Settlement

UNIT-III 9

Marine Insurance – Types of Marine Policies – Conditions – Re-Insurance – Types of Losses - Marine Insurance Act – LPG- IRDA – Health Insurance

UNIT-IV 9

Fire Insurance – The basic principles of Fire Insurance Contracts. Fire Policy, Conditions, Assignment of Policy - Claims - Characteristics- Types of Policies – Re-Insurance and Renewals.

UNIT-V 9

Micro Insurance – Vehicle, Burglary, Personal Accident – Insurance for Weaker sections of the Society –Insurance for Household articles – Insurance of Articles.

TEXT BOOKS:

1. Elements of Insurance – Dr. Premavathy, Sri Vishnu Publications- Chennai Fifth 2010.
2. Principles and Practice of Insurance – Dr.G.S. Panda, Kalyani Publishers- New Delhi, 3rd Edition 2012.
3. P.K Gupta, Principles of Insurance, Himalaya publishing House, 2016

REFERENCE BOOKS

1. Insurance Principles and Practice – M.N. Mishra – S. Chand&Co New Delhi
2. Insurance Law and Practice – Rajiv Jain, Vidhi Publication Private Ltd,2nd Edition 2014
3. Neeti Gupta, Principles of Insurance, Kalyani Publication 2015.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18NETA401	அடிப்படைத் தமிழ் - II	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : திருமதி. அ.கோ.ஸ்ரீதேவி & தமிழ்த்துறை				

COURSE OBJECTIVES : தமிழ் மொழியினைப் பயிற்றுவித்தல்

COURSE OUTCOMES (COs)

CO1	எழுத்துக்கள் மூலம் சொற்கள் அமைப்பதைப் பற்றி அறிவர்
CO2	சொற்கள் மூலம் வாக்கியம் அமைப்பதைப் பற்றி அறிவர்
CO3	எழுத்துக்களை இணைத்தல், சரியான சொற்களால் வாக்கியம் அமைப்பதைப் பற்றி அறிவர்
CO4	வினாவுக்குரிய விடையளித்தல் பற்றி அறிவர்
CO5	தன் விவரப்பட்டியல் தயாரிப்பது பற்றி அறிவர்
CO6	தமிழ்மொழியை அறியாதவர்கள் தமிழை எழுத படிக்கத் தெரிந்து கொள்வர்

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	H						M	H	M
	CO2	M	H								
	CO3	M	H								
	CO4	M	H								
	CO5	M	H								
	CO6	M	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
							✓			

4	Approval	Academic Council Meeting

அலகு 1 **6**

எழுத்துக்களை ஒழுங்கு படுத்திச் சொற்களாக்குதல் - சொற்களைக் கொண்டு வாக்கியம் அமைத்தல்

அலகு 2 **6**

இனமில்லாதவற்றை எடுத்து எழுதுதல் - விடுபட்ட எழுத்துக்களை இணைத்தல் - சரியான வாக்கியமாக மாற்றுதல்

அலகு 3 **6**

வினாவுக்குரிய விடையளித்தல்

அலகு 4 **6**
தன் விவரப்பட்டியல் தயாரித்தல்

அலகு 5 **6**
ஆங்கிலப் பகுதியைத் தமிழாக்குதல்

பாட நூல்கள்:
1. சி.குமாரசாமி,வாக்கியம் அமைப்பு, தேசிய கல்வி நிறுவகம், 201
2. மருதூர் அரங்கராசன், “தவறின்றித் தமிழ் எழுத”, ஐந்திணைப் பதிப்பகம், 2012
3. பாரதிதாசன், "தவறின்றித் தமிழ் எழுத", நாம் தமிழர் பதிப்பகம், 2013

பார்வை நூல்
1. மு.சதிகபாட்சா, விடுபட்ட சொற்களின் எழுத்துக்கள், இராஜா பப்ளிகேஷன், 2013

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18NETA402	சிறப்புத்தமிழ் – II	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். ஜெ.அந்தோணி ஜெயஷீலா & தமிழ்த்துறை				

COURSE OBJECTIVES : நாட்டுப்புற இலக்கியத்தைப் பற்றி அறியச் செய்தல்

COURSE OUTCOMES (COs)

CO1	நாட்டுப்புறப் பாடல்கள் பற்றி அறியச் செய்தல்
CO2	விடுகதைகள் பற்றி அறியச் செய்தல்
CO3	நம்பிக்கைகள் பற்றி அறியச் செய்தல்
CO4	சமய வழிபாடுகள் பற்றி அறியச் செய்தல்
CO5	பழமொழிகள் பற்றி அறியச் செய்தல்
CO6	நாட்டுப்புற மருத்துவம் பற்றி அறியச் செய்தல்

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	M						H	M	M
	CO2	H	M								
	CO3	H	M								
	CO4	H	M								
	CO5	H	M								
	CO6	H	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
							✓			
4	Approval		Academic Council Meeting							

அலகு 1 **6**

நாட்டுப்புறப் பாடல்கள் - தாலாட்டுப் பாடல்கள், குழந்தைப் பாடல்கள், விளையாட்டுப் பாடல்கள், தொழிற்பாடல்கள், காதல் பாடல்கள், கொண்டாட்டப் பாடல்கள்

அலகு 2 **6**

விடுகதைகள் - நம்பிக்கைகள் –

அலகு 3 **6**

சமய வழிபாடுகள்

அலகு 4 **6**

பழமொழிகள்

அலகு 5 **6**

நாட்டுப்புற மருத்துவம்

பாட நூல்:

1. சு.சக்திவேல், "நாட்டுப்புற இயல் ஆய்வு", மணிவாசகர் பதிப்பகம், 2015
2. சு.சண்முகசுந்தரம், "நாட்டுப்புற இலக்கிய வரலாறு", காவ்யா பதிப்பகம், 2017
3. நா. வானமாமலை, "தமிழர் நாட்டுப்பாடல்கள்", நியூ செஞ்சுரி புக் ஹவுஸ், 2014

பார்வை நூல்கள்:

1. கி.வா. ஜகந்நாதன், "மலையருவி (நாடோடிப் பாடல்கள்)", அமுத நிலையம், 2012
2. சரசுவதி வேணுகோபால், தமிழக நாட்டுப்புறவியல், தாமரை வெளியீடு, 1981
3. கழனியூரன், நாட்டுப்புறவியல் கட்டுரைகள், காவ்யா பதிப்பகம், 2014

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

Bharath Institute of Higher Education and Research
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Department of Economics

U18MCEM501	MANAGERIAL ECONOMICS	L	T	P	C
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms.V.Saillaja / Commerce & Economics				

COURSE OBJECTIVES:-

- Provide students with the fundamental concepts of micro and macroeconomics.
- Provide an in-depth knowledge about production and cost analysis in economics.
- Introduce students to the concept of demand and supply.
- Gain familiarity on market structure.

COURSE OUTCOMES (COs)

CO1	Define the fundamental concept of Managerial Economics
CO2	Describe the concepts of demand and supply.
CO3	Discuss the factors of production.
CO4	Relate the various types of market structure.
CO5	Compare the Law of Variable Proportion and Law of Return of scale.
CO6	Apply the methods and objectives of Pricing.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	H	M					H		
	CO2	H	H	M							
	CO3	H	H	M							
	CO4	M	M	H							
	CO5										
	CO6										

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT-I MANAGERIAL ECONOMICS **12**

Meaning, Nature, Scope - Fundamental Concept of Managerial Economics – Micro and Macro Economics – Relationship between Micro and Macro and Managerial Economics

UNIT-II DEMAND ANALYSIS **12**

Meaning – Determinants of Demand – Types of Demand – Elasticity of Demand – Supply – Meaning – Determinants of Supply

UNIT-III PRODUCTION AND COST ANALYSIS **12**

Production – Factors of Production – Production Function – Law of Variable Proportion – Law of Return of scale – Cost analysis – Short and Long Run cost

UNIT-IV PRICING METHODS **12**

Objectives – Factors of Pricing – Methods of Pricing – Dual Pricing – Price Discrimination.

UNIT-V MARKET STRUCTURE **12**

Market classification – Perfect Competition – Monopoly – Monopolistic Competition – Duopoly – Oligopoly.

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

TEXT BOOKS:

1. R.L Varshney and K.L Maheswari, Managerial Economics – Sultan Chand – New Delhi., 2003.
2. Datta Debabrata, Managerial Economics- PHI Learning Pvt. Ltd., 2017.
3. Aryamala T, Managerial Economics- Vijay Nicole publications, 2014.

REFERENCE BOOKS:

4. Gaurav jain, Indian Economic Development, New Blocks & Printers Pvt Ltd, 1 Jan 2019
5. A.V. Balakrishnan, Economic Development in India, Access publishing, 29 June 2018.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM502	**FISCAL ECONOMICS-I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. R.Vasuki / Economics				

COURSE OBJECTIVES:-

- Provide students with the fundamental of private and public finance.
- Provide information about causes and effects of public expenditure.
- Introduce students to the theories of taxation
- Gain familiarity on factors determining taxable capacity

COURSE OUTCOMES (COs)

CO1	Define the meaning and scope of public finance
CO2	Discuss principles of public expenditure
CO3	Apply the basic concepts on public revenue sources
CO4	Sketch individual taxation in India
CO5	Classify the measurements of taxable capacity
CO6	Examine the impact and incidence of taxation

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	H	M					H		
	CO2	M	H	M							
	CO3	H	M	H							
	CO4	M	M	M							
	CO5										
	CO6										
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT-I **12**

Meaning and scope of public finance - Distinction between private and public finance - Role of government - Need for Government activity - Principle of maximum social advantage.

UNIT-II **12**

Principles of public expenditure - Classification - Causes and effects of public expenditure with reference to India

UNIT-III **12**

Public revenue sources - Distinction between tax revenue and non-tax Revenue - Taxation - Meaning - Sources of taxation - Classification of taxes - Canons of taxation - Theories of taxation - Impact and incidence of taxation - Effects of taxation

UNIT-IV **12**

Individual taxes - (with reference to India) Income Tax – GST (Goods and Services Tax)

UNIT-V **12**

Characteristics of a good tax system - Taxable capacity - Factors determining taxable capacity - Limits – Measurements of taxable capacity.

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

TEXT BOOKS:

1. Dr. S. Sankaran, Fiscal Economy, Margham Publications, 30 Aug, 2015.
2. M Girija, Public Finance (Fiscal Policy) S. Chand Publishing-2000.
3. Bent Hansen, The Economic Theory of Fiscal Policy, Routledge; 1 edition (10 October 2008).

REFERENCE BOOKS:

1. S.M. Jawed Akhtar, Sana, Naseem, Fiscal Policy reforms in India, New Century Publications, 2013.
2. Lekha Chakraborty, T.M. Thomas Isaac, r. Mohan, Challenges to Indian Fiscal Federalism, Leftword books, 1 Jan 2019.
3. Coase, R. H. (1937). The nature of the firm. *Economica 4*(16), 386–405.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM503	**MACRO ECONOMICS-I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	2	1	0	3
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms.Jeyanthy /Commerce& Economics				

COURSE OBJECTIVES:-

- Provide students with the fundamental concepts and scope of macroeconomics.
- Provide an in-depth knowledge about national income.
- Introduce students to the various theories of employment and consumption function.
- Gain familiarity on investment function.

COURSE OUTCOMES (COs)

CO1	Recognize the fundamentals and scope of macroeconomics.
CO2	Discuss the concepts of national income and its measurement.
CO3	Interpret the theories of consumption function.
CO4	Analyze the importance and types of investment function.
CO5	Evaluate the various theories of employment determination and investment.
CO6	Synthesize the concept GNP, GDP, NNP SGDP.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	H	M					H		
	CO2	M	H	M							
	CO3	H	M	H							
	CO4	M	M	M							
	CO5										
	CO6										
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT – I **9**

Nature and scope of Macro Economics - Micro and Macroeconomics - circular flow of income – Two Sector model.

UNIT – II **9**

National income - GNP - GDP - NNP SGDP – Personal Income - Disposable Income - Real Income – Per capital Income - Measurement - Product, Income and Expenditure Methods - Uses.

UNIT – III **9**

Classical theory of Employment and Income - Say's Law of market.

UNIT – IV **9**

Consumption Function - Meaning - Keyne's Psychological Law of Consumption (Determination, measures to raise consumption function) - Theories of Consumption function.

UNIT – V **9**

Investment function - Meaning - Types - Determinants of Investment - MEC - MEI - Simple Keynesian model of Income and Employment determination.

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

TEXT BOOKS:

1. Dr. Sankaran S., Macro Economics, Margham Publications, 2016.
2. H.L. Ahuja, Macroeconomics, S.Chand publishing-2016.
3. N. Gregory Mankiw, Principles of Macroeconomics, Cengage publishing-2015

REFERENCE BOOKS:

1. Ben Bernanke, Dean Croushore Andrew B. Abel., Macro Economics, pearson's Publications, 6 Nov 2013.
2. M.Maria Johnkennedy, Macro Economic Theory, Prentice Hall India Pvt. Ltd., 1 Mar 2011.
3. Ahuja H. L. S Chand & Co Ltd ISBN: 9788121904339, 9788121904339 19th revised edition

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18NCEM504	**URBAN ECONOMICS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	2	1	0	3
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. J.Saranya / Commerce & Economics				

COURSE OBJECTIVES:-

- Provide students with the fundamental concepts and scope of macroeconomic policies that stimulates urban growth.
- Provide an in-depth knowledge about urban land market.
- Introduce students to the urbanization process and its growth.
- Gain familiarity on industrial pollution and environmental management in urban areas.

COURSE OUTCOMES (COs)

CO1	Define the fundamentals of urban, rural and metropolitan area
CO2	Describe the concepts of urban land market.
CO3	Apply the knowledge on basic concepts of urbanization process and its growth
CO4	Analyze the factors of industrial pollution and environmental management in urban areas.
CO5	Assess the macro Economic Policies that stimulates urban growth
CO6	State the demand for transportation.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	H	M							
	CO2	M	H	M							
	CO3	H	M	H						H	
	CO4	M	M	M							
	CO5										
	CO6										

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					

4	Approval		Academic Council Meeting

UNIT – I **9**

Definition of Urban and Rural - Statistical definitions of Metropolitan area – Historical growth of Indian cities - Macro Economic Policies that stimulates urban growth.

UNIT – II **9**

Urban land market - Urban rent and land use – Location theories - Models of Urban structure – Models of Urban development.

UNIT – III **9**

Urbanization processes in the Third World - Growth of Slum and Squatter settlement in Indian Cities – Housing policies – Sites and services – Slum upgrading – Housing Corporation.

UNIT – IV **9**

Demand for transportation – Modes of transports – Congestion and Social effects – Pricing policies – Mass Transit alternatives in Indian cities.

UNIT – V **9**

Industrial pollution – Waste water disposal – Solid waste collection and disposal – Noise pollution – Sanitation – Environmental Management in Urban areas

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

TEXT BOOKS:

1. Arthur O' Sullivan, Urban Economics, McGraw Hill Education, 6th Edition 2007.
2. John M. Hartwick, Urban Economics, Routledge; 1 edition (17 April 2015).
3. Jack Harvey, Urban Economics, MacMillan Education UK, June 2004.

REFERENCE BOOKS:

1. Edwin S.Mills, Urban Economics, Prentice Hall India Publishing, Jan 17, 1997.
2. Paul C. Cheshire, Maxnathan, Henry.G.Overman., Urban Economics and Urban Policy, Edward Elgar Publications, Nov, 30 2015.
3. K. J. Button Urban Economics, Ashgate Publishing Limited,JUNE 2005.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MEEM011	**INDUSTRIAL ECONOMICS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. V.Saillaja/Commerce & Economics				

COURSE OBJECTIVES:-

- Provide students with the fundamental concepts of industrialization and its theories.
- Provide an in-depth knowledge about various market structure and product differentiation.
- Enable the students to learn about various classifications of industries.
- Gain familiarity on privatization and liberalization.

COURSE OUTCOMES (COs)

CO1	List the fundamentals of industrialization and its theories.
CO2	Classify various market structure and product differentiation
CO3	Compute economics of scale
CO4	Analyze the growth of the firm
CO5	Discuss the recent trends in industrial growth and Privatization, liberalization.
CO6	Identify measurement of capacity utilization and its concept.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	L	M	H							
	CO2	H	M	L							
	CO3	H	H	M						H	
	CO4	L	M	L							
	CO5	L	L	M							
	CO6	M	H	M							

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT – I **12**

Meaning of Industrialisation - The role of Industry in Economic Development - Theories of Industry – Hoffman - Chenery and Gerschenkron.

UNIT – II **12**

Concept and Organisation of a Firm - Market Structure - Sellers Concentration - Product Differentiation - Entry Conditions - Economics of Scale - Profitability and Innovation.

UNIT – III **12**

Theories of Industrial Location - Weber - Sargant Florence - Factors Affecting Location.

UNIT – IV **12**

Growth of the Firm - Size and Growth - Growth and profitability of the Firm - Constraints on Growth – Productivity - Efficiency - Capacity Utilisation - Concept – Measurement.

UNIT – V **12**

Classification of Industries - Use Based - Resource Based - Industrial Policy in India - Role of Public and Private Sectors - Recent Trends in Industrial Growth - India as a Global Hub - MNCs - Transfer of Technology – Liberalisation – Privatisation.

TEXT BOOKS:

1. Chernuliam .F - Industrial Economics; Indian Perspective, Himalaya Publishing House, 2014.
2. Desai .B - Industrial Economy in India (3rd Ed.) HPH, Mumbai, 2013.
3. R. R. Barthwal, Industrial Economics, New Age International Pvt Ltd Publishers-2010.

REFERENCE BOOKS:

1. Ahulwalia .I.J. - Industrial Growth in India, Oxford University Press, New Delhi.
2. Kuchhal .S.C. - Industrial Economy of India (5th Edition), Chaitanya Publishing House, 2015.
3. Sing, A and A.N. Sadhu - Industrial Economics, Himalaya Publishing House, Mumbai.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MEEM012	**PERSONALITY DEVELOPMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2passed with Commerce Major				
	Course Coordinator Name & Department:- Mr.G.Santhosh kumar / Commerce & Economics				

COURSE OBJECTIVES:-

- Provide the student about the types and determinants of personality.
- Introduce the students about the self-analysis and self-confidence.
- Provide knowledge about attitude and career development and goal setting.

COURSE OUTCOMES (COs)

CO1	Relate the types, determinants and theories of personality.
CO2	Discuss the concept of SWOT analysis and self-esteem and its attributes and creativity.
CO3	Apply the basic concepts of attitude and provide knowledge about etiquette.
CO4	Analyze the career development through its planning, processes, programmes and models.
CO5	Appraise the skills on life time goal setting and impacts and to prioritization of work.
CO6	Prepare an awareness about the time management (value of time).

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	M	M	H							
	CO2	M	H	H							
	CO3	L	M	M							H
	CO4	L	M	M							
	CO5	M	L	L							
	CO6	L	M	H							
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT- I **12**

Introduction to Personality: Types of personality – Determinants of personality – Theories of personality.

UNIT- II **12**

Self Analysis: SWOT Analysis, Who am I, Attributes, Importance of Self Confidence, Self Esteem - Creativity: - Out of box thinking- Lateral Thinking.

UNIT- III **12**

Attitude: Factors influencing Attitude, Challenges and lessons from Attitude, Etiquette.

UNIT-IV **12**

Career Development: Stages – Planning – process – programme – Model for planned self-development.

UNIT- V **12**

Goal Setting: Wish List - SMART Goals - Blue print for success- Short Term - Long Term - Life Time Goals.
Time Management: Value of time, Diagnosing Time Management, Weekly Planner- To do list - Prioritizing work.

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Faculty of Arts & Science
Department of Economics

TEXT BOOKS

1. Dhanashree – Personality Development, Nirali prakashan. 2016.
2. Barun K. Mitra – Personality Development, Margham Publications. 2015.
3. Howard S. Friedman, Personality Development, Pearson-2010

REFERENCES BOOKS

1. Rajesh Kumar – Personality Enrichment, Oxford University. 2014.
2. K.R. Dhanalakshmi – Personality Development & Group Discussion, Margham Publications. 2013.
3. The 7 Habits of Highly Effective People - Stephen R. Covey

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MEEM013	**EVENT MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2passed with Commerce & Economics Major				
	Course Coordinator Name & Department:- Ms. G.Vinothini / Commerce & Economics				

COURSE OBJECTIVES:-

- To provide the student about principles and activities of event management and roles of event manager.
- To impart the knowledge about preparation of proposal and implementation and to understand crisis management.
- To provide idea about sponsorship and strategic development.
- To provide knowledge on variety of preparation for an event.
- To understand the student about the publicity methods of event and getting feedback.

COURSE OUTCOMES (COs)

CO1	Define event management, project management and risk management.
CO2	Practice the preparation of proposal and conducting market research.
CO3	Apply the concept of sponsorship and strategic development.
CO4	Analyze the purpose of organizing events.
CO5	Estimate the tools of media and budgets.
CO6	Compose the knowledge about crisis management.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	M							
	CO2	H	H	H							
	CO3	M	H	M							H
	CO4	M	M	H							
	CO5										
	CO6										
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT- I **12**

Principles of Event Management: From concept to reality Understanding project management - resources - activities - risk management - delegation - project selection - role of the Event Manager.

UNIT- II **12**

Preparing a proposal -Conducting market research - establishing viability - capacities - costs and facilities - plans - timescales - contracts.

Crisis Management: Crisis planning - prevention - preparation - provision - action phase - handling negative publicity - structuring the plan.

UNIT- III **12**

Seeking sponsors: Different types of sponsorship - definition - objectives - target market - budget - strategic development - implementation - evaluation.

UNIT- IV **12**

Organizing the event Purpose - venue - timing - guest list - invitations - food & drink - room dressing - equipment

- guest of honor - speakers - media - photographers - podium - exhibition. Lecture

UNIT- V **12**

Media tools - Media invitations - photo-calls - press releases - TV opportunities - radio interviews. Promotional tools- Flyers - posters - invitations - website - newsletters – e-zone - blogs - tweets. Evaluation Budget - cost of event - return on investment - media coverage - attendance – feedback.

TEXT BOOKS

1. Anukrati, Sharma, Shruti Arora – Event Management & Marketing, Bharathi Publication.2018.
2. Anton shone & Bryn parry, - Event Management. Pearson. 2010.
3. Charles Bladen, Events Management: An Introduction, Routledge; 1 edition (March 22, 2012).

REFERENCES BOOKS

1. Dr. Deepak Swaminathan – Experimental Events, Himalaya Publisher. 2012
2. Dessler – Human Resource in Event Management, Pearson. 2010.
3. Donald Getz, Stephen J. Page - Event Studies: Theory, research and policy for planned events ISBN 9781138899155 Published February 23, 2016

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM505	**INTERNATIONAL ECONOMICS-I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. S. Robin / Commerce& Economics				

COURSE OBJECTIVES:-

- Provide students with the fundamental concepts of foreign trade.
- Introduce students to concepts of terms of trade.
- Enable the students to learn about various trade policies.
- Gain familiarity on tariff and balance of payments.

COURSE OUTCOMES (COs)

CO1	List the fundamentals of foreign trade and its theories.
CO2	DIscuss the terms involved in trade and its impact.
CO3	Apply the basic concepts of tariff and balance of payments.
CO4	Analyze the effects of quotas on imports and balance of trade.
CO5	Examine the structure of BOP and BOT.
CO6	Categorize various trade policies

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	M	H	L					H		
	CO2	M	L	M							
	CO3	M	M	H							
	CO4	M	L	M							
	CO5										
	CO6		H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					

4	Approval		Academic Council Meeting

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

UNIT – I **12**

Foreign Trade - Need, Inter Regional and International Trade, Theories of International Trade – Adam Smith - Ricardo, Haberler and Heckscher - Ohlin Theory.

UNIT – II **12**

Terms of Trade - different Concepts of Terms of Trade - Determinants of Terms of trade - static and dynamic gainss from trade - capital saving and labour saving technologies and its impact on terms of trade.

UNIT – III **12**

Gains from trade - Trade Policy - Free Trade: Meaning - Case for and against Free Trade. Protection: Meaning - Arguments for and against protection.

UNIT – IV **12**

Tariff: Meaning and types - Effects of Tariff. Quotas: Meaning and Types - Effects of quotas on imports.

UNIT – V 12

Balance of payment - Meaning - Structure - Balance of Payment and Balance of Trade - Disequilibrium in BOP & BOT - Causes for disequilibrium in BOP - Measures for Correcting disequilibrium.

TEXT BOOKS:

1. Dominick Salvatore, International Economics: Trade and finance, Wiley Publications, 11th Edition, 1 Jan 2014
2. Paul R. Krugman, Maurice Obstfeld, Marc Melitz, International Economics: Theory and Policy, Pearsonc Publications, 1st Dec 2017.
3. Thomas Pugel, International Economics, McGraw-Hill Education; 17 edition (March 5, 2019).

REFERENCE BOOKS:

1. M.L. Jhingan, International Economics,Vrinda Publications, 1 Jan 2016.
2. H.G. Mannur, International Economics, 2/e, Vikas Publications,1 Jan 2018.
3 Robert, Maurice Obstfeld, Marc Melitz, International Economics: Theory and Policy, Pearsonc Publications, 1st Dec 2017

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM601	**FISCAL ECONOMICS - II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. R.Catherine / Economics				

COURSE OBJECTIVES:-

- To provide in depth knowledge on sources of public debt.
- To provide in depth knowledge on Deficit financing.
- To acquire the knowledge about the Federal finance.
- The student should be able to aware about role of Fiscal Policy in a developing economy
- The student should be able to know the sources of finance to local bodies

COURSE OUTCOMES (COs)

CO1	List the basic fundamentals of Public debt.
CO2	Describe the concept of deficit financing and its role.
CO3	Apply the basic Principles of Federal finance.
CO4	Analyze the objectives and instruments of fiscal policy.
CO5	Evaluate the effects on prices, production and distribution.
CO6	Summarize the problem of local finance.`

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	M							
	CO2	M	H	M						H	
	CO3	M	H	H							
	CO4	H	H	M							
	CO5										
	CO6										
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

UNIT – I **12**

Public Debt - Sources Public debt - Types of Public debt - Effects of public debt - Repayment of Public debt – Management of public debt.

UNIT – II **12**

Budget in India - Deficit financing - Meaning – Objectives - Role of deficit financing in India - Effects on prices, production and distribution.

UNIT– III **12**

Federal finance - Principles - Analysis of division of revenue, expenditure and other powers between union, State and Local Governments - Finance Commissions - Analysis of latest finance commission recommendation

UNIT – IV **12**

Fiscal policy - Objectives and instruments of fiscal policy - Role of Fiscal Policy in a developing economy with reference to India.

UNIT – V **12**

Local bodies - Types and functions - Sources of finance to local bodies – Village Panchayat - Municipalities – Corporation - Problems of Local Finance.

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Faculty of Arts & Science
Department of Economics

TEXT BOOKS:

1. Lawrences S.Seidman, Automatics Fiscal Policies to Combat Recessions, Tayler & Francis Ltd.,
2. Dr. S.Sankaran, Basics of Fiscal Policy, Margham Publications, 2005.
3. Bent Hansen, The Economic Theory of Fiscal Policy, Routledge; 1 edition (10 October 2008).

REFERENCE BOOKS:

1. Jawed Akhtar S.M., Fiscal Policy Reforms in India since 1991, New Century Publication, 2013.
2. Lekha Chakraborty, T.M. Thomas Isaac, r. Mohan, Challenges to Indian Fiscal Federalism, Leftword books, 1 Jan 2019.
3. The Political Economy of Fiscal Policy: Public Deficits, Volatility, and Growth by Woo, Jaejoon.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM602	**MACRO ECONOMICS – II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	2	1	0	3
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. B. Venkata Srilatha / Economics				

COURSE OBJECTIVES:-

- To provide the knowledge on basics of income and employment multiplier.
- To give the knowledge about Money in the Keynesian Model.
- To Analyse the Integration of monetary and output theories.
- The student should be able to know about the Consumption Function.
- The student should be able to know the objectives of Macro Economic policy.

COURSE OUTCOMES (COs)

CO1	Define income and employment multiplier.
CO2	Discuss the concept of Demand for money in the Keynesian theory
CO3	Examine the monetary theory in relation to underemployment and full employment
CO4	Formulate general equilibrium of monetary and real sector.
CO5	Evaluate the objectives and importance of Macro Economic policy
CO6	Criticize Keynesian Revolution and its application to less developed countries.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	-	-					H		
	CO2	H	-	-							
	CO3	H	M	-							
	CO4	H	M	-							
	CO5										
	CO6										

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT – I **9**

Multiplier - Static and dynamic multipliers - Induced investment and Accelerator - The interaction principle - Basics of income and employment multiplier

UNIT – II **9**

Money in the Keynesian Model - Demand for money in the Keynesian theory - Liquidity trap - Keynesian Revolution and its application to less developed countries

UNIT– III **9**

Monetary theory in relation to underemployment and full employment - Integration of monetary and output theories - Patinkin

UNIT – IV **9**

Post Keynesian macro analysis - General equilibrium of monetary and real sector - Contribution of Hicks, Hanson - IS and LM - Diagram

UNIT – V **9**

Objectives and importance of Macro Economic policy.

TEXT BOOKS:

1. S.BalaKrishnan, Theories & Policies of Macro, Nalini Publications, 3rd Edition,July 2002.
2. Ben Bernanke, Dean Croushore Andrew B. Abel., Macro Economics, pearson's Publications, 6 Nov 2013.
3. M.Maria Johnkennedy, Macro Economic Theory, Prentice Hall India Pvt. Ltd., 1 Mar 2011.

REFERENCE BOOKS:

1. D.N.Dwivedi, Intermediate of Macro Economics, McGraw Hill Education (India) Private limited, 5th Edition, June 2012.
2. N. Gregory Mankiw, Principles of Macro Economics, Cengage India Publications,7th Edition,1 Jan 2015.
3. Dhingra, I.C., Indian Economy, Sultan & sons, 1 January 2016

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MEEM021	**INDIRECT TAXES**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – Nil				
	Course Coordinator Name & Department:- Mr.S. Mari / Commerce				

COURSE OBJECTIVES:-

To provide distinction between Direct Tax and Indirect Tax and also related incidence of tax rules for indirect tax and to provide understanding on the concept central excise and Service under the emerging increase importance of service sector.

COURSE OUTCOMES (COs)	
CO1	Define tax, duty and GST.
CO2	Explain the procedure for assessment and payment of Excise Duty.
CO3	Apply the procedure for assessment and payment of Service Tax.
CO4	Examine the factors for levy of Customs Duty and First principles of valuation.
CO5	Evaluate the procedure for assessment and payment of Customs Duty.
CO6	Assemble the transactions covered under GST.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	H								
	CO2	H	M								
	CO3	H	H								H
	CO4	M	M								
	CO5	M	H								
	CO6	M	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
						✓				

4	Approval		Academic Council Meeting

UNIT- I **12**

Basics: Tax Vs Duty; Direct Tax Vs Indirect Tax – Powers of Union/States – Varieties of Indirect Taxes – Movement towards GST.

UNIT- II **12**

Central Excise: Factors for Levy of Excise Duty – Goods, Excisable Goods, Manufacture, India – First principles of valuation of goods – Types of Excise Duty – Procedure for assessment and payment of Excise Duty – Philosophy of Cenvat – Registration.

UNIT- III **12**

Service Tax: Genesis – First Principles of Taxable Service, Negative list, Exemption list, Taxable area, non-taxable area, point of taxation and valuation - Procedure for assessment and payment of Service Tax – Philosophy of Cenvat – Registration.

UNIT-IV **12**

Factors for levy of Customs Duty – First principles of valuation – Procedure for assessment and payment of Customs Duty – Types of Customs Duty – Warehousing – Drawback.

UNIT- V **12**

Need for Tax reforms – GST Principles – Single GST, Dual GST – Transactions covered under GST – Assessment and Administration of GST – Constitutional Amendments.

TEXT BOOKS:

1. Indirect Taxes, "T.S. Reddy & Y. Hari Prasad Reddy", Margham Publication, 2018.
2. Indirect Taxes Law and Practice, "V. S. Datey", Taxmann, 2017.
3. Dr. H.C. Mehrotra, Prof. V.P. Agarwal, Indirect Taxes, Sahitya Bhawan Publications, 18th Revised Edition 2017.

REFERENCE BOOKS:

1. Taxation Law & practice, "V. Balanchandran", Prentice Hall India, 2012.
2. Indirect Taxes Law and Practice, "Dr. H. C. Mehrotra, Sahitya Bhavan, 2017.
3. Indirect Taxes Law and Practice, "Taxmann ,2014.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MEEM022	**FINANCIAL MARKET**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. S. Binapani / Commerce & Economics				

COURSE OBJECTIVES:-

- To provide the knowledge about the money markets.
- To ascertain the concept of Stock Market System.
- To familiarize with the concept of Capital Market.
- To ascertain the concept of Share Market.
- To impart the knowledge about an overview of Financial Market.

COURSE OUTCOMES (COs)

CO1	Arrange the regulation of Working Capital Finance.
CO2	Classify the concept of Primary, Secondary Market of capital.
CO3	Employ the knowledge on shares, debentures and mutual funds
CO4	Categorize the regulation of Stock Market and SEBI Guidelines for Capital Issues
CO5	Explain the various segments of financial markets and Finance Information System (FIS).
CO6	Discuss about market Intermediaries, Stock Brokers, Underwriters and Depositories Credit Rating Agencies.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	H								
	CO2	H	M								
	CO3	H	H		**M**						H
	CO4	M	M								
	CO5	M	H								
	CO6	M	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
						✓				
4	Approval		Academic Council Meeting							

UNIT –I **12**

Money market - Banks - Regulation of Working Capital Finance

UNIT –II **12**

Capital Market - Structure - Characteristics - Primary, Secondary Market - Market Intermediaries, Stock Brokers, Underwriters, Depositories Credit Rating Agencies

UNIT –III **12**

Share Market – Shares – Debentures - Mutual Funds.

UNIT-IV **12**

Stock Market System - Trading, Listing, Regulation of Stock Market - Market Efficiency - NSE BSE - Online Trading System - SEBI - Guidelines for Capital Issues - Pricing - Insider Trading - Investor Protection

UNIT-V **12**

An overview of Financial Market - Financial Sector Reforms - SEBI - SCRA - Various segments of financial markets - Venture Capital Financing - Finance Information System (FIS).

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

TEXT BOOKS:

1. K.P.M. Sundharam & P.N. Varshney, Banking and Financial Systems, Sultan Chand & Sons Publications,2012.
2. K.H. Erickson, A Simplie introduction of Financial Market, Create Space Independent Publishing Platform, Jan 21,2014.
3. Anthony Saunders and Marcia Cornett, Financial Markets and Institutions, McGraw-Hill Education; 7 edition (February 7, 2018)

REFERENCE BOOKS:

1. Keith Cuthbertson, Quantitative Financial Markets: Stocks, Bonds& Foreign Exchange, Wiley Publication, 2nd Edition, Dec 27,2004.
2. Financial Institutions and Markets by Bhole.
3. Financial Markets and Institutions by Frederic S Mishkin and Stanley Eakins.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MEEM023	**SOFT SKILLS FOR EMPLOYABILITY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2passed with Commerce & Economics Major				
	Course Coordinator Name & Department:- Mr. M. Sankar / Commerce & Economics				

COURSE OBJECTIVES:-

To impart knowledge about communication skills, interview skills, problem solving skills, critical thinking skills and how to manage the stress.

COURSE OUTCOMES (COs)

CO1	State the communication skills through body language, group discussion and presentation skills.
CO2	Describe the methods for interview and preparation of CV.
CO3	Demonstrate the steps involved in problem solving with Five W's (Why) and (How).
CO4	Operate strategies required for critical thinking.
CO5	List the factors and types of stress and techniques of removing stress.
CO6	Infer team building and its techniques.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO 2
2	CO1	2	3	1	3	3	2	3		
	CO2	3	3	3	2	3	3	1		
	CO3	3	3	3	3	3	2	3		
	CO4	3	3	3	2	2	2	3		
	CO5	3	2	2	1	3	3	3		
	CO6	2	2	1	3	1	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
						✓				
4	Approval	Academic Council Meeting								

UNIT- I **12**

Body language and Etiquette - Group Discussion Skills - Presentation Skills - Emotional Intelligence, Time Management Skills

UNIT-II **12**

Interview Skills - HR interview - Preparation of CV and Life skills - Team Building – Effective Team Building Techniques

UNIT- III **12**

Meaning of Problem and Problem solving – Steps in problem solving- Five W's (Why) and (How)

UNIT- IV **12**

Concept of critical thinking – Characteristics and steps involved in critical thinking – Strategies required for critical thinking –Models of critical thinking.

UNIT- V **12**

Meaning of Stress – Factors causing stress – Positive and negative type of stress – Effects of stress on body and mind – Stress removal techniques.

TEXT BOOKS

1. Dr. K Alex, Soft Skill: Know Yourself And Know Your World, S.Chand 2014.
2. Sangeeta Sharman Gajendra Singh Chauhan, Soft Skill : An Integrated Approach to Maximise Personality, Wiley. 2015.
3. Dr. L. Natarajan & Dr. P. Santhakumari, Soft Skills Development, Margham publications, 2017.

REFERENCES BOOKS

1. Gopalaswamy Ramesh, Mahadevan Ramesh, The ace of Soft Skills: Attitude, Communication and Etiquette for
   Success, Pearson Education. 2013.
2. Barun Mitra, Personality development and Soft Skills, Oxford University.2016.
3. Personality Development and Soft Skills (Old Edition)" by Barun K Mitra

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18MCEM603	**INTERNATIONAL ECONOMICS – II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	3	1	0	4
	Prerequisite – +2passed with Economics major				
	Course Coordinator Name & Department:- Ms. R.Vasuki / Economics				

COURSE OBJECTIVES:-

- To provide basic knowledge about Exchange Rate.
- To know about Theories of Exchange Rate.
- To understand the role of foreign capital in economic development.
- To provide basic knowledge on International Monetary System.
- To understand the Trade and Development.

COURSE OUTCOMES (COs)

CO1	Identify the determination of Equilibrium of exchange rate.
CO2	Discuss the functions of Foreign Exchange Market and theories of Exchange Rate.
CO3	Interpret the foreign capital in economic development and issues of foreign capital.
CO4	Analyze the concept of International Money System.
CO5	Evaluate the Structure, Objectives and Functions of World Bank, GATT and WTO.
CO6	Create an awareness about FDI and FI, Multinational Corporations, Joint Ventures.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	**H**	**M**	**M**							
	CO2	**H**	-	-	**M**						
	CO3	**M**	**H**	-	-					H	
	CO4	**H**	-	-	**M**						
	CO5	-	**H** -	**H**	-						
	CO6	-	**M**		**H**						

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

UNIT – I **12**

Exchange Rate: Meaning - Determination of Equilibrium of exchange rate - Fixed and Flexible Exchange Rate

UNIT – II **12**

Foreign Exchange Market: Functions - Transfer functions - Credit Function - Hedging Function. Theories of Exchange Rate: Mint theory - Purchasing power parity theory - Balance of payment theory

UNIT – III **12**

Role of foreign capital in economic development – issues in foreign capital in economic development - issues in foreign direct investment - FDI and FI – Multinational Corporations - Joint Ventures.

UNIT – IV **12**

Foreign aid - International Monetary System - IMF – SDR – International Liquidity.

UNIT – V **12**

Trade and Development - Economic Integration, Meaning, Types - World Bank, GATT, WTO: Structure, Objectives, Functions and Working.

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Faculty of Arts & Science
Department of Economics

TEXT BOOKS:

1. Dominick Salvatore, International Economics: Trade and finance, Wiley Publications, 11th Edition, 1 Jan 2014
2. Paul R. Krugman, Maurice Obstfeld, Marc Melitz, International Economics: Theory and Policy, Pearson
Publications, 1 Dec 2017.
3. Thomas Pugel, International Economics, McGraw-Hill Education; 17 edition (March 5, 2019).

REFERENCE BOOKS:

1. M.L. Jhingan, International Economics,Vrinda Publications, 1 Jan 2016.
2. H.G. Mannur, International Economics, 2/e, Vikas Publications,1 Jan 2018.
3. Ahuja H.L, , International Economics, S.Chand Publication 1, Jan 2016

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18EEEM6P1	**PROJECT (DISSERTATION AND VIVA-VOCE)**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	0	0	20	10
	Prerequisite – Nil				
	Course Coordinator Name & Department:- Dr.J.Kannan /Commerce & Economics				

COURSE OBJECTIVES:-

To facilitate the students to understand the Business enterprises systematically and present the research report as per the acceptable format

COURSE OUTCOMES (COs)

CO1	List out the concept and objectives, nature, types and methods of project.
CO2	Choose the process and steps involved in preparation of project work,research
CO3	Practice the research design, methodology, and sampling technique.
CO4	Calculate the statistical methods in project for data analysis
CO5	Measure the major findings,suggestions and conclusion.
CO6	Design the model for project report.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	**H**	**M**	**M**							
	CO2	**H**	-	-	**M**						
	CO3	**M**	**H**	-	-					H	
	CO4	**H**	-	-	**M**						
	CO5	-	**H** -	**H**	-						
	CO6	-	**M**		**H**						

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					

4	Approval		Academic Council Meeting

The project topics are to be finalized to the students at the end of the second semester with a time schedule to carryout various stages of work. During the semester vocation, the data Collection may be commenced. The theme selected by each student for the Dissertation should be related to various problems and issues pertaining to Commerce & Economics. Each candidate should submit three copies of dissertation as per the guidelines to the department concerned.

Marks

Dissertation	**150**
Viva- Voce Examination	**50**

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18SEBC001	**BUSINESS PROCESS OUTSOURCING- MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name& Department:-Ms. J.Saranya/Commerce & Economics				

COURSE OBJECTIVES:-

- To familiarize the students with the basic fundamentals of BPO.
- To impart knowledge on type of BPO and call centers .
- To enable the students on the concept Healthcare BPO & Transaction BPO.
- To peep into the concept of Human Resource BPO and the career opportunities in BPO.

COURSE OUTCOMES(COs)

CO1	Describe the basic fundamentals of BPO.
CO2	Discuss and develop the awareness about Types of BPOs and Call Centers
CO3	Identify the concept of Health care BPOs
CO4	Examine the concept of Transaction BPOs
CO5	Develop the confidence in Human Resource BPO and career opportunities in BPOs
CO6	Formulate the Types of Transaction Processing BPO in India

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO 6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H							H		
	CO2				H						
	CO3			H							
	CO4		M								
	CO5	M									
	CO6		H								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT-I **6**

Business Process Outsourcing– Basics – Benefits of BPO– BPO companies in India.

UNIT-II **6**

BPO Industry – Employment Opportunities– types of BPO – Call centers– Types of Call Centers– Issues and Problems.

UNIT-III **6**

Health Care-BPO - Structure of foreign Health Care sector– Future Trends and Threats.

UNIT-IV **6**

Transaction Processing BPO– Elements of Back Office services– Types of Transaction Processing BPO in India.

UNIT-V **6**

Human Resource BPO-Reasons for outsourcing HR– Activities involved in HR BPO– HR Outsourcing Trends– Carrier in HR BPO.

Text Books:

1. John K. Holvey, Borboro Murphy Melby, Business Process Outsourcing–Wiley Publisher-2007
2. Sarika Kulkarni –Business Process Outsourcing–Jai co Publishing house – 2005
3. .RickL.Click, Thomas N.Duening,Business Process Outsourcing–John Willey & sons,Publisher 2004

Reference Books:

1. Deepak Shikapur – BPO DIGEST– Ameya (Inspiring books) – 2004.
2. Clifton – System analysis for business data processing– Prentice hall Publications.
3. Anandkumar, V. & Biswas, S., 2008. Business Process Outsourcing, Sage Publications Pvt. Ltd

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18SEBC002	CUSTOMER RELATIONSHIP MANAGEMENT	L	T	P	C
	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name& Department:-Ms. R.Priya/Commerce & Economics				

COURSE OBJECTIVES:-

- To familiarize the students with the basic fundamentals of CRM.
- To impart knowledge about process and importance of CRM.
- To enable the students on the concept to technological solutions to CRM.
- To expose the student on Trends and challenges in CRM.

COURSE OUTCOMES(COs)

CO1	Recognize the Familiarize with the basic fundamentals of CRM.
CO2	Demonstrate the Can develop awareness about process and importance of customer retention
CO3	Practice to be aware of the concept of technological applications in CRM.
CO4	Correlate respond to the concept of CRM software solutions forB2C and B2B markets
CO5	Validate the Develop confidence on trends and challenges
CO6	Design the Customer Data base and Information Systems

Mapping of Course Outcomes with Program outcomes (POs) (L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H		H					H		
	CO2	H									
	CO3	H		H							
	CO4		H								
	CO5	H		H							
	CO6		H		M						

3	Category	Humanities &Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core(PC)	Core Elective (CE)	Non-Major Elective(NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT–I **6**

Customer Relationship Management Introduction - Meaning and Definition - Importance – Benefits and difficulties of CRM.

UNIT–II **6**

CRM Process and Implementation Introduction-customer Retention- Customer satisfaction-Importance of customer retention-CRM processor B2B markets

UNIT–III **6**

Technological Support in CRM Introduction-Types of Technological Applications in CRM.

UNIT–IV **6**

Customer Databases and Information Systems –CRM Software Solutions for B2C and B2B Markets .

UNIT–V **6**

E-CRM – Emerging Trend in CRM Introduction - Challenges involved in formulating and implementing-CRM strategies.

TEXT BOOKS:

1. Balasubramaniyan.K , Essence of customers relationship management, learn tech press
2. Jagdish N Sheth, Atul Parvatiyar, G Shainesh –customers relationship management-McGraw Hill Publisher, 2000
3. Roger. J Baranand Robert J. Galka-customers relationship management ,Routledge publisher 2013

REFERENCE BOOKS:

1. M.Peeru mohamed, customer relationship management, Vikas publications
2. Kaushik mukerjee, customer relationship management PHI
3. customer relationship management G Shainesh &.Jagdish N Sheth

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18SEBC003	ENTREPRENEURIAL DEVELOPMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Commerce / Mathematics Studied in Higher Secondary Studies.				
	Course Coordinator Name & Department :-Mr.G.Santhoshkumar / Commerce				

COURSE OBJECTIVE: -

- To familiarize the students with the basic fundamentals of Entrepreneurship.
- To impart knowledge on Project identification, selection and formulation.
- To enable the students on the concept of types of organization.
- To peep into the concept of commercial banks.
- To enable the students on the concept of women entrepreneurs

COURSE OUTCOMES (COs)

CO1	Underline the Characteristics Of Entrepreneur – Entrepreneur and Intrapreneur
CO2	Explain the Identification – Selection of the Project
CO3	Apply Selection of Types of Organization – Sole Proprietorship- Partnership Joint Stock Company
CO4	Appraise to Institutional finance to entrepreneurs
CO5	Estimate the Factors Influencing The Choice Of Organization
CO6	Develop the Role and Problems of Women Entrepreneurs

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	-	-	-	-	-	-			H
	CO2	-	H	-	-	-	M	H			
	CO3	-	H	-	-	-	M	M			
	CO4	M	-	-	-	-	M	M			
	CO5	-	-	-	-	-	-	-			
	CO6	-	-	H	-	-	-	-			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	
4	Approval		Academic Council Meeting							

UNIT-I **6**

Meaning Of Entrepreneur – Entrepreneur and Intrapreneur – Qualities Of Entrepreneur – Characteristics Of Entrepreneur – Types Of Entrepreneur – Function Of An Entrepreneur

UNIT-II **6**

Project Identification – Selection of the Project – Project Formulation –Preparation Of Project Report.

UNIT-III **6**

Selection of Types Of Organization – Sole Proprietorship- Partnership Joint Stock Company – Factors Influencing The Choice Of Organization.

UNIT – IV **6**

Institutional finance to entrepreneurs - commercial banks –IDBI, IFCI, ICICI, IRBI, SFC, DICs, SIDC, SIDBI And EXIM Bank

UNIT – V **6**

Women Entrepreneurs – Role – Problems of Women Entrepreneurs – Suggestions For Development Of Women Entrepreneurs

TEXT BOOKS:

1. C.B. Gupta, Entrepreneurship Development in India – Sultan Chand
2. S.S. Khanka, Entrepreneurship Development, S. Chand & Co., New Delhi.
3. Gupta C. B and Srinivasan N. P Entrepreneurship Development, Sultan Chand & Sons, New Delhi

REFERENCE BOOKS:

1. P. Sarvanavel, E Entrepreneurship Development, Ess Pee Kay Publishing House
2. Jaswer Singh Saini, Entrepreneurship Development, Deep and Deep Publication, New Delhi
3. Jayashree Suresh, Entrepreneurship Development- Margham Publication, Chennai

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18SEBC004	HUMAN RESOURCE MANAGEMENT	L	T	P	C
	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	CourseCoordinator Name&Department:-Ms. R.Velanganni/Commerce & Economics				

COURSE OBJECTIVES:-

- To learntheimportanceofHR.
- To impartknowledge and importantfactors inHR.
- To enable the students onthe needs and methods oftraining.

COURSE OUTCOMES(COs)

CO1	Identify the Importance of Human Resource and objectives.
CO2	Describe the Human Resource Planning
CO3	Practice to Sources of Recruitment-Selection– Steps in Selection
CO4	Analyze Needs of training– Methods of Training
CO5	Evaluate the Process and Methods of Performance Appraisal
CO6	Formulate the Qualities of Personnel Manager

Mapping of CourseOutcomes with Program outcomes (POs)(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO 3	PO4	PO5	PO6	PO7	PSO 1	PSO 2	PSO 3
2	CO1	H	M	-	-	-	-	-	H		
	CO2	M	H	-	-	-	-	-			
	CO3	H	M	-	-	-	-	-			
	CO4	H	M	-	-	-	-	-			
	CO5	H	M	-	-	M	-	-			
	CO6	H	M	-	-	-	-	-			

3	Category	Humanities &Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core(PC)	CoreElective (CE)	Non-Major Elective(NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	AcademicCouncilMeeting								

UNIT-I **6**

Definition – Importanceof Human Resource– Objectives– Qualities of Personnel Manager.

UNIT-II **6**

Human ResourcePlanning– Importance factors– Steps in HR Planning.

UNIT-III **6**

Recruitment– Objectives– Sources of Recruitment-Selection – Steps in Selection.

UNIT-IV **6**

Training – Definition– Needs of training – Methods of Training– On thejob training– Off the job Training.

UNIT-V **6**

PerformanceAppraisal-Objectives – Process– Methods of PerformanceAppraisal.

TEXT BOOKS:

1. L.M. Prasad– Human ResourceManagement– S. Chand &Sons– 2013.
2. C.B. Mamoria, S.V. Gankar– Personnel Management – Himalaya Pub.– 2012.
3. A.M. Sharma, Human ResourceManagement, HimalayaPublishing House, 2005

REFERENCE BOOKS

1. S.S. Khanka–Human ResourceManagement– S. Chand Ltd.– 2007
2. Gary Dessler–Human ResourceManagement– PrenticeHall– 8thEdition –2000.
3. A Handbook of Human Resource Management Practice,2012.

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Faculty of Arts & Science
Department of Economics

U18SEBC005	MARKETING MANAGEMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- G.Santhosh kumar/ Commerce & Economics				

COURSE OBJECTIVES :-

- To understand the fundamentals of marketing and its role.
- To examine the factorsi nfluencing buying behavior.
- To enable the students to promote advertising and its sales scope

COURSE OUTCOMES (COs)

CO1	State the Fundamentals of Marketing– Role of Marketing.
CO2	Describe the Factors influencing buying behavior
CO3	Interpret the Marketing segmentation– Needs-Types of segmentation
CO4	Compare to New product development process– Product life cycle
CO5	Revise the Awareness of consumer rights in the market place
CO6	Collect the Advertising– Scope of Advertising

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1		H						H		
	CO2	M	H	M							
	CO3	H			M						
	CO4					M					
	CO5	H		M							
	CO6		H			M					
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

UNIT-I **6**

Marketing-Definition– Fundamentals of Marketing– Role ofMarketing–Relationship of marketing with other functional areas–Marketing Mix

UNIT– II **6**

Buyer Behaviour – Buying motives– Factors influencingbuying behavior-Marketing segmentation– Needs-Types of segmentation

UNIT-III **6**

TheProduct– Characteristics– Benefits– Classifications– New product development process– Product life cycle – Branding– Packaging

UNIT-IV **6**

Physical Distribution-Importance-Various kinds of Marketing Channels– Distribution Problems-Awareness of consumer rights in themarket place.

UNIT-V **6**

Advertising – Scopeof Advertising – Personal selling– Direct selling and Sales Promotions.

TEXT BOOKS:

1. BerkovizKerinHontley Rudelivs, MARKETING, New York, Mcgraw Hill Publications.
2. Gony Armstrong, Philip Kotler, Marketing anIntroduction, Pearson Education Asia.
3. Philip Kotler, Marketing Management (Millennium ed.,)NewDelhi, PrenticeHallofIndia(P) Ltd.

ReferenceBooks:

1. Rajan Saxena, MarketingManagement, 2nd edition, New Delhi, Tata McgrawHillPublishing Co.Ltd.
2. V.S. Ramasamy and S. Namakumari, Marketing Management, Planning,Implementation & control, New Delhi, Macmillan

3. Chisnall, P.M. (1997) Marketing Research, Fifth Edition, London: McGraw-Hill.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18SEBC006	OFFICE MANAGEMENT	L	T	P	C
	Total Contact Hours– 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name& Department:-Dr. M.Sankar /Commerce & Economics				

COURSE OBJECTIVES:-

- To peep into the concept, importance of office management.
- To impart knowledge on features and classification of Communication.
- To expose handling correspondence and market registers

COURSE OUTCOMES(COs)

CO1	Record the Concept and Importance of Office and Office Management.
CO2	Report the Arrangement and adjustment : Furniture, allotment of seats
CO3	Apply to Handling of correspondence and market registers
CO4	Experiment the preparation and play of manuals and charts
CO5	Select the Office staff –Selection-training-Supervision
CO6	Summarise Office Accommodation and Environment

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H							H		
	CO2				H						
	CO3		H								
	CO4		M								
	CO5			H							
	CO6						H				

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval	Academic Council Meeting

UNIT I **6**

Introduction – Concept and Importance of Office and Office Management-Office Accommodation and Environment-Reception: Importance, shape and size, control

UNIT II **6**

Communication: Feature, classification, barriers -Arrangement and adjustment: Furniture, allotment of seats, chambers, cabins rooms etc .

UNIT III **6**

Handling of correspondence and market registers, filling forms and stationery-
Office Machines - Kind of office machines.

UNIT IV **6**

Use of machines, installing, handling, maintenance–Manuals and charts-Advantages of office manuals charts - preparation and play of manuals and charts.

UNITV **6**

Office staff– Selection-training -Supervision-span of supervision

TEXT BOOK:

1. Ghosh & Agarwal, Office Management, S.Chand &Company– New Delhi
2. R.S.N. Pillai, Bagavathi, Office Management, S.Chand &Company – New Delhi,2013
3. Dr.R.K. Chopra, Priyanka Gauri Office Management, Himalaya Publishing House, 2017

REFERENCE BOOKS:

1. G.S. Sudha, General Management, Pustak Prakashan,New Delhi
2. Rajendra paul ,Modern Communication &Techniques, S.Chand &Company–New Delhi
3. v. Balachandran, Office Management, Tata Mcgraw-hill education,2009

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18SEBC007	**RETAIL MARKETING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. J. Saranya, Commerce				

COURSE OBJECTIVES:-

- To familiarize the functions and types of Retailing.
- To impart knowledge on Retail consumer behavior and its types.
- To expose the student on promoting sales, public relation and advertising.

COURSE OUTCOMES (COs)

CO1	Recall the Characteristics - Functions of retailing - Types of Retailing
CO2	Express the - Retail Consumer buying behavior and types
CO3	Schedule the Retail Organization Structure
CO4	Categorize to Factors affecting store lay out
CO5	Assess the Sales promotion - Advertising
CO6	Point out the Retail Marketing Mix

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	M	H						H		
	CO2		H	H		M					
	CO3	H					M				
	CO4		H								
	CO5	H	H	M							
	CO6	H	M					M			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									□	

4	Approval		Academic Council Meeting

UNIT-I **6**

Retailing – Definition – Importance – Characteristics - Functions of retailing - Types of Retailing

UNIT-II **6**

Retail Marketing Mix - Retail Consumer buying behavior and types – Segmentation - Types of segmentation

UNIT-III **6**

Retail Organization Structure-Major Functional Areas-Careers in Retailing

UNIT-IV **6**

Store layout-Types of lay out-Factors affecting store lay out

UNIT-V **6**

Sales promotion - Advertising - Public Relation - Personal selling

TEXT BOOKS:

1) George E.Belch and Michael A.Belch, Advertsing and Promotion, McGraw Hill Company
2) Ronald, Karen Whitehill king,and J.Thomas Russell, Kleppner's Advertising Procedure, Pearson Education International, Prentice Hall
3) A. Siva Kumar, Retail Marketing, Anurag Jain for Excel Books, 2007.

REFERENCE BOOKS:

1) Malcolm Sullivan, Denn's Adcock, Retail Marketing, S.Chand Publishers, 2002.
2) Gupta, Advertising and Sales Promotion, EPH Publisher
3) Sarangi, Advertising and Sales Promotion, Asian Books

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18SEBC008	SALESMANSHIP AND ADVERTISING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. S.Binapani/ Commerce & Economics				

COURSE OBJECTIVES:-

- To understand the importance, role, objective of advertising.
- To impart knowledge on importance of salesmanship
  To analyze the types of advertising and its benefits

COURSE OUTCOMES (COs)

CO1	Define the objectives of Advertising.
CO2	Classify the types of Advertising-Commercial and Non-Commercial Advertising
CO3	Discover Advertising benefits and criticism
CO4	Explain the importance of salesmanship
CO5	Compute the Qualities and Responsibilities of sales managers
CO6	Examine the types of sales organization - Sales management job

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	H						H		
	CO2	H									
	CO3		M								
	CO4	H		M							
	CO5										
	CO6	H	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval		Academic Council Meeting

UNIT-I **6**

Definition-Importance-Role of Advertising-Nature-Objectives and Scope of Advertising

UNIT-II **6**

Types of Advertising-Commercial and Non-Commercial Advertising-Primary demand and selective demand advertising

UNIT-III **6**

Advertising-benefits and criticism-Media selection-measuring advertising effectiveness

UNIT-IV **6**

Introduction to the salesmanship-Importance of salesmanship-training and compensating sales men

UNIT-V **6**

Qualities and Responsibilities of sales managers -Types of sales organization - Sales management job

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Faculty of Arts & Science
Department of Economics

TEXT BOOKS:

1. George E.Belch and Michael A.Belch, Advertsing and Promotion, McGraw Hill Company
2. Ronald, Karen Whitehill king,and J.Thomas Russell, Kleppner's Advertising Procedure, Pearson Education International, Prentice Hall.
3. P. Saravanavel & S. Sumathi, advertising and salesmanship Margham publications,

REFERENCE BOOKS

1) Sarangi, Advertising and Sales Promotion, Asian Books
2. Gupta, Advertising and Sales Promotion, EPH Publisher.
. 3. A Handbook of Human Resource Management Practice,2012.

Course Coordinator **HOD**

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Department of Economics

U18SEEN001	**SOFT SKILLS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite – Higher Secondary Level				
	Course coordinator name & Dept: Mrs. B.CAROLINE– English				

COURSE OBJECTIVES:- To effectively complement the already existing Hard Skills so that the combination becomes a winning blend that could project the candidate's true worth in proper perspective.

COURSE OUTCOMES (COs)

CO1	Remember the personal as well as professionals goals of the students
CO2	Understand the manners during professional meetings
CO3	Apply the right reasons of stress
CO4	Analyze the importance of communication skills
CO5	Evaluate the excellence in both personal and professional life
CO6	Create the Growth & development of soft skills
Category	OE

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO 2	PS O3
2	CO1	H	L								
	CO2	H	L								
	CO3	H	L								
	CO4	H	L						H		
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
								✓	✓	

4	Approval	47th Academic Council Meeting

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Faculty of Arts & Science
Department of Economics

UNIT I Soft Skills 6

Introduction to soft skills

Types of soft skills

Developing positive attitude, forming values and self confidence

UNIT II Interpersonal skills 6

Developing interpersonal relationship, team building, table manners, organizing meetings, stress and time management

UNIT- III Communication Skills 6

Types of communication ,Art of listening ,Art of reading ,Art of writing,Art of speaking

UNIT IV Corporate Skills 6

Presentation skills, developing body language, practicing etiquette, and mannerism, dress for success

UNIT V Placement Skills 6

Personal interviews, writing resume/ CV- interviews skills career planning, public speak in motivation skills and personality

Text books

1. S.P.Danavel, English and Communication for Students of Science and Engineering.

2.Murali Krishna Moishra, Communication Skills for Engineers.

Reference

1. Developing the leader within you John C. Maxwell.
2. Meena. K and V. Ayothi (2013) A Book on development of soft skills (soft skills: A road map to success), P.R. publishers & Distributors, no. B-20&21,v.m.m. complex, Chatiram bus stand, tiruchirappalli.-620002

Course Coordinator **HOD**

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Department of Economics

U18SESC001	**COMPUTER APPLICATION**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- N.Mathimagal & BCA				

COURSE OBJECTIVES:-

The learner will have the knowledge about the basic operations of a computer system, computer applications software, input, and output and storage devices.

COURSE OUTCOMES (COs)

CO1	Define the Characteristics, History, Classification, Personal Computers and Applications.
CO2	Demonstrate understanding of the basic operations of a computer system.
CO3	Explain the principles of operations of computer systems used in a particular application, specifically in terms of the systems' hardware and software components.
CO4	Discuss the various types of Processors, Input and Output devices, OS & DOS command.
CO5	Identify the suitable Storage Devices and Software's to solve the problem.
CO6	Use computer applications software to solve problems.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L						H		
	CO2	H	L								
	CO3	H	-								
	CO4	H	L								
	CO5	M	-								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Brief History of Development of Computers, Computer System Concept, Computer System Characteristics, Capabilities and Limitations, Types of Computers-Personal Computer (PCs) - IBM PCs, Types of PCs- Desktop, Laptop, Notebook, Palmtop, etc. Basic Components of a Computer System - Control Unit, ALU, Input/ Output Unit- Memory, Storage Fundamentals - Primary Vs Secondary memory.

UNIT II **6**

Input Devices: Keyboard, Mouse, Joystick, Scanners, Digital Camera, MICR,OCR, OMR, , Light pen, Touch

Screen.

UNIT III **6**

Output Devices: Monitors - Characteristics and types of monitor, Size, Resolution, Refresh Rate, Dot Pitch, Video Standard - VGA, SVGA, XGA etc. Printers - Daisy wheel, Dot Matrix, Inkjet, Laser. Plotter, Sound Card and Speakers.

UNIT IV **6**

Various Storage Devices - Magnetic Disks, Hard Disk Drives, Floppy, Disks, Optical Disks

UNIT V **6**

Computer Software, Need, Types of Software - System software, Application software System Software - Operating System, Compiler, Assemblers, Interpreter.

TEXT BOOKS

1. Computers Today by S.K. Basandra- Galgotia Publications,First Edition Oct 1987.
2. Elementary Computer Application by Dr.ReetaKumari , ArchanaKumari ,First Edition Oct 2019.
3. Computer Fundamentalsby PritiSinha, Pradeep K., Sinha,Third Edition, McGraw-Hill 2018.

REFERENCE BOOKS

1. Fundamentals of Information Technology, Aalexis Leon & Mathews Leon- Vikas Publishing House- New Delhi dos Quick Reference by Rajeev Mathur- GalgotiaPublications.
2. Basic Computer Course Made Simple, Satish Jain/Shalini Jain/M.Geetha ,Pearson, Sep2018.
3. Computer Basic , G. Manjunath,Pearson, Sep2019.
4. Computer Basics: For a Literate Living, Bittu KumarMcGraw hill, Sep2018.

Course Coordinator **HOD**

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Department of Economics

U18SESC002	**MULTIMEDIA**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- N.Mathimagal & BCA				

COURSE OBJECTIVES:-

The learner will have the knowledge about the principles of different types of media and able to identify the proper applications of multimedia, how multimedia can be used in various application areas, and evaluate the appropriate multimedia systems and develop effective multimedia applications.

COURSE OUTCOMES (COs)

CO1	Gain knowledge of basic concepts of multimedia
CO2	Analyze the multimedia application problems.
CO3	Discuss the Video capturing, Sound capturing, editing concepts.
CO4	Identify the basic multimedia design principles.
CO5	Demonstrate the multimedia system and Design Process
CO6	Test real time application using a multimedia concept.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	**H**	**L**						H		
	CO2	**M**	**L**								
	CO3	**H**	**-**								
	CO4	**H**	**L**								
	CO5	**M**	**L**								
	CO6	**H**	**L**								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	

4	Approval	Academic Council Meeting

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Faculty of Arts & Science
Department of Economics

UNIT I **6**

Multimedia Fundamentals: Concept of multimedia, Fundamental criteria for the design of a multimedia presentation, Multimedia Application Goals & Objectives, opportunities in multimedia production.

UNIT II **6**

Role of multimedia-development of team members, avoiding problems in planning a multimedia application.

UNIT III **6**

Multimedia Building Blocks: Text, Graphics, Video capturing, Sound capturing, editing.

UNIT IV **6**

Basic design principle: proximity, visual hierarchy, Symmetry, Asymmetry, Repetition, unity, Contrast, dynamics, Emphasis, Multimedia Authoring tools.

UNIT V **6**

Design, Development and evaluation of multimedia a system, Development of user interface design, Design Process.

TEXT BOOKS

1. John Villamil, Casanova, Louis Molina, "An introduction tomultimedia".
2. Mohammad Dastbaz, "Designing Interactive MultimediaSystems".
3. "Multimedia: Making it Work" , Tay Vaughan, Ninth Indian Edition.

REFERENCE BOOKS

1. Stephen McGloughlin, "Multimedia on theweb".
2. "Fundamentals of Multimedia", Pearson Education International.
3. "Multimedia: Computing Communications & Applications", Ralf Steinmetz, Pearson Education.
4. Bohdan O. Szuprowicz, "MultimediaNetworking".

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
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Department of Economics

U18SESC003	**ADVANCED EXCEL**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Ramya & BCA				

COURSE OBJECTIVES: -
Learners able to understand the basic concept of excel and use various functions in Excel Sheet.

COURSE OUTCOMES (COs)

CO1	Identify the different components of the Excel worksheet
CO2	Construct formulas to manipulate numeric data in an Excel Worksheet
CO3	Change the appearance of an Excel spreadsheet
CO4	Use the functions that are stored in Excel.
CO5	Differentiate between formulas and functions in Excel.
CO6	Access and manipulate data using the database functions of Excel.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO 2	PSO3
2	**CO1**	H	-						H		
	CO2	H	L								
	CO3	M	-								
	CO4	M	-								
	CO5	H	L								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

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Faculty of Arts & Science
Department of Economics

UNIT I **6**

Uses of Advance Excel Formulas -VLOOKUP, HLOOKUP, SUMIF, SUMIFS, SUMPRODUCT, DSUM, COUNTIF, COUNTIFS, IF, IFERROR, ISERROR, ISNA, ISNUMBER, ISNONTEXT, OR, AND, SEARCH, INDEX, MATCH etc

UNIT II **6**

Various Methods and Uses of IF Conditions , Usage of "IF" Conditions? , Creation of Multiple IF Conditions in One Cell , Use the IF Conditions with the Other Advance Functions, How to use nested IF statements in Excel with AND, OR Functions Sorting, Data Forms, Adding Data Using the Data Form, Finding Records Using Criteria

UNIT **6**

Filtering Data, AutoFilter, Totals and Subtotals, Row, Various Methods of Filter and Advance Filter options , Creating and Updating Sub totals , Various Method of Sorting Data ,Creating, Formatting and Modifying Chart.

UNIT IV **6**

Customizing the Quick Access Tool Bar , Managing Windows ,Multiple Windows , Splitting Windows.

UNIT V **6**

Various Methods and Options of Pivot Table, Using the Pivot Table Wizard, Changing the Pivot Table Layout, Subtotal and Grand total Options, Formatting, and Grouping items

TEXT BOOKS:

1. Jordan Goldmeler, "Advanced Excel Essentials" ,APress, 2015 edition.
2. Excel Basics Book by Ian Lamont.
3. Excel for Beginners – M.L. Humphery.

REFERENCE BOOKS:

1. John Walkenbach, "Microsoft Excel 2013 Bible",Wiley Publications,2013.
2. Excel Formulas and Functions For Dummies Book by Ken Bluttman and Peter G. Aitken.
3. Advanced Excel Essentials Book by Jordan Goldmeier.
4. Excel 2019 Bible Book by John Walkenbach, Michael Alexander, and Richard Kusleika

Course Coordinator **HOD**

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Faculty of Arts & Science
Department of Economics

U18SESC004	**WEB DESIGNING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Ramya & BCA				

COURSE OBJECTIVES: -
To gain knowledge in basic web designing concepts.

COURSE OUTCOMES (COs)

CO1	Define the web basics and server side scripting.
CO2	Execute the HTML coding and linking process.
CO3	Analyze the hyperlinks and special characters.
CO4	Relate the Embedded Style Sheets & Linking External Style Sheets.
CO5	Use the backgrounds and user style sheets.
CO6	Test real time application using web designing concept.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	**CO1**	H	L							H	
	CO2	M	L								
	CO3	H	-								
	CO4	H	-								
	CO5	H	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**
Introduction - The Internet in Industry and Research - Evolution of the Internet and World Wide Web - Web Basics – Client Side Scripting versus Server Side Scripting.

UNIT II **6**
Introduction – First HTML example – Headings – Linking - Images, alt Attribute, Void Elements.

UNIT **6**
Using Images as Hyperlinks-Special Characters and Horizontal Rules – Lists – Tables.

UNIT IV **6**
Introduction - Inline Styles - Embedded Style Sheets - Linking External Style Sheets

UNIT V **6**

Backgrounds - Element Dimensions - Box Model and Text Flow - Drop-Down Menus - User Style Sheets.

TEXT BOOKS

1. Paul Deitel, Harvey Deitel, Abbey Deitel, "Internet & World Wide Web: How To Program", 5th Edition, Pearson Publication, 2012.
2. Jennifer Niederst Robbins, "Learning Web Design", Fourth Edition, O'Reilly Media, 2012.
3. Thomas Michaud, "Foundations of Web Design, Introduction to HTML & CSS", Pearson Publication, 2014.

REFERENCE BOOKS

1. Bayross, "Web Enable Commercial Application Development Using HTML, DHTML, JavaScript, Perl CGI", BPB Publications.
2. T. A Powell, "Complete Reference HTML (Third Edition)", TMH, 2002.
3. HTML & CSS: Design and Build Web Sites Book by Jon Duckett.
4. Learning Web Design Book by Jennifer Niederst Robbins.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18SESC005	**PHOTOSHOP**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Brindha & BCA				

COURSE OBJECTIVES: -
Learners can apply methods to specific 3D Images and to identify various designs appropriate for Animation.

COURSE OUTCOMES (COs)

CO1	Gain knowledge to Create and save Images in fundamental computer applications
CO2	Define the title bar, menu bar, option bar, image title bar in photo shop program.
CO3	Examine Zooming & Panning an Image while Working with Images.
CO4	Analyze Color manipulations & Working with Toolbox
CO5	Compare the Working with layers.
CO6	Relate real time application using 3D image and Animation.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PS O1	PS O2	PS O3
2	**CO1**	H	-						H		
	CO2	H	L								
	CO3	M	-								
	CO4	H	L								
	CO5	H	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Introduction to Adobe photoshop, Getting started with photoshop, creating and saving a document in photoshop, page layout and background.

UNIT II **6** Photoshop program window-title bar, menu bar, option bar, image window, image title bar, status bar, ruler, palettes, toolbox, screen modes, saving files, reverting files, closing files.

UNIT III **6**

Images: working with images, image size and resolution, image editing, color modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids-Cropping & Straightening an Image, image backgrounds, making selections.

UNIT IV **6**

Working with toolbox: working with pen tool, save and load selection-working with erasers- working with text and brushes-Color manipulations: color modes- Levels – Curves - Seeing Color accurately - Patch tool

UNIT V **6**

Layers: Working with layers- layer styles- opacity-adjustment layers.

TEXT BOOKS

1. Reema Thareja , "Fundamentals of Computers", Oxford University Press.
2. Photoshop: Beginner's Guide for Photoshop - Digital Photography, Photo Editing, Color
3. Adobe Creative Team, "Adobe Photoshop Classroom in a Book".

REFERENCE BOOKS

1. Adobe Creative Team, "Adobe Photoshop Classroom in a Book".
2. Adobe Photoshop CC For Dummies.
3. Adobe Photoshop CC for Photographers 2018.
4. Photoshop CC Essentials for Photographers.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

U18SESC006	**FLASH**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Brindha & BCA				

COURSE OBJECTIVES: -
Learners can identify methods appropriate for Basic Animation and apply methods to design with flash.

COURSE OUTCOMES (COs)

CO1	Define working with flash, drawing with flash using Animation tools and Mixer.
CO2	Classify working with multiple objects, importing color palettes
CO3	Analyze Basic animation and working in the timeline,
CO4	Identify Frames, key frames, deleting, copying and reversing frames
CO5	Organize the Shape tweening and shape hinting in motion
CO6	Apply methods to design with flash

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO 2	PSO3
2	**CO1**	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	M	-								
	CO5	H	-								
	CO6	H	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

Bharath Institute of Higher Education and Research
Faculty of Arts & Science
Department of Economics

UNIT I **6**

Working with flash, drawing with flash, drawing with the pencil, modifying lines, drawing with the pen, the oval and rectangle tools, free transform tool, envelope modifier, the brush tool, using the mixer.

UNIT II **6**

Adding custom colors to color palette, importing color palettes, working with multiple objects, grouping objects.

UNIT III **6**

Basic animation and working in the timeline, the timeline, movie properties.

UNIT IV **6**

Frames vs. key frames, deleting, copying, and reversing frames, frame-by-frame vector animation, Animation on an image.

UNIT V **6**

Shape tweening , shape hinting , Shape tweening text , edit multiple frames , animating gradients, basic motion tweening.

TEXT BOOKS:

1. Nick Vandome ,"FLASH 5 in easy steps", ,Dreamtech press,2001
2. Tattoo Lettering Book Reference Flash Book (Volume 2) Spiral-bound – jan 2001 by Various Artists
3. The Flash Book: How to fall hopelessly in love with your flash, and finally start taking the type of images you bought it for in the first place Kindle Edition by Scott Kelby-2013

REFERENCE BOOKS:

1. E A Vander Veer &Chris Graver, "Flash CS3",Orelly Publications,2009.
2. Nick Vandome ,"FLASH 5 in easy steps", ,Dreamtech press,2010
3. Thiagharajan and Anbumani, "Flash MX 2004", Tata McGraw Hill, NewDelhi.
4. Laurie Ulrich Fuller and Robert C. Fuller, "Photoshop CS3 Bible", Willey India Pvt.Ltd.,2017.
5. V. K. Jain, "Multimedia and Animation Paperback", 1st Edition, 1 January 2019.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
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Department of Economics

U18SESC007	**COMPUTER HARDWARE AND NETWORKING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi / CS				

COURSE OBJECTIVES :-
Learners familiar with the basic concepts of Microprocessor, Controller, Server and to demonstrate the traditional imperative design of CPUs, cards, PCs and BIOS.

COURSE OUTCOMES (COs)

CO1	Define the structure of Micro Processor and PCs and CPUs
CO2	State the structure of PC architecture and the study of various PCs
CO3	Describe the basics of Processor
CO4	Study the CPU, Chips, Processor and Controllers
CO5	Examine the working of Internal Components cards and Higher Level Processor
CO6	Relate the Backups, Switches Routers, BIOS, Floppy Disk and zip Driver

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	**CO1**	H	-						H		
	CO2	H	L								
	CO3	H	L								
	CO4	M	-								
	CO5	H	L								
	CO6	M	-								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

Bharath Institute of Higher Education and Research
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Department of Economics

UNIT I **6**

Microprocessor System - Introduction of System overview, Introduction to Processors, Memory Interfacing, Interfacing I/O Devices, Interfacing Data Converters, Display Interface, Serial I/O and Data Communication, Higher level Processors.

UNIT II **6**

Introduction to PC Architecture Study of PC-AT/ATX System, Pentium, Core, Core 2 Cord, Core 2 Duo, I3, I5, I7.

UNIT III **6**

Processor Basics of Processor and CPU Block Diagram of Computer and Computer Generation Motherboards, Chipset and Controllers, BIOS and the Boot Process, Computer Memory.

UNIT IV **6**

Internal Components IDE and SATA Devices: Hard Disk Drive and CD/DVDs Drives, SCSI Devices, Floppy Disk, Zip Drive, Backup Drive, Expansion Cards- LAN Card, IDE Card , VGA and SVGA Cards, Sound Card, Interface Cards, I/O cards, Video Cards, USB Card, Fire-Wire Cards, Internal Ports, Cables and Connector Types.

UNIT V **6** Introduction of Network Cable like UTP, STP, Fiber Optics, Hub, Unmanageable Switch, Manageable Switch, Router, Modem, Wi-Fi, Access Point, PCI Wireless Card, USB Wireless Device, Print Server, USB Network Sharer, Backup Device, Server Hardware etc.

TEXT BOOKS

1. Ramesh Gaonkar, "Microprocessor Architecture Programming and Application with the 8085", Penram International Publication.
2. Troubleshooting, Maintaining and Repairing PCs Stephen J Bigelow Tata MCGraw Hill Publication 2004
3. Computer Networks Andrew S.Tanenbaum Prentice-Hall of India, New Delhi 2002

REFERENCE BOOKS

1. M.L. Gupta, "Electronics and Radio Engineering", Dhanpat rai & Sons, New Delhi.
2. B. Govinda rajalu, "PC AND CLONES Hardware, Troubleshooting and Maintenance", Tata Mc-graw-Hill Publication.
3. Stephen J. Bigelow, "PC Troubleshooting and Repair", Dream tech Press, New Delhi.
4. Data Communication and networking Behrouz A.Forouzan Tata Mc-Graw Hill, New Delhi 2006
5. Data and Computer Communications William Stallings Prentice-Hall of India Eighth Edition.

Course Coordinator **HOD**

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Department of Economics

U18SESC008	**COMPUTER PROGRAMMING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi/ CS				

COURSE OBJECTIVES :-

Learners will be familiar with the programming language C, Algorithm, and Design the flowchart and implement the programs using the concept such as Functions, Pointers and Strings.

COURSE OUTCOMES (COs)

CO1	Apply and Write the clear, structure and Looping of elementary C programs.
CO2	Explain algorithmic thinking and apply it to programming.
CO3	Describe problem-solving techniques.
CO4	Ability to use C with Various operators Expressions and Decision making control.
CO5	Write Code using Arrays with single dimensions, Two dimensions and Multidimensional and Various Strings operations
CO6	Examine programs using Functions, Pointers, Structures and Union

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**
2	**CO1**	H	-						H	
	CO2	H	L							
	CO3	H	L							
	CO4	H	-							
	CO5	M	L							
	CO6	H	-							
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

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UNIT I **6**

Generation and Classification of Computers, Basic organization of a Computer, Number System, Binary, Decimal, Conversion, Problems.

UNIT II **6**

Algorithm, Pseudo code, Flow Chart, Problem formulation, Problem solving , Introduction to "C" programming, Fundamentals, Structure of C Program , compilation and linking processes, Constants, Variables, Data Types.

UNIT III **6**

Expressions using operators in C, Managing input and output operations, Decision making and Branching, Looping Statements.

UNIT IV **6**

Arrays, Initialization, Declaration, One Dimensional and Two Dimensional Arrays, String, String Operations, String Arrays.

UNIT V **6**

Function, Definition of Function, Declaration of Function, Recursion, pointers, pointer and arrays, Structure data type, Structure definition, Structure declaration, Structure within a structure, Union, Storage classes, Pre-processor directives.

Text Books

1. Anita Goel and Ajay Mittal, "Computer Fundamentals and programming in C", Dorling Kindersley (India) Pvt Ltd., Pearson Education in South Asia 2011.
2. PradipDey, ManasGhosh, "fundamentals of computing and programming in c", First edition, Oxford University Press, 2009.
3. Yashavant P. Kanethar, "Let Us C", BPB Publications, 2011.

Reference Books

1.Byron S Gottfried," Programming with C",Schaum'sOutlines,2nd Edition,Tata McGraw-Hill 2006.
2.Dromey R.G., "How to Solve it by Computer", Pearson Education, Fourth Reprint, 2007.
3.Kernighan., B.W and Ritchie, D.M, " The C Programming Language", Second Edition, Pearson Education, 2006.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
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U18SESC009	**OFFICE AUTOMATION TOOLS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi / CS				

COURSE OBJECTIVES :-
Learners will create an awareness among the application of computers and information technology.

COURSE OUTCOMES (COs)

CO1	State the basic skills and practices for MS –DOS.
CO2	Gain the knowledge of MS WORD.
CO3	Analysis the power point presentation concepts.
CO4	Discuss the EXCEL and formula processing.
CO5	Use the PowerPoint template.
CO6	Applying the computer excel formula.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	**CO1**	H	L						H		
	CO2	H	-								
	CO3	M	-								
	CO4	M	-								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)	
									✓		
4	Approval	Academic Council Meeting									

UNIT I **6**

Text Manipulations- font size, style, color. Alignment- left, right and justify, paragraph alignment, Usage of Numbering, Bullets, Footer and Headers, Usage of Spell check, and Find & Replace, Text Formatting, Picture insertion and alignment.

UNIT II **6**

Insertion – Table, chart, clip art, shapes, borders. Creation of documents, saving of documents, using templates, Creation templates, Mail Merge Concepts, Copying Text & Pictures from Excel.

UNIT III **6**

Creating of Excel sheet, Cell Editing, Usage of Formulae and Built-in Functions, File Manipulations, Data Sorting, Worksheet Preparation, Drawing Graphs, Usage of Auto Formatting.

UNIT IV **6**

Start power point, Create blank presentation, Selecting slide layout , Insert new slide, Editing presentation , Designing and formatting presentation , Change font, font color, size, style of text, Bullet and numbering, Slide design, layout, change background , preparing slide show presentation.

UNIT V **6**

Inserting Clip arts and Pictures, Frame movements, Insertion of new slides.Preparation of Organization Charts, Presentation using Wizards, Usage of design templates, working with tables, graphics and animation, working with graphs and organization charts.

TEXT BOOKS:

1. Joyce Cox, Joan Lambert and Curtis Fryc, "Step by Step Microsoft Office Professional 2010", Microsoft press edition.
2. Ralph T.Reilly, "The Handbook of Office Automation", iUniverse Publications,2012.
3. Learning of MS –Office 2007 – Ramesh Bangia
4. 2007 Microsoft Office System and Your Windowsbased PC – Window Vista
5. Microsoft Office Professional 2010 Step by Step Paperback – 1 January 2010 by Cox Et Al

REFERENCE BOOKS:

1. Microsoft office word 2007 Torben large frandsen
2. Microsoft office word 2008 Stephen moffat
3. Microsoft office word 2010 Advance – Gay B.Shelly
4. Microsoft Office 2010 by Bittu Kumar
5. Learning Microsoft Word 2010 by Bangia Ramesh

Course Coordinator **HOD**

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U18SEMA001	**QUANTITATIVE APTITUDE – I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Number Series with its applications.
CO2	Understand the concept of Data Interpretation
CO3	Apply suitable algorithms in Loss & Discount
CO4	Analyze the Rates, Time and Distance
CO5	Evaluate problems Simple Interest
CO6	Create an real time application compounds and mixtures

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval		Academic Council Meeting

UNIT I NUMBER SYSTEM **6**

Numbers, Number Series, Number Theory, Arithmetic & Geometric Ratio

UNIT II STATISTICS **6**

Average, Ages, Data Interpretation.

UNIT III PERCENTAGE AND APPLICATIONS **6**

Percentage, Profit, Loss & Discount, Simple Interest, Compound Interest

UNIT IV TIME **6**

Rates, Time and Distance, Train Problems, Boats and Streams, Time and Work.

UNIT V RATIO AND PROPORTION **6**

Allegations of compounds and mixtures.

Text Books:

1. Aggarwal.R.S (2018) "Quantitative Aptitude" by, S. Chand Publications.
2. Aggarwal.R.S (2018) "A modern approach to Logical approach" by, S. Chand Publications.
3. Abhijit Guha, (2014) "Quantitative Aptitude for competitive examinations" by Tata McGraw-Hill Publications.

Reference Books:

1. Abhijit Guha, "Quantitative Aptitude"- Mc Graw Hills Publishers.
2. Aggarwal.R.S (2018) "A modern approach to Logical approach" by, S. Chand Publications.
3. RS Aggarwal, (2018) "A Modern Approach to Verbal & Non-Verbal Reasoning", S. Chand Publications.

Course Coordinator **HOD**

Bharath Institute of Higher Education and Research
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U18SEMA002	**QUANTITATIVE APTITUDE – II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Inverse, Compound equation.
CO2	Understand the circular arrangement.
CO3	Apply suitable direction of Permutations and combinations test.
CO4	Analyze the Heights and Distance
CO5	Evaluate problems on Simple Interest
CO6	Create a real time application of Date and time.

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval	Academic Council Meeting

UNIT I SOLVING ABILITY **6**

Simple equations –Variation-Direct, Inverse, Compound

UNIT II PROBABILITY **6**

Problems on Linear and circular arrangement.

UNIT III REASONING ABILITY **6**

Coding and decoding – Direction Permutations and combinations test- Lateral reasoning-Blood relations-Paragraph based puzzles.

UNIT IV TRIGONOMETRY **6**

Heights and Distance.

UNIT V CLOCKS AND CALENDERS **6**

Interpretation of Date and time.

Text Books:

1. Aggarwal.R.S (2018) “Quantitative Aptitude” by, S. Chand Publications.
2. Aggarwal.R.S (2018) “A modern approach to Logical approach” by, S. Chand Publications.
3. Abhijit Guha, (2014) “Quantitative Aptitude for competitive examinations” by Tata McGraw-Hill Publications.

Reference Books:

1. Abhijit Guha, “Quantitative Aptitude”- Mc Graw Hills Publishers.
2. Aggarwal.R.S (2018) “A modern approach to Logical approach” by, S. Chand Publications.
3. RS Aggarwal, (2018) “A Modern Approach to Verbal & Non-Verbal Reasoning”, S. Chand Publications.

CourseCoordinator **HOD**

Bharath Institute of Higher Education and Research
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Department of Economics

U18SEMA002	**REGRESSION ANALYSIS WITH SPSS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary studies				
	Course Coordinator Name & Department :- Ms.S.Kavitha /Mathematics				

COURSE OBJECTIVES :-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge Qualitative Variable on Nominal Scale, Ranked.
CO2	Understand the Deleting and Rearranging Items from the Viewer
CO3	Apply suitable direction Permutations and combinations test.
CO4	Analyze the Pie Chart, Scatter Plot and Dot plots
CO5	Evaluate data questionnaire Analysis
CO6	Create an real time application and test of hypotheses

Mapping of Course Outcomes with Program outcomes (POs)
(L/M/H indicates strength of correlation) H-High, M-Medium, L-Low

1	**COs/Pos**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
2	CO1	H	M	-	-	-	-	H	H		
	CO2	H	M	-	-	-	-	M			
	CO3	H	M	-	-	-	-	H			
	CO4	H	M	-	-	-	-	M			
	CO5	H	M	-	-	-	-	H			
	CO6	H	M	-	-	-	-	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval		Academic Council Meeting

Unit 1: Introduction **6**

Observations and Variables, Quantitative or Measurement Variable on Interval Scale, Qualitative

Variable on Nominal Scale, Ranked Variable on Ordinal Scale.

Unit 2: SPSS Data File **6**

Opening a Data File in SPSS – Variable View, Data View, Entering Data into the Data Editor, Saving the Data File. Editing and Manipulating Data: Inserting a New Variable, Rearranging the Order of

Variable in the Variable View, Deleting and Rearranging Items from the Viewer. Usage of Data, Transform, Analyse and Graphs menus – Editing and copying and printing SPSS output – Importing Data from Excel File.

Unit 3: Descriptive Statistics with SPSS **6**

Charts and Graphs: Simple Bar charts, Pie Chart, Scatter Plot and Dot plots, Line graphs, Histogram.

Unit 4: Correlation and Regression Analysis with SPSS **6**

Simple correlation (Karl Pearson's Method) - Rank correlation (Spearman's method) – Simple linear regression equation, Scatter plot and line of best fit – Questionnaire Analysis (Uni-variate and Bi- variate tables) – Chi square test with SPSS for independence of Attributes.

Unit 5: correlation and Testing of Hypothesis **6**

Partial and multiple correlation coefficients. Simple linear regression model: Description of data model - Estimation and test of hypotheses.

Books for Study:

1. Ananthi Sheshasayee and Sheshasayee, G, (2003), Computer Applications in Business and Management, Margham Publications, Chennai.

2. Rajathi, A. and Chandran, P. (2010), SPSS for you, MJP Publishers, Chennai.

3. Chatterjee, S and Price, B (1977), Regression Analysis by Example, John Wiley and Sons,

New York

4. Kapoor, V. K and Gupta, S. C (2002), Fundamentals of Mathematical Statistics, Sultan

Chand and Sons, New Delhi.

Books for Reference:

1. Singh, V. P. and Singh, M. (1998), MS-Excel, Megabyte Series, Asian Publishers, New Delhi.

2. Andy Field (2006), Discovering Statistics Using SPSS, SAGE Publications, London.

3. Johnston, J (1972), Econometric Methods, McGraw-Hill Pvt. Ltd, New York.

4. Draper, N. R and Smith, H (1998), Applied Regression Analysis, 3rd edition, John Wiley and Sons, USA.

CourseCoordinator **HOD**

CURRICULUM- B.A. English-2018

I SEMESTER

S. No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA101 U18HSHI 101 U18HSFR101	Part I :Tamil Part I -Hindi Part I-French	5	3	0	0	3
2.	HS	U18HSEN102	Part II :English	5	3	0	0	3
3.	MC	U18MCEN101	Prose	5	4	0	0	4
4.	MC	U18MCEN102	Fiction	5	3	0	0	3
5.	MC	U18MCEN103	Social History of England	5	3	0	0	3
6.	MC	U18MCEN104	New Literature	5	4	0	0	4
				30	**CREDITS :20**			

II SEMESTER

S. No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA201 U18HSHI 201 U18HSFR201	Part II :Tamil Part II -Hindi Part II-French	4	3	0	0	3
2.	HS	U18HSEN202	Part II :English	4	3	0	0	3
3.	MC	U18MCEN201	Poetry I	5	4	0	0	4
4.	MC	U18MCEN202	History of English Literature	5	3	0	0	3
5.	MC	U18MCEN203	Comparative Literature	4	4	0	0	4
6.	MC	U18MCEN204	Indian Writing in English I	4	4	0	0	4
7.	HS	U18HSCH201	Environmental Studies	2	2	0	0	2

8.	HS	U18HSBC202	Value Education	2	2	0	0	2
				30	**CREDITS: 25**			

III SEMESTER

S.N	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA301 U18HSHI 301 U18HSFR301	Part III :Tamil Part III -Hindi Part III-French	5	3	0	0	3
2.	HS	U18HSEN302	Part II :English-III	5	3	0	0	3
3.	MC	U18MCEN301	Drama I	5	4	0	0	4
4.	MC	U18MCEN302	Literary Forms	5	3	0	0	3
5.	MC	U18MCEN303	Literary Criticism- II	4	4	0	0	4
6.	MC	U18MCEN304	Communicative English	4	3	0	0	3
7.	NME	U18NETA301/ U18NETA302	Non-Major Elective I- for those who studied Tamil under Part I:Basic Tamil for other language students & Special Tamil for those who studied	2	2	0	0	2
				30	**CREDITS: 22**			

IV SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	HS	U18HSTA401 U18HSHI 401 U18HSFR401	Part IV :Tamil Part IV -Hindi Part IV-French	4	3	0	0	3
2.	HS	U18HSEN402	Part IV :English	4	3	0	0	3
3.	MC	U18MCEN401	Poetry II	5	4	0	0	4
4.	MC	U18MCEN402	Drama II	5	4	0	0	4
5.	MC	U18MCEN403	Literary Criticism II	4	4	0	0	4
6	MC	U18MCEN404	Canadian Literature	4	4	0	0	4

6.	NME	U18NETA401/ U18NETA402	Non Major Elective II – for those who studied Tamil under Part I:Basic Tamil for other language students & Special Tamil for those who studied Tamil upto10th +2 but opt for other languages in degree programme.	2	2	0	0	2
7.	SE		Skill Based Elective I	2	2	0	0	2
				30	**CREDITS: 26**			

V SEMESTER

S.No.	**CATEGORY**	**SUB. CODE**	**SUBJECT**	**Total Contact Hrs**	**L**	**T**	**P**	**C**
THEORY								
1.	MC	U18MCEN 501	Shakespeare	5	4	0	0	4
2.	MC	U18MCEN 502	Indian Writing in English-II	5	3	0	0	3
3.	MC	U18MCEN 503	American Literature	4	4	0	0	4
4.	MC	U18MCEN 504	Women Writers in English	4	4	0	0	4
5.	MC	U18MCEN 505	Translation Theory and Practice	4	3	0	0	3
6.	ME	U18MEEN011	Language and Linguistics	4	3	0	0	3
	ME	U18MEEN012	Film And Literature					
	ME	U18MEEN013	Elements of basic Grammar					
7.	SE		Skill Based Elective II	2	2	0	0	2
8.	SE		Skill Based Elective III	2	2	0	0	2
				30	**CREDITS: 25**			

VI SEMESTER

S.No.	CATEGORY	SUB. CODE	SUBJECT	Total Contact Hrs	L	T	P	C
THEORY								
1.	MC	U18MCEN601	English Language Teaching	5	4	0	0	4
2.	MC	U18MCEN602	Commonwealth Literature	5	4	0	0	4
3.	MC	U18MCEN603	Developing Language Skills	5	3	0	0	3
4.	ME	U18MEEN021	Research Methodology	5	3	0	0	3
	ME	U18MEEN022	Technical Writing					
	ME	U18MEEN023	Effective English Speaking					
5.	EEC	U18EEEN6P1	Project	9	0	0	20	10
6.	HS	U18HSCA6V1	Extension activities	1	0	0	2	1
				30	**CREDITS:**			**25**

LIST OF SKILL BASED ELECTIVES

Choose any three courses – one in semester IV & two in semester V

S.No.	Sub Code	Subjects	Total Contact Hrs	L	T	P	C
1	U18SEBC001	Business Process Outsourcing – Management	2	2	0	0	2
2	U18SEBC002	Customer Relationship Management	2	2	0	0	2
3	U18SEBC003	Entrepreneurial Development	2	2	0	0	2
4	U18SEBC004	Human Resource Management	2	2	0	0	2
5	U18SEBC005	Marketing Management	2	2	0	0	2
6	U18SEBC006	Office Management	2	2	0	0	2
7	U18SEBC007	Retail Marketing	2	2	0	0	2
8	U18SEBC008	Salesmanship and Advertising	2	2	0	0	2
9	U18SEEN001	Soft Skills	2	2	0	0	2
10	U18SESC001	Computer Application	2	2	0	0	2
11	U18SESC002	Multimedia	2	2	0	0	2
12	U18SESC003	Advanced Excel	2	2	0	0	2
13	U18SESC004	Web Designing	2	2	0	0	2
14	U18SESC005	Photoshop	2	2	0	0	2
15	U18SESC006	Flash	2	2	0	0	2
16	U18SESC007	Computer Hardware and Networking	2	2	0	0	2
17	U18SESC008	Computer Programming	2	2	0	0	2
18	U18SESC009	Office Automation Tools	2	2	0	0	2
19	U18SEMA001	Quantitative and Aptitude Reasoning -I	2	2	0	0	2
20	U18SEMA002	Quantitative and Aptitude Reasoning-II	2	2	0	0	2
21	U18SEMA003	Regression Analysis with SPSS	2	2	0	0	2

SYLLABUS

SEMESTER -I

Sub. Code: U18HSTA101	□□□□□□□□□□ □□□□□□ :□□□□□- I	L	T	P	C
	□□□□□□□□□□□□□□□□□□□□- 45	3	0	0	3
	□□□□□□□□□□□□□□□□□□□□□ -+ 2				
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□□□□□□□□□□□□□□□□□□□□(□□.□□.) [**COURSE OUTCOMES (COs)]**

CO1	பாரதியார், பாரதிதாசன், கவிமணிஆகியோரின்மரபுக்கவிதைகளைஅறிவர்
CO2	கண்ணதாசன், அப்துல்ரகுமான், நா.முத்துக்குமார் ஆகியோரின் புதுக்கவிதைகளை அறிவர்
CO3	□□□□□□□□□ □□□□□□□□□□□ □□□□□□□ □□□□□□□□□□□ □□□□□□□
CO4	இருபதாம் நூற்றாண்டு சிறுகதைக்கலையின் நுட்பத்தை அறிவர்
CO5	□□□□□□□ □□□□□□□□ □□□□□□□□□□□ □□□□□□ □□□□□□□
CO6	□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ □□□□□□ □□□□□□□

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3- □□□□□□□□□□□□, 2- □□□□□□□□□□□, 1- □□□□□□□□□□□□□□□□

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	1	3	1	3		
	CO2	3	3	3	2	3	1	3		
	CO3	3	2	2	2	3	1	2		
	CO4	3	3	3	1	3	1	3		
	CO5	3	2	2	2	3	1	2		
	CO6	3	2	3	2	3	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/
		✓								
4	**Approval**	Academic Council Meeting								

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COURSE OBJECTIVES:-

To understand , read, write and speak Hindi language with grammatical.

COURSE OUTCOMES (COs)

CO1	Remember the behavior
CO2	Understand the importance of money by story
CO3	Apply the concept of Hindi grammar
CO4	Analyze the usage of translation from English to Hindi
CO5	Evaluate the unseen passage to answer the questions
CO6	Create the knowledge in Hindi Language

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	3	1	1	1	3		
	CO2	3	3	2	2	2	2	3		
	CO3	3	3	2	1	2	1	3		
	CO4	3	3	2	1	1	2	3		
	CO5	3	2	2	1	1	1	3		
	CO6	2	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I **09**

NAVEEN GADYA CHAYANIKA – 2 - Bholaram ka jeev - Mehamaan se Bhagavaan bachaaye - Numberovali Thijori – Kaffan - Gunda

UNIT II **09**

NON DETAILED TEXT: KAHANI KUNJ - Stories: 6 – 10 only

UNIT III **09**

GRAMMAR: SHABDA VICHAR ONLY - NOUN, PRONOUN, ADJECTIVE, VERB, TENSE, CASE ENDINGS - Theoretical & Applied

UNIT IV **09**

TRANSLATION - English – Hindi only - ANUVADH ABHYAS – III - 1 – 15 Lessons Only

UNIT V **09**

COMPREHENSION - 1 Passage from ANUVADH ABHYAS – III (16 – 30)

TEXT BOOKS:

UNIT 1 - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017

UNIT II - Govind Prakashan, Sadhar Bagaar, Mathura, Uttar Pradesh – 281001 - Editor: Dr V.P. Amithab

UNIT III - Vyakaran Pradeep by Ramdev - Hindi Bhavan, 36, Tagor Town, Allahabad – 211002.

UNIT IV - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017.

UNIT V - Dakshina Bharat Hindi Prachar Sabha, Chennai – 600017

Course Coordinator **HOD**

U18HSFR101	**FRENCH**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department:- Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES:-

To introduce students to basic principles and practice of oral and written communication.

COURSE OUTCOMES (COs)

CO1	To understand the basics of the language.
CO2	To analyze the sentence patterns and form the grammar.
CO3	To learn the basics of grammar along with its principles.
CO4	To remember the anatomy of conjugations.
CO5	To create dialogs and conversation on their own within the language & to practice oral and written skills.
CO6	To remember the necessary rules of the language

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	2	1	1	1	3		
	CO2	3	3	3	1	2	1	3		
	CO3	3	3	3	1	3	1	3		
	CO4	3	3	3	1	1	1	3		
	CO5	3	3	3	3	1	1	3		
	CO6	3	3	3	2	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I - Vous comprenez **9**

Alphabets - French Accents - Les Nombres – Pronunciations.

UNIT II Au travail! **9**

Masculine Singular and Feminine singular - Conjugaison des verbes (present tense) -

Les articles définis.

UNIT III En se detend? **9**

Conjugaison (faire-aller-venir-Vouloir-Pouvoir-Devoir)

UNIT IV Racontez-moi **9**

La date et l'heure – les saisons – les couleurs

UNIT V Bon voyage! **9**

Adjectifs demonstratives - Adjectifs possessives - Les Voyages / les transport-Bon appétit!-Article partitif - Emploi des articles - Interrogation (Forme avec inversion) - Les repas - La fête

TEXT BOOKS:

A1 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

Course Coordinator **HOD**

Sub Code: **U18HSEN102**	**Subject Name :ENGLISH-I**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
	Course Coordinator : Mrs.M.SHEEBA & Department of English				

COURSE OBJECTIVES:- To understand the power of knowledge about LRSW(i.e.) listening, reading speaking and writing, and various forms of literature.	
COURSE OUTCOMES (COs)	
CO1	Remember the authors of the prescribed literature
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarizes the prescribed literature
CO6	Create critical essays by evaluating the literary techniques and devices used
Category	HS

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	2	3	3	3	3	2	2		
	CO2	2	2	3	3	3	3	2		
	CO3	3	2	2	2	2	2	2		
	CO4	3	3	3	3	3	3	3		
	CO5	2	2	2	2	2	2	2		
	CO6	2	2	3	2	2	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/
		✓								
4	**Approval**	Academic Council Meeting								

UNIT-I POETRY **9**

Lucy Gray -William Wordsworth – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Ulysses -Alfred Lord Tennyson** - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **The Road Not Taken** – **Robert Frost** - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT-II – ONE ACT PLAYS **9**

The Boy Comes Home - A.A.Milne – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Referee - W.H.Andrews and Geoffrey Dearmer -** Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT -III SHORT STORIES **9**

The Unicorn in the Garden – **James Thurber -** Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Avenger** – **Anton Chekov -** Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT IV PROSE **9**

Six Thinking Hats - Edward de Bono – Author Biography - Self analysis technique, Summary; **My Early Days - Abdul Kalam -** Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **I Have a Dream (Speech) - Martin Luther King -** Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT V **9**

Introduction to Basics of Communication – Definitions – Types – Listening, Speaking, Reading & Writing

TEXT BOOKS:

1. Six Thinking Hats by Edward de Bono, Little Brown and Company, 1985
2. My Early Days by Abdul Kalam, October 7, 2013

REFERENCE BOOKS:

1. Strings of Gold (Part- II) Edited by Prof. Jasbir Jain (MacMillan), 2007
2. Basic Communication Skills for Technology by Rutherfoord (Dorlig Kindersly), 2007
3. English for Professionals A Practice Book of Communication Skills in English by Dr.Miglani (Vayu Education of India), 2010.

Course Coordinator **HOD**

MAJOR CORE

PROSE

Sub Code: U18MCEN101	Subject Name :PROSE	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – UG level English				
	Course Coordinator : Mrs.S.SUBATHRA & Department of English				

COURSE OBJECTIVES:- To enable the students in enjoying the flair of literature through the classical prose works of great writers

COURSE OUTCOMES (COs)

CO1	Remember the knowledge of classical prose writer
CO2	Understand the prose from a variety of cultures and historic periods
CO3	Apply prose as a literary art form
CO4	Analyse the formation of new words, understand grammar and reading & writing skills
CO5	Evaluate the didactic purpose of the work
CO6	Create the essays from the text
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	2	3	2	2	3	2	2		
	CO2	3	3	3	3	2	3	3		
	CO3	2	2	2	2	3	2	2		
	CO4	2	3	3	3	3	3	3		
	CO5	3	3	3	3	2	3	3		
	CO6	2	3	2	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT I **12**

Bacon – 1. Of Studies, Author Biography – theme - summary – critical analysis; 2. **Of Truth** – Author Biography – summary – reading and writing techniques - critical analysis

UNIT II **12**

Steele -- Spectator Club - Author Biography – Plot - Theme - summary - critical analysis; **Chinua Achebe – The Novelist as a Teacher -** Author Biography – Plot - Theme - summary –critical analysis

UNIT- III **12**

Charles Lamb -- Dream Children - Author Biography – Plot - Theme - summary - critical analysis; **Thomas Dequincey – Literature of Knowledge and Literature of Power -** Author Biography – Plot - Theme - summary - critical analysis;

UNIT IV **12**

John Ruskin - King's Treasuries - Author Biography – Plot - Theme - summary - critical analysis; **Leo Tolstoy – What is Art? -** Author Biography – Plot - Theme - summary - critical analysis

UNIT V **12**

Stephen Leacock - With the Photographer - Author Biography – Plot - Theme - summary - critical analysis; **Shaw – Spoken English and Broken English -** Author Biography – Plot - Theme - summary - critical analysis

TEXT BOOKS:

1. Ed. M.G. Nayar, "Galaxy of English Essayists (From Bacon to Berhorm)", Macmillan, 2nd edition.,1986
2. Francis Bacon, "Of Studies", Quotidiana, first edition, 2007
3. Oliver Goldsmith, "Man in Black", "The Essays of Oliver Goldsmith", Nabu Press, 2nd edition, 2012

REFERENCE BOOKS:

1. Francis Bacon, "The Essays by Francis Bacon", Renaissance Classics, first edition, 2012
2. Charles Lamb, "Poor Relations", "Charles Lambs Essays", Andesite Press, 1st edition, 2015

Course Coordinator **HOD**

FICTION

	Subject Name - FICTION	**L**	**T**	**P**	**C**

Sub code:	Total Contact Hours – 45	3	0	0	3
U18MCEN102	Prerequisite course – UG level English				
	Course Coordinator:Mr.S.ANGEL & Department of English				

COURSE OBJECTIVES:- To familiarize the students with the various genres of fiction with selected authors and appreciate the beauty of the language

COURSE OUTCOMES (COs)

CO1	Remember the various genres in fiction
CO2	Understand the plot and themes in fiction
CO3	Apply the various characters of texts
CO4	Analyse the different narrative technique of the novels
CO5	Evaluate the them and plot of the novels
CO6	Create the summary and essays of texts
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	3	3	3	3		
	CO2	2	3	2	2	3	2	2		
	CO3	2	2	2	2	2	2	2		
	CO4	3	2	3	2	2	3	2		
	CO5	2	3	2	2	2	2	2		
	CO6	2	3	2	2	3	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT-I **9**

Oscar Wilde - The Happy Prince – Author Biography – Plot – Theme - Summary - Character analysis - critical analysis; **WW Jacobs - The Monkey's Paw** – Author Biography – Plot – Theme - Summary - Character analysis - critical analysis

UNIT-II **9**

Saki - The Open Window - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **O' Henry - The Gift of the Magi** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **Maupassant - The Diamond necklace** - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **Leo Tolstoy - God Sees the truth but waits** - Author Biography – Plot – Theme - Summary - Character analysis - critical analysis

UNIT – III **9**

Dickens - Oliver Twist - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT- IV **9**

R . L. Stevenson - Dr. Jekyll and Mr Hyde - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT -V **9**

Emile Bronte - Wuthering Heights - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

TEXT BOOKS:

1. WW Jacobs, "The Monkey's Paw", Perfection Learning, 1979
2. Oscar Wilde, "The HappyPrince", Maple Press, 2013
3. Saki, "Masterpieces of World Fiction: Selected Stories", Rupa Publications India, 2014
4. Maupassant, "The Diamond Necklace", Createspace Independent Pub., 2014

REFERENCE BOOKS:

1. R . L. Stevenson, "Dr. Jekyll and Mr Hyde", Paper Clip Books, 2014
2. "50 World's Greatest Short Stories", Fingerprint Publishing, 2017

Course Coordinator **HOD**

SOCIAL HISTORY OF ENGLAND

	Subject Name- SOCIAL HISTORY OF ENGLAND	L	T	P	C

Sub code :	Total Contact Hours – 45	3	0	0	3
U18MCEN103	Prerequisite course – UG level English				
	Course Coordinator :Mrs.S.SUBATHRA & Department of English				

COURSE OBJECTIVES:- The paper provides the students with a basic knowledge of the political and social history of England with reference to important incidents and movements in English history

COURSE OUTCOMES (COs)

CO1	Remember the exposure on the chronicles of England and to be cognizant with their evolution
CO2	Understand the impact of Literature socially, politically, economically.
CO3	Apply the diverse nature England culture
CO4	Analyse the complex relationships between authors, texts, and historical contexts
CO5	Evaluate the categories and concepts of critical or close reading
CO6	Create the knowledge of literary canon in English, as well as strategies for critiquing them
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	3	2	3	3		
	CO2	3	3	2	3	3	3	3		
	CO3	2	2	3	2	2	2	2		
	CO4	2	3	3	3	2	2	3		
	CO5	2	2	3	2	2	2	2		
	CO6	2	2	3	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT - I Tudor England 9

Tudor England – 1. The Renaissance as a multi faced European movement and its impact on England - 2. The Reformation – the causes and the progress to the reigns of Henry VII, Edward VI, Mary and Elizabeth - 3. The dissolutions of Monasteries–the causes and consequences

UNIT - II Stuart England 9

Stuart England - The conflict between the Monarchy and the Parliament and the establishment of the supremacy of Parliament the reigns of James I , Charles I , Charles II, James II and its culmination of Glorious Revolution – 1. Life in the Restoration England – 2. The Coffee Houses and their Social relevance

UNIT III The Age of Revolutions 9

Industrial revolution – Background – Literature study – Biography of literary writers; 2. The Agrarian revolution - Background – Literature study – Biography of literary writers - French revolution - Background – Literature study – Biography of literary writers

UNIT IV The Victorian England 9

The social changes – political changes, material changes and intellectual changes reflected in the literature of Victorian England

UNIT V Modern England 9

The social changes – political changes, material changes and intellectual changes reflected in the literature of Modern England; **Twentieth Century -** political changes, material changes and intellectual changes reflected in the literature of Twentieth Century

Note: It aims at only a broad and extensive of the major social and political events that impacted the social life and literature.

TEXT BOOKS:

1. A.G. Xavier: Introduction to the Social History of England, Orient Blackswan, 2011
2. Padmaja Ashok, "Social History of England", Orient Blackswan, 1 edition, 2011

REFERENCE BOOKS:

1. Choudhury, "English Social and Cultural History: An Introductory Guide and Glossary", Prentice Hall India Learning Private Limited, 1 edition, 2005
2. Thomas Macaulay, "The History of England", Penguin, Reprint edition,1979

Course Coordinator HOD

NEW LITERATURE

Sub code : U18MCEN104	Subject Name - NEW LITERATURE	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – UG level English				
	Course Coordinator:Mr.S.ANGEL & Department of English				

COURSE OBJECTIVES:- The paper introduces the students to new authors in English of different countries.Thus providing a wholesome understanding of literature all over the world.

COURSE OUTCOMES (COs)

CO1	Remember the successful completion of the course, the students should have acquired
CO2	Understand the post colonial writing in English prevailing all over the world
CO3	Apply the various personalities and their writing
CO4	Analyse the impact of contemporary globalization
CO5	Evaluate oppose the cultural assimilation of colonial rule
CO6	Create the cruel face of isolation, marginalization and identity crisis
Category	

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	3	2	2	2		
	CO2	3	3	3	2	2	3	3		
	CO3	2	2	2	3	2	2	2		
	CO4	2	2	2	3	2	2	2		
	CO5	2	2	2	2	2	2	2		
	CO6	2	2	2	3	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/
									✓	
4	Approval	47th Academic Council Meeting								

UNIT I - POETRY **12**

Langston Hughes - The Negro Mother - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Wole Soyinka - Telephone Conversation -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Imtiaz Darker- Purdah -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT – II - PROSE **12**

Stuart Hall- Cultural Identity and Diaspora - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Langston Hughes- The Negro Artist and the Asian Mountain -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT – III - DRAMA **12**

Mahesh Dattani- The Final Solution - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT - IV- SHORT STORIES **12**

Stephon Leacock- My Financial Career - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **Mahasweta Devi - Water -** Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT – V - FICTION **12**

Alice Walker- The Color Purple - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

TEXT BOOKS:

1. Alice Walker, "The Color Purple", Phoenix, 2010.
2. Mahesh Dattani, "The Final Solution", Penguin India, 2005

REFERENCE BOOKS:

1. Cengage Learning Gale, "A Study Guide for Wole Soyinka's Telephone Conversation, Gale, Study Guides, 2017
2. Langston Hughes & Leslie Catherine Sanders, "The Collected Works of Langston Hughes", University of Missouri Press, First edition, 2001

Course Coordinator **HOD**

SEMESTER II

Sub. Code: U18HSTA201	□□□□□□□□□□ □□□□□□ :□□□□□- II	L	T	P	C
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இயேசுகாவியம் - பாடுகளின்பாதை - கண்ணதாசன்

□□□□**5** **9**

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பார்வைநூல்கள்:

1. கதிர்முருகு, "அழகர்கிள்ளைவிடுதூது", சாரதாபதிப்பகம், 2011
2. கதிர்முருகு, "முக்கூடற்பள்ளுமூலமும்உரையும்", சாரதாபதிப்பகம், 2017
3. புலியூர்க்கேசிகன், "திருக்குற்றாலக்குறவஞ்சி", செண்பகாபதிப்பகம், 2010
4. தமிழமுதன், "அற்புதத்திருவந்தாதி", பாரிநிலையம், 2011
5. சோ.கந்தசாமி"பன்னிருதிருமுறை", உலகத்தமிழாராய்ச்சிநிறுவனம், 2008
6. த.கோவேந்தன், "நாலாயிரத்திவ்யப்பிரபந்தம்மூலமும்எளியஉரையும்", சாரதாபதிப்பகம், 2015
7. கமலாமுருகன், "ஆசியஜோதிமூலமும்உரையும்", சாரதாபதிப்பகம், 2012
8. கமலாமுருகன், "பராபரக்கண்ணிமூலமும்உரையும்", சாரதாபதிப்பகம், 2013
9. கண்ணதாசன், "இயேசுகாவியம்", கண்ணதாசன்பதிப்பகம், 2014
10. சு.ஆனந்தன், "தமிழ்இலக்கியவரலாறு", பாரிநிலையம், 2018

Course Coordinator **HOD**

	HINDI	L	T	P	C
U18HSHI201	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				

	Course Coordinator Name & Department:- Mrs Rani Selvan / Hindi

COURSE OBJECTIVES:-
To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)

CO1	Remember of Ramayana In Sabari part
CO2	Understand the historical stories
CO3	Apply the concept of translation
CO4	Analyze and develop the letter writing skills
CO5	Evaluate and develop the speaking skills
CO6	Create knowledge in letter writing and speaking skills

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	2	2	1	3		
	CO4	3	3	2	1	1	2	3		
	CO5	2	3	2	1	1	1	3		
	CO6	3	3	3	2	3	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I **09**
MODERN POETRY - SHABARI

UNIT II **09**

ONE ACT PLAY - EKANKI SANKALAM

UNIT III **09**

TRANSLATION - HINDI – ENGLISH ONLY

UNIT IV **09**

LETTER WRITING - Leave letter - Job Application - Ordering books - Letter to Publisher - Personal letter

UNIT V **09**

CONVERSATION - Doctor & Patient - Teacher & Student - Storekeeper & Buyer - Two Friends - Booking clerk & Passenger at Railway station – Auto rickshaw driver and passenger.

Text Books:

By Naresh Mehtha,Veerendra Kumar Mishra

Reference Books:

UNIT 1 – Publisheres - Lokbharathi Prakashan ,1 Floor, Duebari Building,Mahathma Gandhi Marg,
Allahabad – 1.
UNIT II – Publishers – Vani Prakasam, New Delhi-110002
UNIT III – Publishers – Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

Course Coordinator **HOD**

	FRENCH	**L**	**T**	**P**	**C**

U18HSFR201	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department: - Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES: -

To introduce students to the complexity of the grammar and how to overcome it with simple rules.

COURSE OUTCOMES (COs)

CO1	To being able to interpret the language.
CO2	To familiarize with methodological approaches in the study of literary and cultural texts, such as close reading, socio-historical contextualization, and literary and cultural theory.
CO3	To obtain advanced proficiency in spoken and written French.
CO4	To encourage the development of skills in linguistics, translation, and comparative studies.
CO5	To remember the anatomy of conjugations in past tense.
CO6	To evaluate the given text critically and enhance communication skills.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	2	1	1	1	3		
	CO2	3	3	3	1	2	1	3		
	CO3	3	3	3	1	2	1	3		
	CO4	3	3	3	1	1	2	3		
	CO5	3	3	3	3	1	1	3		
	CO6	3	3	2	3	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I -Quelle journee! 9

La Conjugaison pronominale -L'imperatif -L'expression de la quantite (peu-in peu de- quelque – etc.)

UNIT II - Qu'on est bien ici ! 9

Prepositions et adverbs de lieu - Verbs experimant un deplacement (employ des prepositions)

Le lodgement/la localisation/ l'orientation/l'etat physique/le temps qu'il fait

UNIT III -En se detend? 9

L'imparfait-Emplois du passé compose et de l'imparfait-Expression de la duree-L'enchainement des idees (alors, donc, mais) /Le sens reciproque

UNIT IV- On s'appelle? 9

Les pronoms complements direct -Les pronoms compliments indirects de personne -c'est/ il est-Imperatif des verbs avec pronoms-La fornation des mots

UNIT V Un bon conseil ! 9

Expression du deroulement de l'action--passe recent--Present progressif-future proche-Les phrases rappotrees- La place de l'adjectif- La proposition relative finale avec -qui

TEXT BOOKS:

A1 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

Course Coordinator HOD

	Subject Name : ENGLISH II	**L**	**T**	**P**	**C**

Sub. Code:	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – + 2 level English				
U18HSEN202	Course Coordinator: Mr.S.KUMARESAN & Department of English				

COURSE OBJECTIVES:- To know the themes of literary texts and understand the language skills and how to implement it in day to day life activity

	COURSE OUTCOMES (COs)
CO1	Remember the authors of the prescribed literature
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarizes the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.
Category	HS

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	2	3	2	3	2		3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	2	2	2	3	3	3		
	CO4	2	2	2	2	3	3	3		
	CO5	2	2	2	2	2	2	2		
	CO6	3	3	3	2	2	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	**Approval**	Academic Council Meeting								

UNIT 1: PROSE **9**

The Refugee – **K.A. Abbas** – Author Biography – Plot – Theme - Summary - Critical analysis;

The Lion and the Lamb – **Leonard Clark** – Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2: POETRY **9**

The Solitary Reaper – **William Wordsworth** – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Gift** – **Alice Walker**- Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT 3: SHORT STORIES **9**

The Fortune -Teller – **Karel Capek** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **The Postmaster** – **Rabindranath Tagore** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 4: ONE-ACT PLAYS **9**

The Death Trap – **Saki (H.H. Munro)** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **The Dear Departed**: **A Comedy in One-Act – Stanley Houghton**- Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 5: GRAMMAR **9**

Communicative Grammar - Seeking and giving information – statements and questions Being informal – phrasal verbs, Expressing ability, possibility, etc – Modals and other devices

TEXT BOOKS:

1. The Death Trap by Saki, The Novels and Plays of Saki, 2001
2. Pooja Khanna, "English Communication", S.CHAND Publishing, 2016
3. Rabindranath Tagore, "The Postmaster", Penguin India, 2000

REFERENCE BOOKS:

1. K.A.Abbas Suresh Kohli, "An Evening in Calcutta", HarperCollins, 2015
2. Stanley Houghton, "Five one act plays", Alpha Edition, 2019
3. Edited Prof. Jasbir Jain, "Strings of Gold (Part- II)", MacMillan, 2016

Course Coordinator **HOD**

MAJOR CORE

POETRY- I

Sub Code: U18MCEN201	Subject Name : POETRY- I	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – UG level English				
	Course Coordinator:Ms.A.ANNIE CHRISTY & Department of English				

COURSE OBJECTIVES:- To make the students appreciate the beauty and elegance of English literature through the prescribed poems

COURSE OUTCOMES (COs)

CO1	Remember the literature and beauty of language through poetry
CO2	Understand the rhyme scheme of the poetry and the poetic devices
CO3	Apply the connotative meaning of the prescribed poetry
CO4	Analyse the differentiate between the poetical language and other genres
CO5	Evaluate the minds of the poet and critically the poems
CO6	Creative thinking and literary criticism
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	2	3	2	2		
	CO2	3	3	3	3	3	3	3		
	CO3	2	2	2	2	2	2	2		
	CO4	2	2	2	2	2	2	2		
	CO5	3	3	3	2	2	2	3		
	CO6	2	2	2	2	2	2	4		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT -I **12**

William Shakespeare - Sonnet 116 - Let me not – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **John Donne - Death be not Proud -** Author

Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **John Dryden - The Portrait of Zimri -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT II **12**

Oliver Goldsmith - The Village Preacher - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **John Keats - Ode toAutumn -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT – III **12**

Rudyard Kipling - If - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Tennyson - Tithonus -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Hopkins - God's Grandeur -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT - IV **12**

W.B. Yeats - Easter 1916 - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **D.H.Lawrence - Snake -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT - V **12**

John Keats - Odeon a Grecian Urn - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **William Blake - A Poison Tree -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Ted Hughes - Thrushes -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

TEXT BOOKS:

1. Winged Bird- An Anthology of Poetry, Columbia University Press, November 2012

2.W.B.Yeats"The Collected Works of W.B. Yeats Volume I The Poem, Simon & Schuster, 1996

3.D.H.Lawrence, "Snake and Other Poems", Dover Publications Inc., 2003

REFERENCE BOOKS:

1. William Blake,"Songs of Innocence and Songs of Experience", Dover Publications Inc., 1992
2. Bloom, Harold, "The Best Poems of the English Language: From Chaucer Through Robert", Harper Perennial, 2007
3. John Keats, "The Odes (Complete Edition)", E-Artnow, 2018

Course Coordinator **HOD**

HISTORY OF ENGLISH LITERATURE

SubCode: U18MCEN202	Subject Name : HISTORY OF ENGLISH LITERATURE	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – UG level English				
	Course Coordinator:Mrs.D.THILAGAM & Department of English				

COURSE OBJECTIVES:- To enrich the students with a wide knowledge of the historical and biographical details of the literary stalwarts of various ages.

COURSE OUTCOMES (COs)

CO1	Remember the chronicles and memoir of conspicuous legends of different ages
CO2	Understand and illustrate the literary movement and genres of the period
CO3	Apply the works with their socio-cultural contexts
CO4	Analyse the characteristics of literature development through history
CO5	Evaluate familiar with important literary figures of various periods
CO6	Critically analyzes the development of literature from different parts of the world
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	2	2	2	3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	3	3	2	2	3	2		
	CO4	3	3		2	2	3	2		
	CO5	3	2	3	2	3	2	3		
	CO6	3	2	2	3	2	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT I PROSE **9**

From More's Utopia to Victorian Age - More's Utopia - Philip Sydney – Bacon - The authorized version of Bible - Steele and Addison - Dr.Jonnson - Charles Lamb – Author Biographies and study of their works

UNIT II POETRY **9**

From Chaucer to Augustans

Chaucer – Spencer – Shakespeare – Donne – Milton - Dryden and Pope - Author Biographies and study of their works

UNIT III POETRY **9**

From Pre-Romantic to Twentieth Century Poetry

Collins – Wordsworth – Coleridge – Shelly – Keats – Tennyson - Browning – Arnold - WB.Yeats - TS.Eliot - Author Biographies and study of their works

UNIT – IV DRAMA **9**

Mysteries and Miracles - Morality plays – Interludes - The University Wits – Shakespeare – Sheriden - Oscar Wilde - Bernad Shaw and Thomas Beckett - Author Biographies and study of their works

UNIT –V NOVELS **9**

Thomas Nashe - Jane Austen - Charles Dickens - Thomas Hardy - Rudyard Kipling - EM Forster - Virginia Wolf - Author Biographies and study of their works

TEXT BOOKS:

1. W. H. Hudson, "An Outline History of English Literature", Rupa Pub. Pvt. Ltd., 2015

REFERENCE BOOKS:

2. Edward Albert, "History of English Literature", Oxford Press, 2017
3. Compton Rickett, "A History of English Literature", UBS Publishers & Distributors Pvt. Ltd. 2009

Course Coordinator **HOD**

COMPARATIVE LITERATURE

Sub code: U18MCEN203	Subject Name : COMPARATIVE LITERATURE	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – UG level English				
	Course Coordinator:Mrs.D.THILAGAM: & Department of English				

COURSE OBJECTIVES:- Aims to offer the study of Literature and cultural expression across linguistic, national and disciplinary boundaries

COURSE OUTCOMES (COs)

CO1	Analyse the literary contexts of the prescribed literature
CO2	Ability to evaluate a good work of art
CO3	Identify the difference in literary works across cultures
CO4	Acknowledge the uniqueness of individual works from different region
CO5	Assess the different literature through translated works
CO6	Critically evaluates the importance of different culturally created texts
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	2	2	2	2		
	CO2	3	3	3	1	2	2	1		
	CO3	2	2	1	2	2	2	2		
	CO4	2	3	1	2	3	2	2		
	CO5	3	2	2	2	2	2	2		
	CO6	2	3	2	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT-I **12**

Definition and scope of – National Literature, Comparative Literature – General Literature – World Literature.

UNIT -II **12**

Schools of Comparative Literature: The French and American Schools of Comparative literature.

UNIT-III **12**

Influence and Imitation – Periodization – Epoch, School, Movement

UNIT -IV **12**

Genre Studies: Theories of genres – Historiography - Thematology

UNIT-V **12**

Literature and other Disciplines – Relationship between literature and other disciplines of study; **Literature and other Arts -** Relationship between literature and other arts reflecting culture, tradition, social background etc.; **Indian poetics –** Genres – plots – themes – poetic devices – reflected in Indian poetics

TEXT BOOKS:

1. Das, Bijay Kumar, 'Comparative literature", Atlantic Pub. & Distributors Pvt. Ltd., 2000
2. Ben Hutchinson, "Comparative Literature: A Very Short Introduction", Oxford University Press, 2018

REFERENCE BOOKS:

1. Ulrich Weisstein, "Comparative Literature and Literary Theory", Indiana University Press, 1974
2. J T Deshpande, "Indian poetics", Popular Prakashan Pvt Ltd., 2009

Course Coordinator **HOD**

INDIAN WRITING IN ENGLISH-I

Sub code : U18MCEN204	Subject Name : INDIAN WRITING IN ENGLISH-I	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – UG level English				
	Course Coordinator:Mrs.B.JANUA SHERLY & Department of English				

COURSE OBJECTIVES:- The paper aims at illuminating the important trends in Indian Literature in English. Selected texts provide the students with the Indian attitude of life, thus giving them a comprehensive view of literature in general

COURSE OUTCOMES (COs)

CO1	Remember the comprehensive knowledge about various Indian writers in English
CO2	Understand the anti-colonial resistance through writing in English
CO3	Apply the impact of colonization left on Indian Writers
CO4	Analyzes the uniqueness of Indianized English
CO5	Evaluate Acknowlege the contribution of Indian linguists towards English
CO6	Create the critical essays on significant nature of Indian Engish
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	2	2	2	3		
	CO2	3	3	3	3	3	3	3		
	CO3	3	3	3	2	2	2	2		
	CO4	2	3	2	2	2	2	2		
	CO5	2	2	2	2	2	2	2		
	CO6	2	3	2	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT I – POETRY **12**

Rabrindranath Tagore- Where the mind is without fear - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Nissim Ezekiel- Night of the Scorpion -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT-II – PROSE **12**

Nehru- The Panorama of India's Past - Author Biography – Plot – Theme - Summary - Critical analysis; **Swami Vivekananda- The Secret of Work -** Author Biography – Plot – Theme - Summary - Critical analysis

UNIT-III – SHORT STORIES **12**

Mahasweta Devi - Mother of 1084 - Author Biography – Plot – Theme - Summary –Character analysis - Critical analysis; **Ruskin Bond - A Tiger in the house -** Author Biography – Plot – Theme - Summary –Character analysis - Critical analysis

UNIT-IV- DRAMA **12**

Grish Karnad - Tuglaq - Author Biography – Plot – Theme - Summary –Character analysis - Critical analysis

UNIT-V- FICTION **12**

Mulkraj Anand - Coolie - Author Biography – Plot – Theme - Summary –Character analysis - Critical analysis

TEXT BOOKS:

1. K.R. Srinivasa Iyengar, "Indian Writing in English", Sterling Publishers Pvt.Ltd
2. Mahasweta Devi, "Mother of 1084", Oxford India Perennials, 2012

REFERENCE BOOKS:

1. Mulkraj Anand, "Coolie", Penguin Books India Pvt. Ltd., 1993
2. Grish Karnad, "Tuglaq", Oxford India Perennials, 1997

Course Coordinator **HOD**

ENVIRONMENTA STUDIES

	ENVIRONMENTA STUDIES	L	T	P	C

U18HSCH201	Total Contact Hours - 30	2	0	0	2
	Prerequisite course –Higher Secondary studies				
	Course Coordinator Name & Department:- – Mrs. S. Vinitha / Chemistry				

COURSE OBJECTIVES:-

To make the students learn about the science from the basic and understood all theoretical background with all concepts thoroughly to protect the habitat of biotic and abiotic ecosystem.

COURSE OUTCOMES (COs)

CO1	Gain the knowledge about the environmental impact and importance of natural Resources
CO2	Understand about the Ecosystem, Biodiversity and its conservation
CO3	Apply its properties and uses of Hydrocarbons and Alkynes
CO4	Analyze the impact of population and Urbanization to affect the system of habitat loss
CO5	Evaluate the Social issues by our conservation act
CO6	Create the organic environmental approach to protect our habitat for the next generation.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	3	3	3	1	1	3		
	CO2	3	3	1	2	2	3	3		
	CO3	3	2	2	2	3	2	3		
	CO4	3	2	3	1	1	3	3		
	CO5	2	3	3	2	3	1	3		
	CO6	3	3	2	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	47th Academic Council Meeting								

Unit – I: Introduction to Environmental Sciences: Natural Resources: 6

Environmental sciences – relevance – significance – public awareness – forest resources – water resources – mineral resources – food resources – conflicts over resource sharing – exploitation – land use pattern – environmental impact – fertilizer – pesticide Problems - case studies.

Unit – II: Exosystem, Biodiversity and its conservation: 6

Ecosystem – concept – structure and function – producers, consumers and decomposers –food chain – food web – ecological pyramids – energy flow – forest, grassland, desert and aquatic ecosystem – definition – genetic, species and ecosystem diversity – biodiversity – definition – genetic, species and ecosystem diversity – values and uses of biodiversity – biodiversity at global, national (india) and local levels – hotspots, threats to biodiversity –conservation of biodiversity – insitu and ex-situ.

Unit – III: Environmental Pollution and Management 6

Environmental pollution – causes – effects and control measures of air, water , marine, soil, solid waste. Thermal, nuclear pollution and disaster management – floods, earth quake, cyclone and land slides, role of individuals in prevention of pollution – pollution case studies.

Unit – IV: Social issues – Human population: 6

Urban issues – energy – water conservation – environmental ethics – global warming – resettlement and rehabilitation issues – environmental legislations – environmental production act. 1986 – air, water, wildlife and forest B.C.A.: syllabus (CBCS) conservation act - population growth and explosion – human rights and value education – environmental health – HIV/AIDS – role of it in environment and human health – women and child welfare – public awareness – case studies.

Unit – V: Field Work: 6

Visit to a local area / local polluted site / local simple ecosystem – report submission.

Text Book:

1. K. Kumarasamy, A. Alagappa Moses and M. Vesanthy, 2004, Environmental Studies, Bharathidasan University Pub, 1, Trichy.

Reference book:

1. Rajamannar, 2004, Environmental Studies, EVR College Pub, Trichy.
2. S. Kalavathy, (ED.) 2004, Environmental Studies, Bishop Heber College Pub., Trichy.

Course Coordinator **HOD**

VALUE	VALUE EDUCATION	L	T	P	C

EDUCATION	Total Contact Hours – 30	2	0	0	2
U18HSBC202	Prerequisite course – Higher Secondary level				
	Course Coordinator Name & Department:- Ms. G. Vinothini, Commerce				

COURSE OBJECTIVES:-

- To enable the students to understand the Social values.
- To provide knowledge on the features for life.
- To acquire the knowledge on Human rights.
- To impart the knowledge on Environment and Ecological balance.
- To educate the knowledge on Social evils.

COURSE OUTCOMES (COs)

CO1	List out the Formation and Essential Elements of Contract.
CO2	Determine the Self esteem, duties and responsibilities of individuals, Social values
CO3	Apply to create peace and non violence and Dr. APJ Abdul Kalam's ten points for Enlightened citizenship
CO4	Determine the Environment and Ecological balance
CO5	Measure the Knowledge on Environmental conservations and enrichment
CO6	Formulate the awareness on Corruption, crime, terrorism, Alcoholism, Drug addiction, Dowry

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	1	2	3	2		
	CO2	3	2	3	2	1	3	3		
	CO3	3	1	2	2	3	3	1		
	CO4	2	3	3	3	3	1	3		
	CO5	3	2	3	2	2	1	3		
	CO6	2	2	3	3	3	3	1		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I **6**

Value education: Definition- relevance to present day – concept of human values – self introspection – Self esteem- duties and responsibilities of individuals- Social values- role of media in value building.

UNIT II **6**

Salient features for life: Truth, commitment,, honesty and integrity, forgiveness and love, empathy and ability to sacrifice, care, unity and inclusiveness, Team work- positive creative thinking.

UNIT III **6**

Human rights: Universal declaration of Human rights- human rights violation – National integration – peace and non violence – Dr. APJ Abdul Kalam's ten points for enlightened citizenship

UNIT IV **6**

Environment and Ecological balance: Interdependent of all being – living and non living – the binding of man and nature – Environmental conservations and enrichment.

UNIT V **6**

Social evils : Corruption – cyber crime, terrorism, Alcoholism, Drug addiction, Dowry – Domestic violence – untouchability – female infanticide – atrocities against women – How to tackle them.

TEXT BOOK

1. N. Arumugam, S. Mohana, Lr. Palkani- value based education- Saras Publication, 2009
2. DN Ghose, Value Education- dominant publishers, 2005
3. M.G. Chitakra, Education and Human values, A.P.H Publishing Corporation. New Delhi

REFERENCE BOOKS

1) For Life, for the future: Reserves and Remains – UNESCO Publications.
2) Values, A Vedanta kesari presentations, Sri Ramakrishna Math, Chennai

Course Coordinator **HOD**

SEMESTER III

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பார்வைநூல்கள்:

1. சு.ஆனந்தன், "தமிழ்இலக்கியவரலாறு", பாரிநிலையம், 2018
2. ந.மு.வேங்கடசாமிநாட்டார், "சிலப்பதிகாரம்மூலமும்உரையும்", ராமையாபதிப்பகம், 2010
3. புலியூர்க்கேசிகன், "மணிமேகலைமூலமும்உரையும்", சாரதாபதிப்பகம், 2017
4. ஆசிரியர்குழு, "சீவகசிந்தாமணிமூலமும்உரையும்", சாரதாபதிப்பகம், 2015
5 அ.ச.ஞானசம்பந்தன், "கம்பராமாயணம்மூலமும்உரையும்", நியூசெஞ்சுரிபுக்ஹவுஸ், 2010
6. வீரமாமுனிவர், "தேம்பாவணிமூலமும்உரையும்", சாரதாபதிப்பகம், 2014
7. செய்குத்தம்பிபாவலர், "சீறாப்புராணம்மூலமும்உரையும்", யுனிவர்சல்பப்ளிஷர்ஸ், 2010
8. கலைஞர்மு.கருணாநிதி, "திருக்குறள்கலைஞர்உரை", திருமகள்நிலையம், 2010
9. பத்மதேவன், "நாலடியார்மூலமும்உரையும்", கற்பகம்புத்தகாலயம், 2010
10. தமிழ்ப்பிரியன், "இனியவைநாற்பதுமூலமும்.உரையும்", கற்பகம்புத்தகாலயம், 2007
11. ந.மு.வேங்கடசாமிநாட்டார், "மூதுரைபதவுரையும்பொழிப்புரையும்", ராதாபதிப்பகம், 2010
12. கதிர்முருகு, "நன்னெறிமூலமும்உரையும்", சாரதாபதிப்பகம், 2016
13. அ.சீனிவாசன், "பாரதியின்புதியஆத்திச்சூடி: ஒருவிளக்கவுரை" , 1999

Course Coordinator **HOD**

U18HSHI301	HINDI	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department:- Mrs Rani Selvan / Hindi				

COURSE OBJECTIVES:-

To understand and improve the skills in the Language of Hindi

COURSE OUTCOMES (COs)

CO1	Remember of Ramayana in Panchavati part
CO2	Understand the history of Hindi literature
CO3	Apply the concept of Hindi grammatical speech
CO4	Analyze and develop the translation skills
CO5	Evaluate and develop the unseen passage skills
CO6	Create the skills in Hindi language

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	3	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	2	1	3	1	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I **09**

POETRY - PANCHAVATI

UNIT II **09**

HISTORY OF HINDI LITERATURE - Aadi Kaal and Bhakthi Kaal - general knowledge of the trends of the difference streams

UNIT III **09**

ALANKAR – Anupras – Yamak - Slesh - Vakrokthi Upama – Rupak – Drishtanth - Virodhabas.

UNIT IV **09**

TRANSLATION - HINDI – ENGLISH

UNIT V **09**

COMPREHENSION

Text Books:

By Maithilisharan Gupt, Anuvadh Abhyas – III

Reference Books:

Publisheres - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

Course Coordinator **HOD**

U18HSFR301	**FRENCH**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department: - Ms. Tushita Naidu K / Département De Française				

COURSE OBJECTIVES: -

To develop the technical aspects of the language and varied grammatical nuances to interpret the subject matter.

COURSE OUTCOMES (COs)

CO1	To impart the various aspects that makeup the language.
CO2	To learn some facts, procedures, practice certain grammatical structures, and practice communicative strategies.
CO3	To learn the culture of the language natives.
CO4	To analyse the differences between the basic and advanced grammar.
CO5	To remember the interlink between the conjugations
CO6	To understand grammatical strictures.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	2	1	1	1	3		
	CO2	3	3	3	3	2	1	3		
	CO3	3	3	3	1	3	1	3		
	CO4	2	3	3	1	1	1	3		
	CO5	3	3	3	1	1	2	3		
	CO6	3	3	3	2	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I Vivement demain! **9**

Le future- La comparaison des qualities, des quantities et des actions

UNIT II Le Tu as du boulot? 9

Le pronom (en)-Le pronom (Y)-Expression de la condition

UNIT III -Qu'en pensez - vous? 9

Le subjonctif (employ lie a quelques verbs)- Expression de la quantite (poids et mesure-evaluation-restriction)

UNIT IV - C'est tout un programme! 9

Les propositions relatives introduites par (qui, que, ou)-Les adverbs (place, formation des adverbs en-ment)-

La forme ((en + participle present))

UNIT V On se retrouve ! 9

Emploi et conjugaison des quatre temps de l'indicatif quatre temps de l'indicatif:--passe recent--Present -Passe compose-Imparfait et future

TEXT BOOKS:

A2 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

Course Coordinator HOD

Sub. Code:	**Subject Name : ENGLISH- III**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
U18HSEN302	Prerequisite course – + 2 level English				
	Course Coordinator : Mrs.B.JANUA SHERLY & Department of English				

COURSE OBJECTIVES:- To enable them to realize the value of language, communicate effectively and develop career skills.

	COURSE OUTCOMES (COs)
CO1	Remember the value of LSRW skills.
CO2	Understand the language skills and know the accuracy of writing skill
CO3	Apply the significance and learn how to write resume, official letters and reports
CO4	Analyze their personality traits and develop interpersonal skills for a better career in life
CO5	Evaluate the knowledge and write resume official letters and reports
CO6	Create differentiate various official letters and reports and the language to be used in E-mails, Business letters etc.
Category	HS

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	3	3	3	3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	2	3	3	2	2	3		
	CO4	2	2	2	2	2	2	2		
	CO5	3	3	2	2	2	3	3		
	CO6	3	3	3	3	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	**Approval**	Academic Council Meeting								

UNIT 1 - LISTENING SKILLS **9**

Types of Listening (Theory / Definition) - Tips for Effective Listening -Academic Listening (Lectures) - Listening to Radio and Television

UNIT 2 - TELEPHONE SKILLS **9**

Basics of Telephone communication -How to handle calls- telephone manners -Leaving a message - Making requests -Greeting and Leave Taking over phone (etiquette) - Handling the situations especially trouble shooting Teleconference - handling Tele interviews for Call Centers

UNIT 3 - WRITING SKILLS **9**

Standard Business letter - Report writing- Email drafting and Etiquettes - Preparing Agenda and writing minutes for meetings - Making notes on Business conversations

UNIT 4 - CAREER SKILLS **9**

Applying for job -Cover letters -Resume and Effective Profiling - Interviews - Group discussions

UNIT 5 – PERSONAL SKILLS **9**

Empathy (Understanding of someone else points of view) -Intrapersonal skills -Interpersonal skills- Problem solving

TEXT BOOKS:

1. Improve Your IELTS Listening and Speaking Skill by Barry Cusack, 2007

2. Roche Marc, "Advanced English Writing Skills: Masterclass for English Language, Roche Publishing ESL, 2019

REFERENCE BOOKS:

1. Frederick H. Wentz, "A Workbook to Develop Skills For Employment", Create space Independent Pub,2012

2. S.P.Dhanavel, "English and Soft Skills", Orient BlackSwan, First edition, 2010

Course Coordinator **HOD**

MAJOR CORE

DRAMA- I

Sub code: U18MCEN301	Subject Name : DRAMA -I	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – UG level English				
	Course Coordinator:Mr.S.KUMARESAN & Department of English				

COURSE OBJECTIVES:- To familiarize the students with the various genres of modern plays and playwright

COURSE OUTCOMES (COs)

CO1	Remember the knowledge about various types of drama.
CO2	Understand an interest in theatrical forms
CO3	Apply their own ideas into dramtic action for performance
CO4	Analyse the didactic purpose from the work
CO5	Evaluate a literary art form of drama
CO6	Create the various roles and elements of Drama
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	2	2	2	3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	3	2	2	2	2	2		
	CO4	2	2	2	2	2	2	2		
	CO5	2	2	2	2	2	2	2		
	CO6	3	2	3	3	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

Unit - I: **TRAGEDY** **12**

Marlowe - Dr.Faustus - Author Biography – Plot – Theme - Summary –Character analysis - Critical analysis

Unit - II :**COMEDY** **12**

Ben Johnson - Volpone - Author Biography – Plot – Theme - Summary –Character analysis - Critical analysis

Unit - III: TRAGEDY **12**

Webster - The Duchess of Mallfi - Author Biography – Plot – Theme - Summary –Character analysis - Critical analysis

Unit - IV :**HISTORICAL PLAY** **12**

Thomas Kyd - The Spanish Tragedy - Author Biography – Plot – Theme - Summary –Character analysis - Critical analysis

Unit - V :**TRAGIC COMEDY** **12**

Beaumount & Fletcher - Philaster - Author Biography – Plot – Theme - Summary –Character analysis - Critical analysis

TEXT BOOKS:

1. Marlowe, Dr.Faustus, New Mermaids, 2018.
2. Ben Johnson, Volpone, Peacock Books, 2019
3. John Webster & John Ford, The Duchess of Malfi, Penguin Critical ed. Edition, 2014

REFERENCE BOOKS:

1. Philip Massinger, "The Works of Francis Beaumont and John Fletcher", Createspace Independent Pub., 2015
2. Thomas Kyd, The Spanish Tragedy, CreateSpace Independent Publishing Platform, 2014

Course Coordinator **HOD**

LITERARY FORMS

Sub code: U18MCEN302	Subject Name : LITERARY FORMS	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – UG level English				
	Course Coordinator :Mrs.M.SHEEBA & Department of English				

COURSE OBJECTIVES:- The students know the important literary genres and their sub divisions, significant literary movements in English and the origin of English language, change and growth of the language

COURSE OUTCOMES (COs)

CO1	Remember the variety of genres and to have knowledge about the history of English language
CO2	Understand the representative literary and cultural texts within a significant context
CO3	Apply critical and theoretical approaches to the reading and analyzing texts
CO4	Analyze , interpret and describe the critical ideas
CO5	Evaluate a variety forms of literary.
CO6	Create variety of written sources of literary forms.
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	2	2	2	2		
	CO2	3	3	3	3	3	3	3		
	CO3	2	2	2	2	2	2	2		
	CO4	2	3	2	2	2	2	2		
	CO5	2	2	2	2	2	2	2		
	CO6	2	3	2	2	2	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT I POETRY **9**

Poetry – Nature of Elements of Poetry – Definition – Classification of Poetry – Subjective – Objective.

UNIT II POETRY **9**

Subjective Poetry: The Lyric, the Sonnet, the Elegy, the Ode – Definitions - poetic techniques – meter – rhyme scheme – poetic devices

Narrative Poetry: Ballad, Epic, Satire, Dramatic Monologue – Definitions - Poetic techniques – Meter – Rhyme scheme – Poetic Devices

UNIT III – PROSE **9**

The Essay: Definition – Characteristics – Development; **Types:** personal and impersonal essay - the Aphoristic essay - the Periodical essay

UNIT IV – DRAMA **9**

Elements of Drama, Tragedy, Comedy- Characteristics – Development – Types – Melodrama – Farce and Masque

UNIT V – FICTION **9**

Elements of Fiction: the characteristics – development – types - the Picaresque novel - the Historical novel – the Gothic novel - the Detective Novel - the Science Fiction and the Stream of Consciousness

TEXT BOOKS:

1. M. H, Abrams., & Harpham, Geoffrey Galt, "A Glossary of Literary Terms", Cengage Learning India Private Limited, 2015
2. Upham, A. H., "The typical Forms of English Literature",AITBS Pub. And Dist., Delhi, 1998

REFERENCE BOOKS:

1. 'The Penguin Dictionary of Literary Terms and Literary Theor'y, Penguin Books, 2015
2. Padmaja Ashok, "A Companion to Literary Forms", The Orient Blackswan Pub., 2015

Course Coordinator **HOD**

LITERARY CRITICISM-I

Sub Code : U18MCEN303	Subject Name: LITERARY CRITICISM-I	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – UG level English				
	Course Coordinator :Mrs.D.THILAGAM & Department of English				

COURSE OBJECTIVES:- To provide students with information on the literary theories and the works of significant critics.

COURSE OUTCOMES (COs)

CO1	Remember about critics & read Critical essays
CO2	Understand ways of criticisizing various literary forms
CO3	Apply the literary theory in the prescribed texts
CO4	Analyzes a literary work with literary perspective
CO5	Evaluate the view towards any work of art of author
CO6	Create the criticism of various literaty works
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	2	2	2	2		
	CO2	3	3	3	3	3	3	3		
	CO3	2	2	2	2	2	2	2		
	CO4	2	3	3	2	2	2	2		
	CO5	3	2	2	3	2	2	2		
	CO6	2	2	2	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT I **12**

Aristotle- Poetics – Author Biography **-** Central idea – difference between poetry, drama and short stories **-** summary – critical analysis

UNIT-II **12**

Alexander Pope- Essay on Criticism – Author Biography **-** Theme – summary – poetic devices - critical analysis

UNIT-III **12**

Dr. Johnson – Preface to Shakespeare – Author Biography -character of eighteenth century literary criticism - appreciative analysis of the "excellences" and "defects" of Shakespeare's works

UNIT- IV **12**

Wordsworth – Preface to Lyrical Ballads - Author Biography - three principles guiding the composition of such lyrical ballads – Theme – Summary – Critical Analysis

UNIT V **12**

T.S. Eliot – Tradition and Individual Talent - Author Biography – reading and writing techniques - critical analysis; **Sigmund Freud – Psychological Criticism -** Author Biography – reading and writing techniques - critical analysis

TEXT BOOKS:

1. An Introduction to English Criticism, B.Prasad. Macmillan 2012
2. Owen Holland & Piero, "Introducing Literary Criticism", Icon Books, 2016

REFERENCE BOOKS:

1. R.S. Malik and Jagdish Batra: A New Approach to Literary theory and Criticism; Atlantic Publishers and Distributors, 2014
2. Alfred S. West, Alexander Pope's "Essay on Criticism", Cambridge University Press, 2014

Course Coordinator **HOD**

COMMUNICATIVE ENGLISH

Sub code : U18MCEN304	Subject Name : COMMUNICATIVE ENGLISH	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – UG level English				
	Course Coordinator :Mrs.B.CAROLINE & Department of English				

COURSE OBJECTIVES:- To Enhance the knowledge of the Students in the basics of communication skills and make them to communicate efficiently (Oral &Written)

COURSE OUTCOMES (COs)

CO1	Know the easy way to learn English and improve themselves
CO2	Understand the scope and Significance of English language
CO3	Increase their level of communication
CO4	Usage Grammar efficiently while speaking and writing
CO5	Develop the skill of reading and writing English
CO6	Apply their skill in sentence formation in a more comprehensive way
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	3	3	3	3		
	CO2	3	3	3	3	3	3	3		
	CO3	3	3	2	2	2	2	3		
	CO4	3	2	3	3	2	2	3		
	CO5	3	3	3	2	2	2	3		
	CO6	3	3	2	3	3	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT - I READING **9**

Reading Comprehension – Types of reading **–** skimming – scanning **- Reading Stories –** Narrative techniques **-** Extensive reading

UNIT - II GRAMMAR **9**

Grammar : Definition- Types of Grammar - Usage of Grammar - Noun - Definition- types of noun with examples - Pronoun - Definition- types of noun with examples- Adjectives - Definition- types of noun with examples- Adverb - Definition- types of noun with examples- Gerunds - Definition- types of noun with examples**.**

UNIT - III SPEAKING **9**

Self Introduction: Beginning- effective profiling- voice - tone- formal and informal; **Welcome address and Vote of Thanks**: Functions of welcome speech - Making an opening statement - Greeting the audience – Introducing and Greeting Special guests; **Accepting and Declining Invitations**: Making invitation - Formal and informal invitation - Content of invitation - Accepting an invitation – Declining; **Narrating Stories**: Definition -Types of narration - Narration techniques - Stream of consciousness - Point of view – Articulation

UNIT - IV FORMAL COMMUNICATION **9**

Dialogue in different Situations: List of Situational Dialogues - phrases and vocabulary - Phrases for Conversation - Phrases for various situations; **Greetings**: Conversation Practice - types of greetings - Greeting gestures - Greeting and expressions; **Leave taking**: Asking – letter writing- reasoning- making request; **Making Requests**: Types of requests - Asking - Offering - Responding to offers; **Expressing Gratitude**, **Apologizing**: Forms of Apologies - Asking & Accepting apology; **Complaint**: Types of complaints - complaint in sentemce - Complaint letter - venting Complaint.

UNIT - V Writing **9**

Sentence Completion: Sentence pattern - Projective techniques - Structure Words - Word fitting - Transitional words - Indicators - Punctuation - Process of elimination; **Paragraph Writing**: Paragraph and topic sentences - Paragraph structure - Content of Paragraph - Maintaining coherence - Concluding a Paragraph.

TEXT BOOKS:

1. Terry O' Brien, “Effective Speaking Skills”, Rupa Publications India Pvt. Ltd., 2011
2. Judith F.Olson, “Writing Skills: Success in 20 Minutes a Day”, Goodwill Publishing House, 2013

REFERENCE BOOKS:

1. Revised by Dr.N.D.V. Prasada Rao, Wren and Martin, “High School English Grammar and composition”, S Chand Publishing; Regular edition, 2017.
2. S.C. Gupta, “English Grammar and Composition”, Arihant Publications; Second edition, 2014

Course Coordinator **HOD**

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□□□□□□□□□□□□□□□□□□□□(□□.□□.) [**COURSE OUTCOMES (COs)]**

CO1	தமிழ்எழுத்துக்களில்உயிர்எழுத்துக்களைஅறிவர்
CO2	தமிழ்எழுத்துக்களில்மெய்எழுத்துக்களைஅறிவர்
CO3	தமிழில்எண்கள், நாட்கள்பற்றி அறிவர்
CO4	தமிழ்மாதங்கள்பற்றி அறிவர்
CO5	உறவுமுறைபெயர்களைப்பற்றிஅறிவர்
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	CO2	1	3	1	1	1	1	2		
	CO3	1	3	1	1	1	1	2		
	CO4	1	3	1	1	1	1	2		
	CO5	1	3	1	1	1	1	2		
	CO6	1	3	1	1	1	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/
							✓			
4	**Approval**	Academic Council Meeting								

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□□□□□□□□□□□□□□□□□□□□(□□.□□.) [**COURSE OUTCOMES (COs)]**											
CO1	எட்டுத்தொகையில்நற்றிணை, குறுந்தொகை, கலித்தொகைஇலக்கியங்களைஅறிவர்										
CO2	எட்டுத்தொகையில் புறநானூறு, பதிற்றுப்பத்து இலக்கியங்களை அறிவர்										
CO3	பத்துப்பாட்டு இலக்கியத்தில் பொருநராற்றுப்படை, பெரும்பாணாற்றுப்படை பற்றி அறிவர்										
CO4	பத்துப்பாட்டில் நெடுநல்வாடை, பட்டினப்பாலை, முல்லைப்பாட்டு பற்றி அறிவர்										
CO5	எட்டுத்தொகை, பத்துப்பாட்டு இலக்கிய வரலாற்றை அறிவர்										
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2	CO1	3	2	1	1	3	1	3			
	CO2	3	2	1	1	3	1	3			
	CO3	3	2	2	1	3	1	3			
	CO4	3	2	1	1	3	1	3			
	CO5	3	2	2	1	3	1	3			
	CO6	3	2	1	1	3	1	3			
3	Category	Humanities & Social Studies (HS)		Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/
		✓									
4	**Approval**	Academic Council Meeting									

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Course Coordinator **HOD**

U18HSHI401	HINDI	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department:- Mrs Rani Selvan / Hindi				
COURSE OBJECTIVES:- To understand and improve the skills in the Language of Hindi					
COURSE OUTCOMES (COs)					
CO1	Remember the skills of the leadership				
CO2	Understand and develop the skills to overcome the mistake				
CO3	Apply the concept of Hindi essay writing				

CO4	Analyze and develop the translation skills
CO5	Evaluate the unseen passage skills
CO6	Create and develop the Hindi language skills

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	1	1	3		
	CO2	3	3	1	2	2	1	3		
	CO3	3	3	2	1	3	1	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	2	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I **09**
DRAMA – Andher Nagari

UNIT II **09**
NOVEL - GABAN - Premchand

UNIT III **09**
GENERAL ESSAY

UNIT IV **09**
TRANSLATION - HINDI – ENGLISH

UNIT V **09**

COMPREHENSION

Text Books:

By Bharathendu Harischandra**,** Veerendra Kumar Mishra, Anuvadh Abhyas – III

Reference Books:

UNIT 1 - Publisher – Vani Prakashan, New Delhi – 110 002.

UNIT II – Publisher - Rajkamal Prakashan, New Delhi – 110 002

UNIT III – Aadarsh Nibnandh, Vinodh Pustak Mandir, Hospital Road, Agra -282002

UNIT IV - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

UNIT V - Dakshin Bharath Hindi Prachar Sabha, Chennai- 17

Course Coordinator **HOD**

U18HSFR401	**FRENCH**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – Grade 12				
	Course Coordinator Name & Department: - Ms. Tushita Naidu K / Département De Française				
COURSE OBJECTIVES: - To introduce students to the advanced levels of the language.					
COURSE OUTCOMES (COs)					
CO1	To learn the culture of the language natives in advanced setup.				
CO2	To understand the integral grammar structure in French.				
CO3	To encourage the development of skills in linguistics				

CO4	To evaluate the Oral and Written skill set
CO5	To remember the language construction
CO6	To enhance advanced fluency in language

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	3	3	1	1	1	3		
	CO2	3	3	3	1	2	2	3		
	CO3	3	3	3	1	3	1	3		
	CO4	3	3	3	1	1	1	3		
	CO5	3	3	3	2	1	2	3		
	CO6	3	3	3	1	1	1	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	Approval	Academic Council Meeting								

UNIT I Vous plaisantez! **9**

Le conditionnel present -expression de l'hypothese-demandes polies-suggestions et conseils

UNIT II On s'entend bien! **9**

Les constructions du discours rapport-Les constructions (faire + verbe)-et (laisser + verbe)

UNIT III A vos risqué et perils! **9**

Le subjonctif Present- La construction passive pour metre en valeur l'object direct de l' action

UNIT IV C'est tout un programme! **9**

Les pronom possessives -Les adjectifs et les pronoms indefinis-Les pronom demonstratifs:

Les constructions --celui+de

UNIT V C'est la fete ! **9**

Les fornes de l'appreciation : trop/ pas assez –si-Les constructions verbe+verbes

TEXT BOOKS:

A2 ECHO- J. GIRARDET, J. PECHEURB CLE PUBLICATION.

Course Coordinator **HOD**

Sub. Code:	**Subject Name : ENGLISH- IV**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
U18HSEN402	Prerequisite course – + 2 level English				
	Course Coordinator :Ms.E.REKHA & Department of English				
COURSE OBJECTIVES:- To understand the literature, and there by improve their language and communication skills					
COURSE OUTCOMES (COs)					
CO1	Remember the basic concepts of English literature				
CO2	Understand the literature and beauty of language				

CO3	Apply the themes and values by executing the comprehensive ability in Reading.
CO4	Analyse the grammar and the literary texts.
CO5	Evaluate the characters and the genre prescribed.
CO6	Create comprehensive essays efficiently.
Category	HS

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	2	2	2	3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	2	2	2	2	2	2		
	CO4	3	3	3	2	2	2	2		
	CO5	3	3	3	2	2	2	2		
	CO6	2	2	2	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Eng Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
		✓								
4	**Approval**	Academic Council Meeting								

UNIT 1 - PROSE **9**

Lalajee – Jim Corbett – Author Biography – Plot – Theme - Summary - Critical analysis; **Face of Judas** – Bonnie Chamberlin - Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2 - POETRY **9**

Laugh and Be Merry – **John Masefield** – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Matilda - Hilaire Belloc**- Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis.

UNIT 3: SHORT STORIES **9**

Hunchback Sundari – **C.Raja Gopalachari** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Eyes Are Not There** - **Ruskin Bond**- Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT 4: ONE-ACT PLAYS **9**

Macbeth Soliloquy – **Out, Out, Brief Candle** - **Shakespeare** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **Julius Ceasar - Anthony's Funeral Speech** – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis.

UNIT 5: FUNCTIONAL ENGLISH **9**

Wh – Questions - Pattern – Active and Passive voice – usage of passive voice – structure of passive verb; Modal verbs – Tenses.

TEXT BOOKS:

1. Corbett, "My India", Rupa Publications India Pvt. Ltd., 2018
2. Stories of Innocent by C.Rajagopalachari, Bharathiya Vidya Bhavan, 2009
3. Shakespeare, "Macbeth", Macmillan Publisher, 2014

REFERENCE BOOKS:

1. Shakespeare – The Complete Work; Wilco Publishing House, Mumbai, India. 2005
2. Hilaire Belloc, "Matilda", Random House UK, 1994

Course Coordinator **HOD**

MAJOR CORE

POETRY II

Sub Code :	**Subject Name : POETRY II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	4	0	0	4
U18MCEN401	Prerequisite course – UG level English				
	Course Coordinator:Mr.S.ANGEL & Department of English				
COURSE OBJECTIVES:- To make the students appreciate the elegance of English literature through the poems					
COURSE OUTCOMES (COs)					

CO1	Remember the literature and beauty of language through poetry
CO2	Understand the rhyme scheme of the poetry and the poetic devices
CO3	Apply the connotative meaning of the prescribed poetry
CO4	Aalyse rhe difference between the poetical language and other genres
CO5	Evaluate the minds of the poet and critically analyse the poems
CO6	Create the thinking and literary criticism of the texts.
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	3	2	2	2		
	CO2	3	3	3	3	3	3	3		
	CO3	2	3	2	3	2	3	2		
	CO4	2	2	3	2	2	2	3		
	CO5	3	3	2	3	3	2	2		
	CO6	3	2	3	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT I **12**

Milton – Paradise Lost Book IX - Author Biography - Theme – Poetic devices - publications

UNIT II - **Milton** -**Paradise Lost Book IX** - Annotations - Summary - work of arts **12**

UNIT-III - **Milton -Paradise Lost Book IX** - Critical analysis **12**

UNIT IV – **12**

Gray – An Elegy Written in a Country Church Yard - Author Biography - Theme – Poetic devices - Annotations - Summary – Critical analysis; **Collins – Ode to Evening -** Author Biography - Theme – Poetic devices - Annotations - Summary – Critical analysis

UNIT V **12**

Browning – My Last Duchess - Author Biography - Theme – Poetic devices - Annotations - Summary – Critical analysis; **T.S. Eliot – Journey of the Magi -** Author Biography - Theme – Poetic devices - Annotations - Summary – Critical analysis

TEXT BOOKS:

1. Browning**, "**My Last Duchess and Other Poems", Dover Thrift Editions, 1993.
2. Winged Bird- An Anthology of Poetry, Columbia University Press, November 2012

REFERENCE BOOKS:

1. Bloom, Harold, "The Best Poems of the English Language: From Chaucer Through Robert", Harper Perennial; Reprint Edition. Aug 7, 2007.
2. Ferguson, Margaret. (edi) Stallworthy Jon. (edi) The Norton Anthology of Poetry. W.W.Norton & Company; 4th sub Edition. Oct 1996

Course Coordinator **HOD**

DRAMA II

Sub Code: **U18MCEN402**	**Subject Name : DRAMA II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – UG level English				
	Course Coordinator:Ms.E.REKHA& Department of English.				

COURSE OBJECTIVES:- To familiarize the students with the various genres of modern plays and playwright.										
COURSE OUTCOMES (COs)										
CO1	Remember the knowledge about various types of drama.									
CO2	Understand the genre, plot and themes									
CO3	Apply the theatrical forms of art									
CO4	Analyse the different perspectives of characters									
CO5	Evaluate the didactic purpose of the art									
CO6	Create concepts of literary criticism and analyse the prescribed literature									
Category										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low										
1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	2	3	3	2	2	2		
	CO2	3	3	3	2	2	2	2		
	CO3	3	3	2	2	2	2	3		
	CO4	2	2	2	2	3	2	2		
	CO5		3	3	2	2	2	2		
	CO6	2	2	2	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT I **12**

Sheridan – The Rivals - Author Biography – Plot – Theme - Summary –Character analysis - Critical analysis

UNIT II **12**

G.B. Shaw – Pygmalion - Author Biography – Plot – Theme - Summary –Character analysis - Critical analysis

UNIT III **12**

Galsworthy – Justice - Author Biography – Plot – Theme - Summary –Character analysis - Critical analysis

UNIT IV – **12**

T.S. Eliot – Murder in the Cathedral - Author Biography – Plot – Theme - Summary –Character analysis - Critical analysis

UNIT V – **12**

Samuel Beckett – Waiting for Godot - Author Biography – Plot – Theme - Summary –Character analysis - Critical analysis

TEXT BOOKS:

1. Sheridan, "The Rivals", Dover Thrift Editions,1998
2. G.B. Shaw, "Pygmalion", Penguin Classics, 2003
3. T. S. Eliot, "Murder in the Cathedral", Faber& Faber, 1938.
4. Samuel Beckett, Waiting for Godot, Grove Press, 2011.

REFERENCE BOOKS:

1. Ed.,Harold Love, Restoration Literature; Critical Approaches, Methuen &Co . Ltd, London, 1972
2. A.C.Ward, Longman Companion to Twentieth Century Literature, Second Edn., Longman, London, 1975
3. Kennedy, Andrew, Six Dramatists In Search of A Language, Cambridge University Press, London, 1976

Course Coordinator **HOD**

LITERARY CRITICISM - II

Sub code : **U18MCEN403**	**Subject Name : LITERARY CRITICISM-II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – UG level English				
	Course Coordinator :Mrs.D.THILAGAM & Department of English				

COURSE OBJECTIVES:- To provide students with information on the literary theories and the works of significant Critic

COURSE OUTCOMES (COs)	
CO1	Remember the various concepts and approaches to literary criticism
CO2	Understand the works of the critics and their Criticism
CO3	Analyse the significance of literary theories
CO4	Apply literary criticism in literary contexts
CO5	Evaluate an insight for critical analysis
CO6	Create a good work of art acquired mastery in criticism
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	**PS O**	**PS O**
2	CO1	3	3	3	3	3	3	3		
	CO2	3	3	3	2	2	2	2		
	CO3	2	2	2	2	2	2	2		
	CO4	3	3	3	3	3	3	3		
	CO5	2	2	2	2	2	2	2		
	CO6	2	2	2	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT-I **12**

I.A. Richards - Four kinds of meaning - Author Biography – Plot – Theme - Summary - Critical analysis

UNIT - II **12**

Dryden - Essay on dramatic Poesy - Author Biography – Plot – Theme - Summary - Critical analysis

UNIT - III **12**

Matthew Arnold - Study of Poetry - Author Biography – Plot – Theme - Summary - Critical analysis

UNIT - IV **12**

S.T. Coleridge – Biographia Literaria Chap-XVIII - Author Biography – Plot – Theme - Summary - Critical analysis

UNIT - V **12**

Empson- Seven Types of Ambiguity - Author Biography – Plot – Theme - Summary - Critical analysis

TEXT BOOKS:

1. An Introduction to English Criticism,B.Prasad. Macmillan 2012
2. Empson, "Seven Types of Ambiguity", Read Books, 2007
3. Matthew Arnold, "Study of Poetry", Createspace Independent Pub., 2016

REFERENCE BOOKS:

1. S.T. Coleridge, "Biographia Literaria Chap-XVIII", Forgotten Books, 2012
2. R.S. Malik and Jagdish Batra, "A New Approach to Literary theory and Criticism", Atlantic Publishers and Distributors (P) Ltd., 2014

Course Coordinator **HOD**

CANADIAN LITERATURE

Sub code :	**Subject Name : CANADIAN LITERATURE**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	4	0	0	4
U18MCEN404	Prerequisite course – UG level English				
	Course Coordinator:Ms.A.ANNIE CHRISTY & Department of English				
COURSE OBJECTIVES:- To impart the students with the knowledge of Country's dual origin and its official bilingualism.					
COURSE OUTCOMES (COs)					

CO1	Remember the significance of Indigenous culture
CO2	Understand the diverse nature of Canadian Literature
CO3	Apply the characteristic of Canadian literature
CO4	Analyse the the work of art in systematic way
CO5	Evaluate the work of art in a different perspective
CO6	Create the summary of text.
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	2	3	2	3	2	2	2		
	CO2	2	3	3	2	2	2	3		
	CO3	3	3	2	2	2	2	3		
	CO4	3	2	3	3	2	2	2		
	CO5	2	2	2	2	2	2	2		
	CO6	2	2	3	2	2	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT I – POETRY **12**

Elizabeth Bishop - The Moose - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Margaret Atwood - Death of a Young Son Drowning** - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT II – SHORT STORIES **12**

Collection: Margaret Atwood and Robert Weaver

Sinclair Ross: The Lampat Noon - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **Margaret Lawrence: The Loons -** Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT III – DRAMA **12**

George Ryga: The Ecstasy of Rita Joe - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT IV – NOVEL **12**

Margaret Laurence- The Stone Angel - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT V – NOVEL **12**

Yann Martel – Life of Pie - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

TEXTS BOOKS

1. Ed., Eva-Marie Kröller, "The Cambridge Companion to Canadian Literature", Cambridge University Press; 2 edition, 2017
2. Ed. Elspeth Cameron, Canadian Culture: An Introductory Reader", Canadian Scholars, 1996
3. Ed., C D Narasimhiah, An Anthology of Commonwealth Poetry, Laxmi Publications, 2016

REFERENCE BOOKS:

1. Ed Ajay Heble, Donna Palmateer Pennee and J R Struthers, "New Contexts of Canadian Criticism", Broadview Press Ltd; 1 edition, 1997
2. Ed. Daniel David Moses and Terry Goldie, "An Anthology of Canadian Native Literature", Oxford University Press, 2nd Edition, 2016

Course Coordinator **HOD**

Sub. Code: U18NETA401	□□□□□□□□□□ □□□□□□ :□□□□□□□□□□□□□□□□- II	L	T	P	C
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□□□□□□□□□□□□□□□□□□□□(□□.□□.) [**COURSE OUTCOMES (COs)]**					
CO1	எழுத்துக்கள்மூலம்சொற்கள்அமைப்பதைப்பற்றிஅறிவர்				

CO2	சொற்கள்மூலம்வாக்கியம்அமைப்பதைப்பற்றிஅறிவர்
CO3	எழுத்துக்களைஇணைத்தல், சரியானசொற்களால்வாக்கியம்அமைப்பதைப்பற்றிஅறிவர்
CO4	வினாவுக்குரியவிடையளித்தல்பற்றி அறிவர்
CO5	தன்விவரப்பட்டியல்தயாரிப்பதுபற்றிஅறிவர்
CO6	□□□□□□□□□□□□ □□□□□□□□□□□□□□ □□□□□□ □□□□□ □□□□□□□□□ □□□□□□□□□ □□□□□□□□

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1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	1	3	1	1	1	1	2		
	CO2	1	3	1	1	1	1	2		
	CO3	1	3	1	1	1	1	2		
	CO4	1	3	1	1	1	1	2		
	CO5	1	3	1	1	1	1	2		
	CO6	1	3	1	1	1	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/
							✓			
4	**Approval**	Academic Council Meeting								

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Course Coordinator **HOD**

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□□□□□□□□□□□□□□□□□□□□□(□□.□□.) [**COURSE OUTCOMES (COs)]**					
CO1	நாட்டுப்புறப்பாடல்கள்பற்றிஅறியச்செய்தல்				

CO2	விடுகதைகள்பற்றிஅறியச்செய்தல்
CO3	நம்பிக்கைகள்பற்றிஅறியச்செய்தல்
CO4	சமயவழிபாடுகள்பற்றிஅறியச்செய்தல்
CO5	பழமொழிகள்பற்றிஅறியச்செய்தல்
CO6	□□□□□□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□

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1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	1	2	3	1	3	1	2		
	CO2	1	2	3	1	3	1	2		
	CO3	1	2	3	1	2	1	2		
	CO4	1	2	3	1	3	1	2		
	CO5	1	2	3	1	2	1	2		
	CO6	1	2	3	1	2	1	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/
							✓			
4	**Approval**	Academic Council Meeting								

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2. □□. □□□□□□□□□, "□□□□□□□□□□□□□□□□□□□□□□□□□□□□", □□□□□□□□□□□□□□□□□□□□□□□□□, 2014
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Course Coordinator **HOD**

SEMESTER V

MAJOR CORE

SHAKESPEARE

Sub code : **U18MCEN501**	**Subject Name: SHAKESPEARE**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – UG level English				
	Course Coordinator:Mr.S.KUMARESAN & Department of English				

COURSE OBJECTIVES:- T understand the greatness of Shakespeare as a master craftsman in the genre, appreciate the original and creative use of language and read, enjoy and appreciate the poetry and his plays

COURSE OUTCOMES (COs)	
CO1	Remember the beauty of Shakespeare's language and his contribution to English literature and language
CO2	Understand the psychological insights through characters
CO3	Apply the literature and experience enhancement in critical reading

CO4	Analyse the connotative and contextual meaning
CO5	Evaluate the literature and critically analyse it
CO6	Create the contextual meanings through history.
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	2	3	3	2	2	2		
	CO2	3	3	3	2	2	2	3		
	CO3	2	2	2	2	2	2	2		
	CO4	2	2	2	2	2	2	2		
	CO5	2	3	3	2	2	2	2		
	CO6	2	2	2	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT I **12**

Twelfth Night - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT II **12**

Henry IV Part I - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT III **12**

Macbeth - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT V **12**

The Tempest - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT V **12**

Sonnet 18, 106, 118 - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Main Characteristic features of Shakespearian Plays** – Tragedies – Comedies - Last plays etc.; **Characters -** women characters – villains - clowns etc.

TEXT BOOKS:

1. Prof. Peter Alexander, "The Complete Works of Shakespeare", Collins; New Alexander Text edition edition, 2013
2. Ed. Roger Warren and Stanley Wells, "Twelfth Night", Oxford UniversityPress, 2008
3. Ed. Gary Taylor, "Henry IV", Oxford University Press, 2008

REFERENCE BOOKS:

1. Arnold Kettle, "Shakespeare in a Changing World", Lawrence and Wishart, 1971
2. Muir, Kenneth, Shakespeare's Tragic Sequence, 1972.
3. Brown, John Russell: Shakespeare and His Comedies, London, Methuen, 1957.
4. Charlton, H.B.: Shakespearean Comedy, London, Methuen, 1957.

Course Coordinator **HOD**

INDIAN WRITING IN ENGLISH-II

Sub code : **U18MCEN502**	**Subject Name: INDIAN WRITING IN ENGLISH-II**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – UG level English				
	Course Coordinator :Mrs.B.JANUA SHERLY & Department of English				
COURSE OBJECTIVES:- To provide the students with the Indian attitude of life, thus giving them a comprehensive view of literature in general					
COURSE OUTCOMES (COs)					
CO1	Remember the comprehensive knowledge about various Indian writers in English				
CO2	Understand the impact of colonization in Indian writers				
CO3	Apply the strategies of Anti-colonial resistance				
CO4	Analyse the purpose of writing in english				
CO5	Evaluate the nature of Indianized English				

CO6	Cereate the text in Social and Historical context								
Category									
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low									
1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	3	3	3	3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	3	2	2	2	2	3		
	CO4	2	2	2	2	2	2	2		
	CO5	3	3	2	2	2	2	3		
	CO6	3	3	2	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT- I POETRY **9**

Toru Dutt - Our Casuarina Tree - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Aurobindo – The Tiger and the Deer -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Kamala Das - Woman and Man -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT- II PROSE **9**

Vivekananda- Education and Society - Author Biography – Theme - summary – critical analysis; **Dr. Radhakrishnan- The World community -** Author Biography – Theme - summary – critical analysis

UNIT - III DRAMA **9**

Tagore - Chitra - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT - IV- FICTION **9**

R.K. Narayanan - Swami and Friends - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT - V FICTION **9**

Arundati Roy - God of small things - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

TEXT BOOKS:

1. Toru Dutt, "Ancient Ballads and Legends of Hindustan", Createspace Independent Pub., 2015
2. Vivekananda, "My Idea of Education", Vedanta Press, 2010
3. R.K. Narayanan, "Swami and Friends", Indian Thought Publications, 2008
4. Kamala Das, "Selected Poems", Penguin Books India, 2014

REFERENCE BOOKS:

1. O.P. Budholia, "Critical Essays on Indian Writing in English", Book Enclave, 2003.
2. Kaushal Kishore, "The Life and Times of Sri Aurobindo Ghosh", Prabhat Prakashan, 1 edition, 2016
3. Rabindranath Tagore, "Selected Poems", Collins Classics, William Collins, 1Edition, 2013

Course Coordinator **HOD**

AMERICAN LITERATURE

Sub code : **U18MCEN503**	**Subject Name : AMERICAN LITERATURE**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – UG level English				
	Course Coordinator :Dr.P.AROCKIA NATHAN & Department of English				
COURSE OBJECTIVES:- To introduce the students to the world of American life and culture and provide an outline knowledge of various aspects of American Literature.					
COURSE OUTCOMES (COs)					
CO1	Remember the major American writers and their writing				
CO2	Understand the diverse nature of American culture				
CO3	Apply the difference between American English and British English				

CO4	Analyse the fluency in English by appreciating literature
CO5	Evaluate the impact of colonization on Literature
CO6	Create the critical analysis of the texts
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	4	6	7	9	10	11	PS O	PS O
2	CO1	3	3	3	2	2	2	2		
	CO2	2	3	3	2	2	2	2		
	CO3	2	3	3	2	2	2	2		
	CO4	2	2	2	2	2	2	2		
	CO5	2	2	2	2	2	2	2		
	CO6	2	2	2	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT I **12**

Emerson – Brahma - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Whitman – When Lilacs in the Door Yard Bloomed -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT II **12**

Frost – Stopping by Woods on a Snowy Evening - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Sylvia Plath – Mirror -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT III **12**

Abraham Lincoln – The Gettysburg Address - Author Biography – Plot – Theme - Summary - Critical analysis; **Martin Luther King – I've a Dream -** Author Biography – Plot – Theme - Summary - Critical analysis

UNIT IV **12**

Eugene O' Neil – The Heiry Ape - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT V **12**

Hemingway – The Old Man and the Sea - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **Steinbeck – The Grapes of Wrath -** Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

TEXT BOOKS:

1. Nathaniel Hawthorne, "The Scarlet Letter: A romance", Samuel E. Cassino, 1989
2. Ed., John Russell Brown and Bernard Harris, "American Theatre", Edward Arnold., 1970,
3. Ed., Daniel Hoffman, "Harvard Guide to Contemporary American Writing", Oxford University Press, New Delhi, 1979

REFERENCE BOOKS:

1. Sujata Gurudev, "American Literature: Studies on Emerson, Thoreau, Hawthrone, Melville and Whitman", Atlantic,1st Edition 2011
2. Abraham Lincoln, "Gettysburg Address: And, Bunker Hill Oration", Palala Press, 2016
3. Eugene O' Neil, "Three Great Plays: The Emperor Jones, Anna Christie, the Hairy Ape", Dover Publications Inc., 2005

Course Coordinator **HOD**

WOMEN WRITING IN ENGLISH

Sub code : **U18MCEN504**	**Subject Name WOMEN WRITING IN ENGLISH:**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – UG level English				
	Course Coordinator:Mrs.M.SHEEBA & Department of English				
COURSE OBJECTIVES:- To the study of various literary genres written by women of different nationalities such as poetry, prose, essay and drama.					
COURSE OUTCOMES (COs)					
CO1	Remember the knowledge about the various genres written by women of different nationalities.				
CO2	Understand the distinct literary characteristics of women's writing.				
CO3	Apply the communicate ideas related to the literary works during class and in group activities.				

CO4	Analyse interpret the text in a feminist perspective
CO5	Evaluate the structure and meaning of various literary works
CO6	Create the plight of Women over the years
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

Approval	COs/Pos	PO 1	4	6	7	9	10	11	PS O	PS O
2	CO1	3	3	3	3	2	2	2		
	CO2	3	2	2	2	2	2	2		
	CO3	2	2	3	2	2	2	2		
	CO4	3	2	2	2	2	2	2		
	CO5	3	2	2	3	2	3	2		
	CO6	3	3	3	3	3	3	3		

3	Category	Humanities & Social Studies	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT - I– **12**

Margaret Atwood – Circle Game - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Kamala Das – Freaks -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT - II **12**

Shastri Desh Pande – Writing from the Margins - Author Biography –Theme - Summary - Critical analysis; **Elaine Showalter – Towards a Feminist Poetics -** Author Biography –Theme - Summary - Critical analysis

UNIT - III **12**

Dorris Lessing – England vs England - Author Biography – plot – theme - summary - character analysis - critical analysis; **Bharathi Mukerjee – Wife -** Author Biography – plot – theme - summary - character analysis - critical analysis

UNIT - IV **12**

Toni Morrison – Beloved - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **Pearl S. Buck – Letter from Peking -** Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT - V **12**

Anita Nair – The Ladies Coupe - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **Margaret Lawrence – The Stone Angel -** Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

TEXT BOOKS:

1. Bharathi Mukerjee, "Wife", Fawcett; Reprint edition, 1992
2. Shastri Desh Pande, "Writing from the Margins", Penguin India, 2003
3. Anita Nair, "The Ladies Coupe", Penguin Books Ltd., 2015

REFERENCE BOOKS:

1. Margaret Walters, "Feminism: A Very Short Introduction", Oxford University Press, 2005.
2. Ellen Rooney, "The Cambridge Companion to Feminist Literary Theory", Cambridge University Press, 2000

Course Coordinator **HOD**

TRANSLATION THEORY AND PRACTICE

Sub code :	**Subject Name: TRANSLATION THEORY AND PRACTICE**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
U18MCEN505	Prerequisite course – UG level English				
	Course Coordinator :Mrs.S.SUBATHRA & Department of English				
COURSE OBJECTIVES:- To aim at giving a practical exposure to various forms of Translations from English to Tamil and vice versa.					
COURSE OUTCOMES (COs)					
CO1	Remember the various aspects and nuances of translation				
CO2	Understand the value of translated Literature				
CO3	Apply the various theories of Translation				

CO4	Analyse an insight towords translation
CO5	Evaluate the complex nature of Translation
CO6	Create the translate literary texts from English to mother tongue and vice versa
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	2	2	2	3		
	CO2	3	3	3	3	2	2	2		
	CO3	3	2	2	2	2	2	2		
	CO4	3	3	3	3	3	3	2		
	CO5	2	2	2	2	2	2	2		
	CO6	2	2	2	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT I – TRANSLATION **9**

Translation – Definition, Types and Principles of Translation- Decoding and Recoding Problems of Equivalence – Untranslatability

UNIT II – HISTORY OF TRANSLATION **9**

History of Translation – The Romans, Bible Translations, Early Theorists – The Renaissance – 17th Century 18th Century – Romanticism – Victorians – 20th Century.

UNIT III – PROBLEMS IN TRANSLATION **9**

Problems in Translation – Structures, Poetry, Prose and dramatic translation

UNIT IV - PRACTICE **9**

Practice – Students will be trained to translate articles of common interest both from English to Regional Language and the other way round

UNIT V - PRACTICE **9**

Practice – Students will be trained to translate articles of common interest both from English to Regional Language and the other way round

TEXT BOOKS:

1. S.Kanagaraj & Samuel Kirubakar-The Anatomy of Translation, Madurai Prem Publishers, 1995
2. Susan Bassnett, "Translation Studies", Routledge Publishers, 1980
3. Dr. Rekha Sharma, "Translation Theory and Practice", Authorspress, 2015

REFERENCE BOOKS:

1. Susan Bassnett – McGuire – Translation Studies, Routledge Pub., 3rd Edition, 2018
2. Ed., Daniel Weissbort, Astradur EysteinssonTranslation, "Theory and Practice: A Historical Reader" Oxford University Press, 2006
3. John C Catford , "A Linguistic theory of Translation: An Essay in Applied Linguistics", Oxford University Press

Course Coordinator **HOD**

SEMESTER –V

MAJOR ELECTIVE I

LANGUAGE AND LINGUISTICS

Sub code : **U18MEEN011**	**Subject Name: LANGUAGE AND LINGUISTICS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – UG level English				
	Course Coordinator:Mrs.B.CAROLINE & Department of English				
COURSE OBJECTIVES:- To give an overview of phonetics and helps the students to appreciate the relationship of language, society, culture and literature					
COURSE OUTCOMES (COs)					
CO1	The students will be able to understand the nuances of English language				
CO2	Understand and integrate the acquired knowledge of the lexical, grammatical structure and the theories involved.				

CO3	Apply and analyse the theories and remember the concepts in speech sounds
CO4	Analyse and evaluate various theories, concepts of language and linguistics
CO5	Knowing the approaches to linguistics and its branches
CO6	Development in four basic skills of English langage
Category	

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	2	2	2	2		
	CO2	3	3	3	2	2	2	2		
	CO3	2	2	2	2	2	2	2		
	CO4	2	2	2	2	2	2	2		
	CO5	3	3	3	2	2	2	2		
	CO6	2	2	2	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT I - GENERAL **9**

Linguistics - Definition - Linguistics as a Science - Synchronic and Diachronic approaches - Branches of Study or Types of Linguistics

UNIT II - LANGUAGE **9**

Language – origin and design- Continuity & Discontinuity Theory - uses of language; **Properties of language** - Symbolic System – Arbitrariness - Duality of Structure – Productivity – Displacement - Cultural Transmission – Discreteness - Interchangeability

UNIT III - LANGUAGE **9**

Development of Writing – Pictographic – Ideographic – Logographic - Rebus Writing - Syllabic Writing - Alphabetic Writing; **Language Variation**- Dialect, Standard and Non-standard – Isoglosses – Bilingual – Bidialectal – Idiolect – Register - Lingua Franca – Pidgin - Creole

UNIT IV - GRAMMAR **9**

The Development of English Grammar –Definition - Objections of Modern Grammarians to traditional approach - Nominative rules - Latinate Fallacy - Logical Fallacy; **Approaches to Grammar** - Descriptive and Perspective Approaches

UNIT V - BRANCHES **9**

Syntax – Definition – Types; Semantics – Definition – Types; Morphology –Types of word formation - morpheme – inflectional and derivational affixes – Phonology – Definition – Syllable - Types

TEXT BOOKS:

1. Dr. R. L. Varshney - An Introductory Text Books: of Linguistics and Phonetics; Students store , Bareilly, 2004
2. S.K Verma, N.Krishnaswamy, "Modern Linguistics – An Introduction", Oxford University Press India, 1997

REFERENCE BOOKS:

1. George Yule, "The Study of Language", Cambridge University Press; Sixth edition, 2017
2. Adrian Akmajian & others, "Linguistics – An introduction to Language and Communication", Prentice Hall India Learning Private Limited; 6 edition, 2012

Course Coordinator **HOD**

MAJOR ELECTIVE II

FILM AND LITERATURE

Sub code : **U18MEEN012**	**Subject Name : FILM AND LITERATURE**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – UG level English				
	Course Coordinator :Ms.A.ANNIE CHRISTY & Department of English				

COURSE OBJECTIVES:-

To impart the students with the knowledge of interrelationship between film and literature

COURSE OUTCOMES (COs)	
CO1	Remember them with theories of literature in films
CO2	Understand about adaptation works
CO3	Apply the knowledge of literature's impact in films
CO4	Analyse the different techniques used in narrative style

CO5	Evaluate the basic techniques used in cinema and in literature									
CO6	Create the authenticity of the works applying the techniques									
Category										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low										
1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	2	2	2	2		
	CO2	2	2	2	2	2	2	2		
	CO3	2	2	2	2	2	2	2		
	CO4	2	2	2	2	2	2	2		
	CO5	2	2	2	2	2	2	2		
	CO6	2	3	2	2	2	2	2		
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

Unit – I - INTRODUCTION **9**

- Adaptation

  Prescribed Text: A Theory of Adaptation by Linda Hutcheon: Chapter1-"Beginning to the orizeadaptation"
- The Concept of Film Form: genre /sub-genre (narrative film, avant- gardefilm, film noir, documentary),Themestropes-cue-suspense-themes-functions-motif- parallelism-development-unity /disunity
- Film Narrative: Title-Story-Plot-narration (Restricted and omniscient)-duration-motivation-motif-parallelism-character traits-cause and effects–exposition- climax-point of view

Unit - II - ADAPTATION OF CONTEMPORARY INDIAN ENGLISH FICTION 9

- Danny Boyle's Slum Dog Millionaire (2008) - Title- Genre - Story- Plot - narration - character traits-cause and effects–exposition- climax-point of view - Background information, condensed synopsis, argument/analysis

Unit - III - ADAPTATION OF FANTASY/ SCIENCE FICTION **9**

- Steven Spielberg's - War of the Worlds (2005) - Title- Genre - Story- Plot - narration -

character traits-cause and effects–exposition- climax-point of view - Background information, condensed synopsis, argument/analysis

Unit - IV - ADAPTATION OF BRITISH LITERATURE IN FILMS 9

- AngLee'sSense and Sensibility (1995) - Title- Genre - Story- Plot - narration - character traits-cause and effects–exposition- climax-point of view - Background information, condensed synopsis, argument/analysis
- Rajiv Menon'sKandukondainKandukondain(2000)(Tamil) - Title- Genre - Story- Plot - narration - character traits-cause and effects–exposition- climax-point of view - Background information, condensed synopsis, argument/analysis

Unit - V - COMPONENTS OF A FILM REVIEW 9

Plot, Genre, Role of actors, Background information, condensed synopsis, argument/analysis, evaluation, recommendation, opinion

TEXT BOOKS:

1. Jill Nelmes, "Introduction to Film Studies", Routledge Pub., 2012
2. Leo Braudy, "Film Theory and Criticism: Introductory Readings", Oxford University Press, USA, 6 edition, 2004

REFERENCE BOOKS:

1. David Thomson, "The New Biographical Dictionary Of Film", 5Th Ed., Hachette Digital, 2010.

Course Coordinator **HOD**

MAJOR ELECTIVE III

ELEMENTS OF ENGLISH GRAMMAR

Sub code : **U18MEEN013**	**Subject Name : ELEMENTS OF ENGLISH GRAMMAR**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – UG level English				
	Course Coordinator :Mr.Angel & Department of English				

COURSE OBJECTIVES:-To investie the concepts of grammatical form and function, including the application of labels such as noun, adjective, verb, subject, object, phrase, clause

COURSE OUTCOMES (COs)	
CO1	Remember the use of grammar in written and spoken language
CO2	Understand the teaching of grammar in classrooms,& grammatical change in current language
CO3	Apply both traditional and contemporary methods in linguistics to language

CO4	Analyse the literature in translation, and culturally diverse texts in World, British, and American literature
CO5	Evaluate the habit of reading and writing leading to effective and efficient communication.
CO6	Create the viewand comprehend different spoken discourses in different accents.
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PSO	PSO
2	CO1	3	3	3	2	2	2	2		
	CO2	2	2	2	2	2	2	2		
	CO3	2	2	2	2	2	2	2		
	CO4	2	2	2	2	2	2	2		
	CO5	2	2	2	2	2	2	2		
	CO6	2	3	2	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT-I 9

Introduction to grammatical analysis -Grammatical terms - Subjects and predicates Coordination and subordination - Nouns & determiners Pronouns – compound nouns

UNIT-II 9

ModifiersPost-modifiers - Nominal elements - Prepositions and moreAdverbs

UNIT-III 9

Tenses - subject – verb agreement – correction errors

UNIT-IV 9

transformation- direct into indirect – active into passive – commund-complex –simple

sentences.

UNIT-V 9

spelling and punctuation –lexical items – single word substitutes – cause and effect expression

Text books

1. Rathna .Ptext book for english ,VRB Publishers Pvt Ltd ,Chennai -26
2. Manas Saikia technical English of Resonance , Cambridge university press india Pvt.Ltd

Reverence books,

1. Wren & Martin's English grammar , S.Chand &Company Ltd
2. Subramamian .A , Technical English , Dream team Publishers , Chennai;44

Course Coordinator **HOD**

SEMESTER VI

MAJOR CORE

ENGLISH LANGUAGE TEACHING

Sub code : **U18MCEN601**	**Subject Name : ENGLISH LANGUAGE TEACHING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – UG level English				
	Course Coordinator :Mrs.B.CAROLINE & Department of English				
COURSE OBJECTIVES:- To familiarize the students with the various aspects of language teaching in general and teaching of English in India in particular. Practical work is an important part of this course.					
COURSE OUTCOMES (COs)					
CO1	Remember the knowledge about teaching technicalities and various methods adopted in				

	teaching English
CO2	Understand the various teaching methods
CO3	Apply the skills to improve their fluency in English
CO4	Analyse the Knowledge of various approaches in Teaching English
CO5	Evaluate to design a curriculum and syllabus in English
CO6	Create to apply various evaluation techniques and write critical essays
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	2	2	2	2		
	CO2	3	3	3	2	2	2	2		
	CO3	2	3	3	2	2	2	2		
	CO4	3	3	2	2	2	2	3		
	CO5	3	2	3	2	3	2	3		
	CO6	3	2	3	2	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT-I **12**

The role of English in India – International Language – Link language – Medium of Education – Library language – Official language - Status symbol; English teaching in India today

UNIT-II **12**

Theories of Language learning – Behaviourism – Cognitivism - First language acquisition and Second language acquisition

UNIT-III **12**

Approaches and methods - Grammar translation method - Audio-lingual method - Communicative and language teaching

UNIT-IV **12**

Syllabus Design

a. Principles of syllabus design
b. Different kind of syllabi for TELL: Definitions and features- structural, functional, notional, communicative

UNIT-V **12**

Testing and Evaluation

a. Types of tests: Achievement test, Proficiency tests, Diagnostic tests, aptitude test
b. Testing criteria: validity, reliability, practicability
c. Evaluation of Text Books:s & Teaching Materials

TEXT BOOKS:

1. Navita Arora, "English Language Teaching: Approaches and Methodologies", McGraw Hill Education, 2017

2. Ghosh,Sastri,Das, "Introductions to English Language Teaching", Vol: 3 CIEFL, Oxford University Press

REFERENCE BOOKS:

1. John A. Bright, P.G. McGregor, et al., "Teaching English as a Second Language Longman/ ELBS, 1970

Course Coordinator **HOD**

COMMONWEALTH LITERATURE

Sub code : **U18MCEN602**	**Subject Name : COMMONWEALTH LITERATURE**	**L**	**T**	**P**	**C**
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – UG level English				
	Course Coordinator :Ms.A.ANNIE CHRISTY & Department of English				

COURSE OBJECTIVES:- To familiarize the students with the consequence of colonization and its impact on Literature

COURSE OUTCOMES (COs)	
CO1	Remember the impact of colonization on people and society through Literature
CO2	Understand diverse nature of culture through texts
CO3	Apply to learn the anti-colonial strategies through texts
CO4	Analyse the acknowledge of historical revolution against colonization

CO5	Evaluate the fluency in the basic skills in English									
CO6	Ceate the literature regarding marginalization and identity crisis									
Category										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low										
1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	2	2	3	3		
	CO2	2	3	3	3	2	2	3		
	CO3	3	3	3	2	2	2	2		
	CO4	2	3	3	3	2	2	3		
	CO5	3	3	3	2	2	2	2		
	CO6	2	3	2	2	2	2	2		
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT I – **POETRY** **12**

A.D. Hope – Australia - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Margaret Atwood – Journey to the Interior -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **A.M. Klein – Portrait of my Mother -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT II – POETRY **12**

Derek Walcott – A Far Cry From Africa - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **J.P. Clark – The Casualties -** Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT III – SHORT STORIES **12**

Margaret Atwood – The Sin Eater - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **Joyce Marshal – The Old Woman -** Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT IV – DRAMA **12**

Wole Soyinka – The Lion and the Jewel - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT V – NOVELS **12**

Achebe – Things Falls Apart - Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **Atwood – Surfacing -** Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

TEXT BOOKS:

1. Chinua Achebe, Things Falls Apart, RHUS; Anchor Books, 1994
2. Wole Soyinka, "The Lion and the Jewel", Oxford University Press, 1974
3. B. Duffus, "Study Guide - Wole Soyinka's The Lion and the Jewel", Bariki Publishing, 2015

REFERENCE BOOKS:

1. Margaret Atwood, "Dancing Girls and Other stories", Vintage; Revised Edition, 2020
2. Dr. R. K. Dhawan, "Contemporary Commonwealth Literature",Prestige Books, 2006

Course Coordinator **HOD**

DEVELOPING LANGUAGE SKILLS

Sub code : **U18MCEN603**	**Subject Name : DEVELOPING LANGUAGESKILLS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – UG level English				
	Course Coordinator :Ms.E.REKHA & Department of English				

COURSE OBJECTIVES:- To bestow the students with the expertise in the four basic language skills in English subsequently developing their fluency.

COURSE OUTCOMES (COs)	
CO1	Remember the detail about LSRW skills
CO2	Understand the process of communication
CO3	Apply the knowledge of four basic language skills

CO4	Analyse the methods of improving the basic skills for communication									
CO5	Evaluate the fluent communication in English									
CO6	Create the writing techniques to understand, interpret and create literature									
Category										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low										
1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	2	2	2	3		
	CO2	3	3	3	2	3	3	2		
	CO3	2	3	2	3	2	3	2		
	CO4	3	3	3	2	2	2	2		
	CO5	2	2	2	2	2	2	2		
	CO6	2	2	2	2	2	2	2		
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT - I **9**

Listening – (Short stories, News items, Speeches by International Personalities)

UNIT - II **9**

Reading - current prose pieces from Newspapers, Reports

UNIT - III **9**

Speaking – Accent, Intonation, Pronunciation

UNIT - IV **9**

Writing - Subject Matter, Content and Blogs

UNIT - V **9**

Testing – Listening – Listening to Comprehension
Reading – Reading a Passage
Speaking – Self Introduction

TEXT BOOKS:

1. S.C. Sood**, "**Developing language skills: Oral communication and Reading comprehension Writing skills and Workbook", Manohar Publisher, 2003.

REFERENCE BOOKS:

1. Kamlesh Sadanand, " Teaching Listening Speaking", Orient Blackswan Private Limited,New Delhi, 2012
2. Julian Northbook, "Think English, Speak English", Northbrook Languages Ltd,2018.

Course Coordinator **HOD**

SEMESTER-VI

MAJOR ELECTIVE I

RESEARCH AND METHODOLOGY

Sub code : **U18MEEN021**	**Subject Name : RESEARCH AND METHODOLOGY**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – UG level English				
	Course Coordinator :Mrs.S.SUBATHRA & Department of English				
COURSE OBJECTIVES:- To enable the students to do research by learning the basics of research methodology.					

COURSE OUTCOMES (COs)	
CO1	Remember the knowledge of theory of Research and its type
CO2	Understand the methodology to be followed in Research
CO3	Apply to identify the areas of Research in English Literature and ELT
CO4	Analuse the ability to collect data from various sources
CO5	Evaluate the complexities in the process of Research
CO6	Ceate to compile all the collected data and frame a thesis
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	3P3SO	PS O
2	CO1	3	3	3	3	2	2	2		
	CO2	3	2	3	2	3	2	3		
	CO3	3	3	3	2	2	2	2		
	CO4	2	2	2	2	2	2	2		
	CO5	2	2	2	2	2	2	2		
	CO6	3	3	3	2	2	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT - I **9**

Definition and Types of Research
Qualities of research and literary research

UNIT - II **9**

Mechanism of Writing
Punctuation, comma, colon, semi colons, dashes and parenthesis, hyphen, apostrophe, quotation mark, square brackets, slashes, periods, question mark and exclamation points, spacing.

UNIT - III **9**

Planning the Thesis; Collection of Materials; Format of Thesis

UNIT - IV **9**

Title page; Prefix of acknowledgement; Table of contents; List of tables, figures and illustrations; Abbreviations

UNIT - V **9**

Plagiarism; Primary & Secondary Sources; Work Citation

TEXT BOOKS:

1. Modern Language Association, "MLA Handbook for Writers of Research Papers", Affiliated East-West Press; 7 th FOR SALE IN INDIA edition, 2008

REFRENCE BOOKS:

1. C. R. Kothari- "Research Methodology: Methods and Techniques"

Course Coordinator **HOD**

MAJOR ELECTIVE -II

TECHNICAL WRITING

Sub code : **U18MEEN022**	**Subject Name : TECHNICAL WRITING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – UG level English				
	Course Coordinator:Dr.P.AROCKIA NATHAN & Department of English				
COURSE OBJECTIVES:- To introduce the students to the basics of mechanics and techniques of technical communication					
COURSE OUTCOMES (COs)					
CO1	Remember the skill of creative writing				

CO2	Understand the frame sentence without grammatical errors.
CO3	Apply the style of writing
CO4	Analyse to think critically and express in writing
CO5	Evaluate the Acknowledgement of mechanics of writing
CO6	Creatie to write fluently and spontaneously
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	22	3	4	5	6	7	PS O	PS O
2	CO1	3	3	3	2	3	2	2		
	CO2	3	3	3	2	2	2	2		
	CO3	2	2	2	2	2	2	2		
	CO4	3	3	3	2	2	2	2		
	CO5	3	2	2	2	3	3	2		
	CO6	2	2	2	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT - I **9**

Defining Technical Writing; Audience Language and Style; Organization

UNIT - II **9**

Writing Elements -Technical Definitions-Technical Descriptions; Summaries-Graphics-Instructions-Comparison and Contrast

UNIT - III **9**

Forms of Technical Communication - Technical Reports - Forms, Memos; E-mail - Business Letters Presentations -The Job Search: Resumes and Letters

UNIT - IV **9**

Subject - Verb Agreement – Prepositional Phrases – Pronouns – Pronoun References – Avoiding Shifts – Avoiding Sexism – Modifiers; The Clause and Simple Sentences – Compound Sentences – Complex and Compound - Complex Sentences –Fragments, Run - ons, and Comma Splices – Transition Words - Parallelism

UNIT - V **9**

Mechanics of Writings – Capital Letters – Abbreviations and Acronyms – End Punctuation – Commas – Colons and Semicolons – Parenthesis, Dashes, Brackets, Ellipses, Slashes, and Hyphens–Apostrophe– Quotations

TEXT BOOKS:

1. Rutherford, Andrea J., "Basic Communication Skills for Technology", Delhi: Pearsons, 2001.
2. Gupta S C, "English Grammar & Composition Very Useful for All Competitive Examinations", Arihant Publications; Second edition, 2014

REFERENCE BOOKS:

1. Mohan, Krishna, and Meenakshi Raman, "Effective English Communication", New Delhi: Tata McGraw - Hill, 2000.
2. Sanjay Kumar and Pushp Lata, "English for Effective Communication", Oxford University Press, 2013

Course Coordinator **HOD**

MAJOR ELECTIVE -III

EFFECTIVE ENGLISH SPEAKING

Sub code : **U18MEEN023**	**Subject Name : EFFECTIVE ENGLISH SPEAKING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – UG level English				
	Course Coordinator :Mrs.B.CAROLINE & Department of English				
COURSE OBJECTIVES:- To be enabling the students to learn and master the art of Spoken English by training them through different modules which involve practical knowledge in speech delivery					
COURSE OUTCOMES (COs)					
CO1	Remember to speak and write fluently				

CO2	Understanding the scope of communicating in English
CO3	Apply to comprehend complex sentences
CO4	Analyse the elements of English Grammar
CO5	Evaluate the complexities in Grammatical usage
CO6	Create the necessary knowledge of vocabularies and grammar and apply it
Category	

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	2	3	3	2	2	2	3		
	CO2	2	3	3	2	2	2	2		
	CO3	3	3	2	2	2	3	3		
	CO4	2	3	3	2	2	2	2		
	CO5	3	3	3	2	2	2	2		
	CO6	3	3	3	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT - I **9**

Production of speech - Process of Listening

UNIT - II **9**

Characteristics of voice - Body Language - Organization of speech

UNIT - III **9**

Preparing steps - – Setting the Main Body (chronological directional, logical, problem – solution, topical and psychological patterns); Developing Main Points – Supporting ideas (definitions, examples, analogies, testimonies, statistics); Beginning and Ending of Speech - Modes of delivery - Reading the Manuscript – Speaking Extemporaneously – Impromptu – Speaking from memory; Speaker's Voice – volume, pitch, rate, pauses and pronunciation; speech

for special occasions

UNIT - IV Practice Materials - I **9**

Pronouncing Individual Sounds – Practice using minimal pairs for vowels and consonants - Acquiring High Intonation - Using Contracted Forms

UNIT - V Practice Materials - II **9**

Developing Conversational ability – The seven ways; Making a public speech – 5 Vocal Characteristics for Public Speaking – Rate – Volume – Pitch – Pause – Articulation; Oral Reading of poetry

TEXT BOOKS:

1. Mohan, Krishna, and N.P. Singh., "Speaking English Effectively", New Delhi: Macmillan, 2003.

2. Sanjay Kumar and Pushp Lata, "English for Effective Communication", Oxford University Press, 2013

REFERENCE BOOKS:

1. O'Connor,J.D.O., "Better English Pronunciation", New Delhi: Universal Books, 1997.

2. Mohan, Krishna, and Meenakshi Raman, "Effective English Communication", New Delhi: Tata McGraw - Hill, 2000.

Course Coordinator **HOD**

PROJECT

Sub code: U18EEEN6P1	**Subject name :PROJECT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 10	0	0	20	10
	Prerequisite – UG level English				
	Course Designed by Dr.P.AROCKIA NATHAN Dept. of English				
COURSE OBJECTIVES: To facilitate the students to understand the current scenario in English literature and present the research report on their findings as per the acceptable format					
COURSE OUTCOMES (COs)					
CO1	Remember the concept and objectives, nature, types and methods of project.				
CO2	Understanding the process and steps involved in preparation of project work				
CO3	Apply research and methodology				
CO4	Analyse the data of the project work				

CO5		Evaluate the review of the project work								
CO6		Create the final project work by getting suggestion & conclusion								
Category										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low										
1	COs/Pos	PO 1	2	3	4	5	6	7	PS O	PS O
2	CO1	2	3	3	2	2	2	3		
	CO2	2	3	3	2	2	2	2		
	CO3	3	3	2	2	2	3	3		
	CO4	2	3	3	2	2	2	2		
	CO5	3	3	3	2	2	2	2		
	CO6	3	3	3	2	2	2	2		
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
										✓
4	Approval	47th Academic Council Meeting								

PROJECT (DISSERTATION AND VIVA-VOCE) 10

The project topics are to be finalized to the students at the end of the second semester with a time schedule to carryout various stages of work. During the semester vocation, the data Collection may be commenced. The theme selected by each student for the Dissertation should be related to various problems and issues pertaining to Literature of Engish. Each candidate should submit three copies of dissertation as per the guidelines to the department concerned.

	Marks
Dissertation	**150**
Viva- Voce Examination	**50**

Course Coordinator **HOD**

EXTENSION ACTIVITIES

	EXTENSION ACTIVITIES	L	T	P	C
U18HSEN6L1	Total Contact Hours – 30	1	0	0	1
	Prerequisite – UG level English				
	Course Designed by – Dept. of English				
COURSE OBJECTIVES: To enable the students through yoga for their increasing vitality, muscle strength,tone and health.					

Course Coordinator **HOD**

SKILL BASED ELECTIVES

U18SEBC001	**BUSINESS PROCESS OURTSOURCING - MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. J. Saranya, Commerce				

COURSE OBJECTIVES:-To familiarize the students with the basic fundamentals of BPO.

- To impart knowledge on types of BPO and call centers .
- To enable the students on the concept Health care BPO & Transaction BPO.
- To peep into the concept of Human Resource BPO and the career opportunities in BPO

COURSE OUTCOMES (COs)	
CO1	Underline the with the basic fundamentals of BPO .

CO2	Discuss the Can develop awareness about Types of BPOs and Call centres
CO3	Initiate to be aware of the concept of Health care BPOs
CO4	Identify the aware of the concept of Transaction BPOs
CO5	Evaluate Develop confidence in Human Resource BPO and career opportunities in BPOs
CO6	Formulate the Types of Transaction Processing BPO in India

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	1	2	3	1		
	CO2	2	1	3	2	3	3	3		
	CO3	1	3	1	3	3	3	1		
	CO4	3	3	3	1	3	1	3		
	CO5	3	3	3	2	2	1	2		
	CO6	2	1	3	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT-I: **6**

Business Process Outsourcing – Basics – Benefits of BPO – BPO companies in India.

UNIT-II: **6**

BPO Industry – Employment Opportunities – types of BPO – Call centers – Types of Call Centers – Issues and Problems.

UNIT-III: **6**

Health Care - BPO - Structure of foreign Health Care sector – Future Trends and Threats.

UNIT-IV: **6**

Transaction Processing BPO – Elements of Back Office services – Types of Transaction Processing BPO in India.

UNIT-V: **6**

Human Resource BPO - Reasons for outsourcing HR – Activities involved in HR BPO – HR outsourcing Trends – Carrier in HR BPO.

Text Books:

- John K. Holvey, Borboro Murphy Melby, Business Process Outsourcing – Wiley Publisher- 2007
- Sarika Kulkarni – Business Process Outsourcing – Jaico Publishing house – 2005
- .Rick L. Click, Thomas N. Duening, Business Process Outsourcing – John Willey & sons, Publisher , 2004

Reference Books:

1. Deepak Shikapur – BPO DIGEST – Ameya (Inspiring books) – 2004.
2. Clifton – System analysis for business data processing – Prentice hall Publications.

Course Coordinator **HOD**

U18SEBC002	**CUSTOMER RELATIONSHIP MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. R. Priya, Commerce				

COURSE OBJECTIVES:-

- To familiarize the students with the basic fundamentals of CRM.
- To impart knowledge about process and importance of CRM.
- To enable the students on the concept of technological solutions to CRM.
- To expose the student on Trends and challenges in CRM.

COURSE OUTCOMES (COs)

CO1	Recognise the Familiarize with the basic fundamentals of CRM.
CO2	Demonstrate the Can develop awareness about process and importance of customer retention
CO3	Practice to be aware of the concept of technological applications in CRM.

CO4	Correlate to respond to the concept of CRM software solutions for B2C and B2B markets
CO5	Validate the Develop confidence on trends and challenges
CO6	Design the Customer Databases and Information Systems

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	2	3	3	2	2	2		
	CO2	1	3	3	2	2	2	3		
	CO3	3	2	2	3	3	3	1		
	CO4	3	2	3	2	1	2	3		
	CO5	3	2	2	1	2	1	3		
	CO6	3	3	3	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT -I **6**

Customer Relationship Management Introduction - Meaning and Definition - Importance - Benefits and difficulties of CRM.

UNIT –II **6**

CRM Process and Implementation Introduction - customer Retention - Customer satisfaction - Importance of customer retention - CRM process for B2B markets

UNIT –III **6**

Technological Support in CRM Introduction - Types of Technological Applications in CRM.

UNIT –IV **6**

Customer Databases and Information Systems - CRM Software Solutions for B2C and B2B Markets

UNIT –V **6**

E-CRM – Emerging Trend in CRM Introduction - Challenges involved in formulating and implementing e-CRM strategies.

TEXT BOOKS:

1.Balasubramaniyan.K ,Essence of customers relationship management, learn tech press

2. Jagdish N Sheth, Atul Parvatiyar, G Shainesh - customers relationship management- McGraw Hill Publisher, 2000

3. Roger. J Baran and Robert J. Galka- customers relationship management, Routledge publisher 2013

REFERENCE BOOKS:

1.M.Peeru mohamed, customer relationship management, Vikas publications

2.Kaushik mukerjee, customer relationship management PHI

Course Coordinator **HOD**

U18SEBC003	**ENTREPRENEURIAL DEVELOPMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. S. Jayanthy , Commerce				

COURSE OBJECTIVES:-

- To familiarize the students with the basic fundamentals of Entrepreneurship.
- To impart knowledge on Project identification, selection and formulation.
- To enable the students on the concept of types of organization.
- To peep into the concept of commercial banks.
- To enable the students on the concept of women entrepreneurs

COURSE OUTCOMES (COs)	
CO1	Underline the Meaning Of Entrepreneur – Entrepreneur and Intrapreneur

CO2	Explain the Identification – Selection of the Project
CO3	Apply Selection of Types of Organization – Sole Proprietorship- Partnership Joint Stock Company
CO4	Appraise to Institutional finance to entrepreneurs
CO5	Estimate the Factors Influencing The Choice Of Organization
CO6	Develop the Role and Problems of Women Entrepreneurs

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	1	2	3	1		
	CO2	2	1	3	2	3	3	3		
	CO3	1	3	1	3	3	3	1		
	CO4	3	3	3	1	3	1	3		
	CO5	3	3	3	2	2	1	2		
	CO6	2	1	3	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT-I **6**

Meaning Of Entrepreneur – Entrepreneur and Intrapreneur – Qualities Of Entrepreneur – Characteristics Of Entrepreneur – Types Of Entrepreneur – Function Of An Entrepreneur

UNIT-II **6**

Project Identification – Selection of the Project – Project Formulation –Preparation Of Project Report

UNIT-III **6**

Selection of Types Of Organization – Sole Proprietorship- Partnership Joint Stock Company – Factors Influencing The Choice Of Organization.

UNIT – IV **6**

Institutional finance to entrepreneurs - commercial banks –IDBI, IFCI, ICICI, IRBI, SFC, DICs, SIDC, SIDBI And EXIM Bank

UNIT – V **6**

Women Entrepreneurs – Role – Problems of Women Entrepreneurs – Suggestions For Development Of Women Entrepreneurs

TEXT BOOKS:

1. C.B. Gupta, Entrepreneurship Development in India – Sultan Chand
2. S.S. Khanka, Entrepreneurship Development, S. Chand & Co., New Delhi.
3. Gupta C. B and Srinivasan N. P Entrepreneurship Development, Sultan Chand & Sons, New Delhi

REFERENCE BOOKS:

1. P. Sarvanavel, E Entrepreneurship Development, Ess Pee Kay Publishing House
2. Jaswer Singh Saini, Entrepreneurship Development, Deep and Deep Publication, New Delhi
3. Jayashree Suresh, Entrepreneurship Development- Margham Publication, Chennai

Course Coordinator **HOD**

U18SEBC004	**HUMAN RESOURCE MANAGEMENT**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. R. Velankanni, Commerce				

COURSE OBJECTIVES:-

- To learn the importance of HR.
- To impart knowledge and important factors in HR.
- To enable the students on the needs and methods of training.

COURSE OUTCOMES (COs)	
CO1	Identify the Importance of Human Resource and objectives.

CO2	Describe the Human Resource Planning
CO3	Practice to Sources of Recruitment - Selection – Steps in Selection
CO4	Analyze Needs of training – Methods of Training
CO5	Evaluate the Process and Methods of Performance Appraisal
CO6	Formulate the Qualities of Personnel Manager

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	3	1	3	1		
	CO2	2	2	1	3	3	1	3		
	CO3	2	2	3	2	3	3	2		
	CO4	3	1	3	1	1	2	3		
	CO5	1	3	2	2	2	3	3		
	CO6	3	2	2	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT- I: **6**

Definition – Importance of Human Resource – Objectives – Qualities of Personnel Manager.

UNIT- II: **6**

Human Resource Planning – Importance factors – Steps in HR Planning.

UNIT- III: **6**

Recruitment – Objectives – Sources of Recruitment - Selection – Steps in Selection.

UNIT- IV: **6**

Training – Definition – Needs of training – Methods of Training – On the job training – Off the job Training.

UNIT- V: **6**

Performance Appraisal - Objectives – Process – Methods of Performance Appraisal.

TEXT BOOKS:

5. L.M. Prasad – Human Resource Management – S. Chand & Sons – 2013.
6. C.B. Mamoria, S.V. Gankar – Personnel Management – Himalaya Pub. – 2012.
7. A.M. Sharma, Human Resource Management, Himalaya Publishing House, 2005

REFERENCE BOOKS

3. S.S. Khanka – Human Resource Management – S. Chand Ltd. – 2007
4. Gary Dessler – Human Resource Management – Prentice Hall – 8th Edition – 2000.

Course Coordinator **HOD**

U18SEBC005	MARKETING MANAGEMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Dr. J. Anudevi, Commerce				

COURSE OBJECTIVES:-

- To understand the fundamentals of marketing and its role.
- To examine the factors influencing buying behavior.
- To enable the students to promote advertising and its sales scope

COURSE OUTCOMES (COs)	
CO1	Underline the Fundamentals of Marketing – Role of Marketing .

CO2	Describe the Factors influencing buying behavior
CO3	Interpret the Marketing segmentation – Needs - Types of segmentation
CO4	Analyze to New product development process – Product life cycle
CO5	Revise the Awareness of consumer rights in the market place
CO6	Collect the Advertising – Scope of Advertising

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	3	2	3	1		
	CO2	2	3	3	2	3	3	3		
	CO3	1	3	1	3	2	3	3		
	CO4	3	2	3	1	3	1	2		
	CO5	3	3	2	3	2	1	2		
	CO6	2	1	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT-I:

6

Marketing- Definition – Fundamentals of Marketing – Role of Marketing – Relationship of marketing with other functional areas – Marketing Mix

Unit – II **6**

Buyer Behaviour – Buying motives – Factors influencing buying behavior - Marketing segmentation – Needs - Types of segmentation

UNIT-III: **6**

The Product – Characteristics – Benefits – Classifications – New product development process – Product life cycle – Branding – Packaging

UNIT-IV: **6**

Physical Distribution - Importance - Various kinds of Marketing Channels – Distribution Problems-Awareness of consumer rights in the market place.

UNIT- V: **6**

Advertising – Scope of Advertising – Personal selling – Direct selling and Sales Promotions.

TEXT BOOKS:

1. Berkoviz Kerin Hontley Rudelivs, MARKETING, New York, Mcgraw Hill Publications.
2. Gony Armstrong, Philip Kotler, Marketing an Introduction, Pearson Education Asia.
3. Philip Kotler, Marketing Management (Millennium ed.,) New Delhi, Prentice Hall of India (P) Ltd.

Reference Books:

1. Rajan Saxena, Marketing Management, 2nd edition, New Delhi, Tata Mcgraw Hill Publishing Co.Ltd.

2. V.S. Ramasamy and S. Namakumari, Marketing Management, Planning, Implementation & control, New Delhi, Macmillan

Course Coordinator **HOD**

U18SEBC006	OFFICE MANAGEMENT	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Dr. M. Sankar,Commerce				

COURSE OBJECTIVES:-

- To peep into the concept, importance of office management.
- To impart knowledge on features and classification of Communication.
- To expose handling correspondence and market registers

COURSE OUTCOMES (COs)

CO1	Record the Concept and Importance of Office and Office Management.
CO2	Report the Arrangement and adjustment : Furniture, allotment of seats
CO3	Apply to Handling of correspondence and market registers
CO4	Experiment the preparation and play of manuals and charts
CO5	Select the Office staff – Selection- training - Supervision
CO6	Creates Office Accommodation and Environment

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	2	3	3	3	1	2	2		
	CO2	1	2	3	2	2	3	3		
	CO3	3	2	2	3	3	1	3		
	CO4	3	1	3	3	1	3	2		
	CO5	3	2	2	1	2	2	1		
	CO6	3	3	1	3	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

Unit I **6**

Introduction – Concept and Importance of Office and Office Management - Office Accommodation and Environment -Reception : Importance, shape and size, control

Unit II **6**

Communication: Feature, classification, barriers - Arrangement and adjustment : Furniture, allotment of seats, chambers, cabins rooms etc .

Unit III **6**

Handling of correspondence and market registers, filling forms and stationery.

Office Machines - Kind of office machines.

Unit IV **6**

Use of machines, installing, handling, maintenance –Manuals and charts- Advantages of office manuals charts - preparation and play of manuals and charts.

Unit V **6**

Office staff – Selection- training - Supervision - span of supervision

TEXT BOOK:

1. Ghosh & Agarwal, Office Management, S.Chand & Company – New Delhi
2. R.S.N. Pillai, Bagavathi, Office Management, S.Chand & Company – New Delhi,2013
3. Dr.R.K. Chopra, Priyanka Gauri Office Management, Himalaya Publishing House, 2017

REFERENCE BOOKS:

1. G.S. Sudha, General Management, Pustak Prakashan, New Delhi
2. Rajendra paul, Modern Communication & Techniques , S.Chand & Company – New Delhi

Course Coordinator **HOD**

U18SEBC007	**RETAIL MARKETING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. J. Saranya, Commerce				

COURSE OBJECTIVES:-

- To familiarize the functions and types of Retailing.
- To impart knowledge on Retail consumer behavior and its types.
- To expose the student on promoting sales, public relation and advertising.

COURSE OUTCOMES (COs)

CO1	Underline the Characteristics - Functions of retailing - Types of Retailing
CO2	Express the - Retail Consumer buying behavior and types
CO3	Schedule the Retail Organization Structure
CO4	Categorize to Factors affecting store lay out
CO5	Assess the Sales promotion - Advertising
CO6	Creates the Retail Marketing Mix

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	1	2	3	3	2	3	2		
	CO2	2	1	3	2	3	3	3		
	CO3	3	3	1	3	3	3	2		
	CO4	3	3	3	3	1	2	2		
	CO5	2	3	2	3	2	2	1		
	CO6	3	2	3	1	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT-I **6**

Retailing – Definition – Importance – Characteristics - Functions of retailing - Types of Retailing

UNIT-II **6**

Retail Marketing Mix - Retail Consumer buying behavior and types – Segmentation - Types of segmentation

UNIT-III **6**

Retail Organization Structure-Major Functional Areas-Careers in Retailing

UNIT-IV **6**

Store layout-Types of lay out-Factors affecting store lay out

UNIT-V **6**

Sales promotion - Advertising - Public Relation - Personal selling

TEXT BOOKS:

1) George E.Belch and Michael A.Belch, Advertsing and Promotion, McGraw Hill Company
2) Ronald, Karen Whitehill king,and J.Thomas Russell, Kleppner's Advertising Procedure, Pearson Education International, Prentice Hall
3) Prashant Chaudhary ,Retail Marketing in the Modern Age ,First Edition Saga Publication 2019

REFERENCE BOOKS:

1) Gupta, Advertising and Sales Promotion, EPH Publisher

2) Sarangi, Advertising and Sales Promotion, Asian Books

Course Coordinator **HOD**

U18SEBC008	SALESMANSHIP AND ADVERTISING	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms. G. Anandhi Commerce				

COURSE OBJECTIVES:-

- To understand the importance, role, objective of advertising.
- To impart knowledge on importance of salesmanship
  To analyze the types of advertising and its benefits

COURSE OUTCOMES (COs)

CO1	Repeat the Nature-Objectives and Scope of Advertising.
CO2	Explain the Types of Advertising-Commercial and Non-Commercial Advertising
CO3	Interpret to Media selection-measuring advertising effectiveness
CO4	Correlate the training and compensating sales men
CO5	Judge the Qualities and Responsibilities of sales managers
CO6	Design the types of sales organization - Sales management job

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	2	3	1	3	1		
	CO2	2	2	1	3	3	1	3		
	CO3	2	2	3	2	3	3	2		
	CO4	3	1	3	1	1	2	3		
	CO5	1	3	2	2	2	3	3		
	CO6	3	2	2	3	3	3	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT-I **6**

Definition-Importance-Role of Advertising-Nature-Objectives and Scope of Advertising

UNIT-II **6**

Types of Advertising-Commercial and Non-Commercial Advertising-Primary demand and selective demand advertising

UNIT-III **6**

Advertising-benefits and criticism-Media selection-measuring advertising effectiveness

UNIT-IV **6**

Introduction to the salesmanship-Importance of salesmanship-training and compensating sales men

UNIT-V **6**

Qualities and Responsibilities of sales managers -Types of sales organization - Sales management job

TEXT BOOKS:

1. George E.Belch and Michael A.Belch, Advertsing and Promotion, McGraw Hill Company

2. Ronald, Karen Whitehill king,and J.Thomas Russell, Kleppner's Advertising Procedure, Pearson Education International, Prentice Hall.

3. P. Saravanavel & S. Sumathi, advertising and salesmanship Margham publications,

REFERENCE BOOKS

1) Sarangi, Advertising and Sales Promotion, Asian Books

2. Gupta, Advertising and Sales Promotion, EPH Publisher

Course Coordinator **HOD**

Sub. code : **U18SEEN001**	**Subject name : SOFT SKILLS**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite – Higher Secondary Level				
	Course coordinator name : Mrs.B.CAROLINE– Dept of English				
COURSE OBJECTIVES:- To impart students with the efficient knowledge of important events in through soft skills					

COURSE OUTCOMES (COs)	
CO1	Remember the personal as well as professionals goals of the students
CO2	Understand the manners during professional meetings
CO3	Apply the right reasons of stress
CO4	Analyze the importance of communication skills
CO5	Evaluate the excellence in both personal and professional life
CO6	Create the Growth & development of soft skills
Category	OE

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	3	3	3	3	3		
	CO2	3	3	3	3	3	3	3		
	CO3	2	3	3	2	3	2	3		
	CO4	2	2	2	2	2	2	2		
	CO5	2	2	2	2	2	2	2		
	CO6	2	3	3	2	2	2	2		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	47th Academic Council Meeting								

UNIT I Soft Skills **6**

Introduction to soft skills

Types of soft skills

Developing positive attitude, forming values and self confidence

UNIT II Interpersonal skills

6

Developing interpersonal relationship, team building, table manners, organizing meetings, stress and time management

UNIT- III Communication Skills
6

Types of communication ,Art of listening ,Art of reading ,Art of writing,Art of speaking

UNIT IV Corporate Skills **6**

Presentation skills, developing body language, practicing etiquette, and mannerism, dress for success

UNIT V Placement Skills **6**

Personal interviews, writing resume/ CV- interviews skills career planning, public speak in motivation skills and personality

Text books

1. S.P.Danavel, English and Communication for Students of Science and Engineering.

2.Murali Krishna Moishra, Communication Skills for Engineers.

Reference

1. Developing the leader within you john C. Maxwell.
2. Meena. K and V. Ayothi (2013) A Book on development of soft skills (soft skills: A road map to success), P.R. publishers & Distributors, no. B-20&21,v.m.m. complex, Chatiram bus stand, tiruchirappalli.-620002

Course Coordinator **HOD**

U18SESC001	**COMPUTER APPLICATION**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- N.Mathimagal & BCA				
COURSE OBJECTIVES:- Learners will be familiar with basic of computer application. Learners will understand the applications of computer & able to know about the operating systems.					

COURSE OUTCOMES (COs)	
CO1	Gain knowledge in fundamental computer applications
CO2	Understand the concept of input device functions
CO3	Indentify the suitable input devices for application
CO4	Analyze the input and output devices and its processes
CO5	Evaluate data and storage devices for application
CO6	Create an real time application using a system software and application software

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Brief History of Development of Computers, Computer System Concept, Computer System Characteristics, Capabilities and Limitations, Types of Computers-Personal Computer (PCs) - IBM PCs, Types of PCs- Desktop, Laptop, Notebook, Palmtop, etc. Basic Components of a Computer System - Control Unit, ALU, Input/ Output Unit-Memory, Storage Fundamentals - Primary Vs Secondary memory.

UNIT II **6**

Input Devices: Keyboard, Mouse, Joystick, Scanners, Digital Camera, MICR,OCR, OMR, , Light pen, Touch Screen.

UNIT III **6**

Output Devices: Monitors - Characteristics and types of monitor, Size, Resolution, Refresh Rate, Dot Pitch, Video Standard - VGA, SVGA, XGA etc. Printers - Daisy wheel, Dot Matrix, Inkjet, Laser. Plotter, Sound Card and Speakers.

UNIT IV **6**

Various Storage Devices - Magnetic Disks, Hard Disk Drives, Floppy, Disks, Optical Disks

UNIT V **6**

Computer Software, Need, Types of Software - System software, Application software System Software - Operating System, Compiler, Assemblers, Interpreter.

TEXT BOOKS:

1. S.K. Basandra, "Computers Today", Galgotia Publications.
2. Alexis Leon & Mathews Leon, "Fundamentals of Information Technology", Vikas Publishing House, New Delhi.

REFERENCE BOOKS:

1. Rajeev Mathur, "Dos Quick Reference", Galgotia Publications.

Course Coordinator **HOD**

U18SESC002	**MULTIMEDIA**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- N.Mathimagal & BCA				
COURSE OBJECTIVES:- To understans the basic multimedia concepts and designing concepts					
COURSE OUTCOMES (COs)					

CO1	Gain knowledge in basic concepts of multimedia
CO2	Analyze the multimedia application problems.
CO3	Understand the Video capturing, Sound capturing, editing concepts.
CO4	Identify the basic multimedia design principles.
CO5	Evaluate the multimedia system and Design Process.
CO6	Create a real time application using a multimedia concept.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Multimedia Fundamentals: Concept of multimedia, Fundamental criteria for the design of a multimedia presentation, Multimedia Application Goals & Objectives, opportunities in multimedia production.

UNIT II **6**

Role of multimedia-development of team members, avoiding problems in planning

a multimedia application.

UNIT III **6**

Multimedia Building Blocks: Text, Graphics, Video capturing, Sound capturing, editing.

UNIT IV **6**

Basic design principle: proximity, visual hierarchy, Symmetry, Asymmetry, Repetition, unity, Contrast, dynamics, Emphasis, Multimedia Authoring tools.

UNIT V **6**

Design, Development and evaluation of multimedia a system, Development of user interface design, Design Process.

TEXT BOOKS:

1. John Villamil, Casanova, Louis Molina, "An introduction to multimedia".
2. Mohammad Dastbaz, "Designing Interactive Multimedia Systems"

REFERENCE BOOKS:

1. Bohdan O. Szuprowicz, "Multimedia Networking".
2. Stephen McGloughlin, "Multimedia on the web".

Course Coordinator **HOD**

U18SESC003	**ADVANCED EXCEL**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Ramya & BCA				

COURSE OBJECTIVES: -
To identify the various functions in Excel Sheet

COURSE OUTCOMES (COs)

CO1	Understand the advanced Excel formulas.
CO2	Evaluate IF conditions, AND, OR functions.
CO3	Analyze the advanced filter options.
CO4	Execute the multiple windows, splitting windows management.
CO5	Understand the pivot table methods.
CO6	Create a real time application by creating, modifying Excel sheet.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Uses of Advance Excel Formulas -VLOOKUP, HLOOKUP, SUMIF, SUMIFS, SUMPRODUCT, DSUM, COUNTIF, COUNTIFS, IF, IFERROR, ISERROR, ISNA, ISNUMBER, ISNONTEXT, OR, AND, SEARCH, INDEX, MATCH etc

UNIT II **6**

Various Methods and Uses of IF Conditions , Usage of "IF" Conditions? , Creation of Multiple IF Conditions in One Cell , Use the IF Conditions with the Other Advance Functions, How to use nested IF statements in Excel with AND, OR Functions Sorting, Data Forms, Adding Data Using the Data Form, Finding Records Using Criteria

UNIT III **6**

Filtering Data, AutoFilter, Totals and Subtotals, Row, Various Methods of Filter and Advance Filter options , Creating and Updating Sub totals , Various Method of Sorting Data ,Creating, Formatting and Modifying Chart.

UNIT IV **6**

Customizing the Quick Access Tool Bar , Managing Windows ,Multiple Windows , Splitting Windows.

UNIT V **6**

Various Methods and Options of Pivot Table, Using the Pivot Table Wizard, Changing the Pivot Table Layout, Subtotal and Grand total Options, Formatting, and Grouping items

TEXT BOOKS:

1. Jordan Goldmeler, “Advanced Excel Essentials” ,APress, 2015 edition.

REFERENCE BOOKS:

1. John Walkenbach, “Microsoft Excel 2013 Bible”,Wiley Publications,2013.

Course Coordinator **HOD**

U18SESC004	**WEB DESIGNING**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Ramya & BCA				

COURSE OBJECTIVES: -

To gain knowledge in basic web designing concepts.

COURSE OUTCOMES (COs)

CO1	Understand the web basics and server side scripting.
CO2	Execute the HTML coding and linking process.
CO3	Analyze the hyper links and special characters.
CO4	Evaluate the Embedded Style Sheets & Linking External Style Sheets.
CO5	Create the backgrounds and user style sheets.
CO6	Create a real time application using web designing concept.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Introduction - The Internet in Industry and Research - Evolution of the Internet and World Wide Web - Web Basics – Client Side Scripting versus Server Side Scripting.

6

UNIT II

Introduction – First HTML example – Headings – Linking - Images, alt Attribute, Void Elements.

UNIT III **6**

Using Images as Hyperlinks-Special Characters and Horizontal Rules – Lists – Tables.

UNIT IV

Introduction - Inline Styles - Embedded Style Sheets - Linking External Style Sheets

UNIT V **6**

Backgrounds - Element Dimensions - Box Model and Text Flow - Drop-Down Menus - User Style Sheets.

TEXT BOOKS:

l Deitel, Harvey Deitel, Abbey Deitel, "Internet & World Wide Web: How To Program", 5th Edition, Pearson Publication, 2012.

REFERENCE BOOKS:

1. Jennifer Niederst Robbins, "Learning Web Design", Fourth Edition, O'Reilly Media, 2012.
2. Thomas Michaud, "Foundations of Web Design, Introduction to HTML & CSS", Pearson Publication, 2014.
3. Bayross, "Web Enable Commercial Application Development Using HTML, DHTML, JavaScript, Perl CGI", BPB Publications.
4. T. A Powell, "Complete Reference HTML (Third Edition)", TMH, 2002.

Course Coordinator **HOD**

U18SESC005	**PHOTOSHOP**	**L**	**T**	**P**	**C**
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Brindha & BCA				

COURSE OBJECTIVES: -

Learners can Apply methods to specific 3D Images and to identify various designs appropriate for Animation.

COURSE OUTCOMES (COs)

CO1	Gain knowledge to Create and save Images in fundamental computer applications
CO2	Understand the title bar, menu bar, option bar, image title bar in photo shop program.
CO3	Execute Zooming & Panning an Image while Working with Images.
CO4	Analyze Color manipulations & Working with Toolbox
CO5	Evaluate the Working with layers.
CO6	Create a real time application using 3D image and Animation.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Introduction to Adobe photoshop, Getting started with photoshop, creating and saving a document in photoshop, page layout and background

UNIT II **6**

Photoshop program window-title bar, menu bar, option bar, image window, image title bar, status bar, ruler, palettes, toolbox, screen modes, saving files, reverting files, closing files.

UNIT III **6**

Images: working with images, image size and resolution, image editing, color modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids-Cropping & Straightening an Image, image backgrounds, making selections.

UNIT IV **6**

Working with toolbox: working with pen tool, save and load selection-working with erasers-working with text and brushes-Color manipulations: color modes- Levels – Curves - Seeing Color accurately - Patch tool

UNIT V **6**

Layers: Working with layers- layer styles- opacity-adjustment layers.

TEXTBOOKS:

1. Reema Thareja , “Fundamentals of Computers”, Oxford University Press.

REFERENCE BOOKS:

1. Photoshop: Beginner's Guide for Photoshop - Digital Photography, Photo Editing, Color
2. Adobe Creative Team, “Adobe Photoshop Classroom in a Book”.

Course Coordinator **HOD**

	FLASH	**L**	**T**	**P**	**C**

U18SESC006	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- V.Brindha & BCA				

COURSE OBJECTIVES: -

Learners can identify methods appropriate for Basic Animation. Apply methods to design with flash.

COURSE OUTCOMES (COs)

CO1	Understand Working with flash, drawing with flash using Animation tools and Mixer.
CO2	Execute working with multiple objects, importing color palettes
CO3	Analyze Basic animation and working in the timeline,
CO4	Create Frames, key frames, deleting, copying and reversing frames
CO5	Evaluate the Shape tweening and shape hinting in motion
CO6	Apply methods to design with flash

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Working with flash, drawing with flash, drawing with the pencil, modifying lines, drawing with the pen, the oval and rectangle tools, free transform tool, envelope modifier, the brush tool, using the mixer.

UNIT II **6**

Adding custom colors to color palette, importing color palettes, working with multiple objects, grouping objects.

UNIT III **6**

Basic animation and working in the timeline, the timeline, movie properties.

UNIT IV

6

Frames vs. key frames, deleting, copying, and reversing frames, frame-by-frame vector animation, Animation on an image.

UNIT V **6**

Shape tweening , shape hinting , Shape tweening text , edit multiple frames , animating gradients, basic motion tweening.

TEXT BOOKS:

1. Nick Vandome ,"FLASH 5 in easy steps", ,Dreamtech press,2001

REFERENCE BOOKS:

1. E A Vander Veer &Chris Graver, "Flash CS3",Orelly Publications,2009.

Course Coordinator **HOD**

U18SESC007	COMPUTER HARDWARE AND ETWORKING	L	T	P	C

	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi / CS				

COURSE OBJECTIVES :- Learners familiar with the basic concepts of Microprosser,Controller, Server and to demonstrate the traditional imperative design of CPUs,cards,PCsand BIOS.

COURSE OUTCOMES (COs)

CO1	Design the structure of Micro Processor and PCs and CPUs
CO2	Understand the structure of PC architecture and the study of various PCs
CO3	Understand the Basics of Processor
CO4	Study the CPU,Chips,Processor and Controllers
CO5	Working with Internal Components cards and Higher Level Processor
CO6	Used to develop the Backups,Switches Routers,BIOS,Floppy Disk and zip Driver

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Microprocessor System - Introduction of System overview, Introduction to Processors, Memory Interfacing, Interfacing I/O Devices, Interfacing Data Converters, Display Interface, Serial I/O and Data Communication, Higher level Processors.

UNIT II **6**

Introduction to PC Architecture Study of PC-AT/ATX System, Pentium, Core, Core 2 Cord, Core 2 Duo, I3, I5, I7.

UNIT III **6**

Processor Basics of Processor and CPU Block Diagram of Computer and Computer Generation Motherboards, Chipset and Controllers, BIOS and the Boot Process, Computer Memory.

UNIT IV **6**

Internal Components IDE and SATA Devices: Hard Disk Drive and CD/DVDs Drives, SCSI Devices, Floppy Disk, Zip Drive, Backup Drive, Expansion Cards- LAN Card, IDE Card , VGA and SVGA Cards, Sound Card, Interface Cards, I/O cards, Video Cards, USB Card, Fire-Wire Cards, Internal Ports, Cables and Connector Types.

UNIT V **6**

Introduction of Network Cable like UTP, STP, Fiber Optics, Hub, Unmanageable Switch, Manageable Switch, Router, Modem, Wi-Fi, Access Point, PCI Wireless Card, USB Wireless Device, Print Server, USB Network Sharer, Backup Device, Server Hardware etc.

Text Books

1. Ramesh Gaonkar, “Microprocessor Architecture Programming and Application with the 8085”, Penram International Publication.

Reference Books

1. M.L. Gupta, “Electronics and Radio Engineering”, Dhanpat rai & Sons, New Delhi.
2. B. Govinda rajalu, “PC AND CLONES Hardware, Troubleshooting and Maintenance”, Tata Mc-graw-Hill Publication.
3. Stephen J. Bigelow, “PC Troubleshooting and Repair”, Dream tech Press, New Delhi.

Course Coordinator **HOD**

U18SESC008	COMPUTER PROGRAMMING	L	T	P	C

	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi/ CS				

COURSE OBJECTIVES :- Learners will be familiar with the Programming language C, identify the steps,Write the Algorithm,Design the flowchart and Implement the Programs for various Operations Functions,Pointers and Strings.

COURSE OUTCOMES (COs)

CO1	Apply and Write the clear, structure and Looping of elementary C programs.
CO2	Understand algorithmic thinking and apply it to programming.
CO3	Understand problem-solving techniques.
CO4	Ability to use C with Various operators Expressions and Decision making control.
CO5	Write Code using Arrays with single dimensions, Two dimensions and Multidimensional and Various Strings operations
CO6	create and develop programs using Functions, Pointers, Structures and Union

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Generation and Classification of Computers, Basic organization of a Computer, Number System, Binary, Decimal, Conversion, Problems.

UNIT II **6**

Algorithm, Pseudo code, Flow Chart, Problem formulation, Problem solving , Introduction to "C" programming, Fundamentals, Structure of C Program , compilation and linking processes, Constants, Variables, Data Types.

UNIT III **6**

Expressions using operators in C, Managing input and output operations, Decision making and Branching, Looping Statements.

UNIT IV **6**

Arrays, Initialization, Declaration, One Dimensional and Two Dimensional Arrays, String, String Operations, String Arrays.

UNIT V **6**

Function, Definition of Function, Declaration of Function, Recursion, pointers, pointer and arrays, Structure data type, Structure definition, Structure declaration, Structure within a structure, Union, Storage classes, Pre-processor directives.

Text Books

1. Anita Goel and Ajay Mittal, "Computer Fundamentals and programming in C", Dorling Kindersley (India) Pvt Ltd., Pearson Education in South Asia 2011.
2. PradipDey, ManasGhosh, "fundamentals of computing and programming in c", First edition, Oxford University Press, 2009.
3. Yashavant P. Kanethar, "Let Us C", BPB Publications, 2011.

Reference Books

1.Byron S Gottfried," Programming with C",Schaum'sOutlines,2nd Edition,Tata McGraw-Hill 2006.

2.Dromey R.G., "How to Solve it by Computer", Pearson Education, Fourth Reprint, 2007.

3.Kernighan., B.W and Ritchie, D.M, " The C Programming Language", Second Edition, Pearson Education, 2006.

Course Coordinator **HOD**

U18SESC009	Office Automation Tools	L	T	P	C

	Total Contact Hours – 30	2	0	0	2
	Prerequisite – Higher Secondary Level				
	Course Coordinator Name & Department :- Ms.K.HemaLakshmi / CS				

COURSE OBJECTIVES :-Learners will be familiar with the basic Office tools design that Work with Word,Excel,Power Point

COURSE OUTCOMES (COs)

CO1	Learn the text manipulations for word documents.
CO2	Understandthe thetemplates and mail merge concepts.
CO3	Understandcellediting, formulae, built in functionsused in the Excel Sheet.
CO4	Usedthe power point slidedesigns and backgrounds.
CO5	Used to Createthe graphics and animations usingwizards.
CO6	Used to Create the Inserting Clipartsframes,Working with the Graphs and Charts

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I **6**

Text Manipulations- font size, style, color. Alignment- left, right and justify, paragraph alignment, Usage of Numbering, Bullets, Footer and Headers, Usage of Spell check, and Find & Replace, Text Formatting, Picture insertion and alignment.

UNIT II **6**

Insertion – Table, chart, clip art, shapes, borders. Creation of documents, saving of documents, using templates, Creation templates, Mail Merge Concepts, Copying Text & Pictures from Excel.

UNIT III **6**

Creating of Excel sheet, Cell Editing, Usage of Formulae and Built-in Functions, File Manipulations, Data Sorting, Worksheet Preparation, Drawing Graphs, Usage of Auto Formatting.

UNIT IV **6**

Start power point, Create blank presentation, Selecting slide layout , Insert new slide, Editing presentation , Designing and formatting presentation , Change font, font color, size, style of text, Bullet and numbering, Slide design, layout, change background , preparing slide show presentation.

UNIT V **6**

Inserting Clip arts and Pictures, Frame movements, Insertion of new slides.Preparation of Organization Charts, Presentation using Wizards, Usage of design templates, working with tables, graphics and animation, working with graphs and organization charts.

Text Books

1. Joyce Cox, Joan Lambert and Curtis Fryc, “Step by Step Microsoft Office Professional 2010”, Microsoft press edition.

Reference Books

1. Ralph T.Reilly, “The Handbook of Office Automation”, iUniverse Publications,2012.

Course Coordinator **HOD**

U18SEMA001	QUANTITATIVE APTITUDE – 1	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES:-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Number Series with its applications.
CO2	Understand the concept of Data Interpretation
CO3	Apply suitable algorithms in Loss & Discount
CO4	Analyze the Rates,Time and Distance
CO5	Evaluate problemsSimple Interest
CO6	Create an real time application compounds and mixtures

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	2	1	1	1	1	2		
	CO2	2	3	1	2	2	1	2		
	CO3	3	2	2	3	2	2	3		
	CO4	3	3	3	2	2	2	3		
	CO5	2	3	2	1	3	2	2		
	CO6	3	3	3	1	3	2	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I NUMBER SYSTEM **6**

Numbers, Number Series, Number Theory, Arithmetic & Geometric Ratio

UNIT II STATISTICS **6**

Average, Ages, Data Interpretation.

UNIT III PERCENTAGE AND APPLICATIONS **6**

Percentage, Profit, Loss & Discount, Simple Interest, Compound Interest

UNIT IV TIME **6**

Rates,Time and Distance ,Train Problems, Boats and Streams, Time and Work.

UNIT V RATIO AND PROPORTION **6**

Allegations of compounds and mixtures.

Text Books

1. Aggarwal.R.S(2018) “Quantitative Aptitude” by, S.Chand Publications.

2. Aggarwal.R.S(2018) “A modern approach to Logical approach” by, S.Chand Publications.

Reference Books

1.Abhijit Guha, “Quantitative Aptitude”- Mc Graw Hills Publishers

2. Aggarwal.R.S(2018) “A modern approach to Logical approach” by, S.Chand Publications.

Course Coordinator **HOD**

U18SEMA002	QUANTITATIVE APTITUDE-II	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Mr.V.Nandakumar/Mathematics				

COURSE OBJECTIVES:-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge in Inverse, Compound equation.
CO2	Understand the circular arrangement.
CO3	Apply suitable direction of Permutations and combinations test.
CO4	Analyze the Heights and Distance
CO5	Evaluate problems on Simple Interest
CO6	Create an real time applicationof Date and time.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									✓	
4	Approval	Academic Council Meeting								

UNIT I SOLVING ABILITY **6**

Simple equations –Variation-Direct, Inverse, Compound

UNIT II PROBABILITY **6**

Problems on Linear and circular arrangement.

UNIT III REASONING ABILITY **6**

Coding and decoding – Direction Permutations and combinations test- Lateral reasoning-Blood relations-Paragraph based

puzzles.

UNIT IV TRIGONOMETRY **6**

Heights and Distance.

UNIT V CLOCKS AND CALENDERS **6**

Interpretation of Date and time.

Text Books

1. Aggarwal.R.S(2018) “Quantitative Aptitude” by, S.Chand Publications.

2. Aggarwal.R.S(2018) “A modern approach to Logical approach” by, S.Chand

Publications.

Reference Books

1.Abhijit Guha, “Quantitative Aptitude”- Mc Graw Hills Publishers

2. Aggarwal.R.S(2018) “A modern approach to Logical approach” by, S.Chand Publications.

Course Coordinator **HOD**

U18SEMA003	REGRESSION ANALYSIS WITH SPSS	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – Higher Secondary Level				
	Course Coordinator Name & Department:- Ms.S.Kavitha /Mathematics				

COURSE OBJECTIVES:-

To equip students with adequate knowledge of Mathematics to formulate problems and solve them analytically or numerically.

COURSE OUTCOMES (COs)

CO1	Gain knowledge Qualitative Variable on Nominal Scale, Ranked.
CO2	Understand the Deleting and Rearranging Items from the Viewer
CO3	Apply suitable direction Permutations and combinations test.
CO4	Analyze the Pie Chart, Scatter Plot and Dot plots
CO5	Evaluate data questionnaire Analysis
CO6	Create an real time application and test of hypotheses

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2	CO1	3	3	1	1	1	1	3		
	CO2	3	3	1	2	2	2	3		
	CO3	3	2	3	1	3	3	3		
	CO4	3	2	2	1	1	2	3		
	CO5	2	2	2	1	1	1	3		
	CO6	3	3	3	2	3	3	3		

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship(PR)
									☐	
4	Approval	Academic Council Meeting								

Unit 1 : Introduction **6**

Observations and Variables, Quantitative or Measurement Variable on Interval Scale, Qualitative Variable on Nominal Scale, Ranked Variable on Ordinal Scale.

Unit 2 : SPSS Data File **6**

Opening a Data File in SPSS – Variable View, Data View, Entering Data into the Data Editor, Saving the Data File. Editing and Manipulating Data : Inserting a New Variable, Rearranging the Order of Variable in the Variable View, Deleting and Rearranging Items from the Viewer. Usage of Data, Transform, Analyse and Graphs menus – Editing and copying and printing SPSS output – Importing Data from Excel File.

Unit 3:Descriptive Statistics with SPSS **6**

Charts and Graphs: Simple Bar charts, Pie Chart, Scatter Plot and Dot plots, Line graphs, Histogram

Unit 4: Correlation and Regression Analysis with SPSS **6**

Simple correlation (Karl Pearson's Method) - Rank correlation (Spearman's method) – Simple linear regression equation, Scatter plot and line of best fit – Questionnaire Analysis (Uni-variate and Bi- variate tables) – Chi square test with SPSS for independence of Attributes.

Unit 5: correlation and Testing of Hypothesis **6**

Partial and multiple correlation coefficients . Simple linear regression model : Description of data model - Estimation and test of hypotheses.

Books for Study :

1. Ananthi Sheshasayee and Sheshasayee, G, (2003), **Computer Applications in Business and Management**, Margham Publications, Chennai.

2. Rajathi, A. and Chandran, P. (2010), SPSS for you, MJP Publishers, Chennai.

3. Chatterjee, S and Price, B (1977), **Regression Analysis by Example**, John Wiley and Sons, New York (Chapter 1,2,3 and relevant portions in chapters 4,5,6,7,8,9).

4. Kapoor, V. K and Gupta, S. C (2002), **Fundamentals of Mathematical Statistics**, Sultan Chand and Sons, New Delhi. (Chapter 10 only)

Books for Reference :

1. Singh, V. P. and Singh, M. (1998), **MS-Excel**, Megabyte Series, Asian Publishers, New Delhi.

2. Andy Field (2006), **Discovering Statistics Using SPSS**, SAGE Publications , London.

3. Johnston, J (1972), **Econometric Methods**, McGraw-Hill Pvt. Ltd, New York.

4. Draper, N. R and Smith, H (1998), **Applied Regression Analysis,** 3rd edition, John Wiley and Sons, USA.

Course Coordinator **HOD**

பாரத் உயர் கல்வி மற்றும் ஆராய்ச்சி நிறுவனம்
கலை மற்றும் அறிவியல் புலம்

தமிழ்த்துறை

நோக்கு (Vision)

- இலக்கணங்கள், சங்க இலக்கியங்கள், சங்க மருவிய கால இலக்கியங்கள், காப்பியங்கள், சமய இலக்கியங்கள், சிற்றிலக்கியங்கள், நெறி இலக்கியங்கள், சித்தர் இலக்கியங்கள், நாட்டுப்புற இலக்கியங்கள், இருபதாம் நூற்றாண்டு இலக்கியங்கள் (கவிதை, சிறுகதை, நாவல், உரைநடை, திறனாய்வு, கட்டுரை) வாயிலாக தமிழர் பண்பாடு, வரலாறு, சமூகம் ஆகியவற்றை தரமான தமிழ்க் கல்வியின் வழியே பயின்று, சமூக அக்கறையோடு மானிட விழுமியங்களோடு இக்கால வாழ்வை எதிர்கொள்ளும் திறன் வாய்ந்த இளைய சமுதாயத்தை உருவாக்குதல்.

இலக்கு (Mission)

இ1. தரமான தமிழ்க் கல்வியின் வழி, தமிழரின் கலை இலக்கிய வடிவங்களை பகுத்து பார்க்கும் திறன் பெற்ற மாணவர்களை உருவாக்குதல்.

இ2. இன்றைய சமுதாயத்திற்கேற்ப ஆய்வுகளை மேற்கொள்ளும் வகையிலும் பல்வேறு பகுப்புகளுக்குட்பட்ட தமிழிலக்கியங்களின் அனைத்துப் பகுதிகளும் ஆய்வுக் களங்களாக உருவாக்க முயலுதல்.

இ3. நவீனத் தொழில்நுட்ப உபகரணங்களைக் கொண்டு வகுப்பறையில் பாடங்களைத் தெளிவுப்படுத்துதல் மட்டுமல்லாமல் மாணவர்களின் சுய சிந்தனையைத் தூண்டும் வகையில் கற்பித்தல்.

இ4. மாணவர்களின் படைப்பாற்றல் திறனை அடையாளம் காணுதல் மட்டுமல்லாமல் மத்திய - மாநில அரசு சார்ந்தப் போட்டிகளில் வெற்றிப் பெற வழிவகை செய்தல்.

இ5. மொழிப்பாடத்தின் வாயிலாக தன்னாளுமையை வளர்த்ததோடு, மாணவர் கருத்தரங்குகள், ஆசிரியர் கருத்தரங்குகள், வகுப்பறை விவாதங்களை நிகழ்த்துதல், ஊடக நிகழ்ச்சிகளில் பங்குபெற பயிற்சியளித்தல்.

பாடத்தின் நோக்கங்கள் (PROGRAMME EDUCATIONAL OBJECTIVES(PEOs))

பா.**நோ**.1: தமிழ் இலக்கிய புலமையும் இலக்கண அறிவும் வாய்க்கப் பெற்றவர்களாக மாணவர்களை தயார்படுத்துதல்.

பா.**நோ**.2: படைப்பு ஆர்வமிக்கவர்களாக, இலக்கிய விமர்சர்களாக திகழும்படி செய்தல்.

பா.**நோ**.3: தமிழ் இலக்கியம், தமிழ்மொழி, தமிழ்ப்பண்பாடு ஆகியவற்றின் சிறப்புகளை உலகளாவிய நிலையில் கொண்டு சேர்க்கும் பணிகளை மேற்கொள்ளச் செய்தல்

பாடத்தின் விளைவுகள்(பா.வி): (PROGRAMME OUTCOMES:)

மாணவர்கள் B.A. **தமிழ் கல்வி முடித்திருக்கும் தருவாயில்**

பா.வி.1 : இன்றைய போட்டி நிறைந்த உலகில் மொழித்துறையில் சிறந்த அறிவைப் பெறுவர்.

பா.வி.2 : மொழிப்பாடத்தின் வாயிலாக தன்னாளுமையை வளர்த்துக் கொள்வர்.

பா.வி.3 : மத்திய - மாநில அரசு சார்ந்தப் போட்டிகளில் வெற்றிப் பெறும் திறனைப் பெறுவர்.

பா.வி.4 : ஊடக நிகழ்ச்சிகளில் பங்குபெறும் திறனைப் பெறுவர்.

பா.வி.5 : படைப்புத் திறனையும் இலக்கிய விமர்சர்களாகும் திறனைப் பெறுவர்.

பா.வி.6 : பண்டைய பெருமக்களின் வாழ்வு, குறிக்கோள், கலை, பண்பாடுகளை அறிவர்.

பா.வி.7 : தமிழ் மொழியில் காலந்தோறும் வளர்ந்து வந்துள்ள வரலாற்றை அறிவர்.

பாடத்தின் குறிப்பிட்ட விளைவுகள்: (PROGRAM SPECIFIC OUTCOMES (PSOs))

* **பா.கு.வி** 1 : கவிதை, சிறுகதை, புதினம், உரைநடை போன்ற படைப்பு இலக்கியத்திற்கு தேவையான திறனைப் பெறுவர்.

* **பா.கு.வி** 2 : தமிழ் இலக்கிய புலமையும் இலக்கண அறிவையும் பெறுவர்.

பாரத் உயர்கல்வி மற்றும் ஆராய்ச்சி நிறுவனம்
கலை மற்றும் அறிவியல் புலம் - தமிழ்த்துறை - இளங்கலைத் தமிழ் இலக்கியம் (B.A.)
பொது விருப்பப் தேர்வு முறைப் பாட அமைப்புகள் (CBCS) 2018 -19

Degree	Batch	Dept.	Sem	FT - Code	Subject	Cr.
UG	2018	IA	1	U18HSTA101	Part – I (Language) - பொதுத்தமிழ் - I	3
UG	2018	IA	1	U18HSEN102	Part – II (Language) - ஆங்கிலம் - I	3
UG	2018	IA	1	U18MCTA101	இலக்கணம் - நன்னூல்- எழுத்து	4
UG	2018	IA	1	U18MCTA102	பண்டைய இலக்கியம் - அகம்	4
UG	2018	IA	1	U18MCTA103	தமிழ் மொழி வரலாறு	4
UG	2018	IA	1	U18MCTA104	தமிழ் இலக்கிய வரலாறு	3
UG	2018	IA	2	U18HSTA201	Part – I (Language) - பொதுத்தமிழ் - II	3
UG	2018	IA	2	U18HSEN202	Part – II (Language) - ஆங்கிலம் - II	3
UG	2018	IA	2	U18MCTA201	இலக்கணம் - நன்னூல் - சொல்	4
UG	2018	IA	2	U18MCTA202	பண்டைய இலக்கியம் - புறம்	4
UG	2018	IA	2	U18MCTA203	தமிழ் இலக்கண வரலாறு	4
UG	2018	IA	2	U18MCTA204	செம்மொழித் தமிழ்	3
UG	2018	IA	2	U18HSCH201	சூழலியல் (Environmental Studies)	2
UG	2018	IA	2	U18HSBC202	மனித உரிமைகள் (Value Education)	2
UG	2018	IA	3	U18HSTA301	Part – I (Language) - பொதுத்தமிழ்-III	3

UG	2018	IA	3	U18HSEN302	Part – II (Language) - ஆங்கிலம் - III	3
UG	2018	IA	3	U18MCTA301	இரட்டைக் காப்பியம் - சிலப்பதிகாரம்	4
UG	2018	IA	3	U18MCTA302	இலக்கணம்-தொல்காப்பியம்-பொருள்	4
UG	2018	IA	3	U18MCTA303	பதினெண் கீழ்க்கணக்கு நூல்கள் - I	3
UG	2018	IA	3	U18MCTA304	சிற்றிலக்கியங்கள் - I (MC)	3
UG	2018	IA	3	U18NESC011 U18NESC012 U18NETA013	**துறை சாரா விருப்பப்பாடம்** (NME)- I (Non Major Elective) (மூன்றில் எவையேனும் **ஒன்றை** தேர்வு செய்யவும்) 1. கணினியல் 2. தகவல் தொடர்பியல் 3. சுற்றுலாவியல்	2
UG	2018	IA	4	U18HSTA401	Part – I (Language) - பொதுத்தமிழ்-IV	3
UG	2018	IA	4	U18HSEN402	Part – II (Language) - ஆங்கிலம் - IV	3
UG	2018	IA	4	U18MCTA401	இரட்டைக் காப்பியம் - மணிமேகலை	4
UG	2018	IA	4	U18MCTA402	இலக்கணம்-புறப்பொருள் வெண்பாமாலை	4
UG	2018	IA	4	U18MCTA403	பதினெண் கீழ்க்கணக்கு நூல்கள் - II	3
UG	2018	IA	4	U18MCTA404	சிற்றிலக்கியங்கள் - II	3
UG	2018	IA	4	U18NESC021 U18NEVC022 U18NEVC023	**துறை சாரா விருப்பப்பாடம்** (NME)- II (Non Major Elective) (மூன்றில் எவையேனும் **ஒன்றை** தேர்வு செய்யவும்) 1. கணினித்தமிழ் - இணையம் 2. ஊடகவியல் 3. விளம்பரக்கலை	2
UG	2018	IA	4	U18SETA011 U18SETA012 U18SETA013	**திறன் அடிப்படையிலான விருப்பப்பாடம்** - I (Skill Based Elective - SBE) (மூன்றில் எவையேனும் **ஒன்றை** தேர்வு செய்யவும்) 1. ஆளுமைத் திறன் 2. பயன்பாட்டுத் தமிழ் 3. சிந்தனையியல்	2
UG	2018	IA	5	U18MCTA501	சமய இலக்கியம்	4
UG	2018	IA	5	U18MCTA502	இலக்கணம் - யாப்பருங்கலக்காரிகை	4
UG	2018	IA	5	U18MCTA503	இக்கால இலக்கியங்கள்	4
UG	2018	IA	5	U18MCTA504	மொழியியல்	4
UG	2018	IA	5	U18MCTA505	ஆராய்ச்சி முறையியல் ஓர் அறிமுகம்	3
UG	2018	IA	5	U18META011 U18META012 U18META013	**சார்புப்பாடம்** (Major Elective) – I (மூன்றில் எவையேனும் **ஒன்றை** தேர்வு செய்யவும்) 1. இலக்கிய திறனாய்வியல் 2. சித்தர் இலக்கியம் 3. பண்டைத்தமிழர் நாகரிகமும் பண்பாடும்	3
UG	2018	IA	5	U18SETA021 U18SETA022 U18SETA023	**திறன் அடிப்படையிலான விருப்பப்பாடம்** - II (Skill Based Elective) (மூன்றில் எவையேனும் **ஒன்றை** தேர்வு செய்யவும்) 1.மொழிபெயர்ப்பியல் 2. மொழிபயிற்சியும் மொழிபயன்பாடும் 3. கவின் கலைகள்	2
					திறன் அடிப்படையிலான விருப்பப்பாடம் - III (Skill Based Elective) (மூன்றில் எவையேனும் **ஒன்றை** தேர்வு செய்யவும்)	

UG	2018	IA	5	U18SETA031 U18SETA032 U18SETA033	1. இதழியல் கலை 2. பேச்சுக்கலை 3. போட்டித் தேர்வுத் தமிழ்	2
UG	2018	IA	6	U18MCTA601	இலக்கணம் - தண்டியலங்காரம்	4
UG	2018	IA	6	U18MCTA602	முத்தொள்ளாயிரம்	4
UG	2018	IA	6	U18MCTA603	திறனாய்வுக் கலை	3
UG	2018	IA	6	U18META021 U18META022 U18META023	**சார்புப்பாடம்** (Major Elective) – II (மூன்றில் எவையேனும் **ஒன்றை** தேர்வு செய்யவும்) 1. ஒப்பிலக்கியம் 2. நாடக இலக்கிய வரலாறு 3. நாட்டுப்புற இலக்கியம்-தமிழர் நாட்டுப்பாடல்கள்	3
UG	2018	IA	6	U18EETA6P1	ஆய்வுத் திட்டக் கட்டுரை (Project)	10
UG	2018	IA	6	U18HSTA6L1	Extension Activities	1
தரப்புள்ளிகள்						143

U18HSTA101		□□□□□ – I			L	T	P	C			
		Total Contact Hours – 45			3	0	0	3			
		Prerequisite course – +2 Level Tamil									
		Course Coordinator Name& Department : □□□□□□□. □.□□. □□□□□□□□ & □□□□□□□□□□□									
COURSE OBJECTIVES : □□□□□□□□ □□□□□□□□□□ □□□□□□□□□□□ □□□□□□ □□□□□□□											
COURSE OUTCOMES (COs)											
CO1	பாரதியார், பாரதிதாசன், கவிமணி ஆகியோரின் மரபுக்கவிதைகளை அறிவர்										
CO2	கண்ணதாசன், அப்துல்ரகுமான், நா.முத்துக்குமார் ஆகியோரின் புதுக்கவிதைகளை அறிவர்										
CO3	இருபதாம் நூற்றாண்டு உரைநடை கட்டுரைகளை அறிவர்										
CO4	இருபதாம் நூற்றாண்டு சிறுகதைக்கலையின் நுட்பத்தை அறிவர்										
CO5	இக்கால இலக்கிய வரலாற்றைப் பற்றி அறிவர்										
CO6	இருபதாம் நூற்றாண்டு இலக்கியத்தைப் பற்றி அறிவர்										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	H						M	H	M
	CO2	M	H								
	CO3	M	H								
	CO4	M	H								
	CO5	M	H								
	CO6	M	H								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									

4	Approval		Academic Council Meeting

அலகு 1

9

மரபுக்கவிதைகள்: பாரதியார் - தேசிய கீதங்கள் - தமிழ் நாடு - செந்தமிழ் நாடு, தமிழ்
பாரதிதாசன் - தமிழ் - இன்பத் தமிழ், எங்கள் தமிழ்
கவிமணி தேசிக விநாயகம் பிள்ளை - வாழ்க்கைத் தத்துவங்கள், வாழ்க்கை நிலையாமை

அலகு 2

9

புதுக்கவிதைகள்: கண்ணதாசன் - அழுகை, பிறப்பின் வருவது யாதெனக் கேட்டேன்!
அப்துல்ரகுமான் - கல்லின் காயம், பாருக்குள்ளே நல்ல நாடு
நா.முத்துக்குமார் - வளர்தலும் வளர்தல் நிமித்தமும், கை நீட்டினால் தண்ணீர் வரும் குழாய்

அலகு 3

9

கட்டுரைகள்: திரு.வி.கலியாணசுந்தரனார் - பாஷை வளர்வதெப்படி
அறிஞர் அண்ணா - வீட்டிற்கோர் புத்தகசாலை
வ.சுப. மாணிக்கம் - தேசிய மறை திருக்குறள்

அலகு 4

9

சிறுகதைகள்: வ.வே.சு. ஐயர் - குளத்தங்கரை அரசமரம் - 'தமிழ்ச் சிறுகதையின் தந்தை - தமிழின் முதல் சிறுகதை'
மௌனி - அழியாச்சுடர் - 'தமிழ்ச் சிறுகதையின் திருமூலவர்'
புதுமைப்பித்தன் - காஞ்சனை - 'தமிழ்ச் சிறுகதையின் மன்னன்'

அலகு 5

9

இக்கால இலக்கிய வரலாறு: இருபதாம் நூற்றாண்டு கவிதை இலக்கிய வரலாறு
இருபதாம் நூற்றாண்டு உரைநடை இலக்கிய வரலாறு
இருபதாம் நூற்றாண்டு சிறுகதை இலக்கிய வரலாறு

பாட நூல்கள்:

1. தி.சா.ராஜு, "பாரதியார் & பாரதிதாசன் கவிதைகள்", வானவில் பிரசுரம், 1977

2. சி.தேசிக விநாயகம் பிள்ளை, "கவிமணி கவிதைகள்", பூம்புகார் பதிப்பகம், 2011
3. கண்ணதாசன், "கவிஞர் கண்ணதாசன் கவிதைகள்", கண்ணதாசன் பதிப்பகம், 2012
4. அப்துல் ரகுமான், "கவிக்கோ கவிதைகள்', நேஷனல் பப்ளிஷர்ஸ், 2013
5. நா.முத்துக்குமார், "கவிதைகள்-அனா ஆவன்னா, பட்டாம்பூச்சி பதிப்பகம், 2016
6. இராமச்சந்திரன், "திரு.வி.க.வின் தேசபக்தன் கட்டுரைகள்",புவனேஸ்வரி பதிப்பகம்,2001
7. அண்ணா, 'சொற்பொழிவு-வீட்டிற்கோர் புத்தகசாலை', முத்தமிழ் நிலையம், 2008

பார்வை நூல்கள்:

1. ந.வேலுசாமி, "திருக்குறளை தேசிய நூலாக அறிவிக்க வேண்டும்", Coral Publisher, 2017
2. வ.வே.சு.ஐயர், "குளத்தங்கரை அரசமரம்", வ.உ.சி.நூலகம், 2007
3. மௌனி, "மௌனி படைப்புகள்", காலச்சுவடு பதிப்பகம், 2010
4. புதுமைப்பித்தன், "காஞ்சனை", அன்னம் பதிப்பகம், 2013

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18HSEN102	ENGLISH-I	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level English				
	Course Coordinator Name& Department : Mrs. SHEEBA - English				

COURSE OBJECTIVES : To use English effectively for study purpose and enable the learner to communicate appropriately in real life situation.

COURSE OUTCOMES (COs)

CO1	Remember and recall the words according to the given context.
CO2	Understand the necessity of grammar in Communication
CO3	Apply the plots and themes discussed
CO4	Analyze the various characters involved
CO5	Evaluate the characters and summarizes the prescribed literature
CO6	Create essays by evaluating the literary techniques and devices used.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								
4	Approval		Academic Council Meeting							

UNIT-I POETRY **9**

Lucy Gray -William Wordsworth – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Ulysses -Alfred Lord Tennyson** - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **The Road Not Taken** – **Robert Frost** - Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT-II – ONE ACT PLAYS **9**

The Boy Comes Home - A.A.Milne – Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Referee - W.H.Andrews and Geoffrey Dearmer** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT -III SHORT STORIES **9**

The Unicorn in the Garden – **James Thurber** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **The Avenger** – **Anton Chekov** - Author Biography - Plot

– Theme - Character sketch – Summary – Critical analysis

UNIT IV PROSE **9**

Six Thinking Hats - Edward de Bono – Author Biography - Self analysis technique, Summary; **My Early Days - Abdul Kalam** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis; **I Have a Dream (Speech) - Martin Luther King** - Author Biography - Plot – Theme - Character sketch – Summary – Critical analysis

UNIT V **9**

Introduction to Basics of Communication – Definitions – Types – Listening, Speaking, Reading & Writing

TEXT BOOKS:

1. Six Thinking Hats by Edward de Bono, Little Brown and Company, 1985
2. My Early Days by Abdul Kalam, October 7, 2013

REFERENCE BOOKS:

1. Strings of Gold (Part- II) Edited by Prof. Jasbir Jain (MacMillan), 2007
2. Basic Communication Skills for Technology by Rutherfoord (Dorlig Kindersly), 2007
3. English for Professionals A Practice Book of Communication Skills in English by Dr.Miglani (Vayu Education of India), 2010.

Course Coordinator **HOD**

U18MCTA101	**இலக்கணம் - நன்னூல் – எழுத்து**	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – +2 தேர்ச்சி				
	Course Coordinator Name& Department : முனைவர். த. கிறிஸ்டல் ரெஜி & தமிழ்த்துறை				
COURSE OBJECTIVES : □□□□□□□□ □□□□□□□□ □□□□□□□□□□□□□ □□□□□□□□□□□					
COURSE OUTCOMES (COs)					
CO1	நூலுக்குரிய இலக்கணங்கள் எவை, அதனை யார் செய்யவேண்டும், நூலைச் சொல்லும் ஆசிரியர், மாணாக்கர் ஆகியோரது				

	தன்மை ஆகியவற்றை அறிவர்
CO2	எழுத்தியலில் உள்ள 12 கூறுகளை 72 நூற்பாக்கள் மூலம் அறிவர்
CO3	பதவியலில் உள்ள 5 கூறுகளை 23 நூற்பாக்கள் மூலம் அறியச் செய்தல்
CO4	உயிரீற்றுப் புணரியலை 53 நூற்பாக்கள் மூலம் அறிவர்
CO5	மெய்யீற்றுப் புணரியல், உருபுப் புணரியலை முறையே 36, 18 நூற்பாக்கள் மூலம் அறிவர்
CO6	தமிழின் எழுத்து இலக்கணத்தை அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	H							H	M
	CO2	M	H								
	CO3	M	H								
	CO4	M	H								
	CO5	M	H								
	CO6	M	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

அலகு 1

12

பாயிரவகை – நூல், நூல் வகைகள் - பத்துக்குற்றம் - பத்து அழகு – முப்பத்திரண்டு உத்தி – சூத்திரம் - உரை, உரை வகை ஆசிரியர் - ஆசிரியர் ஆகாதோர் இலக்கணம் - மாணாக்கர், மாணாக்கராகாதோர் இலக்கணம் - பாடங்கேட்டலின் வரலாறு.

அலகு 2

12

எழுத்துக்களின் எண், பெயர், முறை – எழுத்துக்களின் பிறப்பு – முதலெழுத்துக்களும், சார்பெழுத்துக்களும் - எழுத்துக்கள் பிறக்குமிடம் - உருவம் - மாத்திரை – முதல் நிலை - இறுதி நிலை – போலி – சந்தியக்கரம் - சாரியைகள்.

அலகு 3

12

பதம் - பகுபதம் - பகாப்பதம் -ஓரெழுத்து ஒரு மொழி – பகுதி – விகுதி - இடைநிலை – வடமொழியாக்கம்.

அலகு 4

12

உயிரீற்றுப் புணரியல் - எல்லா ஈற்றின் முன்னும் மெல்லினமும் இடையினமும் புணர்தல் - உயிரீற்றுச் சிறப்புப் புணர்ச்சி - உயிரீற்றின் முன் வல்லினம் - ஊ,ஏ,ஐ ஆகியவற்றிற்குச் சிறப்பு விதி.

அலகு 5

12

மெய்யீற்றுப் புணரியல், மெய்யீற்றின் முன் உயிர் - மெய்யீற்றின் முன் மெய் - ணகர, னகர, மகர, - யகர, ரகர ழகர ஈறுகள் - உருபுப்புணரியல் - எட்டு உருபுகள் சாரும் இடவகை – வேற்றுமை உருபுகள் நிலைமொழி வருமொழிகளோடு புணர்தல்

பாட நூல்கள்:

1. ஆறுமுகநாவலர், "நன்னூல் காண்டிகையுரை-எழுத்ததிகாரம்", பாரி நிலையம், 2014
2 .பவணந்தி, "நன்னூல் காண்டிகையுரை: எழுத்ததிகாரம்" கழக வெளியீடு, 1999
3. அ.தாமோதரன், நன்னூல் - கூழங்கைத் தம்பிரான் உரை, க்ரியா வெளியீடு, 2010

பார்வை நூல்கள்:

1. தேவிரா, நன்னூல் எழுத்ததிகாரம் - தேவிரா உரை, நந்தினி பதிப்பகம், 2017
2. சோம.இளவரசு, நன்னூல் எழுத்ததிகாரம், மணிவாசகர் பதிப்பகம், 2010
3. ப.இப்ராஹிம், நன்னூல் எளிய உரை, நியூ செஞ்சுரி புக் ஹவுஸ், 2018

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

	□□□□□ □□□□□□□□□□ – □□□□	L	T	P	C
U18MCTA102	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – +2 Level Tamil				

	Course Coordinator Name& Department : □□□□ □□.□□□□□□□□□□ & □□□□□□□□□□□□										
COURSE OBJECTIVES : □□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□ □□□□□□□□□□□ □□□□□□□□□□□□□□□ □□□□□□ □□□□□□□□□□ □□□□□□□□□ □□□□□□□□□ □□□□□□□□□□□ □□□□□□□ □□□□□□□□										
COURSE OUTCOMES (COs)											
CO1	தமிழர்களின் நிலத்திணைகளைப் பற்றி அறிவர்										
CO2	களவு, கற்பு சார்ந்தவைகளை அவரவர் கூற்றுகளின் மூலம் அறிவர்										
CO3	ஆற்றுப்படுத்துவதை அவரவர் கூற்றுகளின் மூலம் அறிவர்										
CO4	காவிரியின் சிறப்பு,சோழ நாட்டின் சிறப்புகளை அறிவர்										
CO5	விரிச்சி கேட்டல், தலைவியின் துயரம், ஆற்றுப்படுத்துதல் ஆகியவைகளை அறிவர்										
CO6	பண்டையகால மக்களின் நாகரிகம் பண்பாடுகளை அறிவர்										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	H						H	M	M
	CO2	M	H								
	CO3	M	H								
	CO4	M	H								
	CO5	M	H								
	CO6	M	H								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

அலகு 1

12

திணைப்பாகுபாடு - அகத்திணையியலும் அன்பின் ஐந்திணைகளும், முப்பொருள்களும் - களவியல் - கற்பியல் - அகத்திணைகளுக்குரிய புறத்திணைகள்

அலகு 2

12

அ. நற்றிணை – (கூற்று அடிப்படையில்) : தலைவன் கூற்று - 101, 106, 152, 155, 157
தலைவி கூற்று - 117, 118, 130, 187, 196 தோழி கூற்று - 123, 124, 127, 131, 135
ஆ. குறுந்தொகை – (திணை அடிப்படையில்)
குறிஞ்சி-1, 2, 3, 13, 14, 17, 18 முல்லை- 21, 24, 64, 65, 66, 94, 98 மருதம்-8, 10, 19, 31, 33, 34, 35
நெய்தல் - 4, 5, 6, 9, 49, 51, 55 பாலை - 7, 11, 12, 15, 16, 20, 22

அலகு 3

12

அ. ஐங்குநுறூறு – கபிலரின் குறிஞ்சித்திணைப் பாடல்கள் - முதல் 40 பாடல்கள்
ஆ. கலித்தொகை- பாலை - 3, 4. குறிஞ்சி-39, 40 மருதம்-68, 69 முல்லை-103,104 நெய்தல்-120, 121

அலகு 4

12

அ. அகநானூறு – (கூற்று அடிப்படையில்)
தலைவன் கூற்று - 121, 123, 124, 126, 130 தலைவி கூற்று - 122, 128, 133, 135, 138
தோழி கூற்று - 127, 129, 132, 137, 143
ஆ. பட்டினப்பாலை - காவிரியின் சிறப்பு,சோழ நாட்டின் சிறப்பு - 1-28

அலகு 5

12

அ. குறிஞ்சிப்பாட்டு-தலைவி தலைவனுடன் கூடிய நிலைபகற்பொழுதைப் போக்கிய வகை-183 -216
ஆ. முல்லைப் பாட்டு -நல்லோர் விரிச்சி கேட்டல் -1 -11
தலைவியைத் தேற்றுதல்-12-23 தலைவனது பிரிவினால் தலைவி பெற்ற துயரம்-80-89

பாட நூல்கள்:

1. பின்னத்தூர் நாராயணசாமி ஐயர், "நற்றிணை", கழக வெளியீடு, 2009
2. பொ.வே. சோமசுந்தரனார், "குறுந்தொகை", கழக வெளியீடு, 2007
3. உ.வே.சாமிநாதையர், "ஐங்குறுநூறு", உ.வே.சாமிநாதையர் நூல்நிலையம், 2018
4. அ.விசுவநாதன், "கலித்தொகை மூலமும் உரையும்" ,நியூ செஞ்சுரி புக் ஹவுஸ், 2004
5. ந.மு.வேங்கடசாமி நாட்டார், ரா.வேங்கடாசலம், "அகநானூறு", தமிழன் பதிப்பகம், 2012
6. உ.வே.சாமிநாதையர், "பத்துப்பாட்டு: மூலமும் உரையும்", நியூ செஞ்சுரி புக் ஹவுஸ், 2017

பார்வை நூல்கள்:

1. பாலசுப்ரமணியம், சங்க இலக்கியம், நியூ செஞ்சுரி புக்ஸ், 2008
2. கதிர் முருகு, சங்க இலக்கியம் பத்துப்பாட்டு , கௌரா ஏஜென்ஸிஸ், 2012
3. ஆசிரியர் குழு, சங்க இலக்கியம் மூலமும் உரையும் , சாரதா பதிப்பகம், 2012

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCTA103	□□□□□ □□□□ □□□□□□	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : □□□□□□□. □□□.□□□□□□□□□□□□ & □□□□□□□□□□□				

COURSE OBJECTIVES	
COURSE OUTCOMES (COs)	
CO1	மொழி அமைப்பு, திராவிட மொழியை அறிவர்
CO2	பிராமிக் கல்வெட்டுகளில் மொழி, தொல்காப்பியத் தமிழ், சங்க காலத் தமிழை அறிவர்
CO3	பல்லவர், சோழர்,நாயக்கர் காலத் தமிழ், இடைக் காலத் தமிழை அறிவர்
CO4	மராட்டியர் கால, இக்காலத் தமிழ், தமிழில் பிற மொழிக் கலப்பு வரலாறு பற்றி அறிவர்
CO5	தமிழின் கிளை மொழி, வரிவடிவ வரலாறுகளை அறிவர்
CO6	தமிழ் மொழியில் காலந்தோறும் வளர்ந்து வந்துள்ள வரலாற்றை அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	H							H	H
	CO2	M	H								
	CO3	M	H								
	CO4	M	H								
	CO5	M	H								
	CO6	M	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					

4	Approval	Academic Council Meeting

அலகு 1 12

மொழி அமைப்பும் வரலாறும் - மொழி வரலாற்றுச் சான்றுகள் - தொல் திராவிட மொழியும் தமிழும்

அலகு 2 12

பழங்காலத் தமிழ் - தமிழ்ப் பிராமிக் கல்வெட்டுகளில் மொழி - தொல்காப்பியத் தமிழ் - சங்க காலத் தமிழ்

அலகு 3 12

சங்கம் மருவிய காலத் தமிழ் - பல்லவர் காலத் தமிழ் - சோழர் காலத் தமிழ் - நாயக்கர் காலத் தமிழ்

அலகு 4 12

மராட்டியர் காலத் தமிழ் - பத்தொன்பது, இருபதாம் நூற்றாண்டுத் தமிழ் - தமிழில் பிற மொழிக் கலப்பு வரலாறு

அலகு 5 12

தமிழின் கிளை மொழிகளும் வரலாறும் - தமிழ்ச் சொற்பொருள் மாற்ற வரலாறு - தமிழ்ச் சொற்றொடர் அமைப்பு வரலாறு - தமிழ் வரிவடிவ வரலாறு

பாட நூல்கள்:

1. சு.சக்திவேல், "தமிழ் மொழி வரலாறு", மணிவாசகர் பதிப்பகம், 2010
2. எஸ்.மணிகண்டராமன், "தமிழ் மொழி வரலாறு- அறிமுகம்", நிய செஞ்சுரி புக்ஸ்,2012
3. சூரியநாரயண சாஸ்திரி, தமிழ் மொழியின் வரலாறு, தமிழாராய்ச்சி நிறுவனம்,2010

பார்வை நூல்கள்:

1. மு.வரதராசனார், "மொழி வரலாறு", நியூ செஞ்சுரி புக் ஹவுஸ், 2011
2. மு.வரதராசன், மொழி நூல், பாரி நிலையம், 2008
3. இராசேந்திரன்,தமிழ் மொழி வரலாறு, தமிழ் வளர்ச்சி இயக்கம் , 1999

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCTA104	□□□□□ □□□□□□□ □□□□□□	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : □□□□□□□ □□.□□□□□□□ □□□ ஷீ□□ & □□□□□□□□□□□				

COURSE OBJECTIVES :	தமிழ் இலக்கிய நூல்களின் தோற்றம், வளர்ச்சியைப் அறியச் செய்தல்
COURSE OUTCOMES (COs)	
CO1	முச்சங்கத்தையும், சங்க இலக்கியத்தையும் அறிவர்
CO2	சங்கம் மருவிய கால இலக்கியங்களை அறிவர்
CO3	சோழர்கால இலக்கியங்களை அறிவர்
CO4	பக்தி இலக்கியங்களையும் சிற்றிலக்கியங்களையும் அறிவர்
CO5	இக்கால இலக்கியங்களை அறிவர்
CO6	தமிழ் இலக்கிய நூல்களின் தோற்றம், வளர்ச்சி ஆகியனவற்றை அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	L	H						H	M	M
	CO2	L	H								
	CO3	L	H								
	CO4	L	H								
	CO5	L	H								
	CO6	L	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					

4	Approval		Academic Council Meeting

அலகு 1 9

சங்கம் பற்றிய செய்திகள் - முதல், இடை, கடைச் சங்கங்கள் - சங்க இலக்கியங்கள் - பத்துப்பாட்டு, எட்டுத் தொகை

அலகு 2 9

சங்கம் மருவிய கால இலக்கியங்கள் - இரட்டைக் காப்பியங்கள் - பதினெண் கீழ்க்கணக்கு நூல்கள்

அலகு 3 9

ஐம்பெருங்காப்பியங்கள் - ஐஞ்சிறுகாப்பியங்கள் - கம்பராமாயணம் - பெரியபுராணம் - சீறாப்புராணம் - தேம்பாவணி

அலகு 4 9

பக்தி இலக்கியங்கள் - சிற்றிலக்கியங்கள் - பிள்ளைத்தமிழ் - கலம்பகம் - உலா - தூது - அந்தாதி - தனிப்பாடல்கள்

அலகு 5 9

தற்கால இலக்கியங்கள் - மரபுக்கவிதை - புதுக்கவிதை - உரைநடை - சிறுகதை - புதினம் - நாடகம் - கட்டுரை

பாட நூல்கள்:

1. சு.ஆனந்தன், "தமிழ் இலக்கிய வரலாறு", கண்மணி பதிப்பகம், 2013
2. சி.பாலசுப்பிரமணியன், "தமிழ் இலக்கிய வரலாறு", மணமலர்ப் பதிப்பகம், 2018
3. கா.கோ.வேங்கடராமன், "தமிழ் இலக்கிய வரலாறு", நியூ செஞ்சுரி புக் ஹவுஸ், 2012

பார்வை நூல்கள்:

1. மு.வரதராசன், "தமிழ் இலக்கிய வரலாறு", பாரி நிலையம், 2008
2. தமிழண்ணல், "புதிய நோக்கில் தமிழ் இலக்கிய வரலாறு", சிந்து வெளியீடு, 2008
3. பாக்யமேரி, "வகைமை நோக்கில் தமிழ் இலக்கிய வரலாறு",நியூசெஞ்சுரி புக்ஸ்,2011

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18HSTA201	□□□□□ - II	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : □□□□□□□. □.□□. □□□□□□□□ & □□□□□□□□□□□				

COURSE OBJECTIVES :	சிற்றிலக்கியம் மற்றும் சமய இலக்கியத்தை அறியச் செய்தல்
COURSE OUTCOMES (COs)	
CO1	தூது,பள்ளு,குறவஞ்சி என்ற சிற்றிலக்கியங்கள் பற்றி அறிவர்
CO2	சைவ இலக்கியமான தேவாரம், திருவாசகம், அற்புதத்திருவந்தாதிப் பற்றி அறிவர்
CO3	வைணவ இலக்கியமான நாலாயிர திவ்யப் பிரபந்தம் பற்றி அறிவர்
CO4	பௌத்த, இசுலாம், கிறித்துவ சமய இலக்கியங்களைப் பற்றி அறிவர்
CO5	சிற்றிலக்கியம் மற்றும் சமய இலக்கிய வரலாறு பற்றி அறிவர்
CO6	சிற்றிலக்கியம் , சமய இலக்கியம் பற்றிய தெளிவான அறிவைப் பெறுவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	L	H						H	M	
	CO2	L	H								
	CO3	L	H								
	CO4	L	H								
	CO5	L	H								
	CO6	L	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								

4	Approval		Academic Council Meeting

அலகு 1

9

அழகர் கிள்ளைவிடு தூது - 1 - 20

முக்கூடற்பள்ளு - நாட்டு வளம் - 21,22,25,26,35

திருக்குற்றாலக் குறவஞ்சி - குறத்தி மலைவளம் கூறுதல் - 1 - 5

அலகு 2

9

அற்புதத்திருவந்தாதி - 1 - 5

தேவாரம் - திருவெண்காட்டுப் பதிகம் - திருஞானசம்பந்தர் - 1 - 10

திருவாசகம் - திருச்சாழல் - மாணிக்கவாசகர் - 1 - 10

அலகு 3

9

நாலாயிர திவ்யப் பிரபந்தம் - முதல் திருமொழி - பெரியாழ்வார் - 1 - 10

நாலாயிர திவ்யப் பிரபந்தம் - திருப்பாவை - ஆண்டாள் - 1 - 10

நாலாயிர திவ்யப் பிரபந்தம் - திருமாலை - தொண்டரடிப்பொடி ஆழ்வார் - 1 - 5

அலகு 4

9

ஆசிய ஜோதி - கருணைக் கடல் - அறவுரை கூறுதல் - 1 - 10

பராபரக்கண்ணி - குணங்குடி மஸ்தான் சாகிபு - 1 - 20

இயேசு காவியம் - பாடுகளின் பாதை - கண்ணதாசன்

அலகு 5

9

சிற்றிலக்கிய வரலாறு - சமய இலக்கிய வரலாறு

பாட நூல்கள்:

1. கதிர் முருகு, "அழகர் கிள்ளைவிடு தூது", சாரதா பதிப்பகம், 2011
2. கதிர் முருகு, "முக்கூடற் பள்ளு மூலமும் உரையும்", சாரதா பதிப்பகம், 2017
3. புலியூர்க் கேசிகன், "திருக்குற்றாலக் குறவஞ்சி", செண்பகா பதிப்பகம், 2010
4. தமிழமுதன், "அற்புதத்திருவந்தாதி", பாரி நிலையம், 2011
5. சோ.கந்தசாமி "பன்னிரு திருமுறை", உலகத் தமிழாராய்ச்சி நிறுவனம், 2008
6. த.கோவேந்தன்,"நாலாயிரத்திவ்யப்பிரபந்தம் எளிய உரையும்",சாரதா பதிப்பகம்,2015
7. கமலா முருகன், "ஆசிய ஜோதி மூலமும் உரையும்", சாரதா பதிப்பகம், 2012
8. கமலா முருகன், "பராபரக்கண்ணி மூலமும் உரையும்", சாரதா பதிப்பகம், 2013
9. கண்ணதாசன், "இயேசு காவியம்", கண்ணதாசன் பதிப்பகம், 2014

பார்வை நூல்கள்:

1. சு.ஆனந்தன், "தமிழ் இலக்கிய வரலாறு", பாரி நிலையம், 2018

2. மா.ராசமாணிக்கனார், சமய இலக்கிய வரலாறு, காவ்யா பதிப்பகம், 2012
3. மு.பொன்னுசாமி, தமிழ் சிற்றிலக்கிய வரலாறு, பாரி நிலையம், 2008

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18HSEN202	ENGLISH II				L	T	P	C			
	Total Contact Hours – 45				3	0	0	3			
	Prerequisite course – +2 Level English										
	Course Coordinator Name& Department : .: Mr.S.KUMARESAN - English										
COURSE OBJECTIVES : To have a better understanding of the English language skills and its implementation it in day to day life activities.											
COURSE OUTCOMES (COs)											
CO1	Remember and recall the concepts of English language										
CO2	Understand the necessity of grammar in Communication										
CO3	Apply the plots and themes discussed										
CO4	Analyze the various characters involved										
CO5	Evaluate the characters and summarize the prescribed literature										
CO6	Create essays by evaluating the literary techniques and devices used.										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

UNIT 1: PROSE **9**

The Refugee – **K.A. Abbas** – Author Biography – Plot – Theme - Summary - Critical analysis; **The Lion and the Lamb** – **Leonard Clark** – Author Biography – Plot – Theme - Summary - Critical analysis.

UNIT 2: POETRY **9**

The Solitary Reaper – **William Wordsworth** – Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis; **Gift** – **Alice Walker**- Author Biography - Theme – Poetic devices – Annotations - Summary – Critical analysis

UNIT 3: SHORT STORIES **9**

The Fortune -Teller – **Karel Capek** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **The Postmaster** – **Rabindranath Tagore** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 4: ONE-ACT PLAYS **9**

The Death Trap – **Saki (H.H. Munro)** – Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis; **The Dear Departed**: **A Comedy in One-Act – Stanley Houghton**- Author Biography – Plot – Theme - Summary - Character analysis - Critical analysis

UNIT 5: GRAMMAR **9**

Communicative Grammar - Seeking and giving information – statements and questions Being informal – phrasal verbs, Expressing ability, possibility, etc – Modals and other devices

TEXT BOOKS:

1. The Death Trap by Saki, The Novels and Plays of Saki, 2001
2. Pooja Khanna, “English Communication”, S.CHAND Publishing, 2016
3. Rabindranath Tagore, “The Postmaster”, Penguin India, 2000

REFERENCE BOOKS:

1. K.A.Abbas Suresh Kohli, “An Evening in Calcutta”, HarperCollins, 2015

2. Stanley Houghton, “Five one act plays”, Alpha Edition, 2019
3. Edited Prof. Jasbir Jain, “Strings of Gold (Part- II)”, MacMillan, 2016

Course Coordinator **HOD**

U18MCTA201	□□□□□□□□ - □□□□□□□□ - □□□□	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : □□□□□□□□. □. □□□□□□□□□□ □□□□ & □□□□□□□□□□□□				

COURSE OBJECTIVES :	நால்வகைச் சொற்களின் இலக்கணத்தைக் கற்றுத்தருதல்
COURSE OUTCOMES (COs)	
CO1	சொற் பாகுபாடு, பெயர்ச் சொல் ஆகியவற்றை அறிவர்
CO2	பெயரியலில், வேற்றுமையை 29 நூற்பாக்கள் மூலம் அறிவர்
CO3	வினையியலை 32 நூற்பாக்கள் மூலம் அறிவர்
CO4	பொதுவியலை 68 நூற்பாக்கள் மூலம் அறிவர்
CO5	இடையியல், உரியியலை முறையே 22, 11 நூற்பாக்கள் மூலம் அறிவர்
CO6	நால்வகைச் சொற்களின் இலக்கணத்தை அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	L	H							H	H
	CO2	L	H								
	CO3	L	H								
	CO4	L	H								
	CO5	L	H								
	CO6	L	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

அலகு 1

12

சொல்லின் பொதுவிலக்கணம் - மூவகை மொழிகள் - பெயர்ச்சொல் - திணை, பால், இடம், இயல்பு வழக்கும், தகுதி வழக்கும் - சொல்லின் வகைகள் - உயர்திணை, அஃறிணைப் பொதுப்பெயர்கள், தொழிற் பெயரும் வினையாலணையும் பெயரும் - ஆகுபெயர்.

அலகு 2

12

வேற்றுமை என்பதன் விளக்கம் - பாகுபாடு – பெயர் வேற்றுமை - இரண்டாம் வேற்றுமை முதல் ஏழாம் வேற்றுமை முடிய உரிய உருபுகளும் அவை உணர்த்தும் பொருள்களும் - விளிவேற்றுமை – விளிப்பொருளை உணர்த்தும் முறைகள் - விளிவேற்றுமை உருபுகள் - விளிஉருபு ஏலாப் பெயர்கள் - உருபு மயக்கம்.

அலகு 3

12

வினைச்சொல் விளக்கம் - பாகுபாடுகள் முற்றுவினை - எச்சவினை - தெரிநிலைவினை – குறிப்பு வினை – செய்யும் என்னும் வாய்ப்பாட்டு வினை வினைமுற்று – எதிர்மறைவினை – உருபும் வினையும் அடுக்கி வருதல் - இடைப் பிறவரல் - முடிக்கும் சொல் நிற்கும் இடம், திணை, பால், இடம், பொதுமை நீங்கு நெறிகள், எச்சங்களின் முடிவு.

அலகு 4

12

தொகை நிலைத்தொடர் மொழிகள் -வேற்றுமை, வினை, பண்பு, உவமை, உம்மை, அன்மொழித் தொகைத் தொடர்கள் - தொகாநிலைத் தொடர் மொழிகள், வழாநிலைகளும், வழுவமைதிகளும் - பொருள்கோள்கள்.

அலகு 5

12

இடைச்சொல் இலக்கணம் - வகைகள், இடைச்சொற்கள் உணர்த்தும் பொருள்கள் - அசைச்சொல் - உரிச்சொல் இலக்கணம் - வகைகள் (புறனடை நீங்கலாக)

பாட நூல்கள்:

1. ஆறுமுக நாவலர், நன்னூல் காண்டிகையுரை சொல்லதிகாரம், பாரி நிலையம், 2014
2. அ.தாமோதரன், நன்னூல் விருத்தியுரை, உலகத்தமிழ் ஆராய்ச்சி நிறுவனம்,2012
3. புலியூர்க் கேசிகன், நன்னூல் சொல்லதிகாரம் காண்டிகையுரை, கௌரா பதிப்பகம், 2010

பார்வை நூல்கள்:

1. தேவிரா, நன்னூல் சொல்லதிகாரம், தேவிரா உரை, நந்தினி பதிப்பகம், 2017
2. சோம.இளவரசு, நன்னூல் சொல்லதிகாரம், மெய்யப்பன் பதிப்பகம், 2012
3. ச.திருஞானசம்பந்தம், நன்னூல் சொல்லதிகாரம் (காண்டிகைஉரை), மெரினா புக்ஸ்,2009

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCTA202	□□□□□ □□□□□□□□□□ – □□□□□	L	T	P	C
	Total Contact Hours –	4	0	0	4
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : □□□□ □□.□□□□□□□□□□ & □□□□□□□□□□□□				

COURSE OBJECTIVES : வாழ்க்கையைப் பிரதிபலிக்கும் கண்ணாடியான இலக்கியத்தின் மூலம் பண்டையகால மக்களின் நாகரிகம் பண்பாடுகளை அறியச் செய்தல்	
COURSE OUTCOMES (COs)	
CO1	பதிற்றுப்பத்து, புறநானூறுகளில் சில பாடல்களை அறிவர்
CO2	பரிபாடல், நெடுநல்வாடைகளில் சில பாடல்களை அறிவர்
CO3	திருமுருகாற்றுப்படை, பொருநராற்றுப்படைகளில் சில பாடல்களை அறிவர்
CO4	சிறுபாணாற்றுப்படை, பெரும்பாணாற்றுப்படைகளில் சில பாடல்களை அறிவர்
CO5	மலைபடுகடாம், மதுரைக்காஞ்சிகளில் சில பாடல்களை அறிவர்
CO6	பண்டையகால மக்களின் நாகரிகம் பண்பாடுகளை அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3

2	CO1	M	H						H	M	M
	CO2	M	H								
	CO3	M	H								
	CO4	M	H								
	CO5	M	H								
	CO6	M	H								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

அலகு 1

12

பதிற்றுப்பத்து - எட்டாம் பத்து - தகடூர் எறிந்த பெருஞ்சேரல் இரும்பொறை - அரிசில் கிழார்

புறநானூறு - (ஆசிரியர் வரிசையில்)

ஆலத்தூர் கிழார்- 34, 36, 69, 225, 324 முடமோசியார் - 13, 127, 128, 129, 130

ஔவையார் - 90, 91, 92, 93, 94 கபிலர் - 111, 112, 113, 114, 115

கல்லாடனார் - 23, 25, 371, 385, 391 பரணர் - 63, 336, 343, 348, 369

அலகு 2

12

பரிபாடல் - ஐந்தாம் பாடல் - செவ்வேள்

நெடுநல்வாடை (அகமும் புறமும்)

கோவலர் வாடையால் துன்புறுதல் - 1-12 பெண்கள் தெய்வத்தை வணங்குதல் - 36-44

கூதிர்க்காலத்தின் விளைவுகள் - 45-72 பாசறையில் அரசன் நிலை - 170-188

அலகு 3

12

திருமுருகாற்றுப்படை - திருப்பரங்குன்றம் - 1-77

பொருநராற்றுப்படை - பரிசு பெற்றோன் பாடின முறை - 1-73

அலகு 4

12

சிறுபாணாற்றுப்படை - ஏழு வள்ளல்களின் சிறப்பு - 84-113

நல்லியங்கோடன் அளிக்கும் பரிசில் -246-261 நல்லியங்கோடனது புகழும் பண்பும் -262-269

பெரும்பாணாற்றுப்படை - குறிஞ்சி நில மக்களின் இயல்பும் தொழிலும் - 134-147

முல்லை நிலக் கோவலரின் குழலிசை - 169-184

மருத நிலக் கழனிகளில் காணும் காட்சிகள்-207-242 இளந்திரையனின் போர் வெற்றி- 412-421

அலகு 5

12

மலைபடுகடாம் - கூத்தன் கூறப் போகும் செய்திகளைத் தொகுத்துக் கூறுதல் - 67-94

உழவர் செய்யும் உபசாரம் - 444-470 நன்னனது கொடைச் சிறப்பு - 561-583

மதுரைக்காஞ்சி - நால்வகைப் படைகளின் வலிமை - 43-54

தலையாலங்கானத்தில் பகைவர்களை வென்றமை - 120-130

பகைவரை அடக்கி, அவரை அறநெறியில் நிறுத்துதல் - 177-196

நால்வகைப் படைகளின் இயக்கம் - 375-394, மதுரையின் சிறப்பு - 687-699

பாட நூல்கள்:

1. ஔவை சு. துரைசாமிப்பிள்ளை, "பதிற்றுப்பத்து", கழக வெளியீடு, 2010
2. ஔவை சு. துரைசாமிப்பிள்ளை, "புறநானூறு", கழக வெளியீடு, 2007
3. புலியூர்க் கேசிகன், "பரிபாடல் மூலமும் உரையும்", சாரதா பதிப்பகம், 2015
4. ந சி கந்தையா, "பத்துப்பாட்டு மூலமும் உரையும்", தமிழ்மண் அறக்கட்டளை, 2012

பார்வை நூல்கள்:

1. பாலசுப்ரமணியம், சங்க இலக்கியம், நியூ செஞ்சுரி புக்ஸ், 2008
2. கதிர் முருகு, சங்க இலக்கியம் பத்துப்பாட்டு , கௌரா ஏஜென்ஸிஸ், 2012
3. ஆசிரியர் குழு, சங்க இலக்கியம் மூலமும் உரையும் , சாரதா பதிப்பகம், 2012

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

	□□□□□ □□□□□□ □□□□□□	L	T	P	C
U18MCTA203	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : □□□□□□□. □□□.□□□□□□□□□□□□ & □□□□□□□□□□□				
COURSE OBJECTIVES : இலக்கணத்தின் நோக்கத்தையும், வளர்ந்த வரலாறையும் கற்பித்தல்					
COURSE OUTCOMES (COs)					
CO1	இலக்கணத்தின் இன்றியமையாமையாதலை அறிவர்				
CO2	முற்காலத் தமிழ் இலக்கண நூல்களை அறிவர்				
CO3	இடைக்காலத் தமிழ் இலக்கண நூல்களை அறிவர்				
CO4	பிற்காலத் தமிழ் இலக்கண நூல்களை அறிவர்				
CO5	இலக்கணத்துக்கும் சமயத்துக்கும் உள்ள தொடர்பை அறிவர்				

CO6	இலக்கணத்தின் நோக்கத்தையும், வளர்ந்த வரலாறையும் அறிவர்										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	H								
	CO2	M	H								
	CO3	M	H							H	H
	CO4	M	H								
	CO5	M	H								
	CO6	M	H								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

அலகு 1

12

இலக்கணப் பொருள் விளக்கம் - இலக்கணத்தின் இன்றியமையாமை - இலக்கணத்தின் நோக்கம் - தமிழ் இலக்கண நூல்கள் - ஐந்திலக்கண மரபு - இலக்கண மரபில் மாற்றங்கள் - நிகண்டுகளும் இலக்கணமும்

அலகு 2

12

முற்காலத் தமிழ் இலக்கண நூல்கள் - தொடக்ககாலத் தமிழ் இலக்கணங்களும் வடமொழி இலக்கணங்களும் - முற்காலத் தமிழ் இலக்கணங்களின் அமைப்பு , ஆசிரியர் குறிப்பு, காலம், சிறப்பியல்புகள் - அகத்தியம் - தொல்காப்பியம் - இறையனார் அகப்பொருள் - புறப்பொருள் வெண்பாமாலை

அலகு 3

12

இடைக்காலத் தமிழ் இலக்கண நூல்கள் - அமைப்பு , ஆசிரியர்க் குறிப்பு, காலம், சிறப்பியல்புகள் - தமிழ் நெறி விளக்கம்

- யாப்பருங்கலம் - யாப்பருங்கலக்காரிகை - வீரசோழியம் - நேமிநாதம் - வெண்பாப் பாட்டியல் - தண்டியலங்காரம் - நன்னூல் - அகப்பொருள் விளக்கம் - பன்னிரு பாட்டியல் - நவநீதப்பாட்டியல் வரையறுத்த பாட்டியல் - சிதம்பரப்பாட்டியல் - மாறனலங்காரம் - மாறனகப் பொருள் - மாறன் பாவினம்

அலகு 4 12

பிற்காலத் தமிழ் இலக்கண நூல்கள் - அமைப்பு , ஆசிரியர்க் குறிப்பு, காலம், சிறப்பியல்புகள் - சிதம்பரச் செய்யுட்கோவை - பிரயோக விவேகம் - இலக்கண விளக்கம் - இலக்கணக் கொத்து - தொன்னூல் விளக்கம் - பிரபந்த தீபம் - பிரபந்தத் திரட்டு - இரத்தினச் சுருக்கம் - உவமான சங்கிரகம் - முத்துவீரியம் - சுவாமிநாதம் - அறுவகை இலக்கணம் - விருத்தப் பாவியல் - தமிழ் நூல் - யாப்பு நூல் - குமார பூபதியம்

அலகு 5 12

தமிழ் இலக்கணங்களும் சமயமும் - சமணமும் இலக்கணமும் - பௌத்தமும் இலக்கணமும் - சைவமும் இலக்கணமும் - வைணவமும் இலக்கணமும் - மறைந்து போன தமிழ் இலக்கண நூல்கள் - உரைநடையில் எழுந்த தற்காலத் தமிழ் இலக்கண முயற்சிகள்

பாட நூல்கள்:

1. இரா.இளங்குமரன், "இலக்கண வரலாறு", மணிவாசகர் பதிப்பகம், 2009
2. சோம.இளவரசு, "இலக்கண வரலாறு", மணிவாசகர் பதிப்பகம், 2008
3. இரா.சீனிவாசன், "தமிழ் இலக்கண மரபுகள்", தி பார்க்கர், 2000

பார்வை நூல்கள்:

1. சிதம்பரம், இலக்கணக் கருவூலம், அண்ணாமலைப் பல்கலைக்கழகம் , 1987
2. அகத்தியலிங்கம்,இலக்கணஆய்வுக்கட்டுரைகள்,அண்ணாமலைப்பல்கலைக்கழகம்,1974
3. புலவர் குழந்தை, மாணவர் அடிப்படைத் தமிழ் இலக்கணம், கௌரா பதிப்பகம், 2014

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCTA204	□□□□□□□□□□ □□□□□	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : □□□□□□□. □□□.□□□□□□□□□□□□ & □□□□□□□□□□□				
COURSE OBJECTIVES : தமிழின் செம்மொழிப் பண்புகளை அறியச்செய்தல்					

COURSE OUTCOMES (COs)											
CO1	மொழிக் குடும்பத்தையும் உலகச் செம்மொழிகளையும் அறிவர்										
CO2	செவ்வியல் கூறுகளை அறிவர்										
CO3	தமிழின் தொன்மை, சிறப்புகளை அறிவர்										
CO4	தமிழ்ச் செம்மொழியின் பண்புகளை அறிவர்										
CO5	தமிழ் இலக்கியச் செழுமையான நூல்களை அறிவர்										
CO6	செவ்வியல் ,செம்மொழி பற்றி அறிவர்										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	L	H								
	CO2	L	H								
	CO3	L	H							H	H
	CO4	L	H								
	CO5	L	H								
	CO6	L	H								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

அலகு 1

9

மொழி விளக்கம் - மொழிக் குடும்பங்கள் - உலகச் செம்மொழிகள் - இந்திய செம்மொழிகள்

அலகு 2

9

செவ்வியல்- சொற்பொருள் விளக்கம் - செவ்வியல் கருத்துவளர்ச்சி வரலாறு - செவ்வியல் கோட்பாட்டு வரையறை விளக்கம்

அலகு 3

9

செம்மொழித் தகுதிகள் - வரையறைகள் - வாழும் செம்மொழித் தமிழ் - தமிழின் தொன்மை - தமிழின் சிறப்புகள்

அலகு 4

9

தமிழ்ச்செம்மொழியின் பண்புகள் - தொன்மை - தனித்தன்மை - பொதுமை - நடுநிலை - பல மொழிகளுக்குத் தாயாகும் தன்மை - பண்பாடு, கலை, பட்டறிவு வெளிப்பாடு- தனித்தியங்கும் தன்மை - இலக்கிய வளம் - கலை இலக்கியத் தன்மை வெளிப்பாடு- உயர் சிந்தனை - மொழிக்கோட்பாடு

அலகு 5

9

தமிழ்ச்செம்மொழி நூல்கள் - தொல்காப்பியம் - எட்டுத்தொகை - பத்துப்பாட்டு- பதினெண் கீழ்க்கணக்கு

பாட நூல்கள்:

1. மணவை முஸ்தபா, "செம்மொழி உள்ளும் புறமும்", கௌரா பதிப்பகக் குழுமம், 2010
2. டாக்டர்.செ.சாரதாம்பாள், "சங்கச் செவ்வியல்", ஐந்திணைப் பதிப்பகம், 1993
3. ப.மருதநாயகம், "தமிழின் செவ்வியல் தகுதிகள்", பொன்ராணி பதிப்பகம், 2001

பார்வை நூல்கள்:

1. குமரிச்செழியன், செம்மொழித் தமிழ், சாரதா பதிப்பகம், 2011
2. கமுத்துச்சாமி., தொன்மைச் செம்மொழி, ஸ்ரீ செண்பகா பதிப்பகம், 2016
3. கிமணிமாறன்., தமிழின் செம்மொழிப் பண்புகள், பவானி பதிப்பகம், 2018

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18HSCH201	□□□□□□□□□	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : □□□□□□□ □□.□□□□□□□ □□□ ஷீ□□ & □□□□□□□□□□□				

COURSE OBJECTIVES : சுற்றுச்சூழல் குறித்து அறியச்செய்தல்

COURSE OUTCOMES (COs)

CO1	உலகச் சூழல் நெருக்கடிகளை அறிவர்
CO2	மாற்றமடையும் புவிக்கோளச் சூழல்களை அறிவர்
CO3	விவசாயம் தொடர்பான சூழற் பிரச்சனைகளை அறிவர்
CO4	பூகோளச் சூழற் பிரச்சனைகளை அறிவர்
CO5	மாசடைந்து வரும் வளிமண்டலம் பற்றி அறிவர்
CO6	சுற்றுச்சூழல் குறித்து அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1						H		M		
	CO2						H				
	CO3						H				
	CO4						H				
	CO5						H				
	CO6						H				

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval		Academic Council Meeting

அலகு 1 10

உலகச் சூழல் நெருக்கடி - பூமியும் மனிதனும் - பூகோளச் சூழற் பிரச்சனைகள்

அலகு 2 10

மாற்றமடையும் புவிக்கோளச் சூழல் - மாசடைந்து வரும் வளிமண்டலம் - ஒசோன் படையில் துவாரம் - சூடாகிவரும் புவிக்கோளம்

அலகு 3 10

விவசாயம் தொடர்பான சூழற் பிரச்சனைகள் - நிலத்தின் வளத்தேய்வு - புவியில் சுருங்கும் பசுமைப் போர்வை - கிருமிநாசினிகள்

பாட நூல்கள்:

1. கலாநிதி.க.குணராசா, "சூழலியல்", கமலம் பதிப்பகம், 2002
2. ஜே.தியாகராஜன், சுற்றுச் சூழலியல், சாரா பப்ளீசர்ஸ், 2012
3. நாகராஜன், சுற்றுச் சூழல் கல்வி, ஸிராம் பப்ளிசர்ஸ், 2017

பார்வை நூல்கள்:

1. ராமச்சந்திர குஹா, சுற்றுச் சூழலியல்: உலகம் தழுவிய வரலாறு, எதிர் வெளியீடு, 2016
2. சுசிலா அப்பாத்துரை, சுற்றுச்சூழல் கல்வி, நியூ செஞ்சுரி புக் ஹவுஸ், 2009
3. த.சித்தார்த்தன், சூழல் மொழி (சுற்றுச்சூழல் கட்டுரைகள்), நியூ செஞ்சுரி புக் ஹவுஸ், 2018

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18HSBC202	**மனித உரிமைகள்**				L	T	P	C			
	Total Contact Hours – 30				2	0	0	2			
	Prerequisite course – +2 Level Tamil										
	Course Coordinator Name& Department : □□□□□□□. □□.□□□□□□□□□□ & □□□□□□□□□□										
COURSE OBJECTIVES : மனித உரிமைகளை பற்றி அறியச் செய்தல்											
COURSE OUTCOMES (COs)											
CO1	நமது உரிமைகள் குறித்து அறிவர்										
CO2	மனித உரிமைகளையும் அதன் வகைகளையும் அறிவர்										
CO3	அகில உலக மனித உரிமைப் பிரகடனம் குறித்து அறிவர்										
CO4	அரசியலமைப்புச் சட்டத்தை அறிவர்										
CO5	குடும்ப வன்முறையிலிருந்து பெண்களை பாதுகாக்கும் சட்டம் குறித்து அறிவர்										
CO6	பெண்கள் சம்பந்தமான உரிமைகளை அறிவர்										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1				H	H	M		M		
	CO2				H	H	M				
	CO3				H	H	M				
	CO4				H	H	M				
	CO5				H	H	M				
	CO6				H	H	M				
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

அலகு 1 10

மனித உரிமைகளை புரிந்து கொள்வோம் - நமது உரிமைகள் - மனித உரிமைகளின் வகைகள்

அலகு 2 10

அகில உலக மனித உரிமைப் பிரகடனம் 1948 - இந்திய அரசியலமைப்புச் சட்டம் - அடிப்படைப் பண்புகள் - வகைப்பாடுகள் - பாகுபாடு

அலகு 3 10

பெண்களும் சமத்துவமும் - குடும்ப வன்முறையிலிருந்து பெண்களை பாதுகாக்கும் சட்டம் 2005 – மகளிர் ஆணையங்கள் - தேசிய மற்றும் மாநில மனித உரிமை நிறுவனங்களுக்கு புகார் அனுப்பும் முறை

பாட நூல்கள்:

1. ஆசிரியர் குழு , "பெண் குழந்தைகள் உரிமைக் கல்வி - கருத்தாதார கையேடு", மனித உரிமைக் கல்வி நிறுவனம், 2016
2. வ.நா.விஸ்வநாதன், "மனித உரிமைகள்", பாவை பப்ளிகேஷன்ஸ், 2012
3. இராஜமுத்திருளாண்டி, மனித உரிமைகள்,நியூ செஞ்சுரி புக் ஹவுஸ், 2008

பார்வை நூல்கள்:

1. வேங்கடாசலம், மனித உரிமைகள் பாதுகாப்புச் சட்டம், தாமரை பப்ளிகேஷன்ஸ், 2009
2. சி.எஸ். தேவ்நாத், அடிப்படை மனித உரிமைகள், நர்மதா பதிப்பகம், 2012
3. சு.பொ. அகத்தியலிங்கம், மனித உரிமைகள், தமிழ்ப் புத்தகாலயம், 2004

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18HSTA301	**தமிழ்** – III							L	T	P	C
	Total Contact Hours – 45							3	0	0	3
	Prerequisite course – +2 Level Tamil										
	Course Coordinator Name& Department : திருமதி. அ.கோ. ஸ்ரீதேவி & தமிழ்த்துறை										
COURSE OBJECTIVES : காப்பிய இலக்கியம் மற்றும் நீதி இலக்கியத்தை அறியச் செய்தல்											
COURSE OUTCOMES (COs)											
CO1	ஐம்பெரும் காப்பியங்களில் சிலப்பதிகாரம், மணிமேகலை, சீவக சிந்தாமணி பற்றி அறிவர்										
CO2	பிற்கால காப்பியங்களில் கம்பராமாயணம், தேம்பாவணி, சீறாப்புராணம் பற்றி அறிவர்										
CO3	முக்கால நீதி இலக்கியங்களில் திருக்குறள், நாலடியார், இனியவை நாற்பது பற்றி அறிவர்										
CO4	பிற்கால நீதி இலக்கியங்களில் மூதுரை, நன்னெறி, ஆத்தி சூடி பற்றி அறிவர்										
CO5	காப்பியம் மற்றும் நீதி இலக்கிய வரலாற்றைப் பற்றி அறிவர்										
CO6	காப்பியம், நீதி இலக்கியம் பற்றிய தெளிவான அறிவைப் பெறுவர்										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	L	H						H		M
	CO2	L	H								
	CO3	L	H								
	CO4	L	H								
	CO5	L	H								
	CO6	L	H								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

அலகு 1

9

சிலப்பதிகாரம் - இளங்கோவடிகள் - அடைக்கலக் காதை - 115-148, 201-219
மணிமேகலை - சீத்தலைச்சாத்தனார் -ஆபுத்திரன் திறம் அறிவித்த காதை - 1 - 115
சீவக சிந்தாமணி - திருத்தக்கத்தேவர்- குணமாலையார் இலம்பகம் - 851 - 860

அலகு 2

9

கம்பராமாயணம் - கம்பர் - அயோத்திய காண்டம் - கங்கைப் படலம் - 10
தேம்பாவணி - வீரமாமுனிவர் - நாட்டுப் படலம் - 10
சீறாப்புராணம் -உமறுப்புலவர்-நுபூவத்துக் காண்டம்-மானுக்குப் பிணை நின்ற படலம் - 1- 10

அலகு 3

9

திருக்குறள் - திருவள்ளுவர் - கல்வி - 1 - 10
நாலடியார் - பொருட்பால் - நட்பாராய்தல் - 1 - 10
இனியவை நாற்பது - பூதஞ் சேந்தனார் - 1 – 10

அலகு 4

9

மூதுரை - அவ்வையார் - 1- 10
நன்னெறி - சிவப்பிரகாசர் - 8,12,18,24,39
புதிய ஆத்தி சூடி - பாரதியார் - 1- 25

அலகு 5

9

காப்பிய இலக்கிய வரலாறு - நீதி இலக்கிய வரலாறு

பாட நூல்கள்:

1. ந.மு.வேங்கடசாமி நாட்டார், "சிலப்பதிகாரம்", ராமையா பதிப்பகம், 2010
2. புலியூர்க் கேசிகன், "மணிமேகலை மூலமும் உரையும்", சாரதா பதிப்பகம், 2017
3. ஆசிரியர் குழு, "சீவக சிந்தாமணி மூலமும் உரையும்", சாரதா பதிப்பகம், 2015
4 அ.ச.ஞானசம்பந்தன், "கம்ப ராமாயணம் மூலமும் உரையும்", நியூ செஞ்சுரி புக்ஸ்,2010
5. வீரமாமுனிவர், "தேம்பாவணி மூலமும் உரையும்", சாரதா பதிப்பகம், 2014
6. செய்குத் தம்பி பாவலர், "சீறாப்புராணம்", யுனிவர்சல் பப்ளிஷர்ஸ், 2010
7. கலைஞர் மு.கருணாநிதி, "திருக்குறள் கலைஞர் உரை", திருமகள் நிலையம், 2010
8. பத்மதேவன், "நாலடியார் மூலமும் உரையும்", கற்பகம் புத்தகாலயம், 2010
9. தமிழ்ப்பிரியன், "இனியவை நாற்பது மூலமும்.உரையும்", கற்பகம் புத்தகாலயம், 2007
10. ந.மு.வேங்கடசாமி நாட்டார், "மூதுரை", ராதா பதிப்பகம், 2010

பார்வை நூல்கள்:

1. அ.சீனிவாசன், "பாரதியின் புதிய ஆத்திச்சூடி: ஒரு விளக்கவுரை" , 1999
2. சு.ஆனந்தன், "தமிழ் இலக்கிய வரலாறு", பாரி நிலையம், 2018
3. கதிர் முருகு, "நன்னெறி மூலமும் உரையும்", சாரதா பதிப்பகம், 2016

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18HSEN302	ENGLISH III	L	T	P	C
	Total Contact Hours –	3	0	0	3
	Prerequisite course – +2 Level English				
	Course Coordinator Name& Department : Mrs. B.JANUA SHERLY – English				

COURSE OBJECTIVES :	To enable them to realize the value of language, communicate effectively and develop career skills
COURSE OUTCOMES (COs)	
CO1	Remember and recollect the value of LSRW skills.
CO2	Understand the competence of the four modes of language skills.
CO3	Apply the grammatical concepts and the correct usage of the English language.
CO4	Analyze their personality traits and develop interpersonal skills for a better career in life
CO5	Evaluate the knowledge and write resume official letters and reports
CO6	Create and develop their ability as critical thinkers and readers.

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								
4	Approval		Academic Council Meeting							

UNIT 1 - LISTENING SKILLS **9**

Types of Listening (Theory / Definition) - Tips for Effective Listening -Academic Listening (Lectures) - Listening to Radio and Television

UNIT 2 - TELEPHONE SKILLS **9**

Basics of Telephone communication -How to handle calls- telephone manners -Leaving a message -Making requests -Greeting and Leave Taking over phone (etiquette) - Handling the situations especially trouble shooting Teleconference - handling Tele interviews for Call Centers

UNIT 3 - WRITING SKILLS **9**

Standard Business letter - Report writing- Email drafting and Etiquettes - Preparing Agenda and writing minutes for meetings - Making notes on Business conversations

UNIT 4 - CAREER SKILLS **9**

Applying for job -Cover letters -Resume and Effective Profiling - Interviews - Group discussions

UNIT 5 – PERSONAL SKILLS **9**

Empathy (Understanding third person's point of view) -Intrapersonal skills -Interpersonal skills- Problem solving

TEXT BOOKS:

1. Improve Your IELTS Listening and Speaking Skill by Barry Cusack, 2007

2. Roche Marc, "Advanced English Writing Skills: Master class for English Language, Roche Publishing ESL, 2019

REFERENCE BOOKS:

1. Frederick H. Wentz, “A Workbook to Develop Skills For Employment”, Create space Independent Pub,2012

2. S. P. Dhanavel, “English and Soft Skills”, Orient Black Swan, First edition, 2010

Course Coordinator **HOD**

U18MCTA301	□□□□□□□□ □□□□□□□□□ - □□□□□□□□□□□□□	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : □□□□□□□ □□.□□□□□□□□□ & □□□□□□□□□□□				

COURSE OBJECTIVES : □□□□□□□□□ □□□□□□□□□□□□□□□ □□□□□□ □□□□□□□□□□ □□□□□□□□□□	
COURSE OUTCOMES (COs)	
CO1	மங்கல வாழ்த்து, இந்திரவிழவூர் எடுத்த காதையை அறிவர்
CO2	கானல் வரி, மதுரைக் காண்டத்தில் வேட்டுவ வரி பாடல்களை அறிவர்
CO3	மதுரைக் காண்டத்தில் அடைக்கலக் காதை, கொலைக்களக் காதைகளை அறிவர்
CO4	வழக்குரை காதை, வஞ்சிக் காண்டத்தில் குன்றக் குரவையை அஅறிவர்
CO5	வஞ்சிக் காண்டத்தில் நடுகல் காதை, வரந்தரு காதைகளை அறிவர்
CO6	சிலப்பதிகார காப்பிய இலக்கிய வழி வாழ்வியலை தெரிந்து கொள்வர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	L	M						H		M
	CO2	L	M								
	CO3	L	M								
	CO4	L	M								
	CO5	L	M								
	CO6	L	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

அலகு 1
12
மங்கல வாழ்த்துப் பாடல் , இந்திரவிழவூர் எடுத்த காதை

அலகு 2
12
கானல் வரி, வேட்டுவ வரி

அலகு 3
12
அடைக்கலக் காதை, கொலைக்களக் காதை

அலகு 4
12
வழக்குரை காதை, குன்றக் குரவை

அலகு 5
12
நடுகல் காதை , வரந்தரு காதை

பாட நூல்கள்:
1. ந.மு.வேங்கடசாமி நாட்டார், "சிலப்பதிகாரம் மூலமும் உரையும்", சாரதா பதிப்பகம், 2010
2. சிலம்பொலி சு.செல்லப்பன், "சிலப்பதிகாரம் தெளிவுரை", பாரதி பதிப்பகம், 1994
3. புலியூர்க் கேசிகன், "சிலப்பதிகாரம் மூலமும் உரையும்", கொளரா பதிப்பகம், 2016

பார்வை நூல்கள்:

1. இளங்கோ அடிகள், "சிலப்பதிகாரம்", புரோடிஜி தமிழ் பதிப்பகம், 2010
2. கே. ஜி. ஜவர்லால், "சிலப்பதிகாரம்", கிழக்கு பதிப்பகம், 2010
3. இளங்கோ அடிகள், "சிலப்பதிகாரம்", கிழக்கு பதிப்பகம் , 2010

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCTA302	□□□□□□□□□ - □□□□□□□□□□□□□□□ - □□□□□□	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். த. கிறிஸ்டல் ரெஜி & தமிழ்த்துறை				

COURSE OBJECTIVES :	பண்டைத் தமிழ் மக்களின் வாழ்வு, கலை, பண்பாடுகளை அறியச் செய்தல்
COURSE OUTCOMES (COs)	
CO1	கருப்பொருள் உரிப்பொருள்களை அறிவர்
CO2	அரண் அமைக்கும் முறை போர் செய்யும் முறை பற்றி அறிவர்
CO3	ஒத்த பண்புமுடைய காதலர்கள் திருமணத்திற்கு முன் ஒன்றுபடுதலை அறிவர்
CO4	இல்லறக்கிழமை பூண்டொழுகும் உலகியல் வாழ்வுமுறையை அறிவர்
CO5	நான்கு இயல்களுக்கும் பொதுப்பட அமைத்த பகுதியை அறிவர்
CO6	பண்டைத் தமிழ்ப் பெருமக்களின் வாழ்வு, குறிக்கோள், கலை, பண்பாடுகளை அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	L	H								

	CO2	L	H							H	H
	CO3	L	H								
	CO4	L	H								
	CO5	L	H								
	CO6	L	H								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

அலகு 1
12
அகத்திணையியல் (1-58)

அலகு 2
12
புறத்திணையியல் (59-88)

அலகு 3
12
களவியல் (89-139)

அலகு 4
12
கற்பியல் (140-192)

அலகு 5
12

பொருளியல் (193-244)

பாட நூல்கள்:

1. இளம்பூரணார், "தொல்காப்பியம் பொருளதிகாரம்", சாரதா பதிப்பகம், 2017
2. நச்சினார்க்கினியர், தொல்காப்பியம் பொருளதிகாரம் , அமராவதி பதிப்பகம், 2017
3. பேராசிரியர், தொல்காப்பியம் பொருளதிகாரம், அமராவதி பதிப்பகம், 2017

பார்வை நூல்கள்:

1. கு.வெ. பாலசுப்பிரமணியன், தொல்காப்பியம், நியூ செஞ்சுரி புக்ஸ், 2017
2. கி.இராசா, தொல்காப்பியம் பொருளதிகாரம், பாவை பப்ளிகேஷன்ஸ் , 2013
3. வ.த.இராம சுப்பிரமணியன், தொல்காப்பியம்–பொருளதிகாரம், பூம்புகார் பதிப்பகம், 2015

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCTA303	□□□□□□□□ □□□□□□□□□□□□□□ □□□□□□□□ - I	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : திரு மு.பரந்தாமன் & தமிழ்த்துறை				
COURSE OBJECTIVES : சங்கம் மருவிய காலத்தில் அகம், புறம் வழியிலாக அமைந்த பதினெண் கீழ்க்கணக்கு நூல்களை விளக்குதல்					
COURSE OUTCOMES (COs)					
CO1	முப்பால் என பெயர் பெற்ற திருக்குறளை அறிவர்				
CO2	நீதி புகட்டும் நாலடியார் பற்றி அறிவர்				
CO3	இன்னா நாற்பது, இனிமையான விடயங்களை கூறும் இனியவை நாற்பது பற்றி அறிவர்				
CO4	ஐந்திணை ஐம்பது, ஐந்திணை எழுபதுகளை அறிவர்				
CO5	திணைமொழி ஐம்பது, திணைமாலை நூற்றையம்பது பற்றி அறிவர்				

CO6	அகம், புறம், அறம் வழியிலாக அமைந்த பதினெண் கீழ்க்கணக்கு நூல்களை அறிவர்										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1			M		H			H		M
	CO2			M		H					
	CO3			M		H					
	CO4			M		H					
	CO5			M		H					
	CO6			M		H					
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

அலகு 1
9

திருக்குறள்:

அறத்துப்பால் - இனியவை கூறல் , புறங்கூறாமை , நடுவு நிலைமை , ஈகை
பொருட்பால் - கல்லாமை , காலமறிதல் , தெரிந்து தெளிதல் , ஊக்கம் உடைமை
காமத்துப்பால் - குறிப்பறிதல் , பிரிவாற்றாமை , கனவு நிலை உரைத்தல், குறிப்பறிவுறுத்தல்

அலகு 2
9

நாலடியார்:

அறத்துப்பால் - செல்வம் நிலையாமை, அறன் வலியுறுத்தல், சினமின்மை, மெய்ம்மை
பொருட்பால் - பெரியாரைப் பிழையாமை, கூடா நட்பு, அவையறித்தல், பன்னெறி
காமத்துப்பால் - பொது மகளிர், கற்புடை மகளிர் , காம நுதலியல்

அலகு 3

9

நானாற்பது;

கார்நாற்பது - பாடல் எண் 4,10,12, 25,33,40 களவழி நாற்பது - பாடல் எண் 3,23,25,26,33,41

இன்னா நாற்பது - பாடல் எண் 1,16,19,25,32,36 இனியவை நாற்பது - பாடல் எண் 1,11,17,27,30,32

அலகு 4

9

ஐந்திணை ஐம்பது, **ஐந்திணை எழுபது**:

ஐந்திணை ஐம்பது - முல்லை - பாடல் 1 – 10 குறிஞ்சி - பாடல் 1 – 10

ஐந்திணை எழுபது - பாலை - பாடல் 1 – 10 மருதம் - பாடல் 1 – 10 நெய்தல் - பாடல் 1 – 10

அலகு 5

9

திணைமொழி ஐம்பது, **திணைமாலை நூற்றைம்பது**:

திணைமொழி ஐம்பது - குறிஞ்சி- பாடல் 1 – 10 பாலை - பாடல் 1 – 10 முல்லை- பாடல் 1 – 10

திணைமாலை நூற்றைம்பது - நெய்தல்- பாடல் 1 – 10 மருதம் - பாடல் 1 – 10

பாட நூல்கள்:

1. ந.மு.வேங்கடசாமி நாட்டார், பதிணென்கீழ்க்கணக்கு நூல்கள் , தமிழ்மண் பதிப்பகம், 2012
2. துரை.இராஜாராம், பதினெண் கீழ்க்கணக்கு தொகுதி 1-2, முல்லை நிலையம், 2012
3. வ.வெ.சுப்ரமணியன், பதினெண் கீழ்க்கணக்கு நூல்கள், மணிவாசகர் பதிப்பகம், 2011

பார்வை நூல்கள்:

1. ஆசிரியர் குழு, பதிணென்கீழ்க்கணக்கு நூல்கள், சென்னைப் பல்கலைக்கழகம், 1944
2. ஆசிரியர் குழு, பதிணென்கீழ்க்கணக்கு நூல்கள் - உரை, சாரதா பதிப்பகம், 2012
3. கி.இராசா,பதினெண்கீழ்க்கணக்கு அக நூல்கள், செஞ்சுரி புக் ஹவுஸ், 2012

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCTA304	□□□□□□□□□□□□□□□□□□ - I	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர் ஜெ.அந்தோணி ஜெய ஷீலா & தமிழ்த்துறை				
COURSE OBJECTIVES : அறம், பொருள், இன்பம், வீடு எனும் நான்கு உறுதிப் பொருள்களுள் ஏதேனும் ஒன்றைத் தருவதாக அமையும் சிற்றிலக்கியத்தை கற்பித்தல்					
COURSE OUTCOMES (COs)					

CO1	குற்றாலக் குறவஞ்சி இலக்கியத்தைப் பற்றி அறிவர்
CO2	தமிழ் விடுதூது இலக்கியத்தை பற்றி அறிவர்
CO3	மீனாட்சியம்மைப் பிள்ளைத் தமிழ் இலக்கியத்தை பற்றி அறிவர்
CO4	நந்திவர்மன்மேல் பாடப்பட்ட நந்திக் கலம்பக இலக்கியத்தை அறிவர்
CO5	நாட்டில் வழங்கி வரும் பழமொழிகளை அறிவர்
CO6	அறம், பொருள், இன்பம், வீடு எனும் உறுதிப் பொருள்களை பற்றி அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1		M			H			H		M
	CO2		M			H					
	CO3		M			H					
	CO4		M			H					
	CO5		M			H					
	CO6		M			H					
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

அலகு 1

9

திருக்குற்றாலக் குறவஞ்சி (திரிகூடநாதர் கினைச்சிறப்புக் கூறுதல் வரை 1-60)

அலகு 2

9

தமிழ் விடுதூது (1-100)

அலகு 3
9
மீனாட்சியம்மைப் பிள்ளைத் தமிழ் (முத்தப்பருவம் வரை - 1-52)

அலகு 4
9
நந்திக் கலம்பகம் (1 - 61)

அலகு 5
9
பழமொழி விளக்கம் என்னும் தண்டலையார் சதகம் (1-50)

பாட நூல்கள்:

1. புலியூர்க் கேசிகன், "திருக்குற்றாலக் குறவஞ்சி", ஸ்ரீ செண்பகா பதிப்பகம், 2010
2. கதிர் முருகு, "தமிழ்விடு தூது மூலமும் உரையும்", சாரதா பதிப்பகம், 2018
3. கதிர் முருகு, "மதுரை மீனாட்சியம்மை பிள்ளைத்தமிழ்", சாரதா பதிப்பகம், 2009
4. முத்து. இராமமூர்த்தி,"நந்திக் கலம்பகம் - உரை", கௌரா பதிப்பகக் குழுமம், 2017
5. படிக்காசு புலவர், "தண்டலையார் சதகம்- உரை", கௌரா பதிப்பக குழுமம், 2016

பார்வை நூல்கள்:

1. திரிகூடராசப்பக் கவிராயர், திருக்குற்றாலக் குறவஞ்சி, பூம்புகார் பதிப்பகம், 2001
2. பா. ஆனந்தகுமார், தமிழ் விடு தூது, நியூ செஞ்சுரி புக் ஹவுஸ், 2010
3. செ.உலகநாதன், மதுரை மீனாட்சியம்மை பிள்ளைத்தமிழ், பாரி நிலையம், 2013
4. கதிர் முருகு, நந்திக் கலம்பகம்: மூலமும் உரையும், சீதை பதிப்பகம், 2006
5. புலியூர்க்கேசிகன், பழமொழி நானூறு, சாரதா பதிப்பகம், 2010

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

	□□□□□□□□	L	T	P	C

U18NESC011	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். இரா.பாலகிருஷ்ணன் & தமிழ்த்துறை				

COURSE OBJECTIVES : கணினியையும் அதன் பயன்பாட்டையும் அறியச் செய்தல்	
COURSE OUTCOMES (COs)	
CO1	கணினித் தலைமுறையும், வகைகளையும் அறிவர்
CO2	கணினியின் முறைமைகளை அறிவர்
CO3	சொல்செயலியில் ஆவணங்களைக் கையாளுதலைப் பற்றி அறிவர்
CO4	சொல்செயலியில் பிழை திருத்தம், கூடுதல் வசதிகள் பற்றி அறிவர்
CO5	விரிதாள் செயலியில் பணித்தாள்களைக் கையாளுதலைப் பற்றி அறிவர்
CO6	கணினியையும் அதன் பயன்பாட்டையும் அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1						M	H			M
	CO2						M	H			
	CO3						M	H			
	CO4						M	H			
	CO5						M	H			
	CO6						M	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
							✓			
4	Approval		Academic Council Meeting							

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கணினித் தலைமுறைகள் - கணினி வகைகள் - கணினி முறைமை (Computer System)

அலகு 2

10

சொல்செயலி (MS Word) - ஆவணங்களைக் கையாளுதல் (Handling of Documents) - ஆவண வடிவமைப்பு (Document Formating) - பிழை திருத்தம் - கூடுதல் வசதிகள்

அலகு 3

10

விரிதாள் (Spreadsheet) - பணித்தாள்களைக் கையாளுதல் (Handling of Worksheets) – பணித்தாள் வடிவமைப்பு (Worksheet Formating) - வரைபடங்கள் (Charts) - அட்டவணைச் செயல்பாடுகள்

பாட நூல்கள்:

1. கணேஸ்வரன், "தமிழ் மூலம் MS WORD", Quick Tec Academy, 2000
2. கணேஸ்வரன், "தமிழ் மூலம் MS EXCEL", Quick Tec Academy, 2000
3. ஜெ.வீரநாதன், எம்.எஸ் ஆபீஸ், எஸென்ஷியல் பப்ளிகேஷன்ஸ், 2018

பார்வை நூல்கள்:

1. ம.லெனின், எளியதமிழில் எக்ஸெல், சிக்ஸ்த்சென்ஸ் பப்ளிகேஷன்ஸ், 2008
2. கே.புவனேஸ்வரி, மைக்ரோசாஃப்ட் வேர்ட் 2013, கண்ணதாசன் பதிப்பகம், 2008
3. கே.புவனேஸ்வரி, கம்ப்யூட்டர் A to Z, விகடன் பிரசுரம், 2016

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18NESC012	□□□□□ □□□□□□□□□□	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். சு.பால்பாண்டி & தமிழ்த்துறை				

COURSE OBJECTIVES : □□□□□ □□□□□□□□□ □□□□□□□□□□□ □□□□□□□□□□ □□□□□□ □□□□□□□

COURSE OUTCOMES (COs)

CO1	தகவல் தொடர்புச் சாதனங்களின் கொள்கை, கோட்பாடுகளை அறிவர்
CO2	தகவல் தொடர்புச் சாதனங்களை அறிவர்
CO3	வானொலி மூலம் பயனுள்ள தகவல்களை அறிவர்
CO4	□□□□□□□□□□□□□ □□□□□ □□□□□□□ □□□□□□□□ □□□□□□
CO5	திரைப்படம் மூலம் பயனுள்ள தகவல்களை அறிவர்
CO6	தகவல் தொடர்புச் சாதனங்களின் மூலம் நடப்பியல் அறிவைப் பெறுவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1			H			M	H			L
	CO2			H			M	H			
	CO3			H			M	H			
	CO4			H			M	H			
	CO5			H			M	H			
	CO6			H			M	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
							✓			
4	Approval		Academic Council Meeting							

அலகு 1 10

கொள்கைகளும் கோட்பாடுகளும்

அலகு 2 10

தகவல் தொடர்புச் சாதனங்கள்

அலகு 3 10

வானொலி, தொலைக்காட்சி, திரைப்படம்

பாட நூல்கள்:

1. கி. இராசா, "மக்கள் தகவல் தொடர்பியல் அறிமுகம்", பாவை பப்ளிகேஷன்ஸ், 2008
2. வி. பார்வதி, "தமிழில் தகவல் தொடர்பு ஊடகங்கள்" நியூ செஞ்சுரி புக் ஹவுஸ், 2012
3. இராம்குமார், "தகவல் தொழில் நூட்பம்", கழகப் பதிப்பகம், 1998

பார்வை நூல்கள்:

1. ஸ்ரீகுமார், "மக்கள் தகவல் தொடர்பியல்", ஸ்ரீ செண்பகா பதிப்பகம், 2012
2. இராஜாவரதராஜா, "மக்கள் தகவல் தொடர்பியல்", ஆரா பதிப்பகம், 2013
3. வெ. கிருட்டிணசாமி,"தகவல் தொடர்பியல்", மணிவாசகர் பதிப்பகம், 2011

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18NETA013	□□□□□□□□□□□□□□	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். த. கிறிஸ்டல் ரெஜி & தமிழ்த்துறை				

COURSE OBJECTIVES : □□□□□□□□□□□□□□□□ □□□□□□□□□□ □□□□□□ □□□□□□□

COURSE OUTCOMES (COs)

CO1	சுற்றுலாவியலில் ஈடுபடும் அமைப்பாளர்கள் பற்றி அறிவர்
CO2	சுற்றுலாவியலில் ஈடுபடும் வழிகாட்டிகள், அவர்களுடைய பணிகள் பற்றி அறிவர்
CO3	யுவான் சுவாங் பாஹியான் மார்க்கோ போலோ பயண அனுபவக் குறிப்புகளை பற்றி அறிவர்
CO4	□□□□□□□□ □□□□□□ □□□□□□□□□□□ □□□□□□□□□□ □□□ □□□□□□□□□□ □□□□□□
CO5	சுற்றுலாவினால் ஏற்படும் பயன்களை அறிவர்
CO6	சுற்றுலாவினால் ஏற்படும் அறிவு வளர்ச்சி – பொருளாதார வளர்ச்சி, வேலை வாய்ப்பு பற்றி அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1			H	M		M	H			M
	CO2			H	M		M	H			
	CO3			H	M		M	H			
	CO4			H	M		M	H			
	CO5			H	M		M	H			
	CO6			H	M		M	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
							✓			

4	Approval		Academic Council Meeting

அலகு 1
10
சுற்றுலாவியல் அறிமுகம் - அமைப்பாளர்கள் (Organizers), வழிகாட்டிகள் (Guides), பணிகள் (Tourists) பற்றிய செய்திகள்.

அலகு 2
10
பண்டைக் காலச் சுற்றுலாப் பயணிகள் (யுவான் சுவாங் பாஹியான் மார்க்கோ போலோ) மூவரின் பயண அனுபவக் குறிப்புகள்.

அலகு - 3
10
சுற்றுலாப் பயன்கள் (அறிவு வளர்ச்சி – பொருளாதார வளர்ச்சி, வேலை வாய்ப்பு)

பாட நூல்கள்:
1. மா. இராசசேகர், "சுற்றுலாவியல்", கொங்குப் பதிப்பகம், 2012
2. ச. ஈஸ்வரன், "சுற்றுலாவியல் ஓர் அறிமுகம்", சாரதா பதிப்பகம், 2010
3. கமலம் சங்கர், "சுற்றுலாவும் பிற துறைகளும்", நியூ செஞ்சுரி புக் ஹவுஸ், 2008

பார்வை நூல்கள்:
1. ம. இராசசேகர தங்கமணி, "சுற்றுலாவியல்", கொங்கு பதிப்பகம், 2006
2. சுஜாதா, "தமிழ்நாடு சுற்றுலா வழிகாட்டி", கிழக்கு பதிப்பகம், 2010
3. மு. ஆதவன், "சுற்றுலா கையேடு", புதிய வாழ்வியல் பதிப்பகம், 2014

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18HSTA401	□□□□□ – IV	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : திருமதி. அ.கோ. ஸ்ரீதேவி & தமிழ்த்துறை				

COURSE OBJECTIVES :	சங்க இலக்கியத்தைப் பற்றி அறியச் செய்தல்
COURSE OUTCOMES (COs)	
CO1	எட்டுத்தொகையில் நற்றிணை, குறுந்தொகை, கலித்தொகை இலக்கியங்களை அறிவர்
CO2	எட்டுத்தொகையில் புறநானூறு, பதிற்றுப்பத்து இலக்கியங்களை அறிவர்
CO3	பத்துப்பாட்டு இலக்கியத்தில் பொருநராற்றுப்படை, பெரும்பாணாற்றுப்படை பற்றி அறிவர்
CO4	பத்துப்பாட்டில் நெடுநல்வாடை, பட்டினப்பாலை, முல்லைப்பாட்டு பற்றி அறிவர்
CO5	எட்டுத்தொகை, பத்துப்பாட்டு இலக்கிய வரலாற்றை அறிவர்
CO6	சங்க இலக்கியத்தைப் பற்றிய உயரிய சிந்தனையைப் பெறுவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	L	H						H	M	M
	CO2	L	H								
	CO3	L	H								
	CO4	L	H								
	CO5	L	H								
	CO6	L	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
		✓								
4	Approval		Academic Council Meeting							

அலகு 1

9

நற்றிணை - 10, 110, 129
குறுந்தொகை - 8, 25, 32
கலித்தொகை - 6, 37, 51

அலகு 2

9

புறநானூறு - 89, 109, 204
பதிற்றுப்பத்து - 42,46,49(5ம் பத்து)

அலகு 3

9

பொருநராற்றுப்படை - 151 - 213
பெரும்பாணாற்றுப்படை - 5 - 15,
- 170 - 184

அலகு 4

9

நெடுநல்வாடை - 1 - 25
பட்டினப்பாலை - 106 - 158
முல்லைப்பாட்டு - 1 - 28

அலகு 5

9

எட்டுத் தொகை வரலாறு - பத்துப்பாட்டு வரலாறு

பாட நூல்கள்:

1. வேங்கடராமன், "நற்றிணை மூலமும் உரையும்", உ.வே.சா நூல்நிலையம்,2013
2. புலியூர்க் கேசிகன், "குறுந்தொகை மூலமும் உரையும்", சாரதா பதிப்பகம், 2010
3. புலியூர்க் கேசிகன், "கலித்தொகை மூலமும் உரையும்", சாரதா பதிப்பகம், 2015
4. புலியூர்க் கேசிகன், "புறநானூறு மூலமும் உரையும்", சாரதா பதிப்பகம், 2010
5. ஔவை சு.துரைசாமிப் பிள்ளை, "பதிற்றுப்பத்து" , சாரதா பதிப்பகம், 2008
6. கதிர் முருகு, "பத்துப்பாட்டு மூலமும் உரையும்", சாரதா பதிப்பகம், 2010

பார்வை நூல்கள்:

1. ச.வே.சுப்ரமணியம், "சங்க இலக்கியம்", மணிவாசகர் பதிப்பகம், 2006
2. மாராசமாணிக்கம்., சங்க இலக்கிய வரலாறு, காவ்யா, 2012
3. சுசண்முகசுந்தரம்., சங்க இலக்கிய வரலாறு, மணிவாசகர் பதிப்பகம், 2012

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18HSEN402	ENGLISH IV				L	T	P	C			
	Total Contact Hours –				3	0	0	3			
	Prerequisite course – +2 Level English										
	Course Coordinator Name& Department : Ms.E.REKHA - English										
COURSE OBJECTIVES : To understand the trait of personality											
COURSE OUTCOMES (COs)											
CO1	Remember the basic concepts of English literature										
CO2	Understand the importance of the English language.										
CO3	Apply the themes and values by comprehending the given text.										
CO4	Analyse the grammar and the literary texts.										
CO5	Evaluate the characters and the genre prescribed.										
CO6	Create comprehensive essays efficiently.										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	H	L						H		
	CO2	H	L								
	CO3	H	L								
	CO4	H	L								
	CO5	H	L								
	CO6	H	L								
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
		✓									
4	Approval		Academic Council Meeting								

UNIT 1 - PROSE 9

Lalajee – Jim Corbett – biography- character sketch- summary – analysis; Face of Judas – Bonnie Chamberlin - biography- character sketch - summary – analysis.

UNIT 2 - POETRY 9

Laugh and Be Merry – John Masefield –biography- annotation- summary; Matilda - Hilaire Belloc- biography- truthfulness –annotation - summary.

UNIT 3: SHORT STORIES 9

Hunchback Sundari – C.Raja Gopalachari – biography – character sketch– summary - analysis; The Eyes Are Not There- Ruskin Bond- character sketch – summary – analysis.

UNIT 4: ONE-ACT PLAYS 9

Macbeth Soliloquy – Out, Out, Brief Candle - Shakespeare – character sketch – summary – analysis; Julius Ceasar - Anthony's Funeral Speech – Shakespeare – character sketch – conspiracy - summary – analysis.

UNIT 5: FUNCTIONAL ENGLISH 9

Wh –Questions - pattern – Active and Passive voice – usage of passive voice – structure of passive verb; Modal verbs – Tenses.

TEXT BOOKS:

Stories of Innocent by C.Rajagopalachari, BharathiyaVidya Bhavan, 2009
Macbeth by Shakespeare, Macmillan Publisher, 2014

REFERENCE BOOKS:

1. Macbeth by Shakespeare, UBS Publisher's Distibutors Pvt.Ltd, 2004
2. Matilda - Hilaire Belloc
3. Lalajee – Jim Corbett

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCTA401	□□□□□□□□ □□□□□□□□□ – □□□□□□□□	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : திருமதி நூ.அமீதாராணி & தமிழ்த்துறை				

COURSE OBJECTIVES : □□□□□□□□ □□□□□□□□□ □□□□□□□□□□□□□□□ □□□□□□ □□□□□□□□□□□ □□□□□□□□□□

COURSE OUTCOMES (COs)	
CO1	ஊர் அலர் உரைத்த காதை, மணிமேகலா தெய்வம் வந்து தோன்றிய காதைகளை அறிவர்
CO2	பாத்திரம் பெற்ற காதை, அறவணர்த் தொழுத காதைகளை அறிவர்
CO3	உலக அறவி புக்க காதை, உதயகுமரன் அம்பலம் புக்க காதைகளை அறிவர்
CO4	சிறைக்கோட்டம் அறக்கோட்டம் ஆக்கிய காதை, சிறைசெய் காதையை அறிவர்
CO5	சமயக்கணக்கர்தம் திறம் கேட்டகாதை, தவத்திறம் பூண்டு தருமம் கேட்ட காதையை அறிவர்
CO6	மணிமேகலை காப்பிய கால மக்களின் வாழ்வியலை அறிந்துகொள்வர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	L	M						L		M
	CO2	L	M								
	CO3	L	M								
	CO4	L	M								
	CO5	L	M								
	CO6	L	M								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

அலகு 1
12
ஊர் அலர் உரைத்த காதை, மணிமேகலா தெய்வம் வந்து தோன்றிய காதை

அலகு 2
12
பாத்திரம் பெற்ற காதை, அறவணர்த் தொழுத காதை

அலகு 3
12
உலக அறவி புக்க காதை, உதயகுமரன் அம்பலம் புக்க காதை

அலகு 4
12
சிறைக்கோட்டம் அறக்கோட்டம் ஆக்கிய காதை, சிறைசெய் காதை

அலகு 5
12
சமயக்கணக்கர்தம் திறம் கேட்ட காதை, தவத்திறம் பூண்டு தருமம் கேட்ட காதை

பாட நூல்கள்:
1. புலியூர்க் கேசிகன், "மணிமேகலை மூலமும் உரையும்", சாரதா பதிப்பகம், 2017
2. ந.மு. வேங்கடசாமி நாட்டார், "மணிமேகலை மூலமும் உரையும் காப்பியம்", சாரதா பதிப்பகம், 2009
3. சீத்தலை சாத்தனார், மணிமேகலை, கிழக்கு பதிப்பகம், 2010

பார்வை நூல்கள்:
1. என். சொக்கன், "மணிமேகலை" கிழக்கு பதிப்பகம், 2012
2. உ.வே.சா, "மணிமேகலை மூலமும் உரையும்", உ.வே.சா. நூல் நிலையம், 2002
3. பிரேம நந்தகுமார், "மணிமேகலை மொழிபெயர்ப்பு", தமிழ்ப் பல்கலைக்கழகம் , 1989

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

<table>
<tr><td colspan="2" rowspan="4">U18MCTA402</td><td colspan="5">□□□□□□□□ - □□□□□□□□□□□
ததத □தத □ததத</td><td>L</td><td>T</td><td>P</td><td colspan="2">C</td></tr>
<tr><td colspan="5">Total Contact Hours – 60</td><td>4</td><td>0</td><td>0</td><td colspan="2">4</td></tr>
<tr><td colspan="10">Prerequisite course – +2 Level Tamil</td></tr>
<tr><td colspan="10">Course Coordinator Name& Department : முனைவர். த. கிறிஸ்டல் ரெஜி & தமிழ்த்துறை</td></tr>
<tr><td colspan="12">COURSE OBJECTIVES : :- பழந்தமிழரின் புறவாழ்க்கை நெறி, போர் நெறிகளை அறியச் செய்தல்</td></tr>
<tr><td colspan="12">COURSE OUTCOMES (COs)</td></tr>
<tr><td>CO1</td><td colspan="11">வெட்சி, கரந்தை படலங்களில் முறையே 19, 13 துறைகளை அறிவர்</td></tr>
<tr><td>CO2</td><td colspan="11">வஞ்சி, காஞ்சிப் படலங்களில் முறையே 20, 21 துறைகளை அறிவர்</td></tr>
<tr><td>CO3</td><td colspan="11">நொச்சி, உழிஞை, தும்பைப் படலங்களில் முறையே 8, 28, 23 துறைகளை அறிவர்</td></tr>
<tr><td>CO4</td><td colspan="11">வாகை, பாடாண், பொதுவியல் படலங்களில் முறையே 32, 47, 37 துறைகளை அறிவர்</td></tr>
<tr><td>CO5</td><td colspan="11">கைக்கிளை, பெருந்திணை, ஒழிபு படலங்களில் முறையே 19, 36, 18 துறைகளை அறிவர்</td></tr>
<tr><td>CO6</td><td colspan="11">பழந்தமிழரின் புறவாழ்க்கை நெறிகளையும், போர் நெறிகளையும் அறிவர்</td></tr>
<tr><td colspan="12">Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low</td></tr>
<tr><td>1</td><td>COs/Pos</td><td>PO1</td><td>PO2</td><td>PO3</td><td>PO4</td><td>PO5</td><td>PO6</td><td>PO7</td><td>PSO1</td><td>PSO2</td><td>PSO3</td></tr>
<tr><td rowspan="6">2</td><td>CO1</td><td>L</td><td>H</td><td></td><td></td><td></td><td></td><td></td><td rowspan="6">H</td><td rowspan="6"></td><td rowspan="6">H</td></tr>
<tr><td>CO2</td><td>L</td><td>H</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CO3</td><td>L</td><td>H</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CO4</td><td>L</td><td>H</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CO5</td><td>L</td><td>H</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CO6</td><td>L</td><td>H</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

அலகு 1
12
வெட்சிப் படலம் , கரந்தைப் படலம்

அலகு 2
12
வஞ்சிப் படலம் , காஞ்சிப் படலம்

அலகு 3
12
நொச்சிப் படலம், உழிஞைப் படலம், தும்பைப் படலம்

அலகு 4
12
வாகைப் படலம், பாடாண் படலம், பொதுவியல் படலம்

அலகு 5
12
கைக்கிளைப் படலம், பெருந்திணைப் படலம் , ஒழிபு

பாட நூல்கள்:

1. புலியூர்க் கேசிகன், "புறப்பொருள் வெண்பாமாலை", செண்பகா பதிப்பகம், 2010
2. ச.திருஞானசம்பந்தம், "புறப்பொருள் வெண்பாமாலை", பாரி நிலையம், 2012
3. கதிர் முருகு, புறப்பொருள் வெண்பாமாலை மூலமும் உரையும், சாரதா பதிப்பகம், 2015

பார்வை நூல்கள்:

1. க.தமிழ்செல்வன், புறப்பொருள் வெண்பாமாலை - தெளிவுரை, சாரதா பதிப்பகம், 2018
2. கு. முத்துராசன், எளிய உரையில் புறப்பொருள் வெண்பாமாலை, நாகு வெளியீடு, 2011
3. ஐயனாரிதனார், புறப்பொருள் வெண்பாமாலை - உரை, கமர்ஷியல் கூடம், 1924

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCTA403	□□□□□□□ □□□□□□□□□□□□ □□□□□□□ - II	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : திரு மு.பரந்தாமன் & தமிழ்த்துறை				

COURSE OBJECTIVES :	பழந்தமிழரின் வாழ்க்கை நெறிகளை பயிற்றுவித்தல்
COURSE OUTCOMES (COs)	
CO1	பழமொழி சார்ந்த நீதி கூறப்படும் பழமொழி நானூறு இலக்கியத்தை அறிவர்
CO2	வாழ்வில் கடைப்பிடிக்க வேண்டிய நன்னெறிகளை முதுமொழிக் காஞ்சி மூலம் அறிவர்
CO3	ஒழுக்கம், நீதிகளை கூறும் ஆசாரக் கோவையையும், நான்மணிக் கடிகையும் அறிவர்
CO4	சிறுபஞ்ச மூலம், ஏலாதி, திரிகடுகம் இலக்கியங்களை அறிவர்
CO5	கைந்நிலை, இன்னிலை இலக்கியங்களை அறிவர்
CO6	பழந்தமிழரின் புறவாழ்க்கை நெறிகளை அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1			M		H					

	CO2			M		H			H		M
	CO3			M		H					
	CO4			M		H					
	CO5			M		H					
	CO6			M		H					
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

அலகு 1

9

பழமொழி நானூறு: ஒழுக்கம், நட்பின் இயல்பு, இல்வாழ்க்கை, அறஞ்செய்தல்

அலகு 2

9

முதுமொழிக் காஞ்சி: சிறந்த பத்து, அறிவுப் பத்து, பழியாப் பத்து, அல்ல பத்து, எளிய பத்து

அலகு 3

9

ஆசாரக் கோவை , நான்மணிக் கடிகை:

ஆசாரக் கோவை-பாடல் 1 – 25 நான்மணிக் கடிகை-பாடல் 1 - 25

அலகு 4

9

சிறுபஞ்ச மூலம், **திரிகடுகம்**, **ஏலாதி**:

சிறுபஞ்ச மூலம்-பாடல் 1 – 25 திரிகடுகம்-பாடல் 1 - 25 ஏலாதி - பாடல் 1 - 25

அலகு 5

9

கைந்நிலை, **இன்னிலை**

கைந்நிலை-முல்லை, மருதம்; இன்னிலை- பொருட்பால் , இன்பத்துப்பால் ,வீட்டுப்பால்

பாட நூல்கள்:

1. ந.மு.வேங்கடசாமி நாட்டார், பதிணென்கீழ்க்கணக்கு நூல்கள் , தமிழ்மண் பதிப்பகம், 2012
2. துரை.இராஜாராம், பதினெண் கீழ்க்கணக்கு தொகுதி 1-2, முல்லை நிலையம், 2012
3. வ.வெ.சுப்ரமணியன், பதினெண் கீழ்க்கணக்கு நூல்கள், மணிவாசகர் பதிப்பகம், 2011

பார்வை நூல்கள்:

1. ஆசிரியர் குழு, பதிணென்கீழ்க்கணக்கு நூல்கள், சென்னைப் பல்கலைக்கழகம், 1944
2. ஆசிரியர் குழு, பதிணென்கீழ்க்கணக்கு நூல்கள் மூலம் உரை, சாரதா பதிப்பகம், 2012
3. கி.இராசா, பதினெண்கீழ்க்கணக்கு அக நூல்கள், செஞ்சுரி புக் ஹவுஸ், 2012

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCTA404	□□□□□□□□□□□□□□□□□□□□ – II	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர் ஜெ.அந்தோணி ஜெய ஷீலா & தமிழ்த்துறை				
COURSE OBJECTIVES : அறம், பொருள், இன்பம், வீடு எனும் நான்கு உறுதிப் பொருள்களுள் ஏதேனும் ஒன்றைத் தருவதாக அமையும் சிற்றிலக்கியத்தை கற்பித்தல்					
COURSE OUTCOMES (COs)					
CO1	சோழனின் கலிங்கப் போர் வெற்றி குறித்து கூறும் கலிங்கத்துப் பரணியை அறிவர்				
CO2	சிவபெருமான் பாட்டுடைத் தலைவனாக பாடப்பட்ட முக்கூடற்பள்ளுவை அறிவர்				
CO3	அபிராமியை பாட்டுடைத் தலைவியாக பாடப்பட்ட அந்தாதி இலக்கியத்தை அறிவர்				
CO4	சோழன் மூவர் மீது பாடப்பட்ட மூவருலா இலக்கியத்தை அறிவர்				

CO5	சந்திரவாணன் என்னும் சிற்றரசனை மீது பாடப்பட்ட தஞ்சைவாணன் பற்றி அறிவர்										
CO6	அறம், பொருள், இன்பம், வீடு எனும் உறுதிப் பொருள்களை அறிவர்										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1		M			H			H		M
	CO2		M			H					
	CO3		M			H					
	CO4		M			H					
	CO5		M			H					
	CO6		M			H					
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

அலகு 1

9

கலிங்கத்துப் பரணி - போர் பாடியது (404-471)

அலகு 2

9

முக்கூடற்பள்ளு - மூத்தபள்ளி முறையிடுதல் வரை (1-57)

அலகு 3

9

அபிராமி அந்தாதி (1-50)

அலகு 4

9

மூவருலா - விக்கிரம சோழனுலா (உலாவில் உடன் வருவோர் வரை 1-180)

அலகு 5

9

தஞ்சைவாணன் கோவை - கற்பியல்(பாங்கற்கூட்டம் வரை 1-62)

பாட நூல்கள்:

1. பி.ரா. நடராசன், "கலிங்கத்துப்பரணி", திருமகள் நிலையம், 2008
2. புலியூர்க்கேசிகன், "முக்கூடற்பள்ளு", பாரி நிலையம், 2011
3. இறையன்பன், "அபிராமி அந்தாதி விளக்க உரையுடன்", நர்மதா பதிப்பகம் , 2012
4. துரை. இராசாராம், "மூவருலா விளக்கவுரை", பாரி நிலையம், 2012
5. கதிர் முருகு, "தஞ்சைவாணன் கோவை", கௌரா பதிப்பக குழுமம், 2011

பார்வை நூல்கள்:

1. புலியூர்க் கேசிகன், கலிங்கத்துப் பரணி, செண்பகா பதிப்பகம், 2010
2. கதிர்முருகு, முக்கூடற்பள்ளு மூலமும் உரையும், சாரதா பதிப்பகம், 2017
3. கவிஞர் கண்ணதாசன், அபிராமி அந்தாதி, கண்ணதாசன் பதிப்பகம், 2011

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18NESC021	□□□□□□□□□□□□ - □□□□□□	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். இரா.பாலகிருஷ்ணன் & தமிழ்த்துறை				
COURSE OBJECTIVES : கணினி வலையமைப்புகளை அறியச் செய்தல்					

COURSE OUTCOMES (COs)											
CO1	இணையம் வரலாறு பயன்களை அறிவர்										
CO2	இணைய இணைப்புகள் - அக்ஸஸ் வகைகள். பற்றி அறிவர்										
CO3	இணைய இணைப்புக்குத் தேவையானவைகளை அறிவர்										
CO4	டொமைன் பெயர் , டாப்லெவல் டொமைன் , ஐ.பி. முகவரி பற்றி அறிவர்										
CO5	இணையத்தைப் பயன்படுத்துவதைப் பற்றி அறிவர்										
CO6	ஈமெயில், நியூஸ் குரூப், மெயிலிங் லிஸ்ட், வலை ,வலைப்பூக்கள் பற்றி அறிவர்										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1						M	H			M
	CO2						M	H			
	CO3						M	H			
	CO4						M	H			
	CO5						M	H			
	CO6						M	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
							✓				
4	Approval		Academic Council Meeting								

அலகு 1

10

இணையம் அறிமுகம் - வரலாறு - இணையத்தை நிர்வகிப்பவர் - பயன்கள் - இணைய இணைப்புகள் - அக்ஸஸ் வகைகள்.

அலகு 2

10

இணைய இணைப்புக்குத் தேவையானவை - அக்கவுண்ட் கணினி மோடம் தகவல்தொடர்பு - மென்பொருள் தொலைபேசி இணைப்பு - முகவரிகள் - முக்கியத்துவம் - கணினி முக்கியத்துவம் - பயன்பாட்டாளன் முகவரி - டொமைன் பெயர் - டாப்லெவல் டொமைன் - ஐ.பி. முகவரி.

அலகு 3

10

இணையத்தில் நுழையும் வழிமுறைகள் - லாகின்பெயர் - பாஸ்வேர்ட் - வெப்வரலாறு – ஹோம்பேஜ் - வெப்சைட்டிற்குள் நுழைதல் - வெப்பேஜ் தகவலைப் பாதுகாத்தல் - வெப்பில் தேடல் - பைலை பயன்படுத்துதல் - ஈமெயில் - நியூஸ் குரூப் - மெயிலிங் லிஸ்ட் - வலை – வலைப்பூக்கள் - தமிழ் விக்கிபீடியா – டெல்நெட் - இன்டிராநெட் - அறிமுகப்படுத்தல்.

பாட நூல்கள்:

1. கே.புவனேஸ்வரி, "இன்டர்நெட் A to Z", விகடன் பிரசுரம், 2016
2. துரை.மணிகண்டன், "இணையமும் தமிழும்", நல்நிலம்(ஸ்கைடெக் பப்ளிகேசன்ஸ்), 2008
3. மா.லெனின், "இனி எல்லாம் இண்டர்நெட்", சிக்ஸ்த்சென்ஸ் பப்ளிகேஷன்ஸ் , 2012

பார்வை நூல்கள்:

1. கே.புவனேஸ்வரி, இன்டர்நெட் எக்ஸ்புளோர், மணிமேகலை பிரசுரம், 2002
2. ராம்குமார், கணினி – இணையம் மி. வணிகம், மணிவாசகர் பதிப்பகம், 2012
3. இராம்குமார், தகவல் தொழில் நூட்பம், கழகப் பதிப்பகம், 1998

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18NEVC022	□□□□□□□□	L	T	P	C
	Total Contact Hours –	2	0	0	2
	Prerequisite course – +2 Level Tamil				

	Course Coordinator Name& Department : முனைவர் ஜெ.அந்தோணி ஜெய ஷீலா & தமிழ்த்துறை										
COURSE OBJECTIVES : □□□□□□□□□ □□□□□□□□□□□□□□□□□ □□□□□ □□□□□□ □□□□□□□□□□□□□□□□□ □□□□□□□ □□□□□□□□											
COURSE OUTCOMES (COs)											
CO1	பழங்காலத்து ஊடகமான கல்வெட்டு, ஓலைச்சுவடி, செப்பேடுகளை அறிவர்										
CO2	ஓலைச்சுவடி, செப்பேடுகளை அறிவர்										
CO3	அச்சு ஊடகத்தை அறிவர்										
CO4	□□□□□□□□ □□□□□□□□ □□□□□□□										
CO5	அச்சு முறையின் இடைக்கால மற்றும் தற்கால வளர்ச்சிகள் பற்றி அறிவர்										
CO6	இணைய இதழ்கள் - அலைபேசி – குறுஞ்செய்தி பற்றி அறிவர்										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1			H			M	H			L
	CO2			H			M	H			
	CO3			H			M	H			
	CO4			H			M	H			
	CO5			H			M	H			
	CO6			H			M	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
							✓				
4	Approval		Academic Council Meeting								

அலகு 2 10

அச்சு ஊடகம் - அச்சுத் தொடர்பு சாதனங்கள் - மேல் நாட்டில் தோன்றிய வகை - இந்தியாவில் அவற்றின் தொடக்கம் - அச்சு முறையின் இடைக்கால மற்றும் தற்கால வளர்ச்சிகள்

அலகு 3 10

மின்னணு ஊடகம் - இணைய இதழ்கள் - அலைபேசி - குறுஞ்செய்தி

பாட நூல்கள்:

1. "ஊடகவியல்", தமிழ்த்துறை வெளியீடு, திருச்சிலுவை கல்லூரி, 2014
2. வி. பார்வதி, 'தமிழில் தகவல் தொடர்பு ஊடகங்கள்" நியூ செஞ்சுரி புக் ஹவுஸ், 2012
3. இராஜாவரதராஜா, "மக்கள் தகவல் தொடர்பியல்", ஆரா பதிப்பகம், 2012

பார்வை நூல்கள்;

1. மா.சு.சம்பந்தன், தமிழ் இதழியல் வரலாறு, தமிழர் பதிப்பகம், 1987
2. மா.சு.சம்பந்தன், அச்சும் பதிப்பும், தமிழர் பதிப்பகம், 1980
3. கி. இராசா , இதழியல், தாமரை பப்ளிகேஷன்ஸ், 2005

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18NEVC023	□□□□□□□□□□□□□	L	T	P	C
	Total Contact Hours –	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். சு.பால்பாண்டி & தமிழ்த்துறை				

COURSE OBJECTIVES : □□□□□□□□□□□□□□□□ □□□□□□□ □□□□□□□□	
COURSE OUTCOMES (COs)	
CO1	விளம்பர நோக்கங்கள்,
CO2	விளம்பர வரலாறு, குறிக்கோள்களை அறிவர்
CO3	விளம்பர வகைகளை அறிவர்
CO4	□□□□□□□□□□□□□□□ □□□□□□□□ □□□□□□□
CO5	விளம்பர நெறிகளை அறிவர்
CO6	விளம்பரக்கலை மூலம் வேலைவாய்ப்பைப் பெறுவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1			H			M	H			L
	CO2			H			M	H			
	CO3			H			M	H			
	CO4			H			M	H			
	CO5			H			M	H			
	CO6			H			M	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
							✓			
4	Approval		Academic Council Meeting							

அலகு 1

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விளம்பர நோக்கங்கள் - விளம்பர வரலாறு - குறிக்கோள்கள்:

விளம்பரம் - விளக்கங்கள் - விளம்பரத்தின் இயல்புகள் - அறிவிப்பும் விளம்பரமும் - விளம்பரத்தின் தன்மைகள் - விளம்பர எல்லை - விளம்பர நோக்கங்கள் - விளம்பர வரலாறு - குறிக்கோள்கள்.

அலகு 2

10

விளம்பர வகைகள் - விளம்பரத்தின் பயன்கள்:

விளம்பரங்களின் வகைகள் - விளம்பர தளங்களைத் தேர்ந்தெடுக்கும் பொழுது கவனிக்கப்பட வேண்டியவை - விளம்பரத்தினால் உற்பத்தியாளர்கள் அடையும் நன்மைகள் - விளம்பரத்தினால் நுகர்வோர் அடையும் நன்மைகள் - விளம்பரத்தினால் அரசும் பிற நிறுவனங்களும் அடையும் நன்மைகள் - விளம்பரத்தினால் சமூகம் அடையும் நன்மைகள்

அலகு 3

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விளம்பர நெறிகள்:

விளம்பர ஒழுக்க நெறிகள் - தடை செய்யப்பட்ட விளம்பரங்கள் - விளம்பரத்திற்கான சில விதிமுறைகள் - விளம்பர வரைவின் அடிப்படைத் தத்துவங்கள்

பாட நூல்கள்:

1. ச. ஈஸ்வரன் & இரா.சபாபதி, "விளம்பரக்கலை", பாவை பப்ளிகேஷன்ஸ், 2014
2. அ.விநாயக மூர்த்தி, "விளம்பரக்கலை", நியூ செஞ்சுரி புக் ஹவுஸ், 2013
3. விஜயராணி, விளம்பரக்கலை, சாரதா பதிப்பகம், 2012

பார்வை நூல்கள்:

1. ராஜ்குமார், விளம்பரக்கலை, நியூ செஞ்சுரி புக் ஹவுஸ், 2013
2. நரேந்திரன், வியாபார வெற்றிக்கு உதவும் விளம்பரக் கலை, கலைஞன் பதிப்பகம், 2010
3. சாருகேசி, வெற்றிக்கு உதவும் விளம்பரக் கலை, கலைஞன் பதிப்பகம், 2011

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18SETA011	□□□□□□□ □□□□□	L	T	P	C
	Total Contact Hours –	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : திருமதி. அ.கோ. ஸ்ரீதேவி & தமிழ்த்துறை				

COURSE OBJECTIVES :	ஆளுமை குறித்த விழிப்புணர்வை ஏற்படுத்தல்
COURSE OUTCOMES (COs)	
CO1	முன்னேற்றத்திற்கு வேண்டுவது பற்றி அறிவர்
CO2	புத்தகங்களில் புதையல் பற்றி அறிவர்
CO3	வாழ்வில் வெற்றி, தோல்விகளை சரிசமமாக பார்க்கும் திறனை அறிவர்
CO4	வாழ்க்கை ஒரு கணிதம் என்று அறிவர்
CO5	இளமையை எவ்வாறு பயனுள்ளதாக மாற்றுவது குறித்து அறிவர்
CO6	ஆளுமை குறித்த அறிவைப் பெறுவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1			L		H	M	H			M
	CO2			L		H	M	H			
	CO3			L		H	M	H			
	CO4			L		H	M	H			
	CO5			L		H	M	H			
	CO6			L		H	M	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval	Academic Council Meeting

அலகு 1

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காலம் அழைக்கிறது - வெளிச்சம் - வெற்றிக்கு வியர்வை - முன்னேற்றத்திற்கு வேண்டுவது - வழியெல்லாம் வெற்றி - புத்தகங்களில் புதையல் - பாராட்டு.

அலகு 2

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போதி மரங்களைப் போற்றுவோம் - வாழ்வில் வெற்றி - வாழ்க்கை ஒரு கணிதம் - நினைப்பில் இருக்கிறது வெற்றி - நடைபோடு - அவமானம் தரும் வெகுமானம்.

அலகு 3

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சிரமங்களைத் தாண்டினால் சிகரம் - இளமைக்குள் இருக்கிறது - ஊனத்தை வென்றவர்கள் - தடுமாறும் வயசு - சுறுசுறுப்பு - சேவை செய்யுங்கள்

பாட நூல்கள்:

1. க.இராமச்சந்திரன், "உனக்குள்ளே சக்தி இருக்கு", குமரன் பதிப்பகம், 2012
2. தயாநிதி, ஆளுமைத் திறன், கண்ணதாசன் பதிப்பகம், 2013
3. எஸ்.சுந்தரசீனிவாசன், ஆளுமை மேம்பாடு, தாமரை பப்ளிகேஷன்ஸ், 2008

பார்வை நூல்கள்:

1. குன்றில்குமார், ஆளுமைத்திறனை அடைவது எப்படி?, சங்கர் பதிப்பகம், 2010
2. சுவாமி ஸ்ரீகாந்தானந்தர், உண்மையான ஆளுமைத்திறன் எது?, ஸ்ரீ ராமகிருஷ்ண மடம்,2013
3. இரத்தின நடராசன், கம்பன் காவியத்தில் ஆளுமைத் திறன்கள், ஏகம் பதிப்பகம், 2009

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18SETA012	□□□□□□□□□□□□□ □□□□□	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர் ஜெ.அந்தோணி ஜெய ஷீலா & தமிழ்த்துறை				

COURSE OBJECTIVES :	பயன்பாட்டுத் தமிழ் அறிவை அறியச் செய்தல்
COURSE OUTCOMES (COs)	
CO1	ஆசிரியர் கடிதம் எழுதுவது பற்றி அறிவர்
CO2	அலுவலகக் கடிதம் எழுதுவது பற்றி அறிவர்
CO3	விளம்பரத் தமிழ் பற்றி அறிவர்
CO4	பதிப்பாசிரியர் பற்றி அறிவர்
CO5	வானொலி, தொலைக்காட்சி நிகழ்ச்சிகளில் பங்குபெறுபவதைப் பற்றி அறியச் செய்தல்
CO6	பயன்பாட்டுத் தமிழ் அறிவின் மூலம் வேலை வாய்ப்பைப் பெறுவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	L	H								
	CO2	L	H								
	CO3	L	H							H	H
	CO4	L	H								
	CO5	L	H								
	CO6	L	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval	Academic Council Meeting

அலகு 1
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ஆசிரியர் கடிதம், அலுவலகக் கடிதம்

அலகு 2
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விளம்பரத் தமிழ்

அலகு 3
10
வானொலி, தொலைக்காட்சி நிகழ்ச்சிகளில் பங்குபெறல், ஆவணங்கள் வரைதல்.

பாட நூல்கள்:

1. கா. பட்டாபிராமன், "மொழிப் பயன்பாடு", நியூ செஞ்சுரி புக் ஹவுஸ் , 2004
2. V. N. சதாசிவ ராவ், 'கடிதம் எழுதுதல் பற்றி", Varthamanaan Pathippakam, 1999
3. மருதூர் அரங்கராசன், "தவறின்றி தமிழ் எழுத", ஐந்திணைப் பதிப்பகம், 2012

பார்வை நூல்கள்:

1. ச.அ.சையத் அகமது பிரோசு, 'கடிதம் எழுதுதல் பயிற்சி", சாராதா பதிப்பகம், 2007
2. சதீஸ் கிருஷ்ணமூர்த்தி, "விளம்பர மாயாஜாலம்", கிழக்கு பதிப்பகம், 2009
3. எஸ். ராஜேந்திரன், "வணிகக் கடிதங்கள்", பாவை பப்ளிகேஷன்ஸ், 2008

பாடநெறி ஒருங்கிணைப்பாளர் துறைத் தலைவர்

U18SETA013	□□□□□□□□□□□□□	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். சு.பால்பாண்டி & தமிழ்த்துறை				

COURSE OBJECTIVES :	
COURSE OUTCOMES (COs)	
CO1	□□□□ □□□□□□ □□□□□□□□□□□□□□□□□□ □□□□□ □□□□□□
CO2	நம் நாட்டு சிந்தனையாளர்களைப் பற்றி அறிவர்
CO3	காந்தியடிகள் சிந்தனைகளைப் பற்றி அறிவர்
CO4	மார்க்சிய கோட்பாடுகள் பற்றி அறிவர்
CO5	காரல் மார்க்ஸ் சிந்தனைகளைப் பற்றி அறிவர்
CO6	பல்வேறு சிந்தனையாளர்களின் சிந்தனைகளை அறிந்து சிந்திக்கும் திறனைப் பெறுவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1		H		H	M		H			
	CO2		H		H	M		H			
	CO3		H		H	M		H		H	H
	CO4		H		H	M		H			
	CO5		H		H	M		H			
	CO6		H		H	M		H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval		Academic Council Meeting

அலகு 1 10

சிந்தனையியல் - விளக்கம் - மேலை நாட்டுச் சிந்தனையாளர்கள் - சாக்ரடீஸ் - அரிஸ்டாட்டில் - பிளாட்டோ - தமிழில் சிந்தனையியல் வளர்ந்த வரலாறு - திருவள்ளுவர் சிந்தனைகள் - சித்தர்களின் சமூகச் சிந்தனைகள் - வள்ளலார் சிந்தனைகள்

அலகு 2 10

காந்தியடிகள் சிந்தனைகள் - அகிம்சை - சமயக் கோட்பாடு - பெண்கள் - சமுதாய ஒற்றுமை - அரசியல், பொருளாதார விடுதலை

அலகு 3 10

காரல் மார்க்ஸ் சிந்தனைகள் - மார்க்சிய கோட்பாடுகள் - அவற்றின் வழி சமூக, பொருளாதார மாற்றங்கள்

பாட நூல்கள்:

1. வெ. சாமிநாதசர்மா, "காரல் மார்க்ஸ்", ராமையா பதிப்பகம், 2008
2. ம. பொ. சிவஞானம், "வள்ளலார் கண்ட ஒருமைப்பாடு", ஸ்ரீ செண்பகா பதிப்பகம், 2011
3. இந்திரா பார்த்தசாரதி, "காந்தியடிகள்- சத்திய சோதனை", கிழக்கு பதிப்பகம், 2006

பார்வை நூல்கள்:

1. ஆ ஜெகதீசன், "சிந்தனையியல்", நியூ செஞ்சுரி புக் ஹவுஸ், 2014
2. மல்லிகா, சிந்தனையியல், நியூ செஞ்சுரி புக் ஹவுஸ், 2015
3. குமாரசாமி, சிந்தனை மூலம் செல்வம், எம்பஸி புக்ஸ், 2014

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCTA501	□□□ □□□□□□□□□□	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : திரு கே.வி.பரந்தாமன் & தமிழ்த்துறை				

COURSE OBJECTIVES : மன அழுக்கைக் கழுவி, உள்ளுணர்வை வெளிப்படுத்தி, உலக நிலையாமையை அறிவுறுத்திய, மானிட இனத்தை உயர்த்திய இலக்கியங்களை அறியச் செய்தல்

COURSE OUTCOMES (COs)

CO1	சிவபெருமான் மீது மூன்று இறையடியார்களால் பாடப்பட்ட தேவாரப் பாடல்களை அறிவர்
CO2	திருவாசகம், திருவிளையாடல்புராணம், கந்தபுராணம் பற்றி அறிவர்
CO3	திருப்பாவையை, திருமொழியையும், திருவாசிரியத்தை பற்றி அறிவர்
CO4	தேம்பாவணி தூதுரைப் படலம், ரட்சணிய யாத்திரிகம்-கடைத்திறப்புப்படலம் பற்றிஅறிவர்
CO5	சீறாப்புராணம் ஓநாய் பேசிய படலத்தையும், சாகிபுவின் நிராமயக் கண்ணியையும் அறிவர்
CO6	சமய இலக்கியங்களை பற்றி அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	L	M			H		M	H	M	M
	CO2	L	M			H		M			
	CO3	L	M			H		M			
	CO4	L	M			H		M			
	CO5	L	M			H		M			
	CO6	L	M			H		M			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					

4	Approval		Academic Council Meeting

அலகு 1

12

மூவர் தேவாரம்:

திருஞானசம்பந்தர் - திருவீழிமிழலை(பண் - தக்கராகம்) - 11 - பாடல்கள்

திருநாவுக்கரசர் - திருக்கயிலாயம் - போற்றித்திருத்தாண்டகம் - 11 - பாடல்கள்

சுந்தரமூர்த்தி - திருஅஞ்சைக்களம்(பண் - இந்தளம்) - 10 - பாடல்கள்

அலகு 2

திருவாசகமும் புராணமும்: 12

மாணிக்கவாசகர் - திருவாசகம் - திருஅம்மானை - 20 - பாடல்கள்

திருவிளையாடற் புராணம் - தருமிக்குப் பொற்கிழி அளித்த படலம் - 20 - பாடல்கள்

கந்தபுராணம் - சூரபன்மன் வதைப் படலம் - 20 - பாடல்கள்

அலகு 3

நாலாயிர திவ்ய பிரபந்தம்;

12

ஆண்டாள் - திருப்பாவை முழுவதும் - 30 - பாடல்கள்

பெரியாழ்வார் திருமொழி - நாலாம் திருமொழி - சென்னியோங்கு - 20 - பாடல்கள்

நம்மாழ்வார் - திருவாசிரியம் - 07 - பாடல்கள்

அலகு 4

12

தேம்பாவணியும் இரட்சணிய யாத்திரிகமும்:

தேம்பாவணி - தூதுரைப் படலம் - 25 - பாடல்கள்

இரட்சணிய யாத்திரிகம் - கடைத்திறப்புப் படலம் - 25 - பாடல்கள்

அலகு 5

12

சீறாப்புராணமும் குணங்குடி மஸ்தான் சாகிபுமும்:

சீறாப்புராணம் - ஓநாய் பேசிய படலம் - 29 - பாடல்கள்

குணங்குடி மஸ்தான் சாகிபு -நிராமயக் கண்ணி - 20 - கண்ணிகள்

பாட நூல்கள்:

1. ச.வே. சுப்பிரமணியன், "பன்னிரு திருமுறை (மெகா பதிப்பு)", மணிவாசகர் பதிப்பகம், 2012

2. த.கோவேந்தன், நாலாயிரத் திவ்யப் பிரபந்தமும் எளிய உரையும்,சாரதா பதிப்பகம், 2015

3. வீரமாமுனிவர், "தேம்பாவணி (மூலமும் உரையும்)", கௌரா பதிப்பக குழுமம், 2014
4. தமிழவேள், "இரட்சணிய யாத்திரிகம் - கடைத்திறப்புப் படலம்", திருமகள், 1978
5. செய்குத் தம்பி பாவலர், "சீறாப்புராணம்" , யுனிவர்சல் பப்ளிஷர்ஸ், 2014
6. கமலா முருகன், "நிராமயக்கண்ணி பராபரக்கண்ணி உரை", சாரதா பதிப்பகம், 2013

பார்வை நூல்கள்:

1. இரா.தண்டாயுதம், சமய இலக்கிய விளக்கம், தமிழ்ப்புத்தகாலயம், 2014
2. மா.ராசமாணிக்கனார், சமய இலக்கிய வரலாறு, காவ்யா, 2012
3. ஆ.வேலுப்பிள்ளை, தமிழர் சமய வரலாறு, தமிழ்ப்புத்தகாலயம், 1980

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCTA502	□□□□□□□□□ - □□□□□□□□□□□□□□□□□□□□	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். த. கிறிஸ்டல் ரெஜி & தமிழ்த்துறை				

COURSE OBJECTIVES :	செய்யுளுக்கு இலக்கணம் கூறும் யாப்பருங்கலக்காரிகையை கற்பித்தல்
COURSE OUTCOMES (COs)	
CO1	எழுத்து, அசை, சீர், தளை, அடி, தொடை என்பன பற்றிய இலக்கணங்களை அறிவர்
CO2	வெண்பாவையும் ஆசிரியப்பாவையும் அறிவர்
CO3	கலிப்பாவையும் வஞ்சிப்பாவையும் அறிவர்
CO4	பாவினங்களின் வகைகளும் அவற்றின் இலக்கணங்களையும்அறிவர்
CO5	உறுப்பியலிலும் செய்யுளியலும் சொல்லாதவற்றுக்கு ஒழிபியல் இலக்கணங்களை அறிவர்
CO6	செய்யுளுக்கு இலக்கணம் கூறும் யாப்பருங்கலக்காரிகையை அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	L	H						H		H
	CO2	L	H								
	CO3	L	H								
	CO4	L	H								
	CO5	L	H								
	CO6	L	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

அலகு 1 **செய்யுளுறுப்புக்கள்** : 12

எழுத்து - குறில், நெடில், ஒற்று - அசை - நேர், நிரை - சீர் - அசைச்சீர் - ஈரசைச்சீர் - காய்ச்சீர் - கனிச்சீர் - எழுவகைத் தளைகள் - அடிகள் - குறளடி – சிந்தடி - அளவடி - நெடிலடி - கழிநெடிலடி - தொடைகள் - மோனை - எதுகை - இயைபு - முரண் - அளபெடைத் தொடைகள் - சீர்வகைத் தொடையும் அடிவகைத் தொடையும் - செந்தொடை

அலகு 2 **வெண்பாவும் ஆசிரியப்பாவும்**: 12

பாவின் ஓசைகள் - செப்பல் - அகவல் - துள்ளல் - தூங்கல் - வெண்பாவின் பொதுவிலக்கணம் - குறள் வெண்பா – குறள் வெண்செந்துறை - குறட்டாழிசை - சிந்தியல் வெண்பா - நேரிசை வெண்பா - இன்னிசை வெண்பா - பஃறொடை வெண்பா - வெண்பாவின் ஈறு.

ஆசிரியப்பாவின் பொதுவிலக்கணம் - நேரிசை ஆசிரியப்பா - நிலைமண்டில ஆசிரியப்பா - இணைக்குறளாசிரியப்பா - அடிமறி மண்டில ஆசிரியப்பா

அலகு 3 **கலிப்பாவும் வஞ்சிப்பாவும்**: 12

கலிப்பாவின் பொதுவிலக்கணம் - தரவு - தாழிசை - அராகம் - அம்போதரங்கம் - தனிச்சொல் - சுரிதகம் ஆகிய கலிப்பாவுறுப்புக்கள் - நேரிசை ஒத்தாழிசைக் கலிப்பா - அம்போதரங்க ஒத்தாழிசைக் கலிப்பா - வண்ணக ஒத்தாழிசைக் கலிப்பா - கலிவெண்பா - வெண்கலிப்பா - கொச்சகக் கலிப்பா - தரவுகொச்சகக் கலிப்பா - தரவிணைக் கொச்சகக் கலிப்பா - சிஃறாழிசைக் கொச்சகக் கலிப்பா - பஃறாழிசைக் கொச்சகக் கலிப்பா - மயங்கிசைக் கொச்சகக் கலிப்பா - வஞ்சிப்பாவின் பொதுவிலக்கணம் - குறளடி வஞ்சிப்பா - சிந்தடி வஞ்சிப்பா - மருட்பா

அலகு 4 **பாவினங்கள்**: 12

வெண்டாழிசை - வெண்டுறை - வெளிவிருத்தம் - ஆசிரியத்தாழிசை - ஆசிரியத்துறை - ஆசிரிய விருத்தம் - கலித்தாழிசை - கலித்துறை - கலிவிருத்தம் - வஞ்சித்தாழிசை - வஞ்சித்துறை - வஞ்சிவிருத்தம்

அலகு 5 **ஒழிபியல்**: 12

சீரும் தளையும் சிதைவுறின் குற்றியலுகரம், குற்றியலிகரம், அளபெடை அலகு பெறாமை - மாஞ்சீர் கலிப்பாவில்

வாராமை - விளங்கனிச்சீர் கலிப்பாவிலும் ஆசிரியப்பாவிலும் வாராமை - ஆசிரியப்பாவில் பிற தளைகள் பயின்று வருதல் - தன்சீர், தன்தளை - பிறசீர் - பிறதளை பற்றிய மரபுகள் - கடை, கடையிணை, பின் கடைக்கூழை, இடைப்புணர், முரண் தொடைகள் - வருக்கமோனை, வருக்கஎதுகை - நெடில்மோனை, நெடில் எதுகை - இன மோனை, இன எதுகை, தலையாயெதுகை, இடையாயெதுகை, கடையாயெதுகை, ஆயெதுகை முதலியன - கூன்- விகாரம் - வகையுளி - வாழ்த்து - வசை - வனப்பு - நிரல்நிறை - பொருள்கோள்கள் - வண்ணம் நூறு வகையில் அமைதல் - செய்யுட் குற்றம்

பாட நூல்கள்:

1. ந.மு.வேங்கடசாமி, யாப்பருங்கலக்காரிகை மூலமும் உரையும், சாரதா பதிப்பகம், 2016
2. கு.முத்துராசன், "எளிய முறையில் யாப்பருங்கலக் காரிகை", பூங்குழல் பதிப்பகம், 2012
3. கு.கண்ணன், யாப்பருங்கலக்காரிகை, பாவை பப்ளிகேஷன்ஸ், 2009

பார்வை நூல்கள்:

1. புலியூர்க் கேசிகன், யாப்பருங்கலக் காரிகை மூலமும் உரையும், சாரதா பதிப்பகம், 2012
2. கதிர்முருகு, யாப்பருங்கலக் காரிகை மூலமும் உரையும், சாரதா பதிப்பகம், 2017
3. ஆசிரியர் குழு, யாப்பருங்கலக் காரிகை மூலமும் உரையும், சாரதா பதிப்பகம், 2012

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCTA503	□□□□□□□ □□□□□□□□□□□□□□	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : :முனைவர் ஜெ.அந்தோணி ஜெயஷிலா & தமிழ்த்துறை				

COURSE OBJECTIVES : இக்கால இலக்கியங்கள் கவிதை, சிறுகதை, உரைநடை அறியச் செய்தல்	
COURSE OUTCOMES (COs)	
CO1	பாரதியார், பாரதிதாசன் கவிதைகளை அறிவர்.
CO2	புதுக்கவிதைகளை பற்றி அறிவர்
CO3	பி.எஸ்.ராமையா, ஜெயகாந்தன், சுஜாதா இவர்களுடைய சிறுகதைகளை அறிவர்
CO4	ரா.பி.சேதுப்பிள்ளை, பாவாணர், மு.வ இவர்களது உரைநடைகளை அறிவர்
CO5	கவிதை,புதுக்கவிதை,உரைநடை,சிறுகதை போன்றவைகளின் வரலாறு பற்றி அறிவர்
CO6	இக்கால இலக்கியங்களை அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	H						M	H	M
	CO2	M	H								
	CO3	M	H								
	CO4	M	H								
	CO5	M	H								
	CO6	M	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

அலகு 1 (**மரபுக்**)**கவிதை**: 12

பாரதியார் - கண்ணன் பிறப்பு - சிவ சக்தி புகழ்- அல்லா - ஏசு கிறிஸ்து
சமூகம்-பெண்மை-பெண்கள் விடுதலைக் கும்மி-புதுமைப் பெண்-மணப் பெண்

பாரதிதாசன் - **தமிழ்** - தமிழின் இனிமை - இன்பத் தமிழ் - எங்கள் தமிழ் - தமிழ் வளர்ச்சி
புதிய உலகம்-உலக ஒற்றுமை-பேரிகை-வாழ்வில் உயர்வுகொள்-முன்னேறு

அலகு 2 **புதுக்கவிதை**: 12

நாமக்கல் கவிஞர் - **சமுதாயப் பாடல்கள்** - புதியசமுதாயம் , கவிமணி - **இலக்கியம்** - இலக்கிய பஞ்சகம், மீரா - ஏற்றம் காண்போம், பட்டுக்கோட்டை கல்யாணசுந்தரம் - **தத்துவம்** - எது சொந்தம், கண்ணதாசன் - தவறு-மன்னிப்பு , கவிக்கோ அப்துல் ரகுமான் - பித்தன் , மு.மேத்தா - வெளிச்சம் வெளியே இல்லை, ஈரோடு தமிழன்பன் - அகல் விளக்காக இரு, கவிஞர் வாலி -தமிழுக்கு அமுதென்று பேர், நா.முத்துக்குமார் - காதலித்துக் கெட்டுப் போ

அலகு 3 12

சிறுகதை: கி. ராஜநாராயணன் - கதவு, ஜெயகாந்தன் - அக்கினிப் பிரவேசம், சுஜாதா - நகரம்

அலகு 4 **உரைநடை**: 12

ரா.பி.சேதுப்பிள்ளை - **தமிழ் இன்பம்** - காதலும் கற்பும்
மொழிஞாயிறு ஞா.தேவநேயப் பாவாணர் - **செந்தமிழ்ச் சிறப்பு** - தமிழின் தனியியல்புகள்
டாக்டர்.மு.வரதராசன் - **இலக்கியத் திறன்** - இலக்கியம்

அலகு 5 12

இலக்கிய வரலாறு: கவிதை, புதுக்கவிதை , உரைநடை, சிறுகதை - தோற்றமும் வளர்ச்சியும்

பாட நூல்கள்:

1. தி.சா.ராஜு, "பாரதியார்- பாரதிதாசன் கவிதைகள்", வானவில் பிரசுரம், 1977

2. வெ. இராமலிங்கம், "நாமக்கல் கவிஞரின் கவிதைகள்", மணிமேகலை பிரசுரம், 2001
3. கவிமணி சி.தேசிக விநாயகம் பிள்ளை, "கவிமணி கவிதைகள்", பூம்புகார் பதிப்பகம், 2011
4. மீரா, "மீரா கவிதைகள்", பூம்புகார் பதிப்பகம், 2010
5. பட்டுக்கோட்டையார், "பட்டுக்கோட்டையார் பாடல்கள்', கற்பகம் புத்தகாலயம், 2010
6. கண்ணதாசன், "கவிஞர் கண்ணதாசன் கவிதைகள்", கண்ணதாசன் பதிப்பகம், 2012
7. அப்துல் ரகுமான், "கவிக்கோ கவிதைகள்', யுனிவர்சல் பப்ளிஷர்ஸ், 2013
8. மு.மேத்தா, "மு.மேத்தா கவிதைகள்", கவிதா பப்ளிகேஷன், 2012
9. தமிழன்பன், "ஈரோடு தமிழன்பன் கவிதைகள்", பூம்புகார் பதிப்பகம், 2014
10. வாலி, "கவிஞர் வாலி கவிதைகள்", விகடன் பிரசுரம், 2016
11. நா.முத்துக்குமார், "நா.முத்துக்குமார் கவிதைகள்", பட்டாம் பூச்சி பதிப்பகம், 2013

பார்வை நூல்கள்:

1. மு.வரதராசன், "இலக்கியத் திறன்", டாக்டர் மு.வ. பதிப்பகம், 1992
1. ரா.பி.சேதுப்பிள்ளை, "தமிழ் இன்பம்", ஸ்ரீ செண்பகா பதிப்பகம், 2012
3. ஞா.தேவநேயப் பாவாணர், "செந்தமிழ்ச் சிறப்பு", பூம்புகார் பதிப்பகம், 2003

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCTA504	□□□□□□□□□□	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். இரா.பாலகிருஷ்ணன் & தமிழ்த்துறை				

COURSE OBJECTIVES : மொழியியலைப் பற்றி அறியச் செய்தல்	
COURSE OUTCOMES (COs)	
CO1	மொழியியல் வளர்ச்சி வரலாறு பற்றி அறிவர்
CO2	ஒலியியல் பற்றி அறிவர்
CO3	ஒலியனியல் பற்றி அறிவர்
CO4	உருபனியல் பற்றி அறிவர்
CO5	தொடரியல் பற்றி அறிவர்
CO6	மொழியியலைப் பற்றி அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	L	H							H	H
	CO2	L	H								
	CO3	L	H								
	CO4	L	H								
	CO5	L	H								
	CO6	L	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
						✓				
4	Approval		Academic Council Meeting							

அலகு 1
12
தமிழ் மொழியியல் அறிமுகம் - மொழியியல் வளர்ச்சி வரலாறு - தற்கால மொழியியல்

அலகு 2
12
ஒலியியல்

அலகு 3
12
ஒலியனியல்

அலகு 4
12
உருபனியல்

அலகு 5
12
தொடரியல்

பாட நூல்கள்:
1. மோகனதாஸ்ராமசாமி, "மொழியும் தொடர்பியல் சாதனமும்", Universiti PendidikanSultanIdris, 2013
2. கி.கருணாகரன், வ.ஜெயா, "மொழியியல்", மெய்யப்பன் பதிப்பகம், 2007

3. ராசீனிவாசன்., மொழியியல், பாரி நிலையம், 2013

பார்வை நூல்கள்:

1. வி.டெரன்ஸ் கார்டன், மொழியியல்: தொடக்கநிலையினருக்கு, அடையாளம் பதிப்பகம், 2013
2. முத்துச்சண்முகன், இக்கால மொழியியல், பாரி நிலையம், 2014
3. கிகருணாகரன்., மொழியியல், மணிவாசகர் பதிப்பகம், 2007

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCTA505	□□□□□□□□□□ □□□□□□□□□□ □□□ □□□□□□□□	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : திரு கே.வி.பரந்தாமன் & தமிழ்த்துறை				
COURSE OBJECTIVES : ஆய்வுப் பற்றியும், ஆய்வேடு உருவாக்கும் முறையைக் கற்பித்தல்					
COURSE OUTCOMES (COs)					
CO1	ஆராய்ச்சியின் வளர்ச்சிப்படிகளை அறிவர்				
CO2	ஆய்வுக்குரிய தகவல்களை சேகரிக்கவும் பகுக்கவும் அறிவர்				
CO3	ஆய்வேட்டின் அமைப்புப் பற்றி அறியச் செய்தல்				
CO4	ஆய்வேட்டில், ஆய்வுரை எழுதுதல் பற்றி அறிவர்				
CO5	ஆய்வேட்டில், ஆய்வுரை எழுதுதல் பற்றி அறிவர்				
CO6	ஆய்வுப் பற்றியும், ஆய்வேடு உருவாக்கும் முறையை அறிவர்				
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low					

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1		M			H		H		H	H
	CO2		M			H		H			
	CO3		M			H		H			
	CO4		M			H		H			
	CO5		M			H		H			
	CO6		M			H		H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

அலகு 1

9

ஆராய்ச்சியின் வளர்ச்சிப்படிகள்

அலகு 2

9

ஆய்வுமூல உண்மைக்கூறுகள், கள ஆய்வும் மூல உண்மைக்கூறுகள் சேகரித்தலும் , உண்மைக்கூறு பகுத்தல்

அலகு 3

9

ஆய்வேட்டின் அமைப்பு, துணைநூற் பட்டியல், சுருக்க விளக்கங்கள் , அடிக்குறிப்புகள்

அலகு 4

9

மேற்கோள்கள், பின்னிணைப்புகள், அட்டவணைகளும் விளக்கப்படங்களும், ஆய்வேட்டின் நடை, ஆய்வுரை எழுதுதல், தட்டெழுத்தும் கட்டமைப்பும்

அலகு 5

9

வாய்மொழித் தேர்வு, இலக்கிய ஆய்வு நோக்குகள்

பாட நூல்கள்:

1. மு.பொன்னுசாமி, "ஆராய்ச்சி முறையியல் ஒர் அறிமுகம்", கலா பதிப்பகம், 1983
2. தமிழண்ணல், எம்.எஸ்.இலக்குமணன், "ஆய்வியல் அறிமுகம்", பாரி நிலையம், 2016
3. க.பஞ்சாங்கம், ஆய்வு நெறிமுறைகள், அன்னம் - அகரம், 2017

பார்வை நூல்கள்:

1. பொற்கோ, ஆராய்ச்சி நெறிமுறைகள்,ஐந்திணை பதிப்பகம், 2004
2. கு.வெ. பாலசுப்பிரமணியன், ஆய்வியல் நெறிமுறைகள், பாரி நிலையம், 201
3. க. நாராயணன் , ஆய்வு எது? எப்படி? ஏன்? , தமிழ்ப்புத்தகாலயம் ,1987

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18META011	□□□□□□□ □□□□□□□□□□□□	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : திரு மு.பரந்தாமன் & தமிழ்த்துறை				
COURSE OBJECTIVES : □□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□ □□□□□□□ □□□□□□□□.					
COURSE OUTCOMES (COs)					
CO1	இலக்கிய திறணாய்வு, இலக்கிய மதிப்பீடுகளை அறிவர்				
CO2	இலக்கியத்தில் உள்ள உணர்ச்சி, கற்பனை ஆகியவற்றை அறிவர்				
CO3	மானிட உண்மைகள், வடிவம், கலைகளைப் பற்றி அறிவர்				
CO4	பாட்டு, காப்பியம், நாடகம் ஆகியவற்றை திறனாய்வு செய்வது பற்றி அறிவர்				
CO5	புதினம், சிறுகதை, கட்டுரை ஆகியவற்றை திறனாய்வு செய்வது பற்றி அறிவர்				

CO6	திறனாய்வு செய்வதன் மூலம் சிறந்த அறிவைப் பெறுவர்										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	H					M		M	H
	CO2	M	H					M			
	CO3	M	H					M			
	CO4	M	H					M			
	CO5	M	H					M			
	CO6	M	H					M			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
						✓					
4	Approval		Academic Council Meeting								

அலகு 1

9

இலக்கிய ஆய்வு – திறனாய்வு - திறனாய்வின் இருவகைப் பணி – திறனாய்வு - இலக்கியம் - இலக்கிய மதிப்பீடு - இலக்கியக்கலை

அலகு 2

9

இலக்கிய உணர்ச்சிகள் - கற்பனை

அலகு 3

9

மானிட உண்மைகள் - வடிவம் - கலை கலைக்காகவே.

அலகு 4

9

பாட்டு – காப்பியம் - நாடகம்

அலகு 5

9

புதினம் - நனவோடைப் புதினம் - சிறுகதை – கட்டுரை - இலக்கிய இயக்கங்கள்.

பாட நூல்:

1. தா.ஏ.ஞானமூர்த்தி, "இலக்கியத் திறனாய்வியல்", ஐந்திணை பதிப்பகம், 2011
2. சு.பாலச்சந்திரன், "இலக்கியத் திறனாய்வு", நியூ செஞ்சுரி புக் ஹவுஸ், 2009
3. மு.வரதராசனார், "இலக்கியத்திறன்", பாரி நிலையம், 2009

பார்வை நூல்கள்:

1. க. பஞ்சாங்கம், "தமிழ் இலக்கியத் திறனாய்வு வரலாறு" ,அன்னம்-அகரம் பதிப்பகம், 2012
2. சுப்பையா, "இலக்கியத் திறனாய்வு" , பாவை பப்ளிகேஷன்ஸ், 2007
3. க. கைலாசபதி, "இலக்கியத் திறனாய்வுக் கோட்பாடு", நியூ செஞ்சரி புக் ஹவுஸ், 2009

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18META012	□□□□□□□□ □□□□□□□□□□	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : திருமதி நூ.அமீதாராணி & தமிழ்த்துறை				

COURSE OBJECTIVES : □□□□□□□□□ □□□□□□□□□□□ □□□□□□ □□□□□□□□□□□ □□□□□□□□□□□□□ □□□□□□ □□□□□□□ □□□□□□□□											
COURSE OUTCOMES (COs)											
CO1	சிவவாக்கியர், பட்டினத்தார், பாம்பாட்டிச் சித்தர் ஆகியவர்களின் பாடல்களை அறிவர்										
CO2	இடைக்காட்டுச் சித்தர், அகப்பேய்ச் சித்தர், குதம்பைச்சித்தர்களின் பாடல்களை அறிவர்										
CO3	கடுவெளிச் சித்தர், அழுகணிச் சித்தர், பத்திரகிரியார் ஆகியவர்களின் பாடல்களை அறிவர்										
CO4	கொங்கணச் சித்தர், கஞ்சமலைச் சித்தர், கல்லுளிச் சித்தர்களின் பாடல்களை அறிவர்										
CO5	சங்கிலிச் சித்தர், திருமூலர், மௌனச்சித்தர் பாடல்களை அறிவர்										
CO6	நிறைமொழி மாந்தர்கள் மூலம் அவர்களுடைய சிந்தனைகளைப் பெறுவர்										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	L	M			H		M	H	M	M
	CO2	L	M			H		M			
	CO3	L	M			H		M			
	CO4	L	M			H		M			
	CO5	L	M			H		M			
	CO6	L	M			H		M			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
						✓					
4	Approval		Academic Council Meeting								

அலகு 1

9

ஒவ்வொரு சித்தருக்கும் ஐந்து பாடல்கள் (சிவவாக்கியர் - பட்டினத்தார் - பாம்பாட்டிச் சித்தர்)

அலகு 2

9

ஒவ்வொரு சித்தருக்கும் ஐந்து பாடல்கள் (இடைக்காட்டுச் சித்தர் - அகப்பேய்ச் சித்தர் - குதம்பைச்சித்தர்)

அலகு 3

9

ஒவ்வொரு சித்தருக்கும் ஐந்து பாடல்கள் (கடுவெளிச் சித்தர் - அழுகணிச் சித்தர் - பத்திரகிரியார்)

அலகு 4

9

ஒவ்வொரு சித்தருக்கும் ஐந்து பாடல்கள் (கொங்கணச் சித்தர் - கஞ்சமலைச் சித்தர் - கல்லுளிச் சித்தர்)

அலகு 5

9

ஒவ்வொரு சித்தருக்கும் ஐந்து பாடல்கள் (சங்கிலிச் சித்தர் - திருமூல நாயனார் - வகுளிநாதரென்னும் மௌனச்சித்தர்)

பாட நூல்கள்:

1. சி.எஸ்.முருகேசன், "சித்தர் பாடல்கள்", சங்கர் பதிப்பகம், 2016
2. மீ.ப.சோமசுந்தரம், "சித்தர் இலக்கியம் Part :I, II, III, IV, V,VI", அண்ணாமலைப் பல்கலைக்கழகம், 2004
3. ஆர்.திருமுருகன், "சித்தர் பாடல்கள்", சாகித்ய அகடமி, 2014

பார்வை நூல்கள்:

1. தமிழ்பிரியன், "சித்தர் பாடல்கள் மூலமும் உரையும்", நியூபுக்லேண்ட், 2013
2. ராசா, "சித்தர் பாடல்கள் - மூலமும் உரையும்", கற்பகம் பதிப்பகம், 2013
3. மணிவாசகம், "சித்தர் பாடல்கள்", சாராதா பதிப்பகம், 2015

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18META013	□□□□□□□□□□□□□□ □□□□□□□□□□□ □□□□□□□□□□	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : திருமதி நூ.அமீதாராணி & தமிழ்த்துறை				

COURSE OBJECTIVES : □□□□□□□□ □□□□□□□□□ □□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□ □□□□□□□ □□□□□□□□	
COURSE OUTCOMES (COs)	
CO1	நாகரிகம், பண்பாடு என்னவென்றும், இவ்விரண்டுக்கும் உள்ள வேறுபாடுகளை அறிவர்
CO2	பண்டைத் தமிழ நாகரிகம் பற்றி அறிவர்
CO3	பண்டைத் தமிழ்ப் பண்பாடு பற்றி அறிவர்
CO4	பண்டைத் தமிழர்களின் தொழில்கள் பற்றி அறிவர்
CO5	பண்டைத் தமிழர்களின் வாணிகம், அரசியல், கல்வி பற்றி அறிவர்
CO6	

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1		H	M	H	M			H	M	M
	CO2		H	M	H	M					
	CO3		H	M	H	M					
	CO4		H	M	H	M					
	CO5		H	M	H	M					
	CO6		H	M	H	M					

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
						✓				
4	Approval		Academic Council Meeting							

அலகு 1

9

நாகரிகம் என்னும் சொல்விளக்கம் - பண்பாடு என்னும் சொல் விளக்கம் - நாகரிகத்திற்கும் பண்பாட்டிற்கும் வேறுபாடு - இந்திய நாகரிகம் தமிழரதே யாதல் - குமரிக்கண்ட இடப்பெயரும் மூவேந்தர் குடிப்பெயரும்

அலகு 2

9

பண்டைத் தமிழ நாகரிகம் : மொழி - துப்புரவு - ஊண் - உடை - அணி - உறையுள் - ஊர்தியும் போக்குவரத்தும் - வாழ்க்கை வகை: இல்லறம், துறவறம், தனிவாழக்கை - சமயவொழுக்கம்: சிறுதெய்வங்கள், பெருந்தெய்வங்கள், கடவுள் நெறி

அலகு 3

9

பண்டைத் தமிழ்ப் பண்பாடு: பொது - அந்தணர் பண்பாடு - அரசர் பண்பாடு - வணிகர் பண்பாடு - வேளாளர் பண்பாடு - பிறவகுப்பார் பண்பாடு - கள்வர் பண்பாடு - பெண்டிர் பண்பாடு

அலகு 4

9

தொழில்கள்: உழவு - நெசவு - கம்மியம் - கொத்தம் - கலவினை - பிறதொழில்கள்

அலகு - 5

9

நிலவாணிகம், நீர்வாணிகம் - அரசியல் - கல்வி

பாட நூல்கள்;:

1. ஞா.தேவநேயப் பாவாணர், "பண்டைத்தமிழ நாகரிகமும் பண்பாடும்", தமிழ்மண் அறக்கட்டளை, 2013
2. அ தட்சிணாமூர்த்தி, "தமிழர் நாகரிகமும் பண்பாடும்', ஐந்திணைப் பதிப்பகம், 2015
3. கே.கே. பிள்ளை, "தமிழக வரலாறும் மக்களும் பண்பாடும்",உலகத் தமிழாராய்ச்சி நிறுவனம், 2015

பார்வை நூல்கள்;

1. மா. இராசமாணிக்கனார், "தமிழக வரலாறும் பண்பாடும்", தமிழ்க் குடிஅரசுப் பதிப்பகம், 2013
2. நா. வானமாமலை, தமிழர் பண்பாடும் தத்துவமும், அலைகள் வெளியீட்டகம், 2016
3. பேரின்பன், தமிழர் வரலாறு:சில கேள்விகளும் தேடல்களும், அலைகள் வெளியீட்டகம், 2011

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18SETA021	□□□□□□□□□□□□□□□□□□	L	T	P	C
	Total Contact Hours – 45	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். இரா.பாலகிருஷ்ணன் & தமிழ்த்துறை				

COURSE OBJECTIVES : □□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□

COURSE OUTCOMES (COs)

CO1	மொழிபெயர்ப்பின் தோற்றம் பற்றி அறிவர்
CO2	மொழிபெயர்ப்பின் வளர்ச்சியை அறிவர்
CO3	மொழிபெயர்ப்பின் வகைகளை அறிவர்
CO4	மொழிபெயர்ப்பின் பயன்கள் பற்றி அறிவர்
CO5	அறிவியல் மொழிபெயர்ப்புப் பற்றி அறிவர்
CO6	இருமொழிப்புலமையை பற்றி அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	L	H							H	H
	CO2	L	H								
	CO3	L	H								
	CO4	L	H								
	CO5	L	H								
	CO6	L	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval		Academic Council Meeting

அலகு 1

10

மொழிபெயர்ப்பின் தோற்றமும் வளர்ச்சியும் - கி.பி. 16 ஆம் நூற்றாண்டின் தொடக்கத்தில் மொழி - மொழிபெயர்ப்பின் கொள்கை வரலாற்று அடிப்படையில் - 17 ஆம் நூற்றாண்டு, 18 ஆம் நூற்றாண்டு, 19 ஆம் நூற்றாண்டு, 20 ஆம் நூற்றாண்டு - இந்தியாவில் மொழிபெயர்ப்பு - தமிழ்நாட்டில் மொழிபெயர்ப்பு

அலகு 2

10

மொழிபெயர்ப்பு விளக்கம் - மொழிபெயர்ப்பாளரின் பண்பு - பயன்கள் - ஒரு மொழிக்குள்ளே செய்யப்படும் மொழிபெயர்ப்பு - இருமொழிகளுக்கிடையே செய்யப்படும் மொழிபெயர்ப்பு - ஒலிபெயர்ப்பு - சந்த மொழிபெயர்ப்பு - கவிதையை உரைநடையாக மொழிபெயர்த்தல் - எதுகை மோனை மொழிபெயர்ப்பு - சொல்லுக்குச் சொல் மொழிபெயர்த்தல் - விரிவான மொழிபெயர்ப்பு - சரியான மொழிபெயர்ப்பு - சுருக்கமான மொழிபெயர்ப்பு - தழுவல் - மொழியாக்கம் - குழந்தைகளுக்கான மொழிபெயர்ப்பு - திரைப்பட வசனங்கள் மொழிபெயர்ப்பு - சமய மொழிபெயர்ப்பு

அலகு 3

10

அறிவியல் மொழிபெயர்ப்பு - சட்டத்துறை - மொழியின் அமைப்பிற்குத் தக்கவாறு மொழிபெயர்த்தல் - வழக்கிலுள்ள சொற்களை பயன்படுத்துதல் - புதிய சொல்லை உருவாக்குதல் - அறிவியல் மொழிபெயர்ப்பு சில வழிமுறைகள்

பாட நூல்கள்:

1. சி.சிவசண்முகம், வே.தயாளன், "மொழிபெயர்ப்பியல்", அன்னம் (பி) லிட், 2009
2. சு.சண்முக வேலாயுதம், "மொழிபெயர்ப்பியல்', உலகத் தமிழாராய்ச்சி நிறுவனம், 2008
3. ச.ஈஸ்வரன், "மொழிபெயர்ப்பியல்", பாலைப் பதிப்பகம், 2005

பார்வை நூல்கள்:

1. க. பட்டாபிராமன், "மொழிபெயர்ப்புக் கையேடு", நியூ செஞ்சுரி புக் ஹவுஸ், 2009
2. மு.வளர்மதி, மொழிபெயர்ப்புக்கலை, திருமகள் நிலையம், 2012
3. க.பட்டாபிராமன், மொழிபெயர்ப்பியல், உலகத் தமிழாராய்ச்சிக் கழகம், 2011

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18SETA022	□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : திரு கே.வி.பரந்தாமன் & தமிழ்த்துறை				

COURSE OBJECTIVES : □□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□	
COURSE OUTCOMES (COs)	
CO1	பிழையில்லாமல் எழுதுவதற்கு பயிற்சி பெறுவர்
CO2	நேர்முகத்தேர்வு, பேட்டி போன்றவைகளுக்கு பயிற்சி பெறுவர்
CO3	கடிதம் எழுதுவதற்கு பயிற்சி பெறுவர்
CO4	□□□□□□□□□□□□□□□□ □□□□□□□□□□□□ □□□□□□□□ □□□□□□□□
CO5	குழுவிவாதம், மேடை, கருத்தரங்குகளில் பேச பயிற்சி பெறுவர்
CO6	மொழிபயிற்சி மூலம் சிறந்த ஆளுமைத்திறனைப் பெறுவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1		M	M	M			H	H	H	H
	CO2		M	M	M			H			
	CO3		M	M	M			H			
	CO4		M	M	M			H			
	CO5		M	M	M			H			
	CO6		M	M	M			H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval		Academic Council Meeting

அலகு 1 10

வல்லெழுத்து மிகுதலும் மிகாமையும் - பிழையில்லாமல் எழுதுதல் - மேற்கோள் -கால்புள்ளி - அரைப்புள்ளி - ஒலிமயக்க எழுத்துக்களை அறிதல் - எழுத்துமாற்றத்தால் ஏற்படும் பொருள் மாற்றம் - குழப்பம் தரும் சொற்கள் - தொடரமைப்பு - உயர்திணை அஃறிணை- ஒருமை பன்மை

அலகு 2 10

நேர்முகத்தேர்வு - பேட்டி - கடிதம் - விண்ணப்பம் - தன் விவரப்பட்டியல் எழுதப் பயிற்சி - பொதுக்கட்டுரைகள்

அலகு 3 10

மொழிப்பயிற்சி - குழுவிவாதம்- மேடை - கருத்தரங்குகளில் பேசபயிற்சி அளித்தல்.

பாட நூல்கள்:

1. "மொழிபயன்பாடும் மொழிப்பயிற்சியும்", தமிழ்த்துறை வெளியீடு, திருச்சிலுவை கல்லூரி, 2014
2. "தமிழ்ச் சொற்களைப் பிழை நீக்கி எழுது முறை", கழக வெளியீடு, 2012
3. தி.மு.தெய்வசிகாமணி ஆச்சாரியார், "மேடைத் தமிழ்", பாரி நிலையம், 2011

பார்வை நூல்கள்:

1. கா.பட்டாபிராமன், "மொழிப்பயன்பாடு", நியூ செஞ்சுரி புக் ஹவுஸ், 2012
2. மு. வரதராசன், "மொழி வரலாறு", பாரி நிலையம், 2008
3. ஆசிரியர் குழு, "ஆட்சித்தமிழ் தமிழ் வளர்ச்சி இயக்ககம்" , 1999

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18SETA023	□□□□□ □□□□□□				L	T	P	C			
	Total Contact Hours – 30				2	0	0	2			
	Prerequisite course – +2 Level Tamil										
	Course Coordinator Name& Department : திருமதி நூ.அமீதாராணி & தமிழ்த்துறை										
COURSE OBJECTIVES : □□□□□ □□□□□□□□ □□□□□□□ □□□□□□□□□□											
COURSE OUTCOMES (COs)											
CO1	கலைகளின் தோற்றமும் வளர்ச்சியும் பற்றி அறிவர்										
CO2	சிற்பக்கலை பற்றி அறிவர்										
CO3	ஓவியக்கலைப் பற்றி அறிவர்										
CO4	□□□□□□□ □□□□□□□□ □□□□□□□□ □□□□□□□□□ □□□□□□ □□□□□□□										
CO5	நாடகக் கலைப் பற்றி அறிவர்										
CO6	கவின் கலைகளைப் பற்றி நுட்ப அறிவைப் பெறுவர்										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1		M	M				H	H	M	H
	CO2		M	M				H			
	CO3		M	M				H			
	CO4		M	M				H			
	CO5		M	M				H			
	CO6		M	M				H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

அலகு 1 10

கலைகள் - விளக்கம் - கவின் கலைகள் என்றால் என்ன? - விளக்கம் - கலைகளின் தோற்றமும் வளர்ச்சியும் - கலை வளர்த்த பாணர், விறலி, புலவர்கள் - புரவலர்கள் - இலக்கியங்கள்

அலகு 2 10

தமிழகச் சிற்பக்கலை, ஓவியக்கலை - தோற்றமும் வளர்ச்சியும் - தமிழகக் கோயில்களில் சிற்பங்களும், ஓவியங்களும்

அலகு 3 10

நாடகக் கலை - நாடகக் கலையின் தோற்றமும் வளர்ச்சியும் - நாடகக் கலையில் ஏற்பட்ட வளர்ச்சி நிலைகள் - இன்றைய திரைப்படம் சின்னத் திரை வரை

பாட நூல்கள்:

1. எஸ் . சேஷாச்சலம், கவின் கலைகள், ஸ்ரீ மாருதி பதிப்பகம், 2008
2. எஸ்.மோசேஸ், "தொழில்நுட்ப கலைகள் - அறிமுக விளக்கம்", கிருஷி வெளியீடு, 2012
3. சீ.வசந்தி, "தமிழகக் கோயிற் கலைகள்", தொல்லியல்துறை வெளியீடு, 2014

பார்வை நூல்கள்:

1. கு.வெ.பாலசுப்ரமணியன், "சங்க இலக்கியத்தில் கலையும் கலைக்கோட்பாடும்", பாரி நிலையம், 1998
2. மயிலை. சீனி. வேங்கடசாமி, " தமிழ் வளர்த்த அழகுக் கலைகள்" பாரி நிலையம், 2012
3. அ.ம.சத்தியமூர்த்தி, "தமிழக நாட்டுப்புறக் கலைகள் ஓர் ஆய்வு", பாவை பதிப்பகம், 2013

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18SETA031	□□□□□□□□ □□□					L	T	P	C		
	Total Contact Hours – 30					2	0	0	2		
	Prerequisite course – +2 Level Tamil										
	Course Coordinator Name& Department : திரு கே.வி.பரந்தாமன் & தமிழ்த்துறை										
COURSE OBJECTIVES : ஊடகவியல் அல்லது இதழியல் பற்றி கற்பித்தல்											
COURSE OUTCOMES (COs)											
CO1	இதழ்கள் வகைகளும் இயல்புகளும் பற்றி அறிவர்										
CO2	இதழ்களின் கோட்பாடுகள் ,இதழியல் தொழில் பற்றி அறிவர்										
CO3	இதழியல் வளர்ச்சி வரலாறு பற்றி அறிவர்										
CO4	செய்தித்தாள் நிர்வாக அமைப்புப் பற்றி அறிவர்										
CO5	பல்வேறு வகையான செய்திகள் சேகரிப்பதைப் பற்றி அறிவர்										
CO6	ஊடகவியல் / இதழியல் பற்றி அறிவர்										
Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1			H			M	H			L
	CO2			H			M	H			
	CO3			H			M	H			
	CO4			H			M	H			
	CO5			H			M	H			
	CO6			H			M	H			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
									✓		
4	Approval		Academic Council Meeting								

அலகு 1 10

இதழியல் விளக்கம் - இதழ்களின் பணிகளும் பொறுப்புகளும் - இதழ்கள் வகைகளும் இயல்புகளும் - மக்களாட்சியில் இதழியல் - இதழ்களின் சுதந்திரம் - இதழ்களின் நடத்தையறக் கோட்பாடுகள் - இதழியல் தொழில் வாய்ப்புகள்.

அலகு 2 10

இதழியல் வளர்ச்சி வரலாறு – தமிழகத்தில் இதழியல் வளர்ச்சி – பத்திரிகைச் சட்டங்கள் - பத்திரிகை மன்றம் - இதழ்கள் தொடங்குவதற்குரிய வழிமுறை செய்தித்தாள் நிர்வாக அமைப்பு.

அலகு 3 10

செய்தியாளர் - செய்தி – செய்தியின் உள்ளடக்கங்கள் - செய்தி திரட்டுதல் - செய்தி நிறுவனங்கள் - பேட்டி குற்றச் செய்திகள் - பல்வேறு வகையான செய்திகள் - செய்திகளும் சிறப்புத் தனி இயல்புகளும் - படங்களும் இதழ்களும்.

பாட நூல்கள்:

1. மா.பா.குருசாமி, "இதழியல் கலை" ,குரு தேமொழி பதிப்பகம், 2017
2. இரா.கோதண்டபாணி, "இதழியல்', கற்பக நூலகம், 2015
3. ச.ஈஸ்வரன், "இதழியல்", பாவை பதிப்பகம், 2014

பார்வை நூல்கள்:

1. கி.இராசா , இதழியல், தாமரை பப்ளிகேஷன்ஸ், 2005
2. மா.சு.சம்பந்தன், தமிழ் இதழியல் வரலாறு, தமிழர் பதிப்பகம், 1987
3. மா.சு.சம்பந்தன், அச்சும் பதிப்பும், தமிழர் பதிப்பகம், 1980

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18SETA032	□□□□□□□□□□□□	L	T	P	C
	Total Contact Hours –	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : திருமதி நூ.அமீதாராணி & தமிழ்த்துறை				

COURSE OBJECTIVES : □□□□ □□□□□□□□□□□ □□□□□□□□□□□□ □□□□□□□□ □□□□□□□□□ □□□□□□ □□□□□□□□□□□□□ □□□□ □□□□□□□□

COURSE OUTCOMES (COs)

CO1	பேச்சுக்க கலை அடிப்படைகளைப் பற்றி அறிவர்
CO2	இலக்கியம் தயாரிப்பது பற்றி அறிவர்
CO3	அரசியல் தயாரிப்பது பற்றி அறிவர்
CO4	□□□ □□□□□□□ □□□□□□□□□□□ □□□□□□ □□□□□□□
CO5	பல்வேறு உரைகள் பற்றி அறிவர்
CO6	பேச்சுக்கலை மூலம் ஆளுமைத் திறனை வளர்த்துக்கொள்வர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1			H	M	M	M	H		H	H
	CO2			H	M	M	M	H			
	CO3			H	M	M	M	H			
	CO4			H	M	M	M	H			
	CO5			H	M	M	M	H			
	CO6			H	M	M	M	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
									✓	

4	Approval		Academic Council Meeting

அலகு 1 10

பேச்சுஒரு தனி பெருங்கலை ஆளுமை வெளிப்பாடு – பயன் மிகச் சிறந்த தொடர்பு ஊடகம் - பேசுவோர், கேட்போர் மனநிலை பேச்சுக்க கலை அடிப்படை.

அலகு 2 10

தலைப்பையொட்டிக் குறிப்பெடுத்தல் தயாரிப்பு, இலக்கியம், அரசியல், சமய உரைகள் தயாரித்தல்

அலகு 3 10

பல்வேறு உரைகள்-வரவேற்புரை, நன்றியுரை, தொடக்கவுரை, சிறப்புரை, தலைமையுரை, ஆசியுரை, ஏற்புரை, பட்டிமன்றம், வழக்காடு மன்றம் நீயா? நானா? போன்ற தொலைக்காட்சி உரைகளில் ஆற்றுரை.

பாட நூல்கள்:

1. ரூ,டேல் கார்னகி, ஜே.பெர்க் ஜசன்வீன், "மேடைப் பேச்சுக்கலை', கண்ணதாசன் பதிப்பம், 2012
2. அறந்தை நாராயணன், "மேடையில் பேசுவோம் வாருங்கள்", நீயூ செஞ்சரி புக் ஹவுஸ், 2011
3. கு.ஞானசம்பந்தன், "பேசும் கலை", நீயூ செஞ்சரி புக் ஹவுஸ், 2015

பார்வை நூல்கள்:

1. கமலா கந்தசாமி, "எப்பொழுதும் வெற்றி தரும் பேச்சுக்கலை", நர்மதா பதிப்பகம், 2013
2. கவிதாசன், "வெற்றிமேடை", குமரன் பதிப்பகம், 2007
3. யூ. ராசையா, "பேச்சுக்கலை - மக்கள் தொடர்புக் கலை", கங்காராணி பதிப்பகம் ,2012

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18SETA033	□□□□□□□□□ □□□□□□□□□ □□□□□□	L	T	P	C
	Total Contact Hours – 30	2	0	0	2
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : திரு கே.வி.பரந்தாமன் & தமிழ்த்துறை				

COURSE OBJECTIVES :	□□□□ □□□□□□□□□□□□ □□□□□□□□□ □□□□□□□□□□□ □□□□□□□□□□□□ □□□□□□ □□□□□□□□
COURSE OUTCOMES (COs)	
CO1	தமிழ்-தமிழின புகழ் பெற்ற நூல் - நூலாசிரியர், சான்றோர்கள் பற்றி அறிவர்
CO2	தமிழ் இலக்கிய வரலாறு பற்றிய அறிவைப் பெறுவர்
CO3	தமிழ்ப் படைப்பாளர்கள் பற்றி அறிவர்
CO4	□□□□□□□ □□□□□□□□□□ □□□□□ □□□□□□□□ □□□□□□ □□□□□□□
CO5	சந்திப்பிழைகளை நீக்குதல் பற்றி அறிவர்
CO6	போட்டித் தேர்வுக்கு எழுதுவதற்கு உள்ள திறனைப் பெறுவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1			H	M	M	M	H		H	H
	CO2			H	M	M	M	H			
	CO3			H	M	M	M	H			
	CO4			H	M	M	M	H			
	CO5			H	M	M	M	H			
	CO6			H	M	M	M	H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR

									✓	
4	Approval		Academic Council Meeting							

அலகு 1

10

போட்டித் தேர்வுத் தமிழ் ஓர் அறிமுகம் - தமிழ்நாடு அரசுப் பணியாளர் தேர்வாணையம் நடத்தும் போட்டித் தேர்வுகளில் தமிழ்-தமிழின புகழ் பெற்ற நூல் - நூலாசிரியர், அடைமொழியால் குறிக்கப்படும் சான்றோர்.

அலகு 2

10

போட்டித் தேர்வுத் தயாரிப்பில் தமிழ் இலக்கிய வரலாறு ஓர் அறிமுகம் - சாகித்ய அகாடெமி விருது பெற்ற தமிழ்ப் படைப்பாளர்கள்

அலகு 3

10

அகர வரிசைப்படி சொற்களைச் சீர் செய்தல் - வேர்ச் சொல்லைக் கண்டறிதல், சந்திப்பிழைகளை நீக்கி எழுதுதல்

பாட நூல்கள்:

1. மு. வரதராசன், "தமிழ் இலக்கிய வரலாறு", சாகித்திய அக்காதெமி, 1972
2. சி.சேதுராமன், "தமிழ் இலக்கிய வரலாறு", நியூ செஞ்சுரி புக் ஹவுஸ், 2012
3. கோ. பெரியண்ணன், "அடிப்படை எளிய தமிழ் இலக்கணம்", வனிதா பதிப்பகம், 2017

பார்வை நூல்கள்:

1. சங்கர சரவணன், "போட்டித் தேர்வுகளில் பொருளாதாரம் VAO - IAS வரை", விகடன் பிரசுரம், 2012
2. சங்கர சரவணன், "பொதுத் தமிழ்க் களஞ்சியம்", விகடன் பிரசுரம், 2011
3. சீ.காந்திராஜ், "போட்டித் தேர்வு", பாரி நிலையம், 2013

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCTA601	□□□□□□□□ - □□□□□□□□□□□□□□□	L	T	P	C
	Total Contact Hours – 60	4	0	0	4
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். த. கிறிஸ்டல் ரெஜி & தமிழ்த்துறை				
COURSE OBJECTIVES : அணி இலக்கணத்தைப் பயிலச் செய்தல்					
COURSE OUTCOMES (COs)					
CO1	பொது அணி இயல் - செய்யுள் பற்றி அறிவர்				
CO2	பொது அணி இயல் - செய்யுள் நெறி பற்றி அறிவர்				
CO3	31 அணிகளுக்காண இலக்கணத்தை அறிவர் – I				
CO4	31 அணிகளுக்காண இலக்கணத்தை அறிவர் – II				
CO5	சொல்லணி, மடக்கு, சித்திரகவி, வழுக்களின் வகைகள் ஆகியவைகளைப் பற்றி அறிவர்				
CO6	அணி இலக்கணத்தை அறிவர்				

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	L	H						H		H
	CO2	L	H								
	CO3	L	H								
	CO4	L	H								
	CO5	L	H								
	CO6	L	H								

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
					✓					
4	Approval		Academic Council Meeting							

அலகு 1

12

பொது அணி இயல் - செய்யுள் : செய்யுள் வகை - முத்தகச் செய்யுள் - குளகச் செய்யுள் - தொகைநிலைச் செய்யுள் - தொடர்நிலைச் செய்யுள் - பொருள் தொடர்நிலைச் செய்யுள் - பெருங்காப்பியம் - புறனடை - காப்பியம் - சொல்தொடர்நிலைச் செய்யுள்.

அலகு 2

12

பொது அணி இயல் - செய்யுள் நெறி : செய்யுள் நெறி - வைதருப்பநெறி - கௌட நெறி - செறிவு - தெளிவு - சமநிலை - இன்பம் - ஒழுகிசை - உதாரம் - உய்த்தலில் பொருண்மை - காந்தம் - வலி - சமாதி - புறனடை

அலகு 3

12

பொருள் அணி இயல் - I : பொருள் அணி இயல் - பொருள் அணிகள் - தன்மை அணி - உவமை அணி - உவமை வகை - உவமைச் சொற்கள் - உருவக அணி - தீவக அணி - பின்வரு நிலை அணி - முன்ன விலக்கு அணி - வேற்றுப்பொருள் வைப்பு அணி - வேற்றுமை அணி - விபாவனை அணி - ஒட்டு அணி - ஒட்டு அணி வகை - அதிசய அணி - தற்குறிப்பேற்ற அணி - ஏது அணி - காரக ஏது - ஞாபக ஏது - அபாவ ஏது - சித்திர ஏது - நுட்ப அணி - இலேச அணி -

அலகு 4

12

பொருள் அணி இயல் - II : நிரல்நிறை அணி - ஆர்வமொழி அணி - சுவை அணி - தன் மேம்பாட்டு உரை அணி - பரியாய அணி - சமாகித அணி - உதாத்த அணி - அவநுதி அணி - சிலேடை அணி - விசேட அணி - ஒப்புமைக் கூட்ட அணி - விரோத அணி - மாறுபடு புகழ் நிலை அணி - புகழாப் புகழ்ச்சி அணி - நிதரிசன அணி - புணர்நிலை அணி - பரிவர்த்தனை அணி - வாழ்த்ததணி - சங்கீரண அணி - புறனடை - பாவிக அணி

அலகு 5

12

சொல் அணி இயல் : சொல் அணி இயல் - சித்திரகவி - வாழுக்களின் வகை - பிரிபொருள் சொற்றொடர் - சிறப்பு விதி - மாறுபாடு பொருள் மொழி - மொழிந்தது மொழிவு, சிறப்பு விதி - கவர்படு பொருள் மொழி, சிறப்பு விதி - நிரல் நிறை வழு, சிறப்பு விதி - சொல் வழு, சிறப்பு விதி - யதிவழு, சிறப்பு விதி - செய்யுள் வழு, சிறப்பு விதி - சந்தி வழு, சிறப்பு விதி - இட மலைவு - கால மலைவு - கலை மலைவு - உலக மலைவு - நியாய மலைவு - ஆகம மலைவு - மலைவுக்குச் சிறப்பு விதி - புறனடை

பாட நூல்கள்:

1. புலியூர்க் கேசிகன் ,"தண்டியலங்காரம் தெளிவுரை", சாரதா பதிப்பகம், 2015
1. கு. சுந்தரமூர்த்தி, "தண்டியலங்காரம் மூலமும் உரையும்", உமா பதிப்பகம், 2012
2. அ. குமாரசுவாமிப்பிள்ளை, "தண்டியலங்காரம் மூலமும் உரையும்", நாகு வெளியீடு, 2011

பார்வை நூல்கள்:

1. வ.த.இராம.சுப்பிரமணியம், தண்டியலங்காரம் தெளிவுரை, பாரி நிலையம்,2010
2. தண்டியாசிரியர், தண்டியலங்காரம், மதராஸ் ரிப்பன் , 1920
3. தண்டியாசிரியர், தண்டியலங்காரம், கழக வெளியீடு, 1943

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCTA602	□□□□□□□□□□□□□□□□	L	T	P	C
	Total Contact Hours –	4	0	0	4
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். த. கிறிஸ்டல் ரெஜி & தமிழ்த்துறை				
COURSE OBJECTIVES : மூவேந்தர்களின் நாடு, அரண், படைச் சிறப்பு, போர்த்திறம், வீரம், ஈகை முதலானவற்றை அறியச் செய்தல்					
COURSE OUTCOMES (COs)					
CO1	பாண்டியன் புகழ் பற்றி அறிவர்				
CO2	பாண்டியன் புகழ் பற்றி அறிவர்				
CO3	பாண்டியன் புகழ் பற்றி அறிவர்				
CO4	சோழன் புகழ் பற்றி அறிவர்				
CO5	சேரன் புகழ் பற்றி அறிவர்				
CO6	மூவேந்தர்களின் நாடு, அரண், படைச் சிறப்பு, போர்த்திறம், வீரம், ஈகை பற்றி அறிவர்				

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1		H	M	H	M					
	CO2		H	M	H	M					

	CO3		H	M	H	M			H	M	M
	CO4		H	M	H	M					
	CO5		H	M	H	M					
	CO6		H	M	H	M					
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

அலகு 1
12
பாண்டியன் புகழ் பாடல்கள் (1-20)

அலகு 2
12
பாண்டியன் புகழ் பாடல்கள் (21-40)

அலகு 3
12
பாண்டியன் புகழ் பாடல்கள் (41-57)

அலகு 4
12
சோழன் புகழ் பாடல்கள் (58-87)

அலகு 5
12
சேரன் புகழ் பாடல்கள் (88-108)

பாட நூல்கள்:

1. ந.சுப்புரெட்டியார், "முத்தொள்ளாயிர விளக்கம்", திருவேங்கடவன் பல்கலைக் கழகம், 1985
2. கதிர் முருகு, "முத்தொள்ளாயிரம் மூலமும் உரையும்", சாரதா பதிப்பகம், 2017
3. ஞா.மாணிக்கவாசகன், "முத்தொள்ளாயிரம் (விளக்க உரை)", உமா பதிப்பகம், 2016

பார்வை நூல்கள்:

1. என். சொக்கன், முத்தொள்ளாயிரம், கிழக்கு பதிப்பகம், 2010
2. டி.கே.சிதம்பரநாத முதலியார், முத்தொள்ளாயிரம், பாரி நிலையம், 1957
3. பத்மதேவன், முத்தொள்ளாயிரம்: மூலமும் உரையும், ஸ்ரீ செண்பகா பதிப்பகம், 2007

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18MCTA603	□□□□□□□□□□□ □□□	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : திரு மு.பரந்தாமன் & தமிழ்த்துறை				
COURSE OBJECTIVES : □□□□□□□□□ □□□□□□□□□□□□ □□□□□□ □□□□□□□					
COURSE OUTCOMES (COs)					
CO1	திறனாய்வு வகைகளை அறிவர்				
CO2	அறிவியல் வழி அணுகுமுறையையும் சமுதாயவியல் திறனாய்வு பற்றியும் அறிவர்				
CO3	வரலாற்றியல், உளவியல் அணுகுமுறைகளை அறிவர்				
CO4	மொழியியல், உருவவியல் அணுகுமுறைகளை அறிவர்				
CO5	அமைப்பியல்,அறநெறி அணுகுமுறைகளையும் மார்க்சியத் திறனாய்வு பற்றியும் அறிவர்				
CO6	திறனாய்வு செய்யும் அறிவைப் பெற்று ஆளுமையை வளர்ப்பர்				

Mapping of Course Outcomes with Program outcomes (POs) (1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low											
1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1	M	H					M		M	H
	CO2	M	H					M			
	CO3	M	H					M			
	CO4	M	H					M			
	CO5	M	H					M			
	CO6	M	H					M			
3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR	
					✓						
4	Approval		Academic Council Meeting								

அலகு 1 9

திறனாய்வாளனும் திறனாய்வும் - திறனாய்வு வகைகள் - விளக்கமுறைத் திறனாய்வு, ஒப்பீட்டுத் திறனாய்வு, மதிப்பீட்டுத் திறனாய்வு, ரசனை முறை அல்லது அழகியல் திறனாய்வு, பாராட்டுமுறைத் திறனாய்வு, முடிபுமுறைத் திறனாய்வு, விதிமுறைத் திறனாய்வு, செலுத்துநிலை அல்லது படைப்புவழி திறனாய்வு, பகுப்பு முறைத் திறனாய்வு

அலகு 2 9

திறனாய்வில் அறிவியல் வழி அணுகுமுறை - சமுதாயவியல் திறனாய்வு

அலகு 3 9

வரலாற்றியல் அணுகுமுறை - உளவியல் அணுகுமுறை

அலகு 4

9

மொழியியல் அணுகுமுறை - உருவவியல் அணுகுமுறை

அலகு 5

9

அமைப்பியல் - பின்னை அமைப்பியல் - அறநெறி அணுகுமுறை - மார்க்சியத் திறனாய்வு

பாட நூல்கள்:

1. தி.சு.நடராசன்,"திறனாய்வுக் கலை அணுகுமுறைகளும் கொள்கைகளும்", செஞ்சுரி புக் ஹவுஸ்,2018
2. கு.பகவதி, "திறனாய்வு அணுகுமுறைகள்" உலகத்தமிழாராய்ச்சி நிறுவனம், 2007
3. கே.எஸ்.சிவகுமாரன், "திறனாய்வு என்றால் என்ன?", மணிமேகலை பிரசுரம், 2004

பார்வை நூல்கள்:

1. மு.வரதராசன், இலக்கியத் திறன், மு.வ. பதிப்பகம், 1992
2. மு.வரதராசன், அறமும் அரசியலும், பாரி நிலையம், 2005
3. மு.வரதராசன், இலக்கிய மரபு, பாரி நிலையம், 2006

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18META021	□□□□□□□□□□□□□□	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : திரு கே.வி.பரந்தாமன் & தமிழ்த்துறை				
COURSE OBJECTIVES : :- படைப்பாளிகளையும், பன்மொழி படைப்புகளையும், ஒரே மொழியில் வெவ்வேறு துறைகளின் படைப்புப் போக்குகளையும் ஒப்பீட்டு ஆய்வது பற்றி அறியச் செய்தல்					
COURSE OUTCOMES (COs)					
CO1	ஒப்பிலக்கியத்தின் தோற்றம் வளர்ச்சியைப் பற்றி அறிவர்				

CO2	கலை, ஓவியம், சிற்பம், இசை, கூத்து ஆகியவற்றில் ஒப்பீடு செய்வதை அறிவர்
CO3	தொல்காப்பியமும் வடமொழி இலக்கியக் கொள்கைகளும், நடையும் ரீதியும் பற்றி அறிவர்
CO4	தமிழ் – கிரேக்க வீரயுகப் பாடல்கள், பிற மொழி அற இலக்கியங்கங்களையும் அறிவர்
CO5	படைப்பாளிகளின் இலக்கியங்களை ஒப்பியல் நோக்கோடு பார்வையிட்டு அறிவர்
CO6	ஒப்பீட்டு ஆய்வது பற்றி அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1		H	M	M	M		M	H	M	H
	CO2		H	M	M	M		M			
	CO3		H	M	M	M		M			
	CO4		H	M	M	M		M			
	CO5		H	M	M	M		M			
	CO6		H	M	M	M		M			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
						✓				

4	Approval		Academic Council Meeting

அலகு 1

9

ஒப்பீடும் ஒப்பிலக்கியமும் - ஒப்பிலக்கியத்தின் தோற்றமும் வளர்ச்சியும் - தமிழில் ஒப்பிலக்கிய வளர்ச்சி - நான்கு வகை இலக்கியப் பார்வை - தாக்கமும் இணை நிலையும்.

அலகு 2

9

இலக்கியமும் கலைகளும் - இலக்கியமும் ஓவியமும் - இலக்கியமும் சிற்பமும் - இலக்கியமும் இசையும் - இலக்கியமும் கூத்தும்

அலகு 3
9
தொல்காப்பியமும் வடமொழி இலக்கியக் கொள்கைகளும் - மெய்ப்பாடும் ரஸக் கோட்பாடும் குறிப்புப் பொருளும் தொனியும் - நோக்கும் சித்தியமும் - நடையும் ரீதியும்

அலகு 4
9
தமிழ் - கிரேக்க வீர நிலைக் காலப் பாடல்கள், திருக்குறளும் பிற மொழி அற இலக்கியங்களும், தமிழ் வீரயுகப் பாடல்கள்.

அலகு 5
9
ஒப்பியல் நோக்கு - கம்பனும் வால்மீகியும் பாரதியும் விட்மனும் - இளங்கோவும் சேக்ஸ்பியரும் இந்திய இலக்கிய வகைகள்.

பாட நூல்கள்:
1. தமிழண்ணல், "ஒப்பிலக்கிய அறிமுகம்", மீனாட்சி புத்தக நிலையம், 2005
2. ஜி ஜான் சாமுவேல், "இலக்கிய ஒப்பாய்வுக் களங்கள்", ஆசியவியல் நிறுவனம், 1997
3. க.கைலாசபதி, "ஒப்பியல் இலக்கியம்", குமரன் புத்தக இல்லம், 2014

பார்வை நூல்கள்:
1. கி. இராசா, ஒப்பிலக்கியம், நியூசெஞ்சுரி புக் ஹவுஸ், 2016
2. கருப்பத்தேவன், ஒப்பிலக்கியக் கொள்கைகள் நோக்கும் போக்கும், சீதை பதிப்பகம், 2015
3. ச.சிவகாமி, ஒப்பிலக்கியத் தமிழ், அமுத நிலையம், 2012

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

	□□□□ □□□□□□□ □□□□□□	L	T	P	C
	Total Contact Hours – 45	3	0	0	3

U18META022	Prerequisite course – +2 Level Tamil
	Course Coordinator Name& Department : முனைவர். சு.பால்பாண்டி & தமிழ்த்துறை

COURSE OBJECTIVES : தமிழ் நாடக வரலாறு பற்றி அறியச் செய்தல்	
COURSE OUTCOMES (COs)	
CO1	நாடகக் கலையின் தோற்றம், தொன்மை, கூத்து வகைப் பற்றி அறிவர்
CO2	நாடக வகைகளைப் பற்றி அறிவர்
CO3	இருபதாம் நூற்றாண்டு நாடக இலக்கியத்தைப் பற்றி அறிவர்
CO4	நாடகக் கலைஞர்களை பற்றி அறிவர்
CO5	தமிழ் நாடகங்களின் பொற்காலம், இன்றைய நிலை பற்றி அறிவர்
CO6	நாடக இலக்கியத்தைப் பற்றி அறிவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1		M	M	M	M		M	H	M	M
	CO2		M	M	M	M		M			
	CO3		M	M	M	M		M			
	CO4		M	M	M	M		M			
	CO5		M	M	M	M		M			
	CO6		M	M	M	M		M			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
						✓				

4	Approval	Academic Council Meeting

தமிழ் நாடகக் கலையின் தோற்றம் - தமிழின் தொன்மையும் வன்மையும் - தமிழகத்தில் நாடகம் தோன்றிய காலம் - நாடகம் - நாட்டியம் - நாடகத்தின் முற்காலம் - தெய்வீகக் கலை - கூத்துக் கலை - தோற்பாவைக் கூத்து - கூத்து வகை - வேத்தியலும் பொதுவியலும் - இயல் இசை கூத்து

அலகு 2

9

நடனமே நாடகம் - மன்னர்கள் வளர்த்த மாபெருங்கலை - பண்டைய நாடக இலக்கியங்கள் எங்கே - நாடக நடனக் கூத்துக்கலையின் மாற்றங்கள் - தமிழ் நாடகங்களின் இடைக்கால நிலை - நாடகக் கலையின் நலிவு - குறவஞ்சி. பள்ளு, நொண்டி, நாடக வகை - பள்ளு நாடகங்கள்

அலகு 3

9

இருபதாம் நூற்றாண்டுத் தொடக்கம் - மேல் நாட்டு நாடக முறைகள் - சமுதாய நாடகத் தோற்றம் - கிராமியத் தெருக்கூத்துக் கலைஞர்கள் கிராமிய நாடகக் குழுவில் மறுமலர்ச்சி அக்காலத்தில் நாடகம் நடந்த முறை கூத்து மேடைகளில் கட்டியக்காரன் - நாடகக் கலை புத்துயிர் பெற்ற பொற்காலம் - சங்கரதாஸ் சுவாமிகளின் நாடகத் தொண்டு - கலைக்குக் கரைகண்ட கலைஞர்

அலகு 4

9

இசை நாடகங்கள் - மறுமலர்ச்சி நாடகத் தந்தை சம்பந்தனார் - நவீன நடிப்புக் கலை ஆசான் எம். கந்தசாமி முதலியார் - சதாவதானம் கிருஷ்ணசாமிப் பாவலர் மற்றும் பல நாடகப் பெரும்புலவர்கள் - புரட்சிப்புலவர் கோபால கிருஷ்ண பாரதி - கன்னையா செய்த கலைப்புரட்சி - விடுதலை இயக்கத்தில் கூத்துக் கலைஞர்கள்

அலகு 5

9

தமிழ் நாடகங்களின் பொற்காலம் - அக்காலத்தில் நகைச்சுவை நடிக மேதைகள் - நாடகக் கலைமாமணிகள் நால்வர் - நாடகத்தின் பயன் - தமிழகத்தில் குழந்தைகள் நாடகம் - சமூக சீர்திருத்த நாடகங்கள் - பழமையும் புதுமையும் - நாடகமும் திரைப்படமும் - நாடகக் கலையின் இன்றைய நிலை

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1. கு. சா. கிருஷ்ணமூர்த்தி, "தமிழ் நாடக வரலாறு", முத்தமிழ்ப் பண்ணை, 1989.
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1. கு வரலாறு நாடக தமிழ் - சாகிருஷ்ணமூர்த்தி.– முத்தமிழ்ப்பண்ணை -1989
2. சு.பத்மநாபன், சங்கரதாஸ் சுவாமிகளின் நாடக களஞ்சியம், காவ்யா பதிப்பகம், 2017
3. பழனி, பம்மல் சம்பந்தம் நாடகப் பனுவல்கள் வரலாறு,நியூ செஞ்சுரி புக் ஹவுஸ், 2012

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18META023	□□□□□□□□□□□□ □□□□□□□□□□ - □□□□□□□ □□□□□□□□□□□□□□□□□□	L	T	P	C
	Total Contact Hours – 45	3	0	0	3
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். சு.பால்பாண்டி & தமிழ்த்துறை				

COURSE OBJECTIVES : □□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□ □□□□□□ □□□□□□□ □□□□□□□□	
COURSE OUTCOMES (COs)	
CO1	நாட்டுப்புற இலக்கியம் தோற்றமும் வளர்ச்சியும் பற்றி அறிவர்
CO2	மழையும் பஞ்சமும்,தாலாட்டு பாடல்கள் பற்றி அறிவர்
CO3	விளையாட்டு ,காதல் பாடல்கள் பற்றி அறிவர்
CO4	திருமணம், குடும்பம் பாடல்கள் பற்றி அறிவர்
CO5	சமூகம் , உழவுப் பாடல்கள் பற்றி அறிவர்
CO6	தமிழரின் வாய்மொழி இலக்கியத்தை அறிந்து கொள்வர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1		M	M	M	M		M	H	M	M
	CO2		M	M	M	M		M			
	CO3		M	M	M	M		M			
	CO4		M	M	M	M		M			
	CO5		M	M	M	M		M			
	CO6		M	M	M	M		M			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
						✓				
4	Approval		Academic Council Meeting							

அலகு 1
9
நாட்டுப்புற இலக்கியம் தோற்றமும் வளர்ச்சியும் - தெய்வங்கள்

அலகு 2
9
மழையும் பஞ்சமும் - தாலாட்டு

அலகு 3
9
விளையாட்டு - காதல்

அலகு 4
9
திருமணம் - குடும்பம்

அலகு 5
9
சமூகம் - உழவும் தொழிலும்

பாட நூல்:
1. நா.வானமாமலை, "தமிழர் நாட்டுப்பாடல்கள்" , நியூ செஞ்சுரி புக் ஹவுஸ், 2013
1. கி.வா.ஜகந்நாதன், "மலையருவி(நாடோடிப் பாடல்கள்)", அமுத நிலையம், 2012
2. சு.சண்முகசுந்தரம், "நாட்டுப்புற இலக்கிய வரலாறு" காவ்யா பதிப்பகம், 2017

பார்வை நூல்கள்:
1. திரு.வி.கலியாணசுந்தரனார், உரிமை வேட்கை அல்லது நாட்டுப் பாடல், அரசி புக் டிப்போ, 1970
2. க. கிருட்டினசாமி, "நாட்டுப்புறப் பாடல்கள்", நாம் தமிழர் பதிப்பகம்,2008
3. நவீன்குமார், நாட்டுப்புறப் பாடல்கள், வானதி பதிப்பகம், 2012

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்

U18EETA6P1	□□□□□□□ □□□□□□□ □□□□□□□	L	T	P	C
	Total Contact Hours –	0	0	20	10
	Prerequisite course – +2 Level Tamil				
	Course Coordinator Name& Department : முனைவர். த. கிறிஸ்டல் ரெஜி & தமிழ்த்துறை				

COURSE OBJECTIVES :	□□□□□ □□□□□□ □□□□□□□ □□□□□□□□□□ □□□□□ □□□□□□ □□□□□□□
COURSE OUTCOMES (COs)	
CO1	ஆய்வு தலைப்பு , இவ்வாய்வுத் தலைப்பையொட்டி ஆய்வு செய்தவரின் பதிவுகளை அறிவர்
CO2	களப்பணியோடு நூலகங்களைப் பயன்படுத்தி தகவல்களை சேகரிப்பது பற்றி அறிவர்
CO3	இயல்கள் பகுப்பது, அடிக்குறிப்பு, குறியீட்டு விளக்கம், பின்னிணைப்புகள் பற்றி அறிவர்
CO4	மூலநூற் பட்டியல், மேற்கோள் நூற்பட்டியல் குறித்து அறிவர்
CO5	கணிப்பொறி மூலம் தட்டச்சு செய்து ஆய்வேடு தயாரிப்பது பற்றி அறிவர்
CO6	ஆய்வு பற்றிய அறிவைப் பெறுவர்

Mapping of Course Outcomes with Program outcomes (POs)
(1/2/3 indicates strength of correlation) 3-High, 2-Medium, 1-Low

1	COs/Pos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
2	CO1		M	M	H	H		H		M	H
	CO2		M	M	H	H		H			
	CO3		M	M	H	H		H			
	CO4		M	M	H	H		H			
	CO5		M	M	H	H		H			
	CO6		M	M	H	H		H			

3	Category	Humanities & Social Studies (HS)	Basic Sciences (BS)	Engg Sciences (ES)	Professional Core (PC)	Core Elective (CE)	Non-Major Elective (NE)	Open Elective (OE)	Any other	Project/Term Paper/ Seminar/ Internship (PR
										✓
4	Approval		Academic Council Meeting							

இலக்கியம் தொடர்பான ஆய்வு மேற்கொண்டு ஆய்வேடு தயாரித்தல்.

ஆய்வு தலைப்பை மேற்பார்வையாளர் மூலம் தெரிவு செய்து, இவ்வாய்வுத் தலைப்பையொட்டி ஆய்வு செய்தவரின் பதிவுகளை பார்வையிட்டு, களப்பணியாற்றி, நூலகங்களைப் பயன்படுத்தி, தகவல்களை சேகரித்து, இயல்களாக பகுத்து, (ஆராய்ச்சி முறையியல் ஒர் அறிமுகம் - ஐந்தாம் பருவம்) பாடத்தை பார்வையிட்டு, இயல்கள், அடிக்குறிப்பு, குறியீட்டு விளக்கம், பின்னிணைப்புகள், மூலநூற் பட்டியல், மேற்கோள் நூற்பட்டியல் இவைகளைத் தயாரித்து, கணிப்பொறி மூலம் தட்டச்சு செய்து குறித்த தேதியில் மேற்பார்வையாளரிடம் ஆய்வேட்டை சமர்ப்பிக்க வேண்டும்.

பாடநெறி ஒருங்கிணைப்பாளர் துறைத்தலைவர்