

Course Number and Name												
BCE303 - BUILDING CONSTRUCTION TECHNOLOGY												
Credits and Contact Hours												
3 & 45												
Course Coordinator's Name												
Mr.K.Venkatraman												
Text Books and References												
TEXT BOOKS:												
1. Arora S.P.and Bindra S.P. "Building Construction, Planning Techniques and Materials of Construction". DhanapatRai and Sons.												
2. Sheety, M.S, Concrete Technology, Theory and Practice, S. Chand and Company Ltd, New Delhi, 2005.												
REFERENCE:												
1. Chudley R "Construction Technology", (Vol.I,II,III,&IV) ELBS / Longman (2 nd Edition).												
2. Jha J and Sinha S.K. "Construction and Foundation Engineering" Khanna Publishers, 1993.												
3. Peurifoy R.L., "Formwork for concrete structures", McGrew Hill Co., 1999												
Course Description												
<ul style="list-style-type: none"> To introduce students to various materials and methods commonly used in civil engineering construction and their properties. To give a detailed explanation of the tests performed on the fresh concrete and the harden concrete. To give a vision of the basics to be followed in the construction site 												
Prerequisites						Co-requisites						
Basic Mechanical Engineering						NIL						
required, elective, or selected elective (as per Table 5-1)												
Course Outcomes (COs)												
CO1		Have a fundamental knowledge on the planning, different codes of practice, details and sequence of building construction										
CO2		Have knowledge on temporary structures such as scaffolding, underpinning and formwork structures in construction										
CO3		To know the types of the paint, Plastering, GFRP and geotextile										
CO4		To know about all the amenities to be provided in a building										
CO5		Will acquire knowledge on handling of different types of construction equipments										
Student Outcomes (SOs) from Criterion 3 covered by this Course												
	COs/SOs	a	b	c	d	e	f	g	h	i	j	k
	CO1		M		H	M	M		M	M	M	
	CO2	H		M	H	M	M			M		

CO3	H		H	M	M			M	H	M	
CO4	L	M			L						
CO5	M		H	L	M			L	L	L	

List of Topics Covered

UNIT I PLANNING & PREFABRICATION 9

Principles of Planning - regulations and byelaws, different codes of practice – Indian, American, & British codes of practice – Preparation of layouts – Orientation and marking of Buildings- details and sequence of construction – co-ordination – site clearance - Earthwork excavations – timbering – Dewatering Principles of prefabrication – Types – materials for prefabrication.

UNIT II TEMPORARY STRUCTURE & SHELL STRUCTURES 9

Temporary shed - centering and shuttering – sheet piles, scaffoldings, shuttering forms – special forms for shells – slip form, moving form- shoring, and under pinning.

UNIT III PRESERVATIVES & SPECIAL MATERIALS 9

Plastering - types – Paints – varnishes – distempers – wall cladding. Polymers (PVC Sheets, Pipes GFRP) ceramics & Clay Products - Refractory – Special Concrete - FRC, ferrocement& polymeric concrete – geotextiles.

UNIT IV BUILDING SERVICES 9

Electric Wiring – Water Supply – Drainage- Air Conditioning – Ventilation – ramps, Escalators, Lifts, Stairs. Water Proofing - Thermal Insulation - Termite proofing - Acoustic Treatment (Sound Conditioning) - Fire Protection - Intelligent Buildings

UNIT V CONSTRUCTION EQUIPMENTS 9

Selection of equipment for earth work, concreting, paving, pile erection- Material handling, hauling and erection of structures – Dewatering and pumping equipments.