

Course Number and Name													
BPC2L1 – PHYSICS AND CHEMISTRY LABORATORY													
Credits and Contact Hours													
1&45													
Course Coordinator's Name													
Ms Madhubala													
Text Books and References													
Lab Manual													
Course Description													
To impart knowledge to the students in practical physics and chemistry													
Prerequisites							Co-requisites						
PHYSICS AND CHEMISTRY							Nil						
required, elective, or selected elective (as per Table 5-1)													
Required													
Course Outcomes (COs)													
CO1	Students will understand the concept of hall effect												
CO2	Students will understand the concept of semiconductors. .												
CO3	Student will understand the working of spectrometer.												
CO4	Student will able practically understand the chemical reactions.												
CO5	Students will Study the magnetic hysteresis and energy product												
CO6	Students understand the Determination of Band gap of a semiconductor												
Student Outcomes (SOs) from Criterion 3 covered by this Course													
	COs/SOs	a	b	c	d	e	f	g	h	i	j	k	L
	CO1	M	H	M			L		L	L	M	H	M
	CO2		H	M			L		L	L		H	
	CO3		H	M			L		L			H	
	CO4	M	H	M			L		L	L	M	H	M
	CO5		H				L		L	H		H	
	CO6	M	H	M			L		L	L	M	H	M

List of Topics Covered

I -LIST OF EXPERIMENTS – PHYSICS

1. Determination of Wavelength, and particle size using Laser
2. Determination of acceptance angle in an optical fiber.
3. Determination of velocity of sound and compressibility of liquid – Ultrasonic interferometer.
4. Determination of wavelength of mercury spectrum – spectrometer grating
5. Determination of thermal conductivity of a bad conductor – Lee's Disc method.
6. Determination of Young's modulus by Non uniform bending method
7. Determination of specific resistance of a given coil of wire – Carey Foster's Bridge
8. Determination of Young's modulus by uniform bending method
9. Determination of band gap of a semiconductor
10. Determination of Coefficient of viscosity of a liquid –Poiseuille's method
11. Determination of Dispersive power of a prism - Spectrometer
12. Determination of thickness of a thin wire – Air wedge method
13. Determination of Rigidity modulus – Torsion pendulum

II-LIST OF EXPERIMENTS – CHEMISTRY

1. Estimation of hardness of Water by EDTA
2. Estimation of Copper in brass by EDTA
3. Determination of DO in water (Winkler's method)
4. Estimation of Chloride in Water sample (Argento metry)
5. Estimation of alkalinity of Water sample
6. Determination of molecular weight
7. Conduct metric titration (Simple acid base)
8. Conduct metric titration (Mixture of weak and strong acids)
9. Conduct metric titration using BaCl_2 vs Na_2SO_4
10. Potentiometric Titration (Fe^{2+} / KMnO_4 or $\text{K}_2\text{Cr}_2\text{O}_7$)
11. pH titration (acid & base)
12. Determination of water of crystallization of a crystalline salt (Copper Sulphate)
13. Estimation of Ferric iron by spectrophotometer.