Course Number and Name

BPC2L1 - PHYSICS AND CHEMISTRY LABORATORY

Credits and Contact Hours

1 & 45

Course Coordinator's Name

Ms Madhubala

Course Description

It gives the knowledge to the students in practical physics and chemistry

Prerequisites	Co-requisites
Engineering Physics and Chemistry Lab	Engineering Physics- II and Engineering Chemistry -II

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
CO1	M	H	M			L		L	L	M	H
CO2		H	M			L		L	L		H
CO3		H	M			L		L			H
CO4	M	H	M			L		L	L	M	H
CO5		H				L		L	H		H
CO6	M	H	M			L		L	L	M	H

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. EstimationofhardnessofWaterbyEDTA
2. EstimationofCopper in brass byEDTA
3. Determination of DOin water (Winkler'smethod)
4. EstimationofChloride in Watersample (Argento metry)
5. Estimationof alkalinityofWater sample
6. Determinationofmolecularweight
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 $K_2Cr_2O_7$)
11. pH titration (acid & base)
12. Determination of water of crystallization of a crystalline salt (Copper Sulphate)
13. Estimation of Ferric iron by spectrophotometer.