PHY119:ENGINEERING PHYSICS LABORATORY

L:0 T:0 P:2 Credits:1

Course Outcomes: Through this course students should be able to

- gain practical knowledge to co-relate with the theoretical studies.
- learn basic experimental techniques required to find fundamental parameters in physics.
- develop good experimental skills, including proper setup, care of equipment, conducting experiments and analyzing results in order to observe physical phenomena.

List of Practicals / Experiments:

Engineering Physics Practicals

- To find the wavelength of sodium light by measuring the diameter of Newton rings.
- To investigate the intensity of light coming through two crossed polaroids and to verify the Malus law.
- To determine Hall voltage and Hall coefficient using Hall effect and also find carrier concentration of the crystal used.
- To determine the dielectric constant of solid by resonance method.
- To find out the energy band gap of semiconductor using four probes method.
- To study the variation of magnetic field with the distance along the axis of circular coil carrying current by plotting a graph and also to find the radius of the circular coil.
- To determine the velocity of ultrasonic waves using ultrasonic interferometer and to find the compressibility of the given liquid.
- To find the value of Planck's constant and photoelectric work function of the material of the cathode using a photoelectric cell.
- To plot a graph between current and frequency in series and parallel LCR circuit and to find the resonant frequency, quality factor and bandwidth.
- To find the frequency of AC mains using electric vibrator.

References:

1. B.SC. PRACTICAL PHYSICS by HARNAM SINGH, DR P.S. HEMNE, S Chand Publishing

2. B.SC. PRACTICAL PHYSICS by C.L. ARORA, S. CHAND & COMPANY