Syllabus

Subject: Physics Lab **L-T-P-C: 0-0-3-2**

Sub. Code: PH – 111

Course objectives:

1. To gain practical knowledge by applying the experimental methods to correlate with the Physics theory.
2. To learn the usage of electrical and optical systems for various measurements.
3. Apply the analytical techniques and graphical analysis to the experimental data.
4. To develop intellectual communication skills and discuss the basic principles of scientific concepts in a group.

List of experiments

1. To calibrate an ammeter with the help of a potentiometer.
2. To study the twist in the thin rod by statical method using Barton's horizontal apparatus and thus to determine the modulus of rigidity of the material of the rod.
3. To study the bending of a beam supported at its ends andloaded at the middle and thus to determine the young's modulus of the material of the beam.
4. To determine the refractive index of the material of a given prism using a spectrometer.
5. To determine frequencyof a transverse waves and mass per unit length of given wire by using sonometer apparatus.
6. To study the charging and discharging of a capacitor and hence to determine it's time constant
7. To study the variation of magnetic field with distance along the axis of a circular coil carrying current by plotting a graph.
8. To determine the wavelength of sodium light using single slit diffraction.
9. Comparison of two low resistances by using meter bridge.

Books: 1. University Practical Physics, D. C. Tayal
2. B.Sc. Practical Physics, Samir Kumar Ghosh

Course Outcomes (COs)

At the end of the course, the students will be able to

1. Apply the various procedures and techniques for the experiments.
2. Use the different measuring devices and meters to record the data with precision
3. Apply the mathematical concepts/equations to obtain quantitative results
4. Develop basic communication skills through working in groups in performing the laboratory experiments and by interpreting the results