

PHYSICS LAB (Common to all Branches)

Course Code: 13BP1102

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Course Educational Objectives:

The objective of the laboratory is to involve the students to learn the subject and gain knowledge in handling the apparatus which will help them in designing devices and to trouble shoot the problems in their future professional work. The experiments are designed to cater to the needs of the students of all branches.

Course Outcomes:

The course will help the student in handling different apparatus for conducting various experiments in different fields which enables the student to trouble shoot the problems in their future professional work.

ANY TEN OF THE FOLLOWING 15 EXPERIMENTS

ERROR ANALYSIS AND GRAPH DRAWING (LECTURE - DEMO).

- ❖ Bending of beams – Elliptical and Hyperbolic fringes - Determination of ‘Y’.
- ❖ Torsional pendulum - comparison of rigidity moduli of various wires.
- ❖ Melde’s experiment – determination of frequency of electrically maintained tuning fork.
- ❖ Determination of wavelength of laser light using diffraction through a graded scale.
- ❖ Particle size determination using He-Ne laser (Lycopodium powder).
- ❖ Diffraction grating – determination of wavelengths of spectral lines of Mercury spectrum by minimum deviation method.
- ❖ Spectrometer – determination of dispersive power of the material of a prism.

8. Polarization of light – verification of Malu’s law and to determine the Brewster’s Angle for glass.
9. Determination of Planck’s constant.
10. Solar cell characteristics – I-V characteristics, measurement of efficiency and Fill factor.
11. Stewart – Gee apparatus – study of variation of magnetic field along the axis of circular current carrying loop.
12. LCR series and parallel resonance circuit study the frequency response.
13. Familiarity of CRO – Lissajjou’s figures - determination of time period, voltage, frequency and phase of a wave.
14. Newton’s Rings- determination of wavelength of the source/radius of curvature of given convex lens.
15. Optical fibres- determination of Numerical aperture, acceptance angle and bending losses.

