

PHYSICS LABORATORY

Practicals : 3 periods / week

Sessional Marks : 40

Semester End Exam Marks : 60

Semester End Exam : 3 hrs

Credits : 2

COURSE OBJECTIVES:

Each experiment described in the lab manual issued to the students, designed to incorporate a new application of measurement, data, error, or graphical analysis to illustrating a physical principle and helps to learn how to identify and the conclusions from data. An adequate preparation before each lab class is required to study the experimental description in the lab manual and the relevant sections in the course textbook.

LEARNING OUTCOMES:

The students will be able to understand:

- Know, understand, and use a broad range of basic physical principles.
- a working capability with mathematics, numerical methods, and application of solutions.
- Will have a wide idea on various components & instruments.
- Additional problem –solving skills and practical experience are through design projects and laboratory assignments, which also provide opportunities for developing team- building and technical communication skills.
- Have an ability to learn independently.

(Any 10 out of the following experiments)

1. Interference fringes – measurement of thickness of a foil using wedge method.
2. Newton's rings - measurement of radius of curvature of Plano- convex lens.
3. Lissajous' figures – calibration of an audio oscillator.
4. Photo cell – characteristic curves and determination of stopping potential.
5. Diffraction grating - measurement of wavelengths.
6. Torsional pendulum – determination of Rigidity modulus of a wire.
7. Photo-Voltaic cell – determination of fill factor.
8. Series LCR resonance circuit –determination of Q factor.
9. Sonometer – determination of A.C. frequency.
10. Laser – determination of single slit diffraction.
11. B – H Curve
12. Optical Fiber – Determination of Numerical Aperture and Acceptance Angle

REFERENCE BOOK:

Physics Lab Manual , R.V.R. & J.C. College of Engineering , Guntur.