



I Year-II Semester		L	T	P	C
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APPLIED PHYSICS LAB (ES1205)					

Prerequisite Course: Fundamental Concepts of Physics Lab

Course Objectives: Training field oriented Engineering graduates to handle instruments and their design methods to improve the accuracy of measurements.

Course Outcomes:

Upon completion of the course, the student will be able to achieve the following outcomes.

Cos	Course Outcomes	POs
1	Fundamental understanding of design of an instrument with targeted accuracy for physical measurements.	2
2	Investigate the properties of Thin Films and Light sources.	2
3	Analyse the Elastic nature of materials.	2
4	Understand the phenomenon of Resonance and its effects in Electronic Circuits.	2
5	Gain the Knowledge of electrical properties of Semiconductors	2
6	Identify the magnetic field behaviour.	2

Syllabus:

LIST OF EXPERIMENTS:

1. Determination of wavelength of a source-Diffraction Grating-Normal incidence.
2. Newton's rings – Radius of Curvature of Plano - Convex Lens.
3. Determination of thickness of a spacer using wedge film and parallel interference fringes.
4. Magnetic field along the axis of a current carrying coil – Stewart and Gee's apparatus.
5. Energy Band gap of a Semiconductor p - n junction.
6. Characteristics of Thermistor – Temperature Coefficients
7. Determination of dielectric constant by charging and discharging method
8. Determination of resistivity of semiconductor by Four probe method.
9. Study the variation of B versus H by magnetizing the magnetic material (B-H curve).
- 10 Measurement of magnetic susceptibility by Gouy's method.
11. Dispersive power of diffraction grating.
12. Resolving Power of telescope
13. Resolving power of grating
14. Determination of Hall voltage and Hall coefficients of a given semiconductor using Hall effect.
15. Variation of dielectric constant with temperature.

REFERENCE BOOKS:

1. Applied/Engineering Physics Lab Manual by C.V.Madhusudhan Rao & V.Vasanth Kumar, Scitech publications.
2. Applied/ Engineering Physics Lab Manual by M.Sri Ramarao, Mityanand Choudary & Daruka Prasad, Acme Learning Private Limited.
3. Applied/Engineering physics Lab Manual by Dr. Y.APARNA & Dr. K.VENKATESWARARAO, VGS TECHNO SERIES.