

I B. Tech – I Semester
(17PH111) APPLIED PHYSICS LAB (CSE, ECE)

Int. Marks Ext. Marks Total Marks

60 40 100

L T P C

- - 3 2

Pre-Requisites: None

Course Objectives:

- The course is designed to let students get hand on experience by operating different laboratory equipment and visualize the concepts learnt in class.
- This course will help students in working collaboratively and also engage in minor projects.

List of Experiments

1. Determination of wavelength of source-diffraction grating
2. Newton ring- Radius of curvature of planoconvex lens
3. Determination of thickness of thin object using parallel fringes method
4. Determination of rigidity modulus of the material-Torsional pendulum
5. Determination of acceleration due to gravity- Compound pendulum
6. Melde's experiment- Transverse and longitudinal modes
7. Verification of laws of stretched string- Sonometer
8. Determination of velocity of sound-volume resonator
9. LCR series resonance circuit
10. Study of I-V characteristics of semiconductor diode
11. I-V characteristics of Zenor diode
12. Thermoster characteristics-Temperature coefficient
13. Steewart-Gees experiment-Magnetic field along the axis of current carrying coil
14. Energy bandgap of semiconductor P-N junction
15. Hall effect for semiconductor

Course Outcomes: At the end of the course, student will be able to -

CO	CO STATEMENT	BTL
CO1	Apply the working principles of laboratory experiments in optics, mechanics, electromagnetic and electronics and perform the experiments using required apparatus.	L3
CO2	Compute the required parameter by suitable formula using experimental values (observed values) in mechanics, optics, electromagnetic and electronic experiments.	L3
CO3	Analyse the experimental results through graphical interpretation.	L2
CO4	Recognize the required precautions to carry out the experiment and handling the apparatus in the laboratory.	L2
CO5	Demonstrate the working principles, procedures and applications.	L3
CO6	Work in collaboration and be able to work on mini-projects	L3

CO – PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	1	1	-	-	-	-	-	-	1	-	-	1
2	1	1	-	-	-	-	-	-	1	-	-	1
3	1	1	-	-	-	-	-	-	1	-	-	1
4	1	1	-	-	-	-	-	-	1	-	-	1
5	1	1	-	-	-	-	-	-	1	-	-	1
6	1	1	-	-	-	-	-	-	1	-	-	1

CO –PSO Mapping

	CSE			ECE	
CO	PSO1	PSO2	PSO3	PSO1	PSO2
1	1	-	-	1	-
2	1	-	-	-	-
3	-	-	-	-	-
4	-	-	-	-	-
5	-	-	-	1	-
6	1	-	-	1	-

Reference Text Books:

1. Engineering physics/Applied physics lab manual by Dr. Y. Aparna and Dr. K. Venkateswara Rao
2. Physics practical manual by Lorven publications.