

ENGINEERING PHYSICS LAB**(Common to CE,ME,IT,CSE-AIML,CSE-DS)**

Course Code	23BS1152	Year	I	Semester	I
Course Category	Basic Science	Branch	ME	Course Type	Lab
Credits	1	L-T-P	0-0-2	Prerequisites	Nil
Continuous Internal Evaluation:	30	Semester End Evaluation:	70	Total Marks:	100

Course Outcomes**Upon successful completion of the course, the student will be able to**

CO1	Identify the type of semiconductor using Hall effect and measure the thermal resistivity, energy band gap [L3].
CO2	Apply resonance to estimate the frequency of a tuning fork and verify laws of a stretched string [L3].
CO3	Examine the optical, elastic, and dielectric properties of the given materials. [L4].
CO4	Assess the intensity of the magnetic field of circular coil carrying current with distance and measure resistance using four probe method [L4]

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3:High, 2: Medium, 1:Low)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO1 1	PO12	PSO1	PSO2
CO 1	3												1	
CO 2	3												1	
CO 3		3											1	
CO 4		3											1	

Exp.No.	Contents	Mapped CO
1	Determination of dielectric constant of the various solid samples	CO3
2	Determination of wavelength of Laser light using diffraction grating.	CO3
3	Determination of the resistivity of semiconductors by four probe methods	CO4
4	Determination of energy gap of a semiconductor using p-n junction diode	CO1
5	Magnetic field along the axis of a current carrying circular coil by Stewart Gee's Method	CO4
6	Determination of Hall voltage and Hall coefficient of a given semiconductor using Hall effect	CO1
7	Determination of temperature coefficients of a thermistor.	CO1
8	Determination of rigidity modulus of the material of the given wire using Torsional pendulum	CO3

9	To verify the laws of transverse vibrations of a string using Sonometer.	CO2
10	Determination of Frequency of electrically maintained tuning fork by Melde's experiment	CO2

Learning Resources

References:

- A Textbook of Practical Physics-S.Balasubramanian, M.N.Srinivasan,S.Chand Publishers, 2017

WebResources

- www.vlab.co.in
- <https://phet.colorado.edu/en/simulations/filter?subjects=physics&type=html,prototype>