

### ENGINEERING PHYSICS LAB

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

Course Outcomes	
<b>Upon successful completion of the course, the student will be able to</b>	
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]
CO5	Summarize and tabulate the experimental observations and output.

#### 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	PO11	PO12	PSO1	PSO2
CO 1	3			3								3	2	1
CO 2	3			3								3	2	
CO 3	3			3								3	2	1
CO 4	3			3								3	2	1
CO 5									3	3		3	2	

Exp.No	Contents	Mapped CO
1	Determination of dielectric constant of the various solid samples	<b>CO3,CO5</b>
2	Determination of wavelength of Laser light using diffraction grating.	<b>CO3,CO5</b>
3	Determination of the resistivity of semiconductors by four probe methods	<b>CO4,CO5</b>
4	Determination of energy gap of a semiconductor using p-n junction diode	<b>CO1,CO5</b>

5	Magnetic field along the axis of a current carrying circular coil by StewartGee's Method using Hall effect	<b>CO4,CO5</b>
6	Determination of Hall voltage and Hall coefficient of a given semiconductor	<b>CO1,CO5</b>
7	Determination of temperature coefficients of a thermistor.	<b>CO1,CO5</b>
8	Determination of rigidity modulus of the material of the given wire using Torsional pendulum	<b>CO3,CO5</b>
9	To verify the laws of transverse vibrations of a string using Sonometer.	<b>CO2,CO5</b>
10	Determination of Frequency of electrically maintained tuning fork by Melde's experiment	<b>CO2,CO5</b>

### Learning Resources

#### References:

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

#### WebResources

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