

## Engineering Physics Lab

<b>Course Code</b>	19BS1153	<b>Year</b>	I	<b>Semester</b>	I
<b>Course Category</b>	Basic Sciences	<b>Branch</b>	ECE	<b>Course Type</b>	Lab
<b>Credits</b>	1.5	<b>L-T-P</b>	0-0-3	<b>Prerequisites</b>	Nil
<b>Continuous Internal Evaluation:</b>	25	<b>Semester End Evaluation:</b>	50	<b>Total Marks:</b>	75

### Course Outcomes

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

<b>CO1</b>	Assess the intensity of the magnetic field of circular coil carrying current with varying distance and utilize four probe set up to measure resistance.
<b>CO2</b>	Evaluate the acceptance angle of an optical fiber and numerical aperture and loss.
<b>CO3</b>	Demonstrate the importance of dielectric material and measure magnetic parameters.
<b>CO4</b>	Identify the type of semiconductor using hall effect and determine the band gap of a semiconductor.
<b>CO5</b>	Understand the characteristics of photodiode, p-n junction diode and solar cell. Type equation here.

### Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (H:High, M: Medium, L:Low)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	H		H										L	
CO2	H		H										H	
CO3	H		H										H	
CO4	H		H										H	
CO5	H		H										H	

### Syllabus

Expt. No.	Contents	Mapped CO
I	To Determine The Magnetic Field Along The Axis Of A Circular Coil Carrying Current	CO1
II	To Determine The Magnetic Susceptibility By Gouy's Method	
III	To Determine The Numerical Aperture Of A Given Optical Fibre And Hence To Find Its Acceptance Angle	CO2
IV	To Determine The Dielectric Constant Of A Substance By Resonance Method	CO3
V	To Determine The Resistivity Of Semiconductor By Four Probe Method	CO4
VI	To Determine The Hall Coefficient Using Hall Effect Experiment.	
VII	To Determine The Energy Gap Of A Semiconductor	
VIII	To Study The Characteristics Of Photo Diode	CO5
IX	To Study The Characteristics Of PN Diode	
X	To Study The Characteristics Of Solar Cell	

### Learning Resources

**Text Books**

RamaraoSri,ChoudaryNityanand and Prasad Daruka, "Lab Manual of Engineering Physics", Vth ed., Excell Books, 2010
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<b>Reference Books</b>
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Semiconductor Devices & Physics,S.M.Sze,Wiley,2008.
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<b>e- Resources &amp; other digital material</b>
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<a href="https://www.niser.ac.in/sps/teaching-laboratories">https://www.niser.ac.in/sps/teaching-laboratories</a>
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