Prasad V. Potluri Siddhartha Institute of Technology, Kanuru, Vijayawada

PVP20

Department of Freshman Engineering

Engineering Physics Lab

Course Code	20BS1252	**Year**	I	**Semester**	II
Course Category	Basic Science	**Branch**	EEE	**Course Type**	Theory
Credits	1.5	**L-T-P**	0-0-3	**Prerequisites**	Nil
Continuous Internal Evaluation	15	**Semester End Evaluation**	35	**Total Marks**	50

Course Outcomes

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

CO1	Demonstrate the importance of dielectric material and measure magnetic parameters. [L3]
CO2	Identify the type of semiconductor using hall effect and measure the energy band gap. [L3]
CO3	Examine the characteristics of photodiode, p-n junction diode and solar cell. [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	Estimate the acceptance angle of an optical fiber and numerical aperture. [L4]
CO6	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
CO1	3			3								2	1	2
CO2	3			3								2	1	2
CO3	3			3								2	1	2
CO4	3			3								2	1	2
CO5	3			3								2	1	2
CO6	3			3								2	1	2

Syllabus

Expt. No.	Syllabus	Mapped CO's
1	Determine the Dielectric Constant of various Solid samples.	CO1,CO6
2	Determine the Magnetic Susceptibility by Gouy's Method.	
3	Determine the Hall Coefficient using Hall Effect experiment.	CO2,CO6
4	Determine the Energy Band gap of a Semiconductor.	
5	Study the characteristic curves of a Photo Diode.	CO3,CO6
6	Illustrate the V-I the characteristics of P-N junction Diode.	
7	Draw the V-I characteristics of a Solar Cell.	
8	Determine The Magnetic Field along the axis of a Circular Coil carrying current.	CO4,CO6
9	Determine the Resistivity of Semiconductor by Four Probe Method.	
10	Determine the Numerical Aperture of a given Optical Fibre and Find its Acceptance Angle.	CO5,CO6

Learning Resources

Text Books

1. RamaraoSri, Choudary Nityanand and Prasad Daruka, "Lab Manual of Engineering Physics" Vth ed., Excell Books, 2010

Reference Books
1. Semiconductor Devices & Physics, S.M.Sze,Wiley,2008.
e- Resources & other digital material
1. https://nptel.ac.in/courses/115/105/115105120/ 2. https://nptel.ac.in/courses/115/107/115107095/ 3. https://nptel.ac.in/courses/115/104/115104109/ 4. http://www.physicsclassroom.com/The-Laboratory 5. https://www.vlab.co.in/broad-area-physical-sciences 6. https://www.niser.ac.in/sps/teaching-laboratories