Applied Physics Lab

Course Code	19BS1252	Year	I	Semester	II
Course Category	Basic Sciences	Branch	ME	Course Type	Lab
Credits	1.5	L-T-P	0-0-3	Prerequisites	Nil
Continuous Internal Evaluation:	25	Semester End Evaluation:	50	Total Marks:	75

Course Outcomes	
Upon successful completion of the course, the student will be able to	
CO1	**Determine** the rigidity modulus, Poisson's ratio of a material and coefficient of damping, quality factor for an oscillator.
CO2	**Demonstrate** elastic limit and stress-strain relationship using Hooke's law
CO3	**Calculate** thermal conductivity of bad and good conductors.
CO4	**Apply** resonance to estimate the frequency of a tuning fork and **examine** the relation between frequency and volume of a cavity.
CO5	**Identify** the type of semiconductor and **evaluate** the acceptance angle, numerical aperture an optical fiber.

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										H	
CO2	H		H										H	
CO3	H		H										H	
CO4	H		H										H	
CO5	H		H										H	

Syllabus		
Unit No.	**Contents**	**Mapped CO**
I	To Determine The Rigidity Modulus Of Material Of A Wire-Dynamic Method (Torsional Pendulum).	CO1
II	To Determine The Poisson's Ratio Of Rubber Experiment	
III	To Investigate Hooke's Law	CO2
IV	To Determine The Thermal Conductivity Of A Bad Conductor By Lee's Disc Method	CO3
V	To Study Of Resonance In A LCR Circuit.	CO4
VI	To Verify The Relation Between Volume Of The Air In The Resonator And Frequency Of Note.	
VII	To Determine The Resonance Frequency Using Sonameter	
VIII	To Determine The Frequency Of Electrically Maintained Tuning Fork By Melde's Method.	
IX	To Determine The Hall Coefficient Using Hall Effect Experiment.	CO5
X	To Determine The Numerical Aperture Of A Given Optical Fibre And Hence To Find Its Acceptance Angle.	

Learning Resources
Text Books
RamaraoSri,ChoudaryNityanand and Prasad Daruka, ”Lab Manual of Engineering Physics”., Vth ed., Excell Books, 2010
Reference Books
PrithwirajPurkait, BudhadityaBiswas and ChiranjibKoley, Chapter 11 Sensors and Transducers, Electrical and Electronics Measurements and Instrumentation, 1/e., 2013 McGraw Hill Education (India) Private Limited, 2013.
e- Resources & other digital material
http://www.physicsclassroom.com/The-Laboratory