

20SC102P					Engineering Physics Practical					
Teaching Scheme					Examination Scheme					
L	T	P	C	Hrs/Week	Theory			Practical		Total Marks
					MS	ES	IA	LW	Viva	
0	0	2	1	2	-	-	-	50	50	100

COURSE OBJECTIVES

- ☐ To understand the working of various electrical, mechanical and optical instruments in the laboratory.
- ☐ To gain practical knowledge in Physics through experiments.
- ☐ To understand basics concepts of Physics and be able to apply in performing the experiments.

List of Experiments

1. Introduction to Oscilloscope.
2. Study of Interference using Newton's Ring experiment.
3. Determination of thermal conductivity of different solids.
4. Experiment with solar collector.
5. Experimental to determine linear thermal expansion coefficient of solid bodies.
6. Experiment on reflection of Ultrasonic waves.
7. Experiments with heat pump.
8. Determining Plank's constant and Inverse square law.
9. Experiments on diffraction with He-Ne Laser Kit.
10. Study of Hall Effect.
11. Determining semiconductor energy band gap using four probe method.
12. Experiment to study forced oscillations.
13. Study of charging and discharging of capacitive plates.
14. Study of Bio-Savart's Law
15. Experiments on Fiber Optics.
16. Study of Photoconductivity.
17. Determining e/m by Thomson's method.
18. Study of Polarization of light using LASER.
19. Millikan's oil drop experiment.
20. Study of Holography.

** Any 10 experiments will be conducted relevant to theory course.

COURSE OUTCOMES

On completion of the course, the students will be able to

- CO1 - Apply and analyze the concepts of electricity and magnetism.
- CO2 - Understand the interaction of light waves and its propagation in different media.
- CO3 - Demonstrate and implement the phenomenon of resonance
- CO4 - Investigate the electrical properties of a given semiconductor device
- CO5 - Examine the charge transport mechanism in different conductors
- CO6 - Design and analyze the light propagation for communication application using fibre optics

TEXT/REFERENCE BOOKS

1. Ghatak, Optics, 3rd edition, Tata McGraw Hill (2005).
2. Kittel, Knight and Ruderman, Mechanics - Berkeley Physics Course, Vol. 1, Tata McGraw-Hill.
3. Avadhanulu, A text book of engineering Physics, S. Chand & Company, Ltd.
4. Brij Lal, N. Subrahmanyam, Heat and Thermodynamics, S. Chand & Company, Ltd
5. Halliday, Resnick, Walker, Fundamentals of Physics (Wiley)

Evaluation

Max. Marks: 100

Continuous evaluation

50 marks

