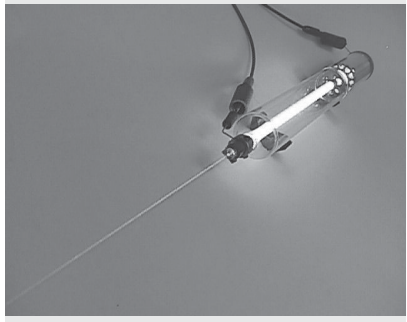
16HS110 ENGINEERING PHYSICS LABORATORY



Hours Per Week :

L	T	P	C
-	-	3	2

Total Hours :

L	T	P
-	-	45

Course objectives and Description:

This lab is intended to make the students realize the theoretical concepts of physics having hands on experience in conducting the experiments.The students have to perform at least ten from the list of experiments.

Course Outcomes:

The student will be able to:

- realize the concept of resonance by conducting the experiments of AC sonometer and Melde's experiment.
- acquire the knowledge on magnetic field theory and thermal conductivity by conducting experiments, field along the axis of a circular coil and thermal conductivity of bad conductor
- understand the concepts of light by conducting the experiments of determination of wave length, numerical aperture of an optical fibre and also from V–I characteristics of Solar cell and LED.

LIST OF EXPERIMENTS

1. Determination of Velocity of ultrasonic waves in liquids.
2. Melde's Experiment - Transverse and Longitudinal modes.
3. Determination of wave length – Helium - Neon laser.
4. Determination of Planck's constant.
5. Determination of Frequency of Alternating current.
6. Field along the axis of a circular coil – Stewart and Gee's apparatus.
7. Band gap of semiconductor.
8. Determination of Hall coefficient.
9. Thermal conductivity of bad conductor - Lee's method.
10. Optical Fibre – Determination of numerical aperture.
11. Solar Cell – Efficiency.
12. Study of V – I characteristics of LED.
13. Seebeck effect - Determination of Seebeck coefficient of a thermo couple.

REFERENCE BOOKS:

1. Jayaraman, "Engineering Physics Laboratory manual", 1st edition, Pearson Education, 2014.
2. Engineering Physics laboratory Manual – Department of Physics, VFSTR University, 2016.