Gokaraju Rangaraju Institute of Engineering and Technology
(Autonomous)

## ENGINEERING PHYSICS LAB

**Subject Code: GR14A1029** **L T P C**
**I Year I Sem** **0 0 2 2**

**PREREQUISITES:** Fundamentals in physics and mathematics

**Course Objectives:** This subject is common to all first year branches of UG engineering. At the end of the course the student is expected to

1. Draw the relevance between the theoretical knowledge and to imply it in a practical manner with respect to analyze various electronic circuits and its components.
2. Analyze the behavior and characteristics of various materials for its optimum utilization.
3. Learn about the various electronic communication mechanisms and their usage in a practical manner.

**Course Outcomes:**

1. The student will learn to draw the relevance between theoretical knowledge and the means to imply it in a practical manner by performing various relative experiments.
2. The student will be enabled to know about the characteristics and the behavior of various materials in a practical manner and gain knowledge about various communication mediums and its usage.

**List of Experiments:**

1. Determine the energy gap of a given semiconductor.
2. Calculate the energy loss in a given Ferro magnetic material by plotting B-H curve.
3. Calculate the Numerical Aperture of a given optical fiber.
4. Determine the Dielectric constant and Curie temperature of PZT material.
5. Calculate the Acceptance angle of a given optical fiber.
6. Draw V-I & L-I Characteristics of LASER diode.
7. Determine the bending losses in a given optical fibers.
8. Determine the Air-gap losses in a given optical fibers.
9. Determine the Hall Coefficient in Ge semiconductor by using Hall Experimental setup.
10. Determine the carrier concentration, mobility of charge carrier in Ge semiconductor.
11. Measure Ac voltage and frequency through CRO.
12. Measure Resistance and Capacitance by using digital multimeter.
13. Diffraction Grating.
14. Newtons Ring.