

PH 151 BS

**ENGINEERING PHYSICS LAB
B.E.1/4, I-SEMESTER
(Common for Mech., Civil & EEE)**

Instruction	: 3 Hours/Week
Duration of SEE	: 3 Hours
SEE	: 50 Marks
CIE	: 25 Marks
Credits	: 1.5

Course Objectives:

- i. Demonstrate an ability to make physical measurements and understand the limits of precision in measurements.
- ii. Demonstrate the ability to use experimental statistics to determine the precision of a series of measurements.
- iii. Demonstrate the ability to prepare a valid laboratory notebook.
- iv. Demonstrate the ability to understand the construction and working of different experiments.

Course Outcomes:

- i. Student recognize the correct number of significant figures in a measurement or in the results of a computation.
- ii. Students can use a best fit to create a graph from a series of data points. Students can extrapolate and interpolate.
- iii. Students will keep a lab notebook that documents their experience in each lab procedure.
- iv. Develop skills to impart practical knowledge in real time solution and learn to design new instruments with practical knowledge.

List of Experiments:

1. To determine the Dielectric constant and Phase transition temperature of Lead Zirconium Titanate (PZT).
2. Determination of Velocity of ultrasonic waves in a liquid by Debye-Sears method.
3. To draw the I-V Characteristics of P-N Junction diode and to evaluate the value of potential barrier of the diode.
4. To find the values of Electrical conductivity and energy gap of Ge crystal by Four probe method.
5. Determination of rigidity of modulus of Torsion pendulum.
6. Determination of Logarithmic decrement of a Torsional pendulum.
7. Determination of carrier concentration, Mobility and Hall Coefficient of Ge Crystal using Hall Effect Experiment.
8. To determine the constants of A, B and α using Thermistor characteristics.