

PVP SIDDHARTHA INSTITUTE OF TECHNOLOGY
KANURU ,VIJAYAWADA -520007
(AUTONOMOUS)
PVP 14 REGULATION
ENGINEERING PHYSICS LAB
(Common to AE, ME during I B.Tech., I Sem)
(Only for CE during I B.Tech., II Sem)
(COMMON FOR CE2L1,ME1L1,AE1L1)

**Lab: 3 periods/week
marks**

Credits:2
Internal assessment: 25

Semester end examination: 50 marks

COURSE OBJECTIVES:

To make student

- learn how to determine the elastic constant.
- Knowledgeable about the resonance so as to determine the velocity of sound.
- Acquire the concept of diffraction hence determine the wavelength of monochromatic source.
- Gain the knowledge of interference and determine the radius of curvature of a lens.
- acquainted with geometrical optics and by determining the refractive index of the prism.
- understand the concept of electromagnetism and determining the magnetic induction.
- Learn the knowledge of electrical circuit by calculating the time constant.
- study the characteristic curves of zener diode.
- Understand the semiconductors by determining the energy gap of a semiconductor. .
- study the characteristic curves of thermistor and to determine the thermoelectric coefficient.

COURSE OUTCOMES:

After completion of this course ,the student will be able to

- CO1) Apply practical knowledge to determine rigidity modulus.
- CO2) Relate their knowledge of the sound for conducting experiment to determine the velocity of sound.
- CO3) gain the knowledge of diffraction and determines the wavelength of monochromatic source.
- CO4) understand the rings formation and calculates the radius of curvature of a lens.

- CO5) understand the geometrical optics and determines the refractive index of prism.
- CO6) Know the concept of magnetic induction and able to conduct the experiment to determine the magnetic induction at several points on the axis of circular coil.
- CO7) Apply the knowledge of CR circuit to conduct experiment to determine the time constant of a capacitor.
- CO8) Apply the concept of a Zener diode to conduct experiment to draw V-I characteristics from which breakdown voltage of Zener is measured..
- CO9) Study about the semiconductors to perform an experiment to determine the energygap of a semiconductor.
- CO10) Utilizing their knowledge about the Thermistor and conduct experiment to determine the thermal coefficient of a Thermistor.

LIST OF EXPERIMENTS

The following are the experiments

1. Determination of rigidity modulus of the given wire using Torsional pendulum.
2. Determination of refractive index of the material of the prism using Spectrometer
3. Determination of Magnetic Induction at several points along the axis of the current carrying circular coil by using Stewart- Gee's method
4. Determination of wavelength of a monochromatic source using Diffraction Grating
5. Determination of velocity of sound using Volume Resonator
6. Determination of radius of curvature of a given plano convex lens by Newton Rings method
7. Determination of time constant of a R-C Circuit
8. Determination of band gap of a Semiconductor using p-n junction diode
9. Draw the Zener Diode V-I Characteristics and determine the breakdown voltage
10. Draw the characteristic curves and determining the thermoelectric coefficient of a Thermistor

