

P.B. SIDDHARTHA COLLEGE OF ARTS & SCIENCE

Siddhartha Nagar, Vijayawada – 520 010

Autonomous -ISO 9001 - 2015 Certified

GENERALPHYSICS-I

Offered to : M.Sc.(PHYSICS)

Course Type : Core (P)

Year of Introduction :2004

Year of Revision :2022

10%

Semester : I

Course Code: 22PH1L1

Course:GENERALPHYSICS-I

Year of offering : 2022

Percentage of Revision :

Credits : 4

Course Description :This course (22PH1L1) will provide practical knowledge on the topics include electrical, magnetical and optical properties of the materials.

Course Objectives:

1. To understand the various magnetic material properties.
2. To learn the electrical properties of the semiconductor materials.
3. To learn the dielectric properties of properties materials.

Course Outcomes :At the end of this course, students should be able to:

CO1: Understand the different concepts of physics through experiments.

CO2: To apply the concepts of condensed mater physics to understand the properties of different materials

CO3: To analyse the results obtained from different experiments through graphical analysis.

**22PH1L1:GENERALPHYSI
CS-I
(Minimum10experimentsaretobe
done)**

1. Characteristics of electromagnetic coils (a) by varying distance between the coils and (b) by varying current CO1 L3
2. Measurement of band gap of semiconductor CO2 L3
3. Determination of dielectric constant of solids CO2 L3
4. Determination of Planck's constant using photodiode CO1 L3
5. Stefan's constant CO2 L3
6. B-H Curve CO3 L3
7. Hall effect CO3 L3
8. Heat Capacity of solids CO2 L3
9. Lattice dynamics CO2 L3
10. I-V characteristics of solar cells. CO3 L3
11. Diffraction grating – determination of wavelength of laser. CO1 L3
12. Two Probe Method for Resistivity Measurement CO2 L3
13. Any two online virtual lab experiments within the syllabus have to be carried out (using MHRD web resource). CO2 L3

Continuous Internal Assessment will be done for each student on basis of performance for each practical. The total marks for CIA is evaluated for 20 marks. An internal will be conducted after the completion of course for 10 marks, Total marks for CIA will be 30 marks (continuous assessment 20+ internal 10). The external examination is evaluated for 70 marks. Total marks 70(External)+30(CIA)=100 marks