

ST.JOSEPH'S COLLEGE FOR WOMEN (AUTONOMOUS), VISAKHAPATNAM

VII SEMESTER
PH7454(4)
w.e.f. 20AH Batch

PHYSICS
Solid State Physics- Practical
SYLLABUS

TIME:3Hrs/week
Max.Marks:100

Course Objectives:

- ❖ *To equip, students with experimental skills, by applying the learnt concepts from Solid State Physics.*

Course Outcomes:

Upon the successful completion of this practical course, students will be able to:

- ❖ *CO1: Determine Planck's constant using a photo Cell.*
- ❖ *CO2: Estimate Thermo emf of bulk samples.*
- ❖ *CO3: Study the characteristics of a Photo Transistor and determine the required parameters.*
- ❖ *CO4: Measure the efficiency of a GM counter using the given radiation source.*
- ❖ *CO5: Evaluate the lattice constant, grain size of the given material using X-ray Diffraction- technique.*
- ❖ *CO6: Determine the coefficient of Young's modulus of the given material.*
- ❖ *CO7: Study the variation of magnetic field due to a current carrying conductor using Biot Savart Law.*
- ❖ *CO8: Study the I -V characteristics of Solar cell and draw a graph.*
- ❖ *CO9: Study the Zeeman Effect using a monochromatic source of light.*

Any six of the following experiments:

List of Experiments:

1. Plank's constant determination
2. Thermo emf of bulk samples
3. Photo Transistor characteristics
4. GM counter

5. X-ray Diffraction-Determination of lattice constant, grain size
6. Young's modulus
7. Study of Biot - Severt Law
8. I V characteristics of Solar cell
9. Study of Zeeman effect