

Roll.No.

22UPHCT6013

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)

Chromepet, Chennai - 600 044.

B.Sc.Physics - END SEMESTER EXAMINATIONS - NOVEMBER 2025

SEMESTER - VI

22UPHCT6013 -Solid State Physics

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Find the packing factor for bcc and fcc structures.
2. Solve Bragg's law for X-ray diffraction in crystals.
3. Explain in brief domain theory of ferromagnetism.
4. Compute the properties of paramagnetic material.
5. Derive an expression for dielectric loss.
6. Predict the applications of dielectric materials.
7. Explain the effect of magnetic field on superconductivity.
8. Distinguish between Type I and Type II superconductors.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Sketch seven crystal systems and explain in detail.
10. Predict the concept of reciprocal lattice & give its properties.
11. Examine the Langevin's theory of diamagnetism.
12. Classify the types of electric polarization & explain in brief.
13. Judge the principle of adiabatic demagnetisation with a neat sketch.
