

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 APRIL - 2024

SEMESTER - VI

20UPHCT6013 - Solid State Physics

Total Duration : 2 Hrs. 30 Mins.

Total Marks : 60

Section B

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

1. Explain BCC crystal structure with a neat diagram.
2. Derive an expression for Bragg's law.
3. Explain different types of magnetic materials.
4. Explain the determination dielectric constant with neat diagram.
5. Distinguish between Type I and Type II superconductors.
6. Write the applications of dielectric materials.
7. Write Curie-Weiss law and explain Curie temperature.
8. Write short notes on dielectric loss.

Section C

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

9. Explain the various Bravais lattice in three dimensions with necessary diagrams.
10. Describe rotating crystal method of x-ray diffraction to study crystal structure.
11. Discuss Langevin's theory of Diamagnetism.
12. Explain local field and derive an expression for Clausius-Mosotti relation.
13. Give an account on BCS theory of superconductivity.
