

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.

M.Sc.(Physics) - END SEMESTER EXAMINATIONS APRIL - 2023

SEMESTER - IV

**20PPHET4005 - Materials Science**

Total Duration : 2 Hrs. 30 Mins.

Total Marks : 60

### **Section B**

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

1. Describe the forming and post forming processes in the production of ceramics.
2. Write notes on the liquid crystal polymers.
3. Classify polymers with suitable examples.
4. What is the mechanism of electrical polarization?
5. Describe the process of photolithography.
6. Enumerate the importance of single crystal growth.
7. Mention the applications of permanent magnets.
8. Classify magnetic materials.

### **Section C**

I - Answer any **TWO** questions ( $2 \times 10 = 20$  Marks)

9. Discuss on the properties and applications of Si-Al ceramic system.
10. Elaborate on the physical, chemical and mechanical properties of polymers.
11. Explain the pulling method for the growth of single crystals.
12. Discuss the various types of alloys and its applications.

II - Compulsory question ( $1 \times 10 = 10$  Marks)

13. Explain the classifications of dielectric materials.

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