

Roll.No.

24PPHET3B02

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 - NOVEMBER 2025  
SEMESTER - III

**24PPHET3B02- Nano Technology a Makers Course**

Total Duration : 1 Hrs.30 Mins.

Total Marks : 40

### Section B

Answer any **TEN** questions ( $10 \times 2 = 20$  Marks)

1. Discuss the classification of Nanomaterials.
2. Describe about crystal symmetries.
3. What could be the futuristic applications of Nanotechnology?
4. Explain Wigner –Seitz cell.
5. Mention some effects of size reduction of nano particles.
6. Write a short note on quantum dot.
7. Name two essential Technologies used in nanofabrication.
8. What are top-down and bottom up approaches?
9. State the application of nanoparticles in biology.
10. What is a carbon nano tube?
11. Write electrical properties of Nanomaterials.
12. Write about role of bonding in Nanomaterials.

### Section C

Answer any **FOUR** questions ( $4 \times 5 = 20$  Marks)

13. Describe about the implications of Nano science in the field of  
(i) Physics and (ii) Chemistry.
14. Distinguish the properties and synthesis methods of Nano particles and Quantum dots.
15. Explain in detail with neat diagram about scanning electron microscopy.
16. Discuss about the classification of nanostructured materials with suitable examples.

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