

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. END SEMESTER EXAMINATION APRIL/NOV - 2021

SEMESTER - V

13UPHCT5010 & UPH/CT/5010 - Basics of Nano Science

<b>Total Duration : 3 Hrs</b>	<b>Total Marks : 75</b>
MCQ : 30 Mins	MCQ : 15
Descriptive : 2 Hrs.30 Mins	Descriptive : 60

Section B

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

1. Explain covalent bond with an example.
2. What is nanosphere lithography? Explain in detail.
3. Classify the nucleation processes.
4. What is spintronix? Explain its applications.
5. Describe the biomarker technique.
6. Explain fine ball grid array.
7. Explain different crystal defects with neat diagrams.
8. What do you mean by Targeted drug delivery? Mention its importance.

Section C

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

9. Discuss the Size dependent properties of nanostructures.
10. Draw the block diagram of scanning electron microscope and explain its instrumentation, sample preparation and working.
11. Describe the chemical vapour deposition technique of preparing nanomaterials.
12. What are quantum dots? Explain the preparation of quantum dots and mention its applications.
13. What is biological imaging technique? Briefly explain various biological imaging techniques.