

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.- END SEMESTER EXAMINATIONS

APRIL - 2022

SEMESTER - II

20PCHET2002 - NANO CHEMISTRY

Total Duration : 3 Hrs.

Total Marks : 60

Section A

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

1. a) What are nano particles?
b) How do nano particles grow and nucleate?
2. Explain any two methods for synthesis of nano materials.
3. Describe the theory of XRD used for the characterisation of nano materials.
4. Discuss the techniques AFM for the study of nano materials.
5. a) Show the role of surfactants in the synthesis of nano materials.
b) What do you mean by Capping of nano particles?
6. Apply UV-visible studies used for the characterisation of nano materials.
7. Compare and explain the method XPS and Xanes.
8. a) Mention the uses of nano composites.
b) How are nano particles used to control pollution?

Section B

Part A

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

9. Discuss the different properties of nano materials.
10. a) Give the synthesis, properties and uses of CNT.
b) Write a note on Bucky balls-fullerenes.
11. How will you characterise nano particles using SEM method?
12. Explain the theory of SPM techniques for nano materials.

Part B

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

13. a) Discuss the uses of nano materials in bio-medical field.
b) How will you interpret nano technology in agriculture?
