

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 EXAMINATION APRIL/NOV - 2021

SEMESTER - III

20PPHET3002 - Nano Science and Technology

Total Duration : 3 Hrs		Total Marks : 75
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 the synthesis of carbon Nano tubes.
2. Predict the electronic structure of Nanocrystals.
3. Describe the working of scanning electron microscope.
4. Classify the various types of microscopy and one of its applications.
5. Classify the materials for use in diagnostic and therapeutic applications in health care industry.
6. Illustrate Biological imaging with an example.
7. Relate the size dependent property of nanostructures.
8. Explain nano MOSFET.

Section C

Part A

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

9. Classify the applications of carbon Nano tubes in detail.
10. Determine the synthesis of quantum dots and quantum wire.
11. Distinguish between electron beam lithography and dip pen lithography.
12. Differentiate gold nano particle, quantum dot and magnetic nano particle.

Part B

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

13. Classify the types of bonds in detail with an example.