

25134

M.Sc. DEGREE EXAMINATION, MARCH/APRIL 2019.

SECOND SEMESTER

Material Science and Nano Technology

Paper IV — INTRODUCTION TO NANOSCIENCE AND SYNTHESIS OF NANOMATERIALS

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 3 = 15 marks)

Answer any FIVE questions.

Each question carries 3 marks.

Each answer should not exceed 1 page.

1. Write different modes of classification of Nanomaterials.
2. Write on catalytic properties.
3. Briefly write a note on Sol-gel synthesis.
4. What does mean of a colloid?
5. Write a note on Mechano-chemical reaction.
6. State a quantum dot with an example.
7. What are the advantages of biogenic synthesis of Nanoparticles?
8. Write down the Biomedical applications of Gold Nanoparticles.

PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each question carries 15 marks.

Each answer should not exceed 6 pages.

9. Write a note on various physical, chemical and catalytic properties.

Or

10. Write a short not on allotropes of carbon and carbon nanostructures.

11. Briefly discuss about the synthesis of copper oxide nanoparticles by hydrothermal method.

Or

12. Give an account on Colloidal precipitation and Sol-Gel process.

13. Write a short note on Nanocomposites -ZnO-TiO₂.

Or

14. Briefly discuss about the synthesis of nanomaterials via Mechano chemical reaction.

15. Write a note on biogenic synthesis of nanoparticles.

Or

16. Write down the various applications of Biogenic silver nanoparticles in fabrics and antibacterial properties.

