

M. Sc. DEGREE EXAMINATIONS – MARCH 2016
IV SEMESTER
Material Science & Nano Technology
PAPER III – Applications of Nanomaterials and Nanotechnology

45133

Time : 3 Hours

Max. Marks: 75

(No additional sheet will be supplied)

PART –A (5x3 = 15 marks)

Answer any FIVE questions.

Each question carries 3 marks.

Each answer should not exceed 1 page

1. Discuss briefly the basic structures of MEMS.
2. Explain briefly the magnetic hard drives
3. Discuss the working of a gas sensor
4. Explain the principles and working of an optical sensor
5. Explain the role of nanomaterials for membrane process
6. Write a note on membrane fabrication
7. Discuss the preparation of nanomaterials using solvent evaporation method
8. Write a note on supercritical fluid technology

PART –B (4x15 = 60 marks)

Answer ALL questions.

Each question carries 15 marks.

Each answer should not exceed 6 pages

9. With the help of neat diagram, discuss the pressure sensor.
(OR)
10. Discuss in detail the interlayer exchange coupling in magnetic multilayer.
11. Discuss the role of nanotechnology in organic enabled sensor in detail.
(OR)
12. Explain the construction, working and applications of nucleotides based nanosensor.
13. Explain the principle of membrane. Discuss the role of nanotechnology in the fabrication of membrane.
(OR)
14. Discuss the working of electrochemical nano-based sensor for environmental monitoring.
15. Discuss the dispersion and emulsification process for the synthesis of nano materials.
(OR)
16. Discuss the protein adsorption and surface modification in drug delivery applications.

