

MODEL QUESTION PAPER

Seventh Semester B.Tech. Degree Examination

CHEMICAL ENGINEERING BRANCH

(2013 Scheme)

13.705 EL III (H): NANOTECHNOLOGY (H)

Time : 3 Hours

Max. Marks: 100

PART A

Answer **all** questions. Each question carries 2 marks

1. Define Nanotechnology.
2. Write different modes of classification of Nanomaterials.
3. List out challenges faced by Nanotechnology.
4. Explain X-Ray Diffraction (XRD)
5. Write short note on (i) Carbon fullerenes (ii) Carbon Nanotubes
6. Explain basic biological concepts and principles for the development of nano-engineering systems
7. Describe Plasma deposition of ultra -thin functional films on nano materials
8. Write short note on Nanomedicines
9. List out the Applications of Nanotechnology in electronics
10. Explain the importance of Advanced organic material for data storage

(10 x 2=20)

PART B

Answer any ONE full question from each module

Module I

11. Discuss the Classification of Nanomaterials in detail. 20
OR
12. Explain in detail Electrical, magnetic, optical, thermal, and mechanical properties of nanostructured materials 20

Module 2

13. Discuss Bottom up approach of synthesis of Nanomaterial 20
OR
14. Make short note on : (i) Atomic Force Microscopy
(ii) Scanning Electron Microscopy 20

Module 3

15. Explain Chemical Vapor Deposition of Carbon Nanotubes 20
OR

16. Explain Synthesis of Nanoparticles through Homogenous and Heterogenous nucleation 20

Module 4

17. List out applications of Nanomaterials and neatly explain them. 20
OR

18. Make short note on :

- (i) Carbon Nanotechnology
- (ii) Nano medicines
- (iii) Nano biotechnology

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