Department of physics/

College of of Science /
University.of Salahaddin-Erbil/

(4th Medical Physic)/ nanomedicine

Question Bank
2022-2023

13.705 EL III (H): NANOTECHNOLOGY (H)

1. 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

11. Discuss the Classification of Nanomaterials in detail.

OR

12. Explain in detail Electrical, magnetic, optical, thermal, and mechanical properties of nanostructured materials

13. Discuss Bottom up approach of synthesis of Nanomaterial

OR

14. Make short note on : (i) Atomic Force Microscopy
(ii) Scanning Electron Microscopy

15. Explain Chemical Vapor Deposition of Carbon Nanotubes

OR

18 Explain by diagram
1-The functionalization of gold nanoparticles with PEG and a targeting ligand (galactose).
2- Immobilization of magnetic nanoparticles by antibody-antigen coupling
3-Draw exosomal biomarkers detection by nanomaterials-based optical biosensors
19 Fraction of atoms available on the surface of bulk material and nanomaterial

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answer the following
1-What is quantum confinement?
2-Types Nanoporous materials in medicine? And draw how can porous material use or control the release of drugs?
3- Role of surface area to volume ratio of nanopartical in Drug Delivery?

16. Explain Synthesis of Nanoparticles through Homogenous and Heterogenous nucleation

17. List out applications of Nanomaterials and neatly explain them**.**

OR

18. Make short note on :
    (i) Carbon Nanotechnology
    (ii) Nano medicines
    (iii) Nano biotechnology