



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 154852

Roll No.

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B. Tech.

(SEM. VIII) THEORY EXAMINATION, 2014-15
NANOBIOTECHNOLOGY

Time : 3 Hours]

[Total Marks : 100

Note : Attempt all questions as directed. All questions carry equal marks.

- 1 Attempt any two of the followings :
 - (a) What is Moore's law? Discuss the basic principles of Electron beam lithography.
 - (b) Describe the green synthesis of metal nanoparticles.
 - (c) Describe the principle of atomic force microscopy and their requirements for functioning.

- 2 Write short notes on any two of the followings :
 - (a) Nano-biosensor
 - (b) Viruses as nanoparticle applications
 - (c) Nanotechnology and disease diagnosis.

3. Write short notes on any two of the followings :
- (a) Surface Plasmon resonance on nanoscale
 - (b) Quantum dots and its applications
 - (c) Nano-materials based immobilization assays
4. Attempt any two of the followings :
- (a) Describe the characteristics of biomedical polymers. How does they characterized.
 - (b) Discuss properties required in biopolymers to be used in ophthalmology.
 - (c) What are the biopolymers used in orthopedic surgery? Discuss with suitable example.
5. Attempt any two of the followings :
- (a) How does nanotechnology improve the electrochemical biosensing? Explain various approaches.
 - (b) What is molecular imprinting? Discuss the basic principle and applications of acoustic biosensors.
 - (c) Describe the various applications of nano-structured polymer surfaces in biological research.
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