



CBCS SCHEME

15BT662

Sixth Semester B.E. Degree Examination, June/July 2019 Nano Biotechnology

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain Top – down and Bottom – up approach in Nano – technology with suitable example. (08 Marks)
b. Discuss history and recent developments of Nano technology. (08 Marks)

OR

- 2 a. What is Nanolithography? Discuss various types of fabrication. (10 Marks)
b. Illustrate structure – property relationships in materials. (06 Marks)

Module-2

- 3 a. Giving examples, explain the various nano materials based on carbon, metal inorganic hybrid and biological nature. (10 Marks)
b. Write an explanatory note on Scanning tunneling and Atomic force microscopy. (06 Marks)

OR

- 4 a. Summarize the function and application of TEM. (08 Marks)
b. Outline the process of light scattering system for nano biotechnology applications. (08 Marks)

Module-3

- 5 a. Interpret the various types of drug delivery system. (08 Marks)
b. Explain role of Nanoshells in therapeutics. (08 Marks)

OR

- 6 a. Describe the applications of Nano sensors in disease diagnosis. (08 Marks)
b. Describe the working principles of micro – fluidics for Chemotoxins. (08 Marks)

Module-4

- 7 a. Outline the applications of Hagen – pouseuillic equation. (08 Marks)
b. Give a detailed note on Lab – on – a Chip. (08 Marks)

OR

- 8 a. Explain Bio - nanomaterials. (08 Marks)
b. Summarize the applications of Bio - nanohybrids. (08 Marks)

Module-5

- 9 a. Discuss DNA- based Nanostructures. (08 Marks)
b. Explain Bio-molecular motors and Engineered nanopores. (08 Marks)

OR

- 10 a. Give a detailed note on building blocks of organisms. (08 Marks)
b. Discuss in detail the Nanoparticle interactions. (08 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.