

CBGS SCHEME

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15NT36

Third Semester B.E. Degree Examination, June/July 2018 Fundamentals of Bioscience

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Differentiate between plant and animal cell. (08 Marks)
b. Explain the structure and function of succide bag of cell. (08 Marks)

OR

- 2 a. Describe the ultrastructure and function of power house of cell. (08 Marks)
b. Explain the cytoskeletal elements that is responsible for maintaining shape and support to the cell. (08 Marks)

Module-2

- 3 a. With a neat labeled diagram, explain fluid mosaic model of plasma membrane. (08 Marks)
b. Define passive transport, active and facilitated transport. Give example for each transport. (08 Marks)

OR

- 4 a. Explain signal transduction process. (08 Marks)
b. Discuss glucose and amino acid transport mechanism. (08 Marks)

Module-3

- 5 a. Explain transcription process. (08 Marks)
b. Discuss the catalytic role of restriction enzyme and protease. (08 Marks)

OR

- 6 a. Explain the process of creating r-DNA molecule under invitro condition. (08 Marks)
b. Illustrate the conversion of nucleoside to nucleotides. (08 Marks)

Module-4

- 7 a. What is acquired immunity? With suitable examples, explain different types of acquired immunity. (08 Marks)
b. Write an account on antigen presenting cells. Add a note on mechanism of phagocytosis. (08 Marks)

OR

- 8 a. With neat labeled diagram, explain antibody structure. (08 Marks)
b. Explain the process of activation of CD₄ cells. (08 Marks)

Module-5

- 9 a. Explain how chemical energy will convert into mechanical work by protein motors. (08 Marks)
b. Describe the action of heart as biomachines. (08 Marks)

OR

- 10 a. Explain bacterial flagellar motor mechanism. (08 Marks)
b. Describe filtration unit as a biomachines. (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.