

CBCS Scheme

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15NT36

Third Semester B.E. Degree Examination, Dec.2016/Jan.2017 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 Eukaryotic and Prokaryotic cells. (08 Marks)
b. Discuss in detail about meiotic cell division. (08 Marks)

OR

- 2 a. What are cytoskeletons? Explain structure and function of microtubules. (08 Marks)
b. Note on structure and function of i) Lysosomes ii) Present only in plant cell. (08 Marks)

Module-2

- 3 a. Discuss Singer-Nicholson model of plasma membrane. (08 Marks)
b. Explain the mechanism of Na^+/K^+ pump. (08 Marks)

OR

- 4 a. Explain Blood Brain Barrier. (08 Marks)
b. Note on different types of transport system. (08 Marks)

Module-3

- 5 a. Explain the catalytic action of i) Restriction enzymes ii) Carbonic anhydrases. (08 Marks)
b. Explain r – DNA technology. Note on its application. (08 Marks)

OR

- 6 a. Explain phosphoryl group transfer between Nucleotides. (08 Marks)
b. Explain the process of transcription. (08 Marks)

Module-4

- 7 a. Explain different types of immunity. (08 Marks)
b. Write neat labeled diagram of Antibody. Note on its functions. (08 Marks)

OR

- 8 a. Explain the Role of different types of T-cells. (08 Marks)
b. What are MHC molecules? Explain its functions in defensive mechanism. (08 Marks)

Module-5

- 9 a. Explain the biological sensors in the human body. (08 Marks)
b. Explain F_1 motor involved in power stroke. (08 Marks)

OR

- 10 a. With example explain conversion of chemical energy into mechanical energy. (08 Marks)
b. Kidney as a filtration unit explains. (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 remaining of unutilization, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.