CBCS SCHEME

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17NT36

Third Semester B.E. Degree Examination, Dec.2018/Jan.2019
Fundamentals of Bioscience

Time: 3 hrs. Max. Marks: 100

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

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.

Module-1

1 a. Give a comparison on prokaryotic cell and eukaryote cell. (04 Marks)
b. With the neat explain structure and functions of endoplasmic reificulum. (06 Marks)
c. Write a note on Cytoplasm. Explain lysosomes and peroxisomes with neat sketch. (10 Marks)

OR

2 a. Discuss Mitosis type of cell division with neat sketch. Mention parts. (10 Marks)
b. Explain Meiosis with neat sketch. (10 Marks)

Module-2

3 a. Discuss about passive and active transport. (10 Marks)
b. Explain the mechanism of Na^+ and K^+ transport. (10 Marks)

OR

4 a. Explain singer and Nicolson model of biological membrane with neat sketch. (10 Marks)
b. Describe BBB in detail. Mention importance. (10 Marks)

Module-3

5 a. Illustrate how gene is expressed within cell with neat sketch. (10 Marks)
b. Explain events involved in transcription. (10 Marks)

OR

6 a. Narrate the process of translation. (10 Marks)
b. Mention different enzymes involved in the process of replication. Describe process of replication with neat sketch. (10 Marks)

Module-4

7 a. Elucidate the structure of Type – I and II MHC molecule. (10 Marks)
b. Give an account of T-cell receptor and subclasses. (10 Marks)

OR

8 a. Explain innate and adaptive immunity. (10 Marks)
b. Discuss Antibody structure. Add a note on helper T-cell. (10 Marks)

Module-5

9 a. Describe how kidney has been used as filtration unit. (10 Marks)
b. Explain heart as pump. (10 Marks)

OR

10 a. Briefly describe structure of ATP syntheses. Add note on coupling and coordination of motor. (10 Marks)
b. Elucidate brain as storage device. Add a note on biological sensors in human body. (10 Marks)

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