CBCS SCHEME

USN | | | | | | | | | | |

18NT35

Third Semester B.E. Degree Examination, Dec.2019/Jan.2020
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. Write a note on cell locomotion, **(04 Marks)**
b. Elucidate the structure of power house of the cell **(06 Marks)**
c. With appropriate diagram, explain mitosis type of cell division. **(10 Marks)**

OR

2 a. Give an outline of white blood corpuscles. **(05 Marks)**
b. Write a note on lysosome's and peroxisomes with the help of neat diagrams. **(05 Marks)**
c. With appropriate diagram, explain meiosis type of cell division. **(10 Marks)**

Module-2

3 a. Explain the mechanism of sodium and potassium transport. **(10 Marks)**
b. Write a note on micelle formation. Define reverse micelle. **(06 Marks)**
c. Describe membrane permeability and fluidity. **(04 Marks)**

OR

4 a. Give an account of blood brain barrier. **(06 Marks)**
b. Explain Singer and Nicholson model of biological membrane. **(04 Marks)**
c. Write a note on passive and active transport. **(10 Marks)**

Module-3

5 a. Narrate the process of translation. **(10 Marks)**
b. What is a gene? Explain the structure with neat diagram. **(06 Marks)**
c. Write a note on protease enzyme. **(04 Marks)**

OR

6 a. Mention different enzymes involved in the process of replication. Describe the process of replication. **(10 Marks)**
b. Explain the event involved in transcription. **(10 Marks)**

Module-4

7 a. Give an account of T-cell receptor and subclasses. **(10 Marks)**
b. Explain the structure of antibody molecule. **(06 Marks)**
c. Write a note on helper T-cell. **(04 Marks)**

OR

8 a. Elucidate the structure of type I and type II MHC molecule. **(10 Marks)**
b. Write a note on antigen presentation pathway. **(06 Marks)**
c. Explain adaptive immunity. **(04 Marks)**

Module-5

9 a. Explain heart as pump. **(10 Marks)**
b. Write a note on coupling and coordination of motors. **(04 Marks)**
c. Elucidate brain as a storage device. **(06 Marks)**

OR

10 a. Describe how kidney has been used as filtration unit. **(10 Marks)**
b. Write a note on biological sensors in human body. **(04 Marks)**
c. Briefly describe structure of ATP synthase. **(06 Marks)**

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