CBCS SCHEME

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

18BT35

Third Semester B.E. Degree Examination, Jan./Feb. 2021
Cell Biology and Genetics

Time: 3 hrs. Max. Marks: 100

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

Module-1

1 a. Explain Cytoskeletal Elements. Discuss the structure and functions of Microtubules and Microfilaments. **(10 Marks)**

b. Discuss how plant cell differs from animal cell, with neat diagram. **(10 Marks)**

OR

2 a. Explain the membrane organization structure and mention its important functions. **(12 Marks)**

b. Write a note on Cytoplasmic microtrabecular system. **(08 Marks)**

Module-2

3 a. Explain the purpose of mitosis, with its different stages. **(10 Marks)**

b. Write a note on Ribosome and Chloroplast. **(10 Marks)**

OR

4 a. Discuss Cell to Cell Integration. **(06 Marks)**

b. Explain Apoptosis and Ageing. **(10 Marks)**

c. Explain Types of cell functions. **(04 Marks)**

Module-3

5 a. Write a note on Greger Mendal. Discuss law of segregation and independent assortment. **(12 Marks)**

b. Explain Gene Interaction. Write a note on Complementary genes, with suitable example. **(08 Marks)**

OR

6 a. Explain the classical experiment conducted by Avery , Mc Leod and Mc Carty to identify genetic materials. **(12 Marks)**

b. Write a note on Multiple Alleles. **(08 Marks)**

Module-4

7 a. Write in detail structure and functions of chromosomes. **(10 Marks)**

b. What are Polytene and Lanpbrush chromosome? Explain with neat labeled diagram. **(10 Marks)**

OR

8 a. Discuss the Nucleosome model of chromosome. **(10 Marks)**

b. Explain Gene frequency and Pedigree analysis. **(10 Marks)**

Module-5

9 a. Explain Sex determination in plants. **(10 Marks)**

b. Write a note on any two types of Chromosomal disorder. **(10 Marks)**

OR

10 a. Discuss Non – disjunction as a proof of Chromosomal theory of Inheritance. **(10 Marks)**

b. Write a note on Hemophilia and Interference coincidence. **(10 Marks)**

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