TDC (CBCS) Odd Semester Exam., 2022

BIOTECHNOLOGY

(Honours)

(1st Semester)

Course No. : BTCHCC–102T

(Cell Biology)

Full Marks : 50
Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—I

1. Answer any *two* of the following : 2×2=4

(a) Write a note on cell theory.

(b) Write about the classification of organisms on the basis of cell structure.

(c) Give a brief account of cell fractionation.

2. Answer any *one* of the following : 6

(a) Differentiate between prokaryotic and eukaryotic cells. Write a note on cytosol. 3+3=6

(b) Write about the compartmentalization of eukaryotic cells. Point out the advantages of multicellular organisms. 4+2=6

UNIT—II

3. Answer any *two* of the following : 2×2=4

(a) Write a brief note on membrane permeability.

(b) Write about facilitated diffusion.

(c) Differentiate between active and passive transport.

4. Answer any *one* of the following : 6

(a) Give an illustrated account of active transport through membrane.

(b) Describe fluid mosaic model of plasma membrane with necessary diagram.

UNIT—III

5. Answer any *two* of the following : 2×2=4

(a) Write a note on microtubules.

(b) Write about microfilaments.

(c) Mention the role of Golgi complex in protein secretion.

6. Answer any *one* of the following : 6

(a) Describe briefly membrane vacuolar system. Add a note on cytoskeleton. 3+3=6

(b) Give a detailed account of structure and function of endoplasmic reticulum. 4+2=6

UNIT—IV

7. Answer any *two* of the following : 2×2=4

(a) Define microbodies.

(b) Write a note on mitochondrial genome.

(c) Write a note on vacuoles.

8. Answer any *one* of the following : 6

(a) Give an illustrated account of lysosomes. Point out their functions. 5+1=6

(b) Describe structure and functions of chloroplasts. 5+1=6

UNIT—V

9. Answer any *two* of the following : 2×2=4

(a) Write a brief note on signal transduction.

(b) Write the composition of cellular matrix.

(c) Write a note on agents promoting carcinogenesis.

10. Answer any *one* of the following : 6

(a) Give a detailed account of membrane receptors for extracellular matrix.

(b) Give an elaborate account of characteristics and molecular basis of cancer.

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