



9 780249 000028

**Name:**.....

(2024 ADMISSION ONWARDS)

Maximum Marks: 50

*Students should attempt atleast one question from each course outcome to enhance their overall outcome attainability.*

[Learning Domain][CO No(s)]

Each question carries **1** mark

- |   |   |     |     |
|---|---|-----|-----|
| 1 | What is the basic unit of life?   | [K] | [1] |
|   | <div> <div>a) Organ</div> <div>b) Tissue</div> <div>c) Cell</div> <div>d) Organism</div> </div>                                       |     |     |
| 2 | What structure controls the movement of substances into and out of a cell?  | [U] | [1] |
|   | <div> <div>a) Nucleus</div> <div>b) Cell wall</div> <div>c) Plasma membrane</div> <div>d) Cytoplasm</div> </div>                      |     |     |
| 3 | The limitation of histochemical technique is  | [S] | [2] |
|   | <div> <div>a) Detection</div> <div>b) Low resolution</div> <div>c) Correlative analysis</div> <div>d) Sample preparation</div> </div> |     |     |
| 4 | The treatment of Nipah Virus relies exclusively on  | [I] | [2] |

- |    |   |   |  |         |
|----|---|---|--|---------|
|    | a) Gene Therapy   | b) Chemotherapy   |  |         |
|    | c) Monoclonal antibodies  | d) Antibiotics  |  |         |
| 5  | Which of the following represents a phenotype?                          |   |  | [K] [3] |
|    | a) Bb   | b) BB   |  |         |
|    | c) Brown eyes   | d) bb   |  |         |
| 6  | Which of the following components is NOT part of a nucleotide?          |   |  | [K] [3] |
|    | a) Sugar  | b) Phosphate group  |  |         |
|    | c) Nitrogenous base   | d) Amino acid   |  |         |
| 7  | What is the primary function of messenger RNA (mRNA)?                   |   |  | [U] [4] |
|    | a) Carry genetic information from DNA to ribosomes                      | b) Synthesize proteins                                      |  |         |
|    | c) Form ribosomes   | d) Transfer amino acids                                     |  |         |
| 8  | Which organelle is responsible for packaging and distributing proteins? |   |  | [U] [5] |
|    | a) Mitochondria   | b) Golgi apparatus  |  |         |
|    | c) Ribosomes  | d) Nucleus  |  |         |
| 9  | Which of the following best describes biodiversity?                     |   |  | [U] [6] |
|    | a) The number of individuals in a population                            | b) The variety of life in a particular habitat or ecosystem |  |         |
|    | c) The health of a specific organism                                    | d) The distribution of species across the globe             |  |         |
| 10 | The mechanism of mutation involves changes in:                          |   |  | [K] [7] |
|    | a) Phenotype  | b) Environment  |  |         |
|    | c) DNA sequence   | d) All of the above   |  |         |

natural selection?

- 17 Differentiate Bioinformatics and Computational Biology. [An] [7]
- 18 Discuss the relationship between DNA, RNA, and proteins in the central dogma of molecular biology. [An] [5]

(6 × 4 = 24)

**Part C**

Essay Type Questions

Answer any **2** questions

Each question carries **8** marks

- 19 Write a short essay on what is biotechnology and its applications [K] [1]
- 20 Write an essay on biological databases. [U] [2]
- 21 Describe in detail on NMR and X ray crystallography [A] [3]
- 22 Compare and contrast the structures and functions of smooth and rough endoplasmic reticulum in eukaryotic cells. [An] [5]

(2 × 8 = 16)

**END OF THE QUESTION PAPER**

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