Master of Science (Bio Technology)(Sem. – 1)
BIOMOLECULES AND METABOLISM
Subject Code: MBT-101
M Code: 75659
Date of Examination : 10-01-2023

Time: 3 Hrs.   Max. Marks: 70

INSTRUCTIONS TO CANDIDATES:
1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SEVEN questions carrying FIVE marks each and students have to attempt any SIX questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Explain the following in brief:

   a) Functions of ribosomes.

   b) Role of physiological proteins.

   c) Michaelis- Menten equation.

   d) Enzyme inhibition.

   e) Structures of RNA.

   f) Functions of lipids.

   g) Basic concepts of metabolism.

   h) Role of haemoglobin.

   i) Structure of collagen.

   j) Secondary metabolites.

SECTION-B

2. Explain physiological and structural features of myoglobin.

3. Describe mechanism of enzyme action using suitable diagrams. Explain the importance of biocatalysts in industrial procedures.

4. Discuss various techniques used for protein characterization.

5. Draw a labeled diagram showing components of a typical biological membrane.

6. Give outline of various DNA sequencing techniques. Explain any one in detail.

7. What do you understand by nucleotide metabolism? Explain metabolism of purines.

8. Discuss the importance of TCA cycle. Draw well labeled diagram also.

SECTION-C

9. Explain properties of biomolecules. What are the criteria used for protein classification? Discuss different levels of protein structures.

10. What is glycolysis? Give diagrammatic sketch of all the intermediates and enzymes involved in the process.

11. Describe using suitable examples the classification, structure and functions of carbohydrates.

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.