

M.Sc. (Micro) Semester - 2 (CBCS) Examination
April/May-2023 (NEW COURSE)
Biochemistry(CORE)

Time: 2:30 Hours

Marks: 70

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

-
- Q.1 Answer the following (any 7) (14)**
1. 'Monosaccharides' – Define in brief with example.
 2. What are quaternary proteins?
 3. Explain the term 'compound lipids'.
 4. What is 'carnitine shuttle'? state its significance
 5. State the physical properties of any two essential amino acids.
 6. What are aromatic and aliphatic types of amino acids.
 7. Explain the importance of Michaelis-Menton theory
 8. What is the difference between amylase and amylopectin?
 9. What are high energy rich compounds? State few examples
 10. What is the importance of allosteric proteins?
- Q.2 Answer the following (any two) (14)**
1. Explain in detail the oxidation of fatty acids.
 2. Describe in detail 'Heteropolysachharides' with suitable example.
 3. Elaborate properties and functions of lipids.
- Q.3 Answer the following. (Each of Seven Marks) (14)**
1. Explain Ramachandran plot in detail with labeled diagram
 2. Write a note on Alpha helix and Beta sheet levels of proteins.
- OR**
- Q.3 Answer the following (14)**
1. Describe the structure of tertiary protein with labeled diagram (05)
 2. Classify the amino acid along with the chemical properties of amino acids (05)
 3. Describe 'Titration Curve' (04)
- Q.4 Answer the following (any two) (14)**
1. Distinguish between competitive and non-competitive enzyme inhibition.
 2. Discuss the Kinetic properties of enzymes.
 3. Describe the mechanism of action of anabolic and catabolic enzymes.
- Q.5 Answer the following (any two) (14)**
1. Write a detailed note on Glycolysis with labeled pathway (schematic)
 2. Describe the Krebs cycle in detail
 3. Describe in detail 'Pentose Phosphate Pathway'.
 4. Explain pathway of gluconeogenesis in detail.
