

M.Sc. (Micro) Semester - 2 (CBCS) Examination
March/April – 2025 (As Per Syllabus Year-2018)
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) 'Polysaccharides' – Clarify in brief with example.
- (2) Describe in short – Quaternary structure of proteins
- (3) Explain the term 'saponifiable lipids'.
- (4) What is 'carnitine shuttle' ?
- (5) State characteristics of 'Proline'.
- (6) What are non- essential types of amino acids.
- (7) What is the difference between first order and second order reaction?
- (8) Explain the mechanism of Entropy?
- (9) Out of 2 NADH and 2 FADH₂ molecule how many ATPs can be produced?
- (10) Give names of any two examples of aromatic amino acids

Q.2 Answer the following (any two) (14)

- (1) Explain in detail the Beta oxidation of fatty acids.
- (2) State the chemical properties of Monosaccharides
- (3) Give the functions of lipids with appropriate examples

Q.3 Answer the following (14)

- (1) State the classification of amino acids.
- (2) Write a note on Alpha helix and Beta sheet levels of proteins.

OR

Q.3 Answer the following (14)

- (1) Explain Dihedral angles with reference to the polypeptide chain. (05)
- (2) Explain in detail 'Titration curve' (05)
- (3) Describe various important functions of proteins. (04)

Q.4 (A) Answer the following (any two) (10)

- (1) Distinguish between reversible and irreversible inhibition.
- (2) Discuss the contribution of Briggs and Haldane in enzyme kinetics studies.
- (3) Describe the mechanism of action of anabolic and catabolic enzymes.

(B) Answer any one of following. (04)

- (1) Write down Kinetic properties of enzymes.
- (2) Write note on Nomenclature of enzymes.

Q.5 Answer the following (any two) (14)

- (1) Write a detailed note on Gluconeogenesis
- (2) Discuss the pathway of gluconeogenesis in detail
- (3) Describe in detail 'Allosteric Protein'.
- (4) Explain Glycolysis Process.
