

**M.Sc. (Botany) Semester - 2 (CBCS) Examination**  
**March/April– 2019 (New Course)**  
**Biochemistry (CORE)**

Time: 2:30 Hours

Marks: 70

**Instructions:**

1. All questions are compulsory.
  2. Figures to the right indicate marks.
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**Q.1 Answer the following (any 7) 14**

1. 'Monosaccharides' – Clarify in brief with example.
2. Describe in short – Primary structure of proteins
3. Explain the term 'saponifiable lipids'.
4. What is 'carnetine shuttle'?
5. State the significance of amino acids.
6. What are essential types of amino acids?
7. What is the difference between first order and second order reaction?
8. What is ping pong mechanism of enzyme reaction?
9. What are high energy rich compounds? State few examples
10. Give names of any two examples of aliphatic 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 Disaccharides
3. Give the classification of lipids with appropriate examples

**Q.3 Answer the following 14**

1. State the physical and chemical properties of amino acids.
2. Write a note on Alpha helix and Beta sheet levels of proteins.

**OR**

**Q.3 Answer the following**

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| 1. Explain Ramachandran plot in detail.              | 5 |
| 2. Explain in detail 'Titration curve'               | 5 |
| 3. Describe various important functions of proteins. | 4 |

**Q.4 Answer the following (any two) 14**

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.

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

1. Write a detailed note on Glycolysis
2. Discuss the pathway of gluconeogenesis in detail
3. Describe in detail 'Pentose Phosphate Pathway'.

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