

M.Sc. (Micro) Semester - 2 (CBCS) Examination
May/June-2022 (OLD 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 |
| | <ol style="list-style-type: none">1. What are heteropolysaccharides. Explain with examples2. Write four examples each of disaccharides alongwith their chemical formula3. Explain the term 'non-saponifiable lipids'.4. Define the term "epimers" and "enantiomers" with respect to carbohydrates5. What is the role of 'Carnetine Acyl Transferase' in beta oxidation6. Explain the term 'zwiterions'.7. Write examples of aromatic types of amino acids.8. What is the second order reaction?9. Explain the term 'entropy'10. Which are the enzymes used in the process of 'PPP' pathway | |
| Q.2 | Answer the following (any two) | 14 |
| | <ol style="list-style-type: none">1. Explain in detail the metabolism of fatty acids.2. Write a in detail the properties of disaccharides sugars with appropriate examples3. Give the detail account of chemical properties of Fats, oils and waxes | |
| Q.3 | Answer the following | 14 |
| | <ol style="list-style-type: none">1. Write a note on globular and fibrous protein2. Explain in detail 'PKa', 'pH' and 'PI' | |
| OR | | |
| Q.3 | Answer the following | |
| | <ol style="list-style-type: none">1. Write a note on properties of aminoacids | 05 |
| | <ol style="list-style-type: none">2. Write a note on secondary and tertiary proteins structure. | 05 |
| | <ol style="list-style-type: none">3. Describe major important functions of proteins. | 04 |
| Q.4 | Answer the following (any two) | 14 |
| | <ol style="list-style-type: none">1. Describe the Michaelis –Menten model of enzyme2. Write the principles of single and multisubstrate coenzyme3. Describe the mechanism of action of anabolic and catabolic enzymes. | |
| Q.5 | Answer the following (any two) | 14 |
| | <ol style="list-style-type: none">1. Write a detailed note on 'Entner-Doudoroff' pathway2. Discuss the pathway of gluconeogenesis in detail3. Describe the 'Glyoxylate' pathway | |
