# SHRI RAMSWAROOP MEMORIAL UNIVERSITY

## End Semester Examination (2021-22)-Odd Semester

| M.Sc. (Biotechnology) – I Year (I Sem) | |
|---|---|
| Course Name: General Biochemistry | Code: MSB1006 |
| Time: 02 Hours | Max Marks: 60 |

| **University Roll No.** | | | | | | | | | | | | | | | |
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| **(To be filled by the Student)** | | | | | | | | | | | | | | | |

**Note: Please read instructions carefully:**

*a) The question paper has 03 sections and it is compulsory to attempt all sections.*

*b) All questions of Section A are compulsory; questions in Section B and C contain choice.*

| **Section A: Very Short Answer type Questions**<br>**Attempt all the questions.** | | **BL** | **CLO** | **Marks (10)** |
|---|---|---|---|---|
| 1. | What is pH scale? Write its application. | BL1 | CLO1 | 02 |
| 2. | Discuss the HMP shunt by suitable illustration. | BL2 | CLO3 | 02 |
| 3. | Summarize the nomenclature and classification of fatty acids. | BL2 | CLO2 | 02 |
| 4. | Define essential and non-essential amino acids. | BL1 | CLO2 | 02 |
| 5. | Which is unstable; DNA or RNA? Justify your answer. | BL1 | CLO4 | 02 |
| **Section B: Short Answer Type Questions**<br>**Attempt any 03 out of 06 questions.** | | **BL** | **CLO** | **Marks (30)** |
| 1. | Compare exergonic and endergonic reaction by taking an example. | BL2 | CLO1 | 10 |
| 2. | List the different functions of carbohydrates. | BL4 | CLO2 | 10 |
| 3. | Explain the different steps of beta oxidation by illustration and also mention all the enzymes involved. | BL2 | CLO3 | 10 |
| 4. | Discuss transamination reaction of alanine and outline the role of PLP in transfer of amino group. | BL2 | CLO3 | 10 |
| 5. | Summarize the different steps of pyrimidine nucleotides biosynthesis. | BL5 | CLO2 | 10 |
| 6. | Show the mechanism of electron transport chain (ETS) by suitable illustration. | BL2 | CLO4 | 10 |
| **Section C: Long Answer Type Questions/Case Study**<br>**Attempt any 01 out of 03 questions.** | | **BL** | **CLO** | **Marks (20)** |
| 1. | Explain the steps of glycolysis that are irreversible. How does gluconeogenesis overcome irreversible steps of glycolysis? | BL2 | CLO3 | 20 |
| 2. | Discuss in detail about the silent features of Chargaff's rule? How to calculate the percentage of bases in a DNA strand using Chargaff's rule? | BL2 | CLO4 | 20 |
| 3. | Describe the primary and secondary structure of protein. Summarize the significance of Ramachandran plot. | BL2 | CLO2 | 20 |

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