

**A-0077**

Total Pages : 3

Roll No. ....

**MSCZO-504**

**M.Sc. Zoology (MSCZO)**

**(Bio-Chemistry)**

Examination, June 2025

Time : 2:00 Hrs.

Max. Marks : 70

**Note :-** This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these Sections according to the detailed instructions given therein. *Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.*

**Section-A**

**(Long Answer Type Questions)**     2×19=38

**Note :-** Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

1. Classify lipids based on their structure and sources. Explain their biological significance.
2. Explain the structure and function of cholesterol. Discuss its role in health and disease.
3. Describe the glycolysis pathway, including its steps, enzymes, and energy yield.
4. Discuss the mechanism of enzyme action with models such as the lock and key and induced-fit hypotheses.
5. Explain the buffering mechanism in biological systems and its importance in maintaining pH homeostasis.

### **Section–B**

**(Short Answer Type Questions)**      4×8=32

**Note** :– Section ‘B’ contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. Why is ATP referred to as a high-energy compound ?
2. What are ketone bodies, and under what conditions are they produced ?
3. What is the role of the hexose monophosphate shunt in carbohydrate metabolism ?

4. What are the deficiency symptoms of Vitamin D ?
5. List the factors that influence enzyme activity.
6. What are the main objectives of studying chemical equilibrium in biochemistry ?
7. Differentiate between oxidative and non-oxidative deamination.
8. What is the role of ATP synthase in ATP production ?

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