

A-0099

Total Pages : 3

Roll No.

MSCZO-504

M.Sc. ZOOLOGY (MSCZO)

(Bio-Chemistry)

1st Semester Examination, Session December 2024

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. Describe the β -oxidation of fatty acids and its significance in energy metabolism.
2. Explain the steps of the electron transport chain and the mechanism of ATP production through oxidative phosphorylation.
3. What is gluconeogenesis ? Explain the conditions under which it occurs and its role in maintaining glucose levels.
4. Explain enzyme kinetics regarding the Michaelis-Menten equation. How does it describe the rate of enzymatic reactions ?
5. Describe the process of glycogenolysis in detail, including the enzymes involved, its regulation by hormones and allosteric factors.

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. Differentiate between oxidation and reduction with an example from biochemistry.
2. Explain the role of cholesterol in the human body.
3. Explain the significance of the glycolysis pathway.
4. What are the deficiency symptoms of Vitamin A ?
5. Describe the mechanism of enzyme action briefly.
6. What is a buffering system, and how does it maintain pH stability ?
7. How are proteins classified based on their structure ?
8. Explain the biological significance of bile pigments.
