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MZO-003

MASTER OF SCIENCE

(ZOOLOGY)

(MSCZOO)

Term-End Examination

June, 2026

MZO-003 : COMPARATIVE ANIMAL

PHYSIOLOGY AND BIOCHEMISTRY

Time : 2 Hours

Maximum Marks : 50

Note : Attempt any ***five*** questions.

1. (a) Describe in brief cardiac conduction pathway and cardiac cycle. 5

- (b) Explain briefly the role of myosin in muscle contraction. 5
2. (a) What is the role of Na^+/K^+ ATPase pump in osmoregulation ? 5
- (b) Describe various mechanisms of thermoregulation observed in homeotherms. 5
3. (a) Explain transportation of carbon dioxide (CO_2) in blood. 5
- (b) Describe digestion of carbohydrates in vertebrates. 5
4. Differentiate between the following pairs of terms : $2 \cdot 5 \times 4 = 10$
- (a) Artery and Vein

(b) Chemical Synapsis and Electrical

Synapsis

(c) Bohr effect and Haldane effect

(d) Book gills and Book lungs

5. Write short notes on the following : $2 \cdot 5 \times 4 = 10$

(a) Malpighian tubules

(b) Bioluminescence

(c) Echolocation

(d) Beta oxidation of fatty acids

6. (a) Explain the role of Protein Complex in

Electron Transport Chain (ETC). 5

(b) Describe different types of enzyme

inhibitors. 5

7. (a) What are the hormones involved in metabolic adaptation during fasting? 5
- (b) Derive Line Weaver-Burk plot from Michaelis-Menten equation. Give its significance. 5

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