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MZO-003

**MASTER OF SCIENCE (ZOOLOGY)
(MSCZOO)**

Term-End Examination

December, 2024

**MZO-003 : COMPARATIVE ANIMAL PHYSIOLOGY
AND BIOCHEMISTRY**

Time : 2 Hours

Maximum Marks : 50

Note : Attempt any **five** questions.

1. (a) Explain with help of a diagram fluid exchange across the capillary wall. 5
- (b) Explain RAAS (Renin Angiotensin Aldosterone System). 5
2. (a) Explain how ATP generation occurs for skeletal muscle contraction in vertebrates. 5
- (b) What are the ion channels ? Discuss their role in nerve impulse generation and conductivity. 5

3. (a) Describe the function of electric organs in fish. 5
- (b) Explain how absorption of fats differs from absorption of proteins and sugars. 5
4. Differentiate between the following pairs of terms : 2.5×4=10
- (a) Respiratory Acidosis and Alkalosis
- (b) Myelinated axon and Non-myelinated axon
- (c) Competitive enzyme inhibition and Uncompetitive enzyme inhibition
- (d) Acclimation and Acclimatization
5. Write short notes on the following : 2.5×4=10
- (a) Bohr effect
- (b) Green glands
- (c) Xenobiotic function of liver
- (d) F_0 - F_1 ATP synthase
6. (a) Describe the various methods for regulating enzyme activity. 5

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- (b) Derive the Michaelis-Menten equation for enzyme catalysed reactions. 5
7. (a) Briefly describe how glucose homeostasis is maintained in humans. 5
- (b) How do enzyme lower the activation energy ? Discuss using suitable examples. 5

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