

No. of Printed Pages : 4

**MZO-007**

**MASTER OF SCIENCE (ZOOLOGY)**

**(MSCZOO)**

**Term-End Examination**

**December, 2025**

**MZO-007 : PRINCIPLES OF ECOLOGY**

*Time : 2 Hours*

*Maximum Marks : 50*

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**Note :** (i) Attempt any *five* questions.

(ii) All questions carry equal marks.

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1. (a) Explain the basic characteristics common to all ecosystems. 5
  - (b) Explain why the flow of energy in an ecosystem is unidirectional. Support your answer with reference to the laws of thermodynamics. 5

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2. (a) Enumerate the main events of the hydrological cycle and explain how human activities disrupt each of these events. 5
- (b) Define biomes. Explain the major factors that determine their distribution and classification. 5
3. (a) Explain the key characteristics of population, with special reference to population size and density, dispersion patterns, natality and mortality. 5
- (b) Discuss how survivorship curves (Type I, II and III) represent different mortality patterns in population, giving suitable examples for each. 5

4. (a) Explain the limits of population growth with reference to biotic and abiotic factors. Support your answer with suitable examples. 5
- (b) Differentiate between intraspecific and interspecific interactions with suitable examples and briefly explain their ecological significance. 5
5. (a) Define biodiversity. Briefly describe the concepts of genetic, species and ecosystem diversity. 5
- (b) Explain how biodiversity loss contributes to global climate change and local environmental degradation, with suitable examples. 5

6. (a) Define Traditional Ecological Knowledge and explain its role in biodiversity conservation. 5
- (b) Discuss the importance of habitat restoration and sustainable resource management in addressing environmental stressors, with reference to case studies from India and abroad. 5
7. Write short notes on the following : 5+5
- (a) Mode of action of toxicants
- (b) Management of sewage and industrial wastes

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