

MASTER OF SCIENCE (ZOOLOGY)

(MSCZOO)

Term-End Examination

December, 2025

MZO-007 : PRINCIPLES OF ECOLOGY

Time : 2 Hours

Maximum Marks : 50

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

(ii) *All questions carry equal marks.*

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

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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