

U.G. 3rd Semester Examination-2021**ENVIRONMENTAL SCIENCE****[HONOURS]****Course Code : ENVS-H-CC-L-05****(Ecology and Ecosystems)**

Full Marks : 40

Time : 2½ Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any **five** of the following: $2 \times 5 = 10$
- What do you mean by ecological amplitude?
 - Differentiate between exotic and invasive species.
 - What do you mean by life table?
 - What is climax community?
 - Define metapopulation with example.
 - What is Lindeman 10% law?
 - Define carrying capacity.
 - What is competitive exclusion principle?
2. Answer any **two** of the following: $5 \times 2 = 10$
- Write a short note on survivorship curves of a population.

- Briefly describe the impact of anthropogenic activities on the nitrogen cycle.
 - Discuss various types of interspecific interactions with examples.
 - Differentiate between the productivity of an open ocean ecosystem and tropical forest ecosystem.
3. Answer any **two** of the following: $10 \times 2 = 20$
- Describe different stages of ecological succession. Distinguish between autogenic and allogenic succession. What is ecosystem resilience? $6+2+2$
 - Define ecological niche. Discuss various types of ecological niche with examples. How ecological niche is involved in competition between organisms? $2+6+2$
 - What do you mean by trophic efficiency? Describe the energy flow in a typical ecosystem with different energy flow diagrams. $2+8$
 - Mention the main characteristics of an invasive species. What are the pathways of introduction of an invasive species? Briefly describe the impacts of biotic invasion on ecosystem and communities. $3+3+4$

[Turn over]