

**2023/FYUG/ODD/SEM/
EESDSM-101T/044**

**FYUG Odd Semester Exam., 2023
(Held in 2024)**

ECOLOGY AND ENVIRONMENTAL SCIENCE

(1st Semester)

Course No. : EESDSM-101T

(Fundamentals of Ecology)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

SECTION—A

Answer ten questions, selecting any two from each

Unit : 2×10=20

UNIT—I

- 1. Differentiate between autecology and synecology.**
- 2. What is ecosystem stability? Mention its types.**
- 3. Write briefly about the types of ecological niches.**

(2)

UNIT—II

4. Define natality. Mention its types.
5. Write a brief note on *r*-selected species with examples.
6. Mention two methods to estimate population size and density.

UNIT—III

7. What do you mean by Keytone species? Give example.
8. Define climax.
9. What is ecotone and edge effect?

UNIT—IV

10. Mention biotic components of the ecosystem with examples.
11. What is food chain? Mention its types.
12. Differentiate between lentic and lotic ecosystem with examples.

(3)

UNIT—V

13. What do you mean by biogeochemical cycle? Give example.
14. Mention the factors affecting nutrient uptake.
15. How does gaseous cycle differ from the sedimentary cycle?

SECTION—B

Answer *five* questions, selecting *one* from each
Unit : 10×5=50

UNIT—I

16. Describe the characteristics of Tropical Rain Forest and Tundra Biome.
17. Write notes on the following : 5+5=10
(a) Liebig's law of minimum
(b) Shelford's law of tolerance

UNIT—II

18. Explain age structure with diagrammatic representation.
19. Write notes on the following : 5+5=10
(a) Survivorship curves
(b) Exponential growth curve

UNIT—III

20. Define ecological succession. Explain each type of succession with proper illustration.
21. Explain positive and negative interactions in organisms with suitable examples.

UNIT—IV

22. What is ecological pyramid? Explain the different types of ecological pyramid with proper illustration. 1+9=10
23. Write notes on the following : 5+5=10
- (a) Desert ecosystem
- (b) Marine ecosystem

UNIT—V

24. Explain the nitrogen cycle with suitable diagrammatic illustration.
25. Write notes on the following : 5+5=10
- (a) Carbon cycle
- (b) Hydrological cycle

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