2023/TDC(CBCS)/ODD/SEM/
EESHCC-301T/391

TDC (CBCS) Odd Semester Exam., 2023

ECOLOGY AND ENVIRONMENTAL SCIENCE

(Honours)

(3rd Semester)

Course No. : EESHCC-301T

(Ecology and Ecosystems)

Full Marks : 50
Pass Marks : 20

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. Define biosphere.

2. What is an ecosystem? Give one example of an ecosystem.

3. Define habitat.

UNIT—II

4. Define metapopulation.

5. Differentiate between natality and mortality of a population.

6. Define exponential population growth with the help of a simple diagram.

UNIT—III

7. Define ecotone. Give one example of ecotone.

8. Mention one positive and one negative interaction with one example of each.

9. Define a climax community.

UNIT—IV

10. Describe two salient features of estuarine ecosystems. Give one example of an estuarine ecosystem.

11. Which pyramid is always upright? Explain with a diagram.

12. Define ecological efficiency.

UNIT—V

13. Describe ecosystem losses.

14. State the significance of hydrological cycle.

15. What is nutrient cycling?

SECTION—B

Answer *five* questions, selecting *one* from each Unit : 6×5=30

UNIT—I

16. Name the major terrestrial biomes. Describe any one such biome. 3+3=6

17. Write short notes on the following : 3×2=6

(a) Phenotypic plasticity

(b) Liebig's law of minimum

UNIT—II

18. What do you understand by *r*- and *k*-selection of a population. Discuss their significance briefly. 4+2=6

19. Describe the limits to population growth with examples. 6

UNIT—III

20. Describe the various steps of primary succession. Support your answer with a diagram. 4+2=6

21. Describe in detail any one positive interaction among species with appropriate examples. 5+1=6

UNIT—IV

22. Describe a wetland ecosystem. Mention the importance of wetland ecosystem. 4+2=6

23. Write short notes on the following : 3×2=6

(a) Abiotic components of the ecosystem

(b) Food web and its significance

UNIT—V

24. Draw and describe one sedimentary biogeochemical cycle in detail. 3+3=6

25. Discuss the various nutrient cycle models you have studied. 6

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