FYUG Odd Semester Exam., 2024

ECOLOGY AND ENVIRONMENTAL SCIENCE

(1st Semester)

Course No. : EESIDC-101T

(Basic Concepts of Ecology and Environmental Science)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—I

1. Answer any *four* from the following : 1×4=4

(a) What is the multidisciplinary nature of environmental science?

(b) Define the term 'ecology'.

(c) What is the primary aim of studying environmental science?

(d) Name one approach used to study ecology.

(e) Why is environmental awareness important in today's world?

2. Explain the scope of environmental science in addressing global environmental challenges. 2

OR

3. Discuss two aims of studying ecology and environmental science.

4. Discuss the multidisciplinary nature of environmental science and its importance in solving contemporary environmental issues. 8

OR

5. Explain the various objectives and aims of studying ecology and how this contributes to environmental sustainability.

UNIT—II

6. Answer any *four* from the following : 1×4=4

(a) Define an 'aquatic ecosystem'.

(b) What is the difference between a food chain and a food web?

(c) What is a biogeochemical cycle?

(d) What is population?

(e) Give two examples of terrestrial ecosystem.

7. Briefly describe the energy flow in an ecosystem. 2

OR

8. Explain the concept of species, population and community in an ecosystem context.

9. Examine biogeochemical cycles with a detailed explanation of their patterns and types and their role in ecosystem functioning. 8

OR

10. Discuss the concept of energy flow. Mention the various implications of this concept in our ecosystems.

UNIT—III

11. Answer any *four* from the following : 1×4=4

(a) What is stratosphere and why is it important?

(b) How does the climate of North-East India differ from other regions?

(c) What is the main difference between weather and climate?

(d) Name the different layers of the atmosphere.

(e) How does the ozone layer protect life on earth?

12. Explain the importance of the stratospheric ozone layer in protecting life on earth. 2

OR

13. Discuss the tropical monsoon climate and its significance in North-East India.

14. Analyse the composition and structure of earth's atmosphere, focussing on the function of different atmospheric layers. 8

OR

15. Discuss elaborately on the climate of North-East India.

UNIT—IV

16. Answer any *four* from the following : 1×4=4

(a) What is hydrologic cycle?

(b) Define lotic ecosystem.

(c) What is the significance of surface water in an ecosystem?

(d) What is an estuarine ecosystem?

(e) How does hydrosphere interact with other spheres of the earth?

17. Explain the difference between lotic ecosystem and lentic ecosystem. 2

OR

18. Discuss the role of the hydrosphere in maintaining earth's climate.

19. Explain the hydrologic cycle with suitable diagrammatic illustration. Discuss its significance in maintaining the balance of earth's ecosystem. 5+3=8

OR

20. Discuss the role and importance of estuarine and marine ecosystems. 4+4=8

UNIT—V

21. Answer any *four* from the following : 1×4=4

(a) What is soil humus?

(b) What is soil profile?

(c) Name two physical properties of soil.

(d) What is the difference between surface water and groundwater?

(e) What does Earth's mantle comprise of?

22. Briefly explain the formation and composition of earth's crust. 2

OR

23. Discuss the significance of soil water-holding capacity in agriculture.

(Continued)

24. Discuss on the formation and composition of the Earth's core, mantle and crust, and their significance in geophysical process. 8

OR

25. Discuss the physical properties of soil, focussing on the role of soil profile, soil water-holding capacity and soil humus in agriculture and land management.

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