

Ba/Bs/EVS/M-1T

2025

(FYUGP)

(1st Semester)



ENVIRONMENTAL SCIENCE

(MINOR)

Paper Code : EVS/M-1T

(**Fundamentals of Environmental Science**)

Full Marks : 75

Pass Marks : 40%

Time : 3 hours

(PART : B—DESCRIPTIVE)

(*Marks : 50*)

The questions are of equal value

Answer *any five* questions

1. Explain the scope and interdisciplinary nature of Environmental Science with suitable examples.
2. Discuss the Gaia hypothesis. How does it explain Earth as a self-regulating system?

26L/24a

(Turn Over)

3. Write a detailed note on the importance of studying Environmental Science in the present global scenario.
4. Describe the hydrosphere and lithosphere as major segments of the environment. Discuss their structure, composition and importance for life.
5. What are energy resources? Explain conventional and non-conventional energy resources with examples.
6. Describe water as a vital natural resource. Discuss its availability, uses, problems related to scarcity and pollution, and methods for its conservation.
7. Elucidate the hydrological cycle.
8. Explain ecological succession. Give an account of primary and secondary succession.
9. Describe the structure and functions of an ecosystem with suitable examples.
10. Explain the importance of ecological restoration in conserving biodiversity.

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(PART : A—OBJECTIVE)

(Marks : 25)

The figures in the margin indicate full marks for the questions

SECTION—I

(Marks : 15)

A. Put a Tick (✓) mark against the correct answer in the brackets provided : 1×15=15

1. Which theory suggests that the Earth functions as a self-regulating system?

(a) Big Bang theory ()

(b) Gaia theory ()

(c) Plate tectonics theory ()

(d) Darwin's theory ()

2. The environmental Kuznets curve shows the relationship between

- (a) population and biodiversity ()
- (b) economic growth and environmental degradation ()
- (c) temperature and rainfall ()
- (d) soil and water ()

3. Which of the following is a global environmental treaty?

- (a) The Kyoto protocol ()
- (b) The Panchayati Raj Act ()
- (c) The Indian Penal Code ()
- (d) The Income Tax Act ()

4. Which concept describes the measure of the biologically productive area required to provide resources and absorb wastes of a population?

- (a) Carrying capacity ()
- (b) Ecological footprint ()
- (c) Environmental Kuznets curve ()
- (d) Gaia hypothesis ()

5. The biosphere is the best defined as

(a) the upper layer of the Earth's crust ()

(b) the sum total of all living organisms and their interactions with the atmosphere, lithosphere and hydrosphere ()

(c) the gaseous envelope around the Earth ()

(d) the water cycle on Earth ()

6. Which of the following is a renewable natural resource?

(a) Coal ()

(b) Petroleum ()

(c) Forest ()

(d) Mineral ores ()

7. Which gas is most abundant in the atmosphere?

(a) Oxygen ()

(b) Nitrogen ()

(c) Carbon dioxide ()

(d) Argon ()

8. Forests help in controlling

(a) soil erosion ()

(b) noise pollution ()

(c) industrial growth ()

(d) fossil fuel burning ()

9. Which of the following is an example of a non-conventional energy resource?

(a) Coal ()

(b) Petroleum ()

(c) Solar power ()

(d) Natural gas ()

10. The process of nutrient recycling between living and non-living components of the ecosystem is referred to as

(a) energy flow ()

(b) biogeochemical cycle ()

(c) food chain ()

(d) photosynthesis ()

11. The study of interactions between organisms and their environment is called

(a) sociology ()

(b) ecology ()

(c) anthropology ()

(d) geology ()

12. Energy flow in an ecosystem is

(a) cyclic ()

(b) one-way ()

(c) reversible ()

(d) None of the above ().

13. Human activities that negatively impact ecosystems are called

(a) anthropogenic impacts ()

(b) abiotic impacts ()

(c) symbiotic impacts ()

(d) biotic impacts ()

14. In an energy pyramid of an ecosystem the maximum energy is always found at the

- (a) tertiary consumer level ()
- (b) producer level ()
- (c) secondary consumer level ()
- (d) decomposer level ()

15. Which of the following best explains ecological succession?

- (a) The cyclic movement of water ()
- (b) The natural, gradual replacement of one community by another ()
- (c) The genetic adaptation of species ()
- (d) The increase of CO_2 in the atmosphere ()

SECTION—II
(Marks : 10)

B. Answer any *five* of the following :

2×5=10

1. Define environmental science.

2. What is the environmental Kuznets curve?

3. Mention some problems associated with exploitation of resources.

4. Write on metamorphism.

5. Define ecology.

6. What is meant by anthropogenic impact?

7. What are biogeochemical cycles? Give one example.

8. State one difference between food chain and food web.
