

Term End External Examination 1st Semester (Session-Feb 2025)

Subject: Environmental Science

Course No and Title: EVS122M/ Environment and Ecology

Time: 2.15 hours

Max Marks:100

Min. Marks:40

Section A: Objective Type Questions

- Q1. Choose the appropriate Answer: (8x1.5=12)**
- Environmental science is defined by which of the following statements:**

A Study of interactions between environment and humans only.	B Study of interactions between the physical, chemical and biological environments.
C Study of interactions between the physical components of environment.	D Study of interactions between the biological components of environment only.
 - Which of the following components of Cryosphere has the longest life:**

A Ice-sheets	B Glaciers
C Ice-bergs	D Sea ice
 - Which of the following survivorship curve is suitable for the organisms who breed several types during the course of their life-span:**

A Type-III	B Type-II
C Type-IV	D Type-I
 - A climax community**

A Is self-sustaining.	B Shows predictable growth pattern.
C Is never changing.	D Is easily disturbed.
 - Trophic levels are formed by:**

A Plants only.	B Microorganisms.
C Carnivores.	D Organisms linked in a food chain.
 - In ecological pyramid of numbers of a grassland ecosystem the largest population is of:**

A Primary consumers	B Producers
C Herbivores	D Tertiary consumers

- vii. The unit of measurement of ecological footprint is:**

- | | |
|----------------------------|----------------------|
| A Gallon per capita | B Man-hour |
| C Global hectare | D Cubic-meter |

- viii. Human population growth curve is:**

- | | |
|-------------------|-------------------------|
| A S-shaped | B Parabola curve |
| C J-shaped | D Zigzags |

Section-B: Descriptive Type Questions (Short Type)

- Q2: Answer all the Questions (8 x 4 =32)**

- What do you mean by Lithosphere? What is it composed of?
- Give the diagrammatic representation of the various layers of atmosphere.
- Describe commensalism giving examples.
- What is the difference between carrying capacity and biotic potential?
- Give the importance of food chain in an ecosystem.
- Draw a neat diagram illustrating carbon cycle.
- Give two key points and two limitations of Malthusian theory of population growth.
- Define ecological footprint.

Section – C: Descriptive Type Questions (Medium Type)

- Answer all the questions: (4 x 7=28)**

- Q3.** Define environmental science and discuss its importance as a subject.

OR

Define Cryosphere and describe its significance.

- Q4.** Define population growth and discuss the density-dependent factors of population growth.

OR

What is ecological succession? Briefly explain the process of ecological succession.

- Q5.** What is ecosystem productivity? Describe the types of ecosystem productivity.

OR

What are biogeochemical cycles? How do human activities impact these cycles?

- Q6.** Discuss the main impacts of human population explosion on environment.

OR

Write a note on Anthropocene.

Section – D: Descriptive Type Questions (Long Type)

Answer any two of the following: (2 x 14=28)

- Q7.** Give a detailed explanation of the composition of atmosphere and discuss how human beings alter its composition?
- Q8.** Explains the various interactions between populations with suitable examples.
- Q9.** Give a detailed account of energy flow in an ecosystem with suitable diagram.
- Q10.** Discuss Malthusian and Neo-Malthusian theories of human population growth and highlight the difference between the theories.