



**DELHI PUBLIC SCHOOL NEWTOWN  
SESSION 2023-2024  
HALF YEARLY EXAMINATION**

**CLASS:IX  
SUBJECT: ENVIRONMENTAL SCIENCE**

**FULL MARKS: 80  
TIME: 2 HOURS**

*Answers to this Paper must be written on the paper provided separately.*

*You will not be allowed to write during the first 15 minutes.*

*This time is to be spent in reading the Question Paper.*

*The time given at the head of this Paper is the time allowed for writing the answers.*

*Attempt all questions from Section A and any four questions from Section B.*

*The intended marks for questions or parts of questions are given in brackets [ ].*

*This question paper consists of five printed pages.*

**SECTION A (40 Marks)**

**Attempt all questions from this Section**

**QUESTION 1**

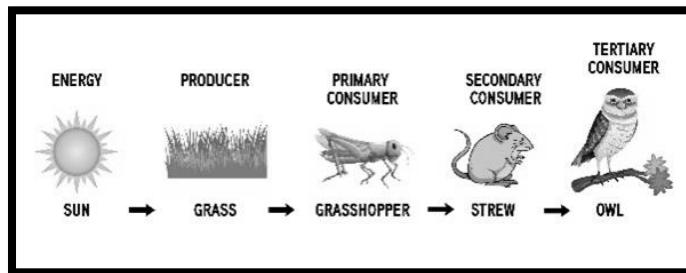
**[16]**

Choose the correct answers to the questions from the given options.

(Do not copy questions, write the correct answers only.)

- i. The following is an example of a terrestrial Biome
  - a) Rivers
  - b) Desert
  - c) Lakes
  - d) Streams
- ii. Autotrophic components are
  - a) Producers
  - b) Primary consumers
  - c) Secondary consumers
  - d) Tertiary consumers
- iii. Hawaiian crow is known to survive only in captivity. It is
  - a) Critically endangered
  - b) Extinct in wild
  - c) Vulnerable
  - d) Rare
- iv. Sustainability science is the study of concepts of sustainable development and \_\_\_\_\_
  - a) Environmental science
  - b) Bioscience
  - c) General science
  - d) Geosciences

- v. Habitat destruction which results in the threat to biodiversity is resulted due to
- Agricultural industries
  - Decrease in human population
  - Adequate rainfall
  - Optimum nutrients
- vi. A healthy environment depends upon a
- Healthy economy
  - Healthy biodiversity
  - Healthy humans
  - Healthy animals
- vii. Grasslands in Australia is known as
- Veldt
  - Pampas
  - Prairies
  - Downs
- viii. How do invasive species affect the biodiversity?
- It helps the native species to survive furthermore.
  - It threatens the survival of native species.
  - It forms a close bond with the native species and protects the biodiversities.
  - Does not affect the biodiversity.
- ix. The organisms in the adjoining figure represents:



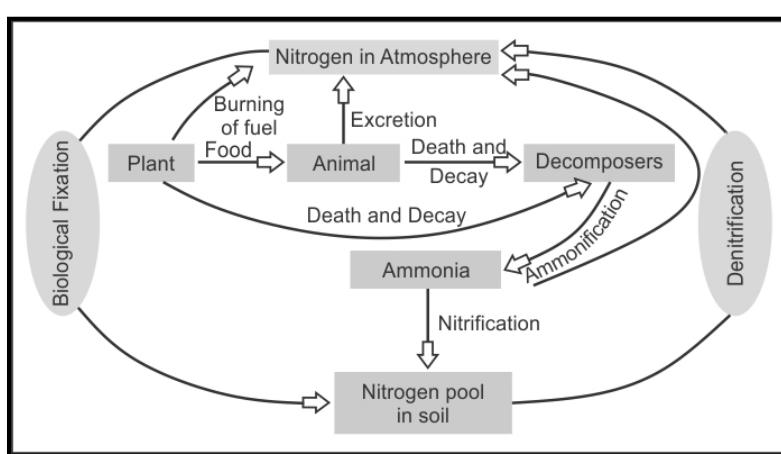
- a) Food level  
 b) Trophic level  
 c) Biomass level  
 d) Energy level
- x. Assertion: Atmospheric nitrogen cannot be utilized by living organisms.  
 Reason: Nitrifying bacteria converts atmospheric nitrogen to its soluble form.
- A is true and R is the correct reason for A.
  - A is false and R is not correct reason for A.
  - A is false but R is true.
  - Both A and R are true.
- xi. Statement A: One of the MDG is reduction of poverty.  
 Statement B: Poverty is defined as lack of wealth.
- Both statements A and B are correct.
  - Statement A is correct and Statement B is incorrect.
  - Statement A is incorrect and Statement B is correct.
  - Both Statements A and B are incorrect.

- xii. Match Column I with Column II and choose the correct option from those given below:

Column I	Column II
1. Limnetic zone	A. Street surface contamination
2. Birth rate	B. Role
3. Niche	C. Natality
4. Non-point source of pollution	D. Pond

a) 1-A 2-B 3-C 4-D  
 b) 1-D 2-C 3-B 4-A  
 c) 1-B 2-D 3-C 4-A  
 d) 1-D 2-B 3-A 4-C

The following questions (xiii to xvi) are based on the figure given below. Answer these questions by choosing the correct option.



- xiii. What does the diagram represent?

- a) Nitrogen cycle
  - b) Sulphur cycle
  - c) Carbon cycle
  - d) Water cycle
- xiv. Process 2 in the above diagram is performed by
- a) *Salmonella*
  - b) *Lactobacillus*
  - c) *E.coli*
  - d) *Rhizobium*

- xv. The element which is represented in the above diagram is used for \_\_\_\_\_ synthesis.

- a) Carbohydrate
- b) Fat
- c) Protein
- d) Starch

xvi. The root nodules of \_\_\_\_\_ plants harbor organisms which take part in biological fixation of the element.

- a) Alpine
- b) Leguminous
- c) Xerophytic
- d) Hydrophytic

### **QUESTION 2**

- a) Differentiate between producers and consumers citing one example of each. [2]
- b) Define Bio-magnification. [2]
- c) Why is benzene considered to be a harmful pollutant? [2]
- d) Cite any two examples of Bio-geographic regions in India. [2]

### **QUESTION 3**

- a) Environmental Science is an interdisciplinary subject. How does the study of Environmental Science benefit us? [2]
- b) Explain with an example the terms Parasite and Host. [2]
- c) Various anthropogenic factors have disrupted the bio-geochemical cycles of nature. How has man disrupted the nitrogen cycle? [2]
- d) State any two threats faced by the corals. [2]

### **QUESTION 4**

- a) Define with example non-point source of water pollution. [2]
- b) Write the full forms of MDG and OECD. [2]
- c) How can education be used as a calculator to calculate MPI? [2]
- d) Why are wetlands important? [2]

## **SECTION –B [40 Marks]**

**Attempt any four questions from this section**

### **QUESTION 5**

- a) Define water table. What is ground water? How is it formed? [5]
- b) United Nations Conference on Environment and Development has defined deforestation as “land degradation in arid, semi-arid, and sub-humid areas resulting from various factors including climatic variations and human activities.” State the various anthropogenic causes that lead to massive deforestation across the world. [5]

## **QUESTION 6**

- a) Define Succession. Explain the process in details. [5]
- b) How does Co-evolution help in forming new species? [5]

## **QUESTION 7**

- a) What is a sustainable community? What does a sustainable community seek to achieve? [5]
- b) Discuss in detail the threats confronting the desert ecosystem. [5]

## **QUESTION 8**

- a) Describe any five parameters for measuring poverty. [5]
- b) How oceans get polluted? [5]

## **QUESTION 9**

- a) What are the causes of extinction of species? [5]
- b) What are the modern day environmental problems? [5]

## **QUESTION10**

- a) Describe the five major life zones of ocean. [5]
- b) State the effects of thermal pollution. [5]