



DELHI PUBLIC SCHOOL NEWTOWN
SESSION 2024-25
FINAL EXAMINATION

CLASS: IX
SUBJECT: ENVIRONMENTAL SCIENCE [SET A]

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

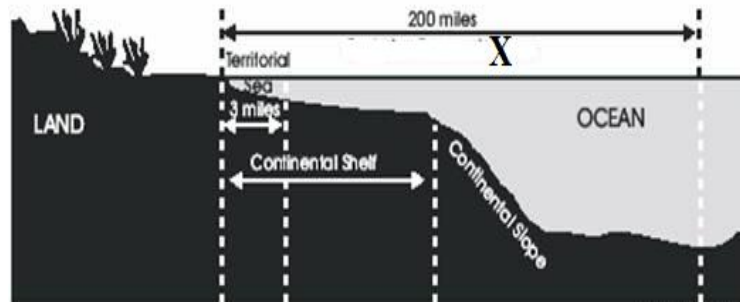
Choose the correct answers to the questions from the given options.
(Do not copy the questions, write the correct answers only)

[16]

- (i) Semi arid zone : Cactus :: Coastal areas: _____
(a) Teak (b) Pine (c) Babul (d) Sundari
- (ii) In a simple food chain, 1000 kcal of energy is available at the producer level. After two trophic levels, how much energy would be available to the secondary consumer according to the 10% law?
(a) 1000 kcal (b) 10 kcal (c) 100 kcal (d) 10000 kcal
- (iii) Name the harmful gas that leaked during Bhopal Gas Tragedy
(a) Methyl chloroform (b) Methyl cyanate
(c) Methyl mercaptan (d) Methyl isocyanate
- (iv) What is the term for the wearing down of rock surfaces by the constant grinding of particles carried by wind, water, or ice?
(a) Attrition (b) Erosion (c) Sedimentation (d) Deposition
- (v) A family moves to a different city because of the availability of better healthcare and education. These are examples of which type of factors?
(a) Push factors (b) Political factors
(c) Economic factors (d) Social pull factors
- (vi) The concept of sustainable development was popularized by which of the following reports?
(a) The Brundtland Report (1987) (b) The Kyoto Protocol (1997)
(c) The Rio Declaration (1992) (d) The Paris Agreement (2015)
- (vii) Choose the *incorrect* statement about the composition of aerosols:
(a) Aerosols can consist of dust, soot, and liquid droplets.
(b) Aerosols are made up of gases that are suspended in the atmosphere.
(c) Aerosols can include pollutants like sulphates, nitrates, and organic particles.
(d) Aerosols can be natural or man-made in origin.

- (viii) Which of the following is NOT a result of thermal pollution?
- Disruption of the food chain in aquatic ecosystems
 - Increased rate of evaporation from water bodies
 - Enhanced photosynthesis in aquatic plants
 - Decreased solubility of oxygen in water
- (ix) Rearrange the following steps in ascending order that indicate the treatment of water in a water treatment plant.
- Step (i): Air is pumped into the water to encourage bacteria to break down the sludge
- Step (ii): Screening removes large objects
- Step (iii): Filtered water is released
- Step (iv): Separation of organic solid water from waste water to form sludge
- Step (ii); Step (iv); Step (i); Step (iii)
 - Step (iii); Step (ii); Step (i); Step (iv)
 - Step (i); Step (ii); Step (iii); Step (iv)
 - Step (iv); Step (ii); Step (i); Step (iii)
- (x) 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
- (xi) Which of the following is NOT a characteristic of wetlands?
- Waterlogged soil
 - Presence of aquatic plants
 - High biodiversity
 - Extremely dry condition
- (xii) Match the column
- | Column I | Column II |
|---|------------------|
| A. Ecological area inhabited by species | (i) Co-evolution |
| B. Two or more species reciprocally affect each other | (ii) Biomass |
| C. Role an organism plays in the environment | (iii) Habitat |
| D. Organic matter in an organism | (iv) Niche |
- A-(ii); B-(iv); C-(i); D-(iii)
 - A-(iii); B-(i); C-(iv); D-(ii)
 - A- (i); B-(ii); C-(iii); D-(iv)
 - A-(iv); B-(iii); C-(ii); D-(i)
- (xiii) Assertion: The use of chemical fertilizers can lead to long-term soil fertility loss.
Reasoning: Chemical fertilizers provide essential nutrients to plants, which immediately boosts crop yields.
- Both A and R are true, and R is the correct explanation for A
 - Both A and R are true, but R is not the correct explanation for A
 - A is true, but R is false
 - A is false, but R is true
- (xiv) Pick the incorrect pair from the options given below
- Green Revolution---HYV
 - Drip Tip-- Rainforest
 - Cold desert-- Atacama
 - Grassland—Savanna

(xv) Identify the '200 miles' zone marked 'X' in the map given below



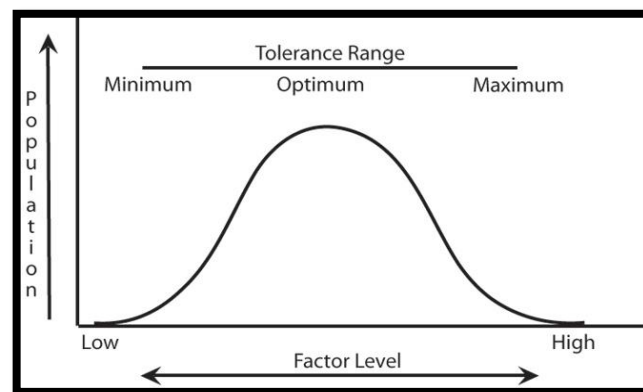
- (a) Taj Trapezium Zone
(b) Exclusive Economic Zone
(c) Littoral Zone
(d) Limnetic Zone

(xvi) A marine biologist is studying a coral reef ecosystem. The biologist notes that the water temperature in the area has risen by 2°C over the past year. What is the most likely impact of this temperature increase on the corals in the ecosystem?

- (a) Corals will thrive as they prefer warmer waters.
(b) Corals may undergo bleaching due to stress from higher temperatures.
(c) Coral growth will accelerate as a result of the temperature increase.
(d) The corals will adapt quickly without any significant changes.

Question 2

- (i) What are aerosols, and how do they affect the environment and human health? [2]
Give two examples of aerosols commonly found in the atmosphere.
- (ii) Why is ozone in the lower layers of the atmosphere considered harmful? Name any two ODS. [2]
- (iii) What is crop rotation? State one advantage of crop rotation. [2]
- (iv) [2]



State the Law depicted in the picture. Who proposed the Law?

Question 3

- (i) Analyse the importance of growth of informal sectors in urban areas. [2]
- (ii) How does growing a single crop over large areas impact environment and agriculture? [2]
- (iii) As a student, you are concerned about the growing environmental issues like pollution and climate change. Explain why studying environmental science is important for you and your community. [2]
- (iv) State *any two* reasons for the extinction of wildlife. [2]

Question 4

- (i) Differentiate between a food chain and food web. [2]
- (ii) Explain the role of education and healthcare in assessing poverty levels in a region. [2]
- (iii) Water scarcity has become a growing concern in today's world. Suggest two practical ways in which you can implement water harvesting techniques at home to help conserve water. [2]
- (iv) Carbon monoxide is considered to be a more harmful gas than carbon dioxide. Justify. [2]

SECTION B (40 MARKS)

(Attempt any four questions from this section)

Question 5

- (i) You live in an area where land pollution is a growing problem. As a responsible member of your community, suggest some practical actions that you can take to reduce land pollution in your locality. [5]
- (ii) Mention *any five* ways by which a developing country can achieve sustainability. [5]

Question 6

- (i) "Deserts are not barren wastelands, but vibrant ecosystems that sustain a unique variety of life." How do anthropogenic activities pose threat to this unique ecosystem? [5]
- (ii) You are working with a non-governmental organization (NGO) focused on alleviating urban poverty. What strategies would you recommend to improve the living conditions of urban poor? [5]

Question 7

- (i) "Advancements in agriculture transformed the landscape of food production, ushering in an era of abundance and self-sufficiency, while also raising questions about sustainability and equity."
 - (a) What is the above statement referring to?
 - (b) Was the increase in food production sustainable in the long term?
- (ii) Examine the various causes of deforestation in developing countries. [5]

Question 8

- (i) Identify the environmental phenomenon depicted in the picture given below. [5]



Explain how the mentioned phenomenon affects the environment and the heritage buildings. Suggest two ways to reduce its ill effects.

- (ii) Describe how human activities disrupt the carbon cycle and explain the potential consequences of this disruption on global climate patterns. [5]

Question 9

- (i) How do you think poverty contributes to environmental degradation? [5]
- (ii) Identify the types of interaction shown in the pictures given below and describe them in brief. [5]



A



B

Question 10

- (i) The Great Pacific Garbage Patch is a vast area in the Pacific Ocean where plastic waste and other debris have accumulated due to ocean currents. This area, which spans roughly 1.6 million square kilometers is largely made up of non-biodegradable plastics that have been carried from land into the ocean through rivers and winds. [5]
- Source: The Ocean Cleanup Project, National Geographic*
- Evaluate the impact of ocean pollution on marine life and human communities. Suggest effective strategies to reduce ocean pollution in the next decade.
- (ii) What is IPM? What are the ways in which it is implemented? [5]