



DELHI PUBLIC SCHOOL NEWTOWN  
SESSION 2023-2024  
FINAL EXAMINATION

CLASS: IX  
SUBJECT: ENVIRONMENTAL APPLICATIONS [SET-A]

FULL MARKS: 100  
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 six printed pages.*

SECTION A (40 Marks)  
*Attempt all questions from this Section*

**Question 1**

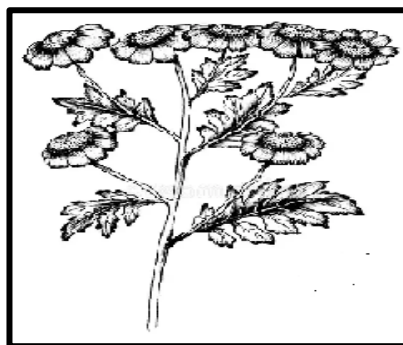
Choose the correct answer and write the correct option.

[20]

- i. Which of the following is not a man-made ecosystem?
  - a. Cropland
  - b. Orchard
  - c. Pond
  - d. Garden
- ii. Checking of reradiating heat by atmospheric dust, CO<sub>2</sub>, O<sub>3</sub> and water vapours is termed as
  - a. Solar effect
  - b. Green house effect
  - c. Ozone layer effect
  - d. Radioactive effect
- iii. The incorrect pair from the following pairs is
  - a. Kedarnath Sanctuary—Brown antler deer
  - b. Kanha National Park—Asiatic lions
  - c. Jim Corbett National Park—Leopards
  - d. Kaziranga National Park—One horned rhino
- iv. FSI stands for
  - a. Forest Surveillance of India
  - b. Forest Survey of India
  - c. Forest Supervision of India
  - d. Forest Strategies of India
- v. In ecological succession, the intermediate developmental phase is known as
  - a. Ecesis
  - b. Climax
  - c. Nudation
  - d. Sere

- vi. Cryopreservation of plant seeds and pollen is done at a very low temperature of  $-196^{\circ}\text{C}$  by using
- Ice
  - Carbon tetrachloride
  - Liquid Nitrogen
  - Ammonia
- vii. Hospital wastes are generally disposed of by
- Land fills
  - Incineration
  - Recycling
  - None of these
- viii. If A represents 'insects', B represents 'hawks', C represents 'snakes' and D represents 'frogs', then which of the following food chain is in the correct order?
- A-D-C-B
  - C-D-B-A
  - D-C-A-B
  - B-A-C-D
- ix. Which of the following has stagnant water bodies?
- Lotic
  - Lentic
  - Coastal areas
  - Open oceans
- x. Double consumers are also termed as
- Detritivores
  - Omnivores
  - Parasites
  - decomposers
- xi. The population that can be supported indefinitely by an ecosystem without destroying that ecosystem is \_\_\_\_\_
- carrying capacity
  - survivorship
  - demography
  - age structure
- xii. Assertion: Secondary consumers are called herbivores.  
Reason: These feed on the primary or first-order consumers.  
Choose the correct option
- Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
  - Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
  - Assertion is true but Reason is false.
  - Assertion is false but Reason true.
- xiii. Which of the following cause threat to genetic diversity in agricultural crops
- Intensive use of fertilizers
  - Extensive intercropping
  - Intensive use of bio-pesticides
  - Introduction of high yielding varieties

- xiv. Ecological sustainability is achieved by
- Increased energy consumption
  - Increased waste generation
  - Waste reduction and Fuel efficiency
  - Slow and inefficient transport
- xv. The full form of IUCN is
- Indian Union for Conservation of Nature
  - International Union for Conservation of Nature
  - International Union for Conservation of Nature and Natural Resources.
  - International Union for Concern of Nature
- xvi. Identify the obnoxious weed given below and categorize it as
- Endemic Species
  - Introduced Species
  - Native species
  - Keystone species



- xvii. What is the order of waste management hierarchy, from most to least favoured?
- Prevention- Recycle-Reuse- Disposal
  - Prevention-Reuse-Disposal-Recycle
  - Prevention-Reuse-Recycle-Disposal
  - Reuse- Recycle-Prevention-Disposal
- xviii. Match Column 1 with Column 2 and choose the correct option from those given below.

**Column 1**

**Column 2**

- (A) Carbon dioxide  
(B) Carbon monoxide  
(C) Photochemical Smog  
(D) Marble Cancer  
(E) Cholera

- (i) Ozone  
(ii) Global warming  
(iii) Carboxyhaemoglobin  
(iv) Contaminated water  
(v) Acid rain

- (A-iii), (B-v), (C-i), (D-ii), (E-iv)
- (A-ii), (B-iii), (C-i), (D-v), (E-iv)
- (A-iv), (B-ii), (C-iii), (D-v), (E-i)
- (A-i), (B-iii), (C-v), (D-ii), (E-iv)

- xix. The statement which is not an argument in favour of multi-purpose river projects is
- Multi-purpose projects bring water to those areas which suffer from water scarcity
  - Multi-purpose projects regulate water flow to control flood
  - Multi-purpose projects lead to large scale displacements and loss of livelihood
  - Multi-purpose projects generate electricity for our industries and homes.

- xx. Sunflower is an example of an allelopathic plant as it
- Has medicinal values
  - Does not allow the growth of other plants near it
  - Repels rainfall
  - Grows profusely

### Question 2

- Differentiate between a National Park and a Sanctuary. [2]
- What is Permaculture? [2]
- 'Plastic cups were used to serve tea in trains in early days—these could be returned to the vendors, cleaned and reused. Later, *kulhads* were used instead of plastic cups. Now, paper cups are used for serving tea.' What are the reasons for the shift from plastic to *kulhads* and then finally to paper cups? [3]
- State the health hazards associated with unclear garbage. [3]

### Question 3

- Define Sustainable Development. [2]
- Why was project tiger considered to be a failure? [2]
- What is the objective of HRM? How is it achieved? [3]
- What is the significance of the day portrayed in the picture given below? Who initiated the festival? When is this celebrated? [3]



### SECTION B (60 MARKS)

(Attempt any four questions from this section)

### Question 4

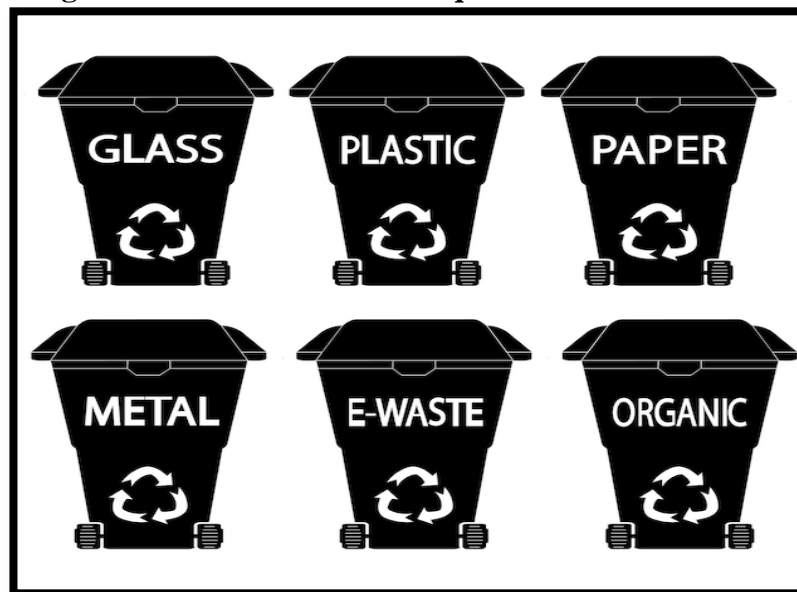
- "The increase in population is necessarily limited by subsistence". Justify the statement with reference to the population theory. [5]
- Despite various measures to address food security in India, major challenges remain. Critically analyze the statement. [5]
- Draw the Ecological hierarchy chart with the following words and define each of the words. Biome, population, biosphere, ecosystem, organism, community. [5]

### Question 5

- i. Human activities have a tremendous impact on the carbon cycle. How is the biogeochemical cycle of carbon important to us? Mention ways by which man himself is disturbing the cycle. [5]
- ii. From subalpine conifer forests to lush tropical rainforests, forests cover nearly one-third of the earth's land surface. But as people burn and chop down massive amounts of trees, this forest coverage is rapidly dwindling. As our forests disappear, it has a devastating ripple effect on people, wildlife, and the planet. Comment. [5]
- iii. Define ecological succession. Differentiate between Primary and Secondary Succession. [5]

### Question 6

- i. State the factors that lead to population growth in developing countries. [5]
- ii. The 2030 Agenda for Sustainable Development sets ambitious goals for development. The first of the Sustainable Development Goals (SDGs) targets to "End poverty in all its forms everywhere" and thus acknowledges that poverty is multidimensional. Explain the nature of poverty in developed and developing countries. [5]
- iii. Study the picture given below and answer the questions [5]



- a) What is E-waste? Why are they of concern?
- b) What is the best way to dispose of organic waste? Name the gas generated while such wastes are disposed of.
- c) Which waste management technique is primarily shown in the above picture? What do the arrows on the bins indicate?

### Question 7

- i. Biodiversity is the foundation of life on earth. It is a measure of the health of the ecosystem. Describe the three different types of biodiversity. What is a biodiversity hotspot zone? Name the hotspots of aquatic biodiversity. [5]
- ii. The recently published paper, "robots and jobs: evidence from U.S. Labor Markets," by MIT professor Daron Acemoglu and Boston University Professor Pascual Restrepo, PhD'16, finds that industrial robots do have a negative impact on the workers and definitely comes with certain limitations. Share your views on such a conclusion. [5]

- iii. Explain any five ecological impacts of Green Revolution. [5]

**Question 8**

- i. What do you understand by ex-situ conservation of biodiversity? Give two advantages and two disadvantages of ex-situ conservation? [5]
- ii. Coral reefs are important for many different reasons aside from supposedly containing the most diverse ecosystems on the planet. Comment on its importance and mention any two threats faced by the corals. [5]
- iii. Many major cities across the globe are at risk of water crisis, and water stress is projected to increase in most countries in the coming decades, threatening regional stability and raising the possibility of forced migrations. Suggest five ways to mitigate the problem. [5]

**Question 9**

- i. The three major 'P's which intended the development of local people resulted in a fourth P. Where in India did this happen and why? What was later done to save the region? [5]
- ii. Write the adaptations of an aquatic animal. [5]
- iii. How is mixed subsistence farming sustainable in its approach? [5]