



Time : 1 Hour 30 Minute

STD 10 Science  
Chapter Based Test

Total Marks : 50

**SECTION A**

\* Select and write one most appropriate option out of the four options given [7]  
for each of the questions

- Depletion of ozone is mainly due to:  
(A) Chlorofluorocarbon compounds. (B) Carbon monoxide. (C) Methane. (D) Pesticides.
- If the primary producers are absent from any ecosystem, which of the following will occur?  
(A) Herbivores will not be able to survive. (B) Carnivores will not be able to survive. (C) Both herbivores and carnivores will not be able to survive because of the absence of food. (D) No change will take place.
- Which of the following cannot be added in a composting pit to prepare compost?  
(A) Sunflower plants. (B) Fruit and vegetable peels. (C) Flowers of plastic. (D) Red worms.
- Which of the following limits the number of trophic levels in a food chain?  
(A) Decrease in energy at higher trophic levels. (B) Dufficient food supply. (C) Polluted air. (D) Water.
- \_\_\_ are the cause of depletion of the atmospheric ozone layer:  
(A) Chlorofluorocarbons (B) CO<sub>2</sub> (C) SO<sub>2</sub> (D) None of the above
- For two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:  
(A) Both A and R are true, and R is correct explanation of the assertion. (B) Both A and R are true, but R is not the correct explanation of the assertion. (C) A is true, but R is false. (D) A is false, but R is true. **Assertion:** The second trophic level of a food chain operating in a grassland is mostly occupied by a carnivore. **Reason:** Carnivores feed upon herbivores and are

secondary consumers.

7. Accumulation of non-biodegradable pesticides in the food chain in increasing amount at each higher trophic level is known as:
- Eutrophication.
  - Pollution.
  - Bio-magnification.
  - Accumulation.

\* **Assertion - Reasoning based questions.**

[3]

8. For two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:

- Both A and R are true, and R is correct explanation of the assertion.
- Both A and R are true, but R is not the correct explanation of the assertion.
- A is true, but R is false.
- A is false, but R is true.

**Assertion:** Decomposers help in recycling of nutrients between living and non-living components of ecosystem.

**Reason:** Decomposers help in decomposing dead bodies of organisms and return various nutrient elements to their source viz soil, water and air.

9. For two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:

- Both A and R are true, and R is correct explanation of the assertion.
- Both A and R are true, but R is not the correct explanation of the assertion.
- A is true, but R is false.
- A is false, but R is true.

**Assertion:** Ozone depletion can be reduced by limiting the use of air conditioners and refrigerators.

**Reason:** Air conditioner and refrigerators release chlorofluorocarbons in the atmosphere that destroy ozone.

10. For two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:

- Both A and R are true, and R is correct explanation of the assertion.
- Both A and R are true, but R is not the correct explanation of the assertion.
- A is true, but R is false.
- A is false, but R is true.

**Assertion:** Gases used in cooling devices can lead to depletion of ozone layer of atmosphere.

**Reason:** Carbon monoxide which is widely used as coolant in refrigerator reacts with ozone and destroys it.

\* **Fill in the blank with correct answer.[1 Mark each]**

[2]

11. Fill in the following blanks with suitable words:

Plastic is a \_\_\_\_\_ material whereas paper is a \_\_\_\_\_ material.

12. Fill in the following blanks with suitable words:

Grass → \_\_\_\_\_ → Human

\* **Answer the questions.[1 Mark each]**

[2]

13. Explain the role of decomposers in the environment?
14. What are planktons?

**SECTION B**

\* **Answer the following question. :**

[10]

1. Name the process in which wastes are burned at high temperature.
2. What are the problems caused by the non-biodegradable wastes that we generate?
3. Why is straight line food chain not common in the natural ecosystem?
4. Suggest any four activities in daily life which are eco-friendly.
5. Define decomposers. Name one decomposer.

**SECTION C**

\* **Answer short answer questions. [3 Mark each]**

[12]

1. What is ten per cent law? Explain with an example.
2. At which trophic level a person is feeding when he is eating:
  - o Roasted chicken.
  - o Bread.
  - o Eggs.
  - o Apple.
  - o Fish.
3. Depletion of ozone in the ozone layer is a cause for our worry. Why?
4. The gas A is used by most of the animals to obtain energy from food by the process of respiration. When A is acted upon by radiation X, it gets converted into another gas B which is an allotrope of A but poisonous when inhaled. B forms a kind of layer C in the upper atmosphere which absorbs radiations X coming from a source Y and prevent them from reaching the earth. Some chemicals Z released from the various devices on the earth are destroying the layer C slowly. In fact, a hole has already been formed in layer C over the area D of the earth.
  - a. What are gases (i) A, and (ii) B? Write their molecular formulae.
  - b. Name the layer C.
  - c. What are (i) X, (ii) Y, and (iii) Z?
  - d. Name the area D.
  - e. Name any two human ailments which may be caused by X.

**SECTION D**

\* **Long answer questions [5 Mark each]**

[10]

1. Write one or two words for each of the following statements/ definitions:
  - o Each level of food chain where transfer of energy takes place.

- The physical factors like temperature, rainfall, light, soil, air and water of an ecosystem.
  - Organisms which depend on the producers for food either directly or indirectly.
  - The physical and biological world where we live in.
  - Self-contained unit of living things and their non-living environment needing only sunlight for its functioning.
2. A food chain consists of fish, larvae, phytoplanktons and birds. The level of pesticides in water in which the fish, larvae and phytoplanktons live is quite high.
- a. In which organisms the pesticides enter from the polluted water? What is this level of organisms known as?
  - b. Which organism will have the maximum amount of pesticides accumulated through the food chain? What is this process known as?
  - c. Write the food chain comprising all the organisms mentioned above.
  - d. Which other organism you could write in place of bird in the above food chain?

### SECTION E

**\* case - based/data -based questions**

**[4]**

1. Students in a school listened to the news read in the morning assembly that the mountain of garbage in Delhi, suddenly exploded and various vehicles got buried under it. Several people were also injured and there was traffic jam all around. In the brain storming session the teacher also discussed this issue and asked the students to find out a solution to the problem of garbage. Finally they arrived at two main points - one is self management of the garbage we produce and the second is to generate less garbage at individual level.
- a. Suggest two measures to manage the garbage we produce.
  - b. As an individual, what can we do to generate the least garbage? Give two points.
  - c. List two values the teacher instilled in his students in this episode.

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