

CHEMISTRY 9th (New Book)

CHAPTER NO 10

Environmental Chemistry

Exercise: Multiple Choice Questions

1.	CO ₂ , CH ₄	2.	Combustion of fossil fuels
3.	Carbon dioxide	4.	CO ₂
5.	Both children and aged people	6.	Around industrial area
7.	Because fog is not present in summer www.ilmkidunya.com	8.	Pt, Pd and Rh
9.	NO ₂ , volatile organic compounds, sunlight	10.	Smog

Q#2: Short Question Answer

i. What is the main objective of environmental education?

Objective of Environmental Education:

The main objective of environmental education is to enlighten the people particularly the students about the importance of **protection** and **conservation** of our environment. The need for this environmental education is keenly felt at the national level.

ii. Which gas is more poisonous, CO or CO₂?**Carbon Monoxide:**

CO is more poisonous than CO₂. It can cause **suffocation** and **death**. Carbon monoxide is a very toxic gas that stops the **red blood cells** in animal's blood from **carrying oxygen** that body needs.

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iii. How is particulate matter released in the atmosphere?

Particulates in Atmosphere:

Particulate matter is released into the atmosphere through natural processes like **volcanic eruption** and **dust storms**, along with human activities such as **industrial emission**, **burning fossil fuels**, **vehicle exhaust**, and **construction**.

iv. How does acid rain affect forests?

Effects of Acid Rain:

Acid rain harms forests by:

1. Damaging the leaves of trees.
2. Damaging vegetation and plants.
3. Making soil more acidic.
4. Dissolving and washing away nutrients present in the soil.

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vi. In what way sulphur present in fossil fuels becomes dangerous?

Harmful Effects:

Sulphur present in fossil fuels becomes dangerous because the burning of fossil fuel produces **sulphur dioxide (SO₂)** and **Sulphur trioxide (SO₃)**. These oxides can irritate the **eyes**, **cause breathing difficulties** and **acid rain**.

vi. Name any three major sources responsible for the greenhouse effect.

Major Sources:

The major resources responsible for greenhouse effect are:

1. Burning of fossil fuels (coal, oil, and natural gas).
2. Decay of vegetation matter.
3. Deforestation.

vii. How is wind energy useful for us?

Uses of Wind Energy:

Wind energy is useful for us because it has been proved to be very effective way of **generating electricity** without damaging the environment. It is **renewable and clean source of energy**.

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Q#3: Constructed Response Questions

i. How is the excessive use of insecticides and pesticides harmful for birds?

Harmful Effects:

Excessive use of insecticides and pesticides can be harmful to birds by contaminating their **food and water sources**. Birds that consume contaminated insects or seeds may suffer from **poisoning or reproductive issues**. In addition, these chemicals can disturb the ecosystem by killing insects that birds need for food.

ii. Percentage of CO₂ in air is only 0.04%. Then how does it become harmful for the ecosystem?

Hazardous Effect on Ecosystem:

Although the percentage of CO₂ in air is only 0.04% but it plays an important role in maintaining the **earth's temperature** through greenhouse effect. The CO₂ layer behaves like a **glass sheet** of green house that allows the incoming **solar radiations** but does not allow it to escape outside. As a result, the average temperature of the earth rises.

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iii. Why only some pollutant gases present in the atmosphere cause greenhouse effect while others do not?

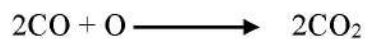
Green House Gases:

Only certain gases, like **CO₂, methane (CH₄), and nitrous oxide (N₂O)**, can absorb and release infrared radiations trapping heat in the atmosphere. Gases like **oxygen (O₂) and nitrogen (N₂)** do not have this ability, so they don't play a role in the greenhouse effect.

iv. How can you reduce the emission of CO in the gases emitted by the burning of fuel in the automobile engines?

Catalytic Converter:

By using catalytic converter, we can reduce the emission of CO present in the gases emitted by the burning of fuel in the automobile engines. Because it oxidizes carbon monoxide (CO) to carbon dioxide (CO₂).



v. Mention three different ways in which solar energy can be useful for us.

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Applications of Solar Energy:

Solar energy is useful for us in following ways:

1. Solar cells convert sunlight into electricity that is used in our houses.
2. Solar energy is used to run irrigation systems and agricultural machinery.
3. It is used to heat water for daily use, saving energy.