

- (Q.) Define pollution.** (1 Mark)
- (Ans) The introduction of contaminants into an environment which cause harm to living organisms and non-living components is known as pollution.
- (Q.) Which gas is the main constituent of air?** (1 Mark)
- (Ans) Nitrogen (78% by volume).
- (Q.) Give two examples of air pollutants.** (1 Mark)
- (Ans) Two examples of air pollutants are smoke and gases like NO₂, SO₂, etc.
- (Q.) Which two gases cause acid rain?** (1 Mark)
- (Ans) Sulphur dioxide and Nitrogen dioxide.
- (Q.) Which phenomenon is responsible for global warming?** (1 Mark)
- (Ans) Greenhouse effect.
- (Q.) What is Marble cancer?** (1 Mark)
- (Ans) Marble cancer is the phenomenon in which white marble corrodes to yellow due to acid rain.
- (Q.) Which plan was made to save river Ganga?** (1 Mark)
- (Ans) Ganga Action Plan.
- (Q.) Name two chemical contaminants of water.** (1 Mark)
- (Ans) Lead and Arsenic.
- (Q.) Which gas is produced due to incomplete combustion of fuels?** (1 Mark)
- (Ans) Carbon monoxide gas is produced due to incomplete combustion of fuels.
- (Q.) Name the chemical which is used for the purification of water.** (1 Mark)
- (Ans) Chlorine gas.
- (Q.) What is Asthma?** (2 Marks)
- (Ans) Asthma is a chronic inflammation of the bronchial tubes (airways) that causes swelling and narrowing (constriction) of the airways. This results in difficulty in breathing. This narrowing of bronchial tubes is usually either totally or at least partially reversible with treatments.
- (Q.) What is air pollution? Which two diseases are caused due to air pollution?** (2 Marks)
- (Ans) Contamination of air by unwanted and harmful substances is known as air pollution. Asthma and wheezing diseases are caused due to air pollution.

(Q.) Define potable water? Write the name of any two methods used for the purification of water. (2 Marks)

(Ans) The water, which is purified and made suitable for drinking, is called potable water. Boiling and chlorination methods are used for the purification of water.

(Q.) What is ozone? How does it protect our environment? (2 Marks)

(Ans) Ozone is a gas having molecular formula O_3 . It forms a layer around the atmosphere called ozone layer. This layer protects the earth from the harmful ultraviolet rays of the sun.

(Q.) What is the Greenhouse effect? How does it affect the atmosphere? (2 Marks)

(Ans) The absorption of solar energy by the gases like carbon dioxide, methane in the atmosphere, is known as Greenhouse effect.

Greenhouse gases warm the atmosphere by efficiently absorbing thermal infrared radiation emitted by the Earth's surface, by the atmosphere itself, and by clouds.

(Q.) What steps has the Supreme Court taken to save the Taj Mahal from air pollution? (2 Marks)

(Ans) The Supreme Court has ordered -

(a) The industries should use cleaner fuels like CNG (Compressed Natural Gas) and LPG (Liquefied Petroleum Gas).

(b) The automobiles should use unleaded petrol and cleaner fuels in areas near the Taj Mahal.

(Q.) What is water pollution? Give two examples of water pollutants. (2 Marks)

(Ans) The contamination of water by harmful and undesirable substances is known as water pollution.

Examples of water pollutants are sewage and toxic chemicals.

(Q.) What is global warming? Write any one harmful effect of global warming. (2 Marks)

(Ans) The gradual increase in the average temperature of the earth's atmosphere due to greenhouse gases like carbon dioxide is called global warming. It can cause flood by melting glaciers.

(Q.) What is smog? How it is harmful? (2 Marks)

(Ans) When smoke and fog combine together, they form smog. It is formed by the combination of oxides (NO_2 , CO_2 , etc.) and other pollutants with fog. The particles of smog cause cold, cough, asthma, etc. It reduces the visibility, especially during the winters.

(Q.) Why do we need to filter water before drinking? Name any two water borne diseases. (2 Marks)

(Ans) We need to filter water before drinking to remove the impurities like dust and germs. Two water borne diseases are cholera and typhoid.

(Q.) What are the causes of air pollution. (3 Marks)

(Ans) The various causes of air pollution are:

(i) Smoke and dust due to fire in forests or volcanic eruptions.

(ii) Smoke and poisonous gases emitted by automobile exhaust.

(iii) Smoke and poisonous gases emitted by power plants and produced by burning of fossil fuels.

(Q.) What is acid rain? How is it formed?

(3 Marks)

(Ans) The rain, which is acidic in nature due to the presence of sulphuric acid and nitric acid, is called acid rain. Sulphur dioxide and nitrogen dioxide present in air react with the water vapour to form sulphuric acid and nitric acid. When these acids fall on the earth along with rain water, it is called acid rain.

(Q.) What is eutrophication? Explain.

(3 Marks)

(Ans) When water bodies contain nutrient enriched water, then a dense growth of plants like algae developed. Once these algae die, they become food for decomposers (e.g. bacteria). These decomposers consume a lot of oxygen present in water. As a result, other aquatic animals do not get oxygen for respiration and ultimately they die. This process is called eutrophication.

(Q.) How can you conserve water?

(3 Marks)

(Ans) We can conserve water by using '3R Principal'-Reduce, Reuse and Recycle. We should minimise the use of water. Sometimes, we can reuse water e.g. water used for washing vegetables may be use for watering plants in the garden. Recycling of waste water should be done in water treatment plants to get clean water. We should harvest the rain water.

(Q.) Write any three harmful effects of polluted water?

(3 Marks)

(Ans) Three harmful effects of polluted water are:

1. Polluted water causes many diseases in humans (e.g., Typhoid) and animals due to the presence of disease causing micro-organisms
2. The polluted water containing chemicals like lead, arsenic is toxic to plants and animals
3. Impure water causes change in pH of soil

(Q.) What was the Ganga Action Plan? Why it failed in achieving its aim?

(3 Marks)

(Ans) The Ganga Action Plan was an ambitious plan to clean the river Ganga. This plan was launched by the government of India in 1985.

Due to increasing population and increasing industrialisations, it failed to decrease the pollution level in the river.

Reasons for its failure:

Human activities like bathing, washing, throwing garbage, flowers, idols of god and goddesses etc. is one of the reasons for it. The other reason for polluting Ganga river is increase in the number of industries which discharge toxic chemical wastes directly into the river.

(Q.) What measures should be taken to control air pollution?

(5 Marks)

(Ans) Air pollution can be controlled with the help of following measures-

- i) Use of CNG and unleaded petrol instead of leaded petrol and diesel in automobiles can reduce air pollution.
- ii) Use of alternative fuels like solar energy, wind energy and hydropower instead of fossil fuels can reduce air pollution.
- iii) We should plant trees and nurture the ones already present.
- iv) We should not burn crackers on Diwali or on other celebrations.
- v) Instead of burning dry leaves, they should be put in a compost pit to make manure.

(Q.) Vishal went to Agra after a long period of time. He saw that Taj-Mahal was not as white as earlier. Give the reason for it and explain? (5 Marks)

(Ans) The white colour of the stone marble of the Taj Mahal turns yellow due to air pollution. Sulphur dioxide and nitrogen dioxide produced from the industries like rubber processing, Mathura oil refinery etc. located in and around Agra are responsible for changing the colour of white marble of Taj Mahal. Sulphur dioxide and nitrogen dioxide gases react with the water vapour present in air to form sulphuric acid and nitric acid respectively.

When these acids fall on the earth along with rain water, then the rain is called Acid rain. The acid rain corrodes the marble of the monument and the process is called corrosion of Taj Mahal. The phenomenon in which white marble corrodes to yellow due to acid rain is called as Marble cancer.

(Q.) What are the sources of water pollution? (5 Marks)

(Ans) The various sources of water pollution are as follows-

i) Sewage and domestic wastes -It includes human excreta, soaps and detergents etc. The sewage from homes are collected and disposed off in rivers nearby. This untreated sewage is the prominent cause of water pollution.

ii) Human activities- People bath and wash their clothes on banks of rivers. This makes water polluted.

iii) Industrial and Agricultural discharges- Toxic chemicals (like cyanides, acids, lead etc.) from industries are discharged directly into rivers or streams. The pesticides, fertilizers, insecticides which are used in agriculture are dissolved in water and washed into water bodies from the fields.

iv) Religious Rituals-Dispersion of Statues of God and Goddess, dead bodies and remains of dead bodies in rivers is causing pollution of water.

v) Thermal pollutants -Nuclear and thermal power plants discharge their unutilized heat into nearby flowing water. It raises the temperature of the water body and this water is dangerous to the life of water animals and plants.

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: **SCIENTIA EDUCATION** :
: Provides Quality & Results :
: Oriented (Class: I-XII) :
: **HOME TUITION** :
: all Subjects & Classes :
: ANYWHERE in GUWAHATI :
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