Very Short Answer Questions

Q. 1. Name the chemicals which are used in refrigerators and air conditioners and damage ozone layer when released in air. [NCERT Exemplar]

Ans. Chlorofluorocarbons

Q. 2. Name any two sources which cause air pollution due to suspended particulate matter. [NCERT Exemplar]

Ans. (a) Combustion of fuel

(b) Industrial activities

Q. 3. Name two gases which are mainly responsible for acid rain. [NCERT Exemplar]

Ans. (a) Sulphur dioxide

(b) Nitrogen dioxide

Q. 4. The quality of air at various locations is monitored regularly by government and other agencies. In what way can you use these data? [NCERT Exemplar]

Ans. These data can be used to generate awareness about air pollution among people.

Q. 5. Combustion of fossil fuels generates a lot of air pollution. Can you suggest any two alternative sources of energy which do not use any pollution? [NCERT Exemplar]

Ans. Solar energy and wind energy

Q. 6. Name any two water pollutants which are toxic for plants and animals. [NCERT Exemplar]

Ans. Lead, arsenic, fluorides (any two).

Q. 7. What is potable water?

Ans. Water which is purified and fit for drinking is known as potable water.

Q. 8. What is meant by chlorination?

Ans. Chlorination is commonly used chemical method in which chlorine is added for purifying water to kill germs.

Short Answer Questions

Q. 1. A lot of dry leaves are collected in a school garden and are burnt every day. Do you think that it is right to do so? If not, what should be done to dispose off the dry leaves? [NCERT Exemplar]

Ans. It is not right to burn dry leaves as it causes air pollution. The right way to dispose off the dry leaves is to convert them into compost.

Q. 2. The level of air pollution is higher at a busy traffic intersection. Why? [NCERT Exemplar]

Ans. A large number of automobiles stop for a short period at red light throughout the day and release a large quantity of gases which create air pollution.

Long Answer Questions

Q. 1. What do CFCs stand for? Name some devices where CFCs are used. Why CFCs are considered as pollutants? [NCERT Exemplar]

Ans. CFCs stand for chlorofluorocarbons. CFCs are used in refrigerators, air conditioners, etc.

When chlorofluorocarbons are released into air, they deplete the ozone layer and the ultraviolet rays reach the earth causing harmful effects.

Q. 2. Why is it advised that industries should switch over to cleaner fuels such as CNG and LPG in the Taj Mahal zone in Agra? [NCERT Exemplar]

Ans. The Taj Mahal, India's most famous tourist attraction is getting discoloured because of air pollutants. Industries like rubber processing, automobile and chemical industries produce pollutants like sulphur dioxide and nitrogen dioxide that react with water vapour present in the air to form sulphuric acid and nitric acid. These mix with rain and fall down as acid rain. This acid rain corrodes the marble of the Taj Mahal. This phenomenon is also referred to as 'marble cancer'. So, industries are advised to use cleaner fuels like CNG (Compressed Natural Gas), LPG (Liquefied Petroleum Gas), etc. to save the Taj Mahal.

Q. 3. It is said; "CO_2 contributes to global warming." Explain. [NCERT Exemplar]

Ans. Burning of fossil fuels, deforestation and agricultural activities release a lot of carbon dioxide in air. The increased amount of carbon dioxide gas in the air traps the heat radiated from the earth. This trapping of heat by CO_2 layer in air is called greenhouse effect. This leads to an overall increase in the temperature of the earth. This is called global warming. Global warming results in melting of polar ice which causes a rise in the sea level, leading to floods in the low lying coastal areas having fertile land.

Q. 4. We should plant trees and nurture the ones already present in the neighbourhood. Why?' [NCERT Exemplar]

Ans. Trees make their own food from carbon dioxide (CO_2) in the atmosphere, water, sunlight and a small amount of soil elements. In the process, they release oxygen (O_2) for us to breathe. Thereby maintaining the carbon dioxide level in the atmosphere. This prevent global warming. Trees purify the air and reduces air pollution.

Q. 5. Explain the traditional way of purifying water to make it fit for drinking. [NCERT Exemplar]

Ans. Water is purified before it is used in cooking, washing, drinking and for farming.

Purification of water involves the following steps:

(a) Alum is added in water containers and water is left undisturbed for few hours. The suspended impurities settle down through the process known as loading. The clean water is then separated by decantation.

(b) Water is boiled before drinking. If water is boiled for about 20 minutes at about 100°C, the germs present in it are killed.

(c) The water from rivers and lakes is pumped and collected in a reservoir or water tank. Heavy particles (such as rocks, stones, etc.) are allowed to settle down through a process called sedimentation in a container. This tank is known as sedimentation tank.

(d) The water is allowed to pass through a container which has gravel and sand acting as a sieve to filter impure substances. The water gets free from dirt and various other impurities by the process called filtration.

Q. 6. How can we reduce, reuse and recycle water? [NCERT Exemplar]

Ans. Reduce

(a) While brushing teeth, bathing etc., we should not keep our taps on.
(b) Mopping the floor instead of washing it.

Reuse

(a) Water used for washing vegetables, rice etc. can be used for gardening.
(b) Use the water after washing clothes for toilet flushing and floor cleaning.

Recycle

Dirty water can be recycled after purification.

Q. 7. (a) How do you classify the various sources of water pollution?
(b) What are the point sources of water pollution?
(c) Name any two non-point sources of water pollution.

Ans. (a) Point sources and non-point sources.

(b) Easily identified source or place of pollution is called point source. For example, municipal, industrial discharge pipe, etc.

(c) Agricultural run-off, acid rain.

Hots (Higher Order Thinking Skills)

Q. 1. What is fly ash?

Ans. Fly ash is the air contaminated with minute particles of silica, alumina, oxides of iron, calcium and other toxic heavy metals. These enter the air through combustion of coal.