# Pollution of air and water



#### 1. What are the different ways in which water gets contaminated? Ans: Water gets contaminated by:

- 1. Dumping Agricultural chemicals and wastes.
- 2. Industrial chemicals waste and oil spill.
- 3. Sewage wastes.
- 4. Throwing plastics and chemical wastes in water.
- 5. Washing vehicles and clothes.

# 2. At an individual level, how can you help reduce air pollution?

Ans: To reduce air pollution,

- 1. One can use public transport. Use bicycles instead of vehicles for shortdistances which also maintains physical health.
- 2. Use clean fuels such as LPG and CNG instead of diesel and petrol.
- 3. Dispose garbage in a proper way instead of burning it which causes pollution.
- 4. Control the emissions from vehicles and household chimneys.

# 3. Clear, transparent water is always fit for drinking. Comment.

Ans: No, clear, transparent water is not always fit for drinking because it contains microorganisms causing harmful diseases. Hence, we need to purify orwe can boil it.

water before drinking. Water can be purified with the help of a water purifier

4. You are a member of the municipal body of your town. Make a list of measures that would help your town to ensure the supply of clean water to all its residents.

**Ans:** To ensure the supply of clean water to all residents the following steps must be taken:

- i. Water should be treated properly before use to make it free from harmfulmicroorganisms.
- ii. Chemical methods such as chlorination should be used to purify water.
- iii. Water pipes must be maintained properly to avoid leakages and wastage of water.
- iv. Water must be maintained by building it in a clean surrounding.

#### 5. Explain the differences between pure air and polluted air.

Ans: Difference between pure and polluted air:

- 1. Pure air: It is a mixture of nitrogen, oxygen and carbon dioxide with other traces of gases like ozone, methane water vapour and it is free from harmful gases.
- 2. Polluted air: When the composition of air is altered by addition of harmful gases like Sulphur dioxide, carbon monoxide, nitrogen dioxide and CFCs, then the air is said to be polluted.

#### 6. Explain circumstances leading to acid rain. How does acid rain affect us?

Ans: Circumstances leading to acid rain are:

- i. Burning of fossil fuels contains traces of Sulphur and trapped impurities.
- ii. These traces and trapped impurities release gases like Sulphur dioxide and nitrogen dioxide.
- iii. Sulphur dioxide and nitrogen dioxide reacts with water vapour of the atmosphere forming respective acids like sulphurous acid. Which results in acid rain.

Effects of acid rain:

- i. Acidrains damage plants, trees and crops.
- ii. Acid rain removes minerals and nutrients from the soil.
- iii. Acid rain causes corrosion of buildings and structures. Example: Taj Mahal, Eiffel Tower are maintained in a span of time.
- 7. Which of the following is not a greenhouse gas?

# a. Carbon dioxide

- b. Sulphur dioxide
- c. Methane
- d. Nitrogen

Ans: d) Nitrogen

# 8. Describe the 'Greenhouse Effect' in your own words.

**Ans:** Greenhouse effect:

- a) Greenhouse effect is caused by greenhouse gases which include carbon dioxide, methane, CFCs which are released into the atmosphere.
- b) The gases increase the temperature of the atmosphere by trapping radiation (i.e. not allowing the dissipation of heat).

# 9. Prepare a brief speech on global warming. You have to deliver the speech in your class.

#### Ans: Global warming:

- i. Global warming is the increase in temperature of the earth's Atmosphere due to human activities.
- ii. Pollutants like methane, carbon dioxide, CFC's increases the temperature of the atmosphere, by trapping the radiation from the sun and reflecting back to the earth's surface.
- iii. This increase in temperature will result in melting of ice in the glaciers in Arctic and Antarctic regions.
- iv. The increased sea level due to the melting of glaciers will result in floods in low coastal area regions.
- v. The main constituent causing global warming is the pollution from industries and automobiles.

#### 10. Describe the threat to the beauty of the Taj Mahal.

Ans: Threat to the beauty of Taj Mahal:

- 1. Acid rain which causes marble cancer and corrosion of buildings is the major threat to the beauty of the Taj Mahal.
- 2. Acid rain is a mixture of acids and water Vapour which reacts with marble forming a powder mass removed by the rain. This phenomenon is known as marble cancer.

# 11. Why does the increased level of nutrients in the water affect the survival of aquatic organisms?

- **Ans:** The increased level of nutrients in the water affect the survival of aquatic organisms:
- i. Increase in the growth of microorganisms such as algae is because of the increase in level of nutrients in the water.
- ii. When the algae die, the decomposition of algae by decomposers require huge amount of oxygen.
- iii. The oxygen in water is utilized for decomposition which decreases the oxygen content in water, leading to the shortage of oxygen for living organisms in water. Which might result in death of living organisms.