

## CHAPTER - 18

### Pollution of Air and Water

#### \* Answer in Short:

1. How can we define pollution?

→ It can be defined as disturbance of natural balances of anything, due to adding of any substance.

2. What are the types of pollution?

→ Pollution can be divided into the following types: Air pollution, Water, Land, and noise pollution.

3. Name atleast four of each pollutant.

→ Useless pollution:

Carbon dioxide gas Chlorine gas

Biodegradable pollutant:



Clothes, dead bodies.

Non-biodegradable pollutant  
: Insecticide, DDT.

4. Name the major sources of air pollution.

→ Automobiles are the greatest sources of releasing hydrocarbon and carbon monoxide into the atmosphere.

5. Define the following terms:

2.) Acid rain → Presence of Nitrogen oxide and sulphur dioxide into air reacts with water & form nitric acid and sulphuric acid respectively and falls with rain drops. This is called acid rain. It is very harmful for flora and fauna. It pollutes the surface water on the earth. It damages the structure made of concrete, cement, e.g.:

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historical monument such as  
Taj Mahal.

b) → Greenhouse effect →  
Trapping of sun's heat by  
 $\text{CO}_2$ , methane and CFCs  
which raises the earth's temp-  
erature is called green house  
effect.

6. What are the effects of water  
pollution?

→ Effects of Water pollution:

It affects the growth of crops  
and plants when applied  
through irrigation.

Polluted water becomes unfit  
for human use specially  
drinking, and causes number  
of diseases like skin disease,  
disease related with digestive  
system, for example -  
dysentery, e.t.c....

## Quick Recap

- The contamination of the environment with harmful toxic and poisonous substances due to certain natural factors and human activities is called environmental pollution.
- Any substance that causes pollution in air, water or land/soil is called a pollutant.
- Drinking water should be free from any impurities and harmful germs. It should also not contain salts such as nitrates, cyanides, urea etc.
- Water can be made fit for drinking by boiling or by treating with chemicals such as potassium permanganate, bleaching powder or chlorine tablets.
- Chlorination of water for city supply is done to kill all harmful germs present in it.

## Exercise

A. Tick (✓) the correct option:

- Which of these is a gaseous pollutant?
 

a. Carbon dioxide	<input type="checkbox"/>	b. BBT	<input type="checkbox"/>	c. Smoke	<input type="checkbox"/>	d. all of these	<input checked="" type="checkbox"/>
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- Which of the following is a non-biodegradable pollutant?
 

a. DDT	<input type="checkbox"/>	b. sulphur dioxide	<input checked="" type="checkbox"/>
c. oxides of nitrogen	<input type="checkbox"/>	d. smoke	<input type="checkbox"/>
- Water containing high salt concentration can be purified by:
 

a. boiling	<input type="checkbox"/>	b. UV radiation	<input type="checkbox"/>	c. filtration	<input type="checkbox"/>	d. reverse osmosis	<input checked="" type="checkbox"/>
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- Which of these release during volcanic eruptions?
 

a. $CO_2$	<input type="checkbox"/>	b. $SO_2$	<input checked="" type="checkbox"/>	c. NaOH	<input type="checkbox"/>	d. CFLs	<input type="checkbox"/>
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- Water is polluted by:
 

a. releasing chemicals	<input type="checkbox"/>	b. throwing wastes	<input type="checkbox"/>
c. leakage of pipelines, ships or tanks	<input type="checkbox"/>	d. all of these	<input checked="" type="checkbox"/>

B. Fill in the blanks:

- Dissolved acid in the form of rain is termed as acid rain.
- Burning is the natural activity which causes air pollution.
- The main greenhouse are  $CO_2$  and methane.
- The waste that can not be decomposed by the action of microbes are called non-biodegradable.
- Dung remains of animals, plants and human beings also pollute water.

6. Chlorine kills also harmful gums in water.

C. Answer in short:

1. How can we define pollution?
2. What are the types of pollution?
3. Name at least four of each pollutant.
4. Name the major sources of air pollution.
5. Define the following terms:
  - a. Acid rain
  - b. Greenhouse effect
6. What are the effects of water pollution?

D. Answer in detail: (do yourself)

1. What are the causes of air pollution?
2. What are the effects of air pollution?
3. What are the causes of water pollution?
4. Describe water treatment to city supply.

**HOTS** (do yourself)

1. Which one do you think is safer for drinking - well water or river water? Why?
2. Farmers in a village are very prosperous and have been able to increase their crop yield with extensive use of fertilisers, insecticides and fungicides. Do you think this could also lead to problems for them? How?

### Activity Time

### Learn with Fun

Find out details about the oil spills that occurred in the year 2010 from an offshore oil well near USA, Deepwater Horizon near Mumbai. How was the oil well finally capped? What