

Atmospheric Pollution

1. Introduction of pollutants into the environment that cause undesirable changes and have harmful effects on plants, animals, and human beings is called environment pollution.
2. Pollutants are the waste materials, which cause pollution. They are of two types: biodegradable (food and garden waste, human waste) and non biodegradable (plastic, glass, heavy metals, etc.).
3. **Atmospheric pollution are of two types:**
 1. Tropospheric pollution (Troposphere → lowest region of atmosphere)
 2. Stratospheric pollution (Stratosphere → above the troposphere)

Tropospheric pollution

1. Gaseous air pollutants → Oxides of sulphur (mainly SO_2), oxides of nitrogen (mainly NO , NO_2), hydrocarbons, oxides of carbon (CO , CO_2)

CO binds to haemoglobin to form carboxyhaemoglobin, which is more stable than oxygen-haemoglobin complex. It reduces the oxygen carrying capacity of blood.

Greenhouse gases → CO_2 , methane, ozone, chlorofluorocarbon (CFCs), water vapours, nitrous oxide.

Oxides of sulphur and nitrogen combine with rain water to form acid rain ($\text{pH}=5.6$).

2. Particulate pollutants → Dust, mist, fumes, smoke, smog, etc.

Smog (the word derived from smoke and fog). It is of two types:

- 1) Classical smog (Also called reducing smog)
- 2) Photochemical smog (Also called oxidising smog)

Photochemical smog causes irritation of eyes, headache, chest pain, cough, difficulty

in breathing, damage to plant life and corrosion. It can be controlled by using catalytic converter in automobiles and by plantation of plants like Pinus, Juniparus, Pyrus, etc.

Stratospheric pollution:

Ozone layer is depleted due to the excessive use of chlorofluorocarbons.

Effects of ozone layer depletion:

1. Skin cancer, cataract, damage to fish production
2. Increase of evaporation of water
3. Damage of paints and fibres
4. Harmful mutation of cells