

Question: 1. Define pollution & briefly discuss various types of pollution.

Answer: Pollution may be defined as an undesirable change in physical, chemical and biological properties of air, water and soil, which causes harmful effects upon living beings and adverse effect upon building materials. Pollution causing agents are called pollutants.

Various types of pollution:

- a) Air pollution
- b) Water Pollution
- c) Soil Pollution
- d) Marine Pollution
- e) Noise Pollution
- f) Thermal Pollution.

Air Pollution

Air Pollution is defined as "change in physical, chemical and biological properties of air due to presence of certain foreign substances (i.e. smoke, dust, gases, mist) etc which causes injurious effect upon human beings as well as plants and building materials.

Effects of Air pollution are:

- 1) Effects on human health.
- 2) Effects on plants
- 3) Effects on climate changes.

Control of Air Pollution:

Methods adopted for controlling Air pollution are:

- 1) Air pollution control at source
- 2) Pollution control equipments
- 3) Vegetation
- 4) Zoning.

Water Pollution

Water pollution is defined as the presence of impurities and foreign substances in water that deteriorate its quality, makes unfit for use and causes harmful effects on living organisms.

Effects of Water Pollution:

- 1) Thermal pollution of water reduces the DO level of the aquatic system that affects aquatic life.
- 2) Radioactive pollutants from mining and refining of uranium and nuclear power plants enter human through food and water and get accumulated in blood, liver, bones and muscles.
- 3) Presence of excess nitrates in drinking water causes blue baby disease in infants.
- 4) Sewage - Contaminated water is a source of several water borne diseases like typhoid, cholera, jaundice etc.

Control of Water Pollution

- 1) Source of water, for example, ponds, rivers, lakes etc. should be protected by providing enclosures or other suitable methods for prevention of waste entry.
- 2) Excess use of fertilizers, pesticides should be discouraged.
- 3) Public awareness regarding water pollution should be created.

Soil Pollution

Soil pollution is defined as the addition of substances to the soil, which adversely affect physical, chemical and biological properties of soil and reduces its productivity.

Effects of Soil pollution:

- 1) Degradation of soil quality.
- 2) Reduce fertility of soil
- 3) In India, million tones of waste are dumped along highway and other places. These wastes are responsible for several chronic diseases.

Control of Soil pollution

- 1) Use of biofertilizers and Natural fertilizers.
- 2) Materials such as paper, glass can be recycled
- 3) Animal refuse and agricultural waste can be utilized for production of biogas.

Noise Pollution :-
Unwanted and Unpleasant sound is called Noise. Noise pollution is defined as it is unwanted or unpleasant sound that dumps into atmosphere causes adverse effect upon living organism called Noise pollution.

Effects of Noise Pollution

- 1) Physical effects such as Permanent deafness, Damage of ear drum, Temporary hearing loss.
- 2) Psychological effects such as Depression, Irritation, Disturbance in sleep.

Control of Noise Pollution

- 1) Planting of Trees
- Control at source :- Use sound absorbing materials
- * Proper lubrication and better maintenance of Machines.
 - * Using silencers.

Thermal Pollution

Thermal Pollution.
It is heat pollution caused by thermal power plants. Thermal power plants and nuclear power plants receive cold water for cooling purposes from river, pond or lakes and discharge hot water into the lakes, rivers and ponds, so there is an increase in surface water temperature and this is called thermal pollution.

Effects of thermal pollution.

- 1) Metabolic rates of aquatic organisms will be increased.
- 2) It cause mortality or death of sensitive fishes.
- 3) Due to the changes in average water temperature and concentration of dissolved oxygen, species composition may be changed.

Control of Thermal pollution.

- 1) Cooling ponds
- 2) Cooling towers
- 3) Artificial lake

Ques: 2. Discuss the detail about the current status of Air pollution in India especially Delhi as the Capital and also discuss the measures taken by Govt. to control pollution in India.

Answer: Delhi has lost the gains of its CNG programme. Its air is increasingly becoming more polluted and unbreathable. ~~the~~ The air quality in Delhi, the Capital territory of India, according to a WHO Survey of 1650 world cities, is the worst of any major city in the world. It also affects the districts around Delhi. Air Pollution in India is estimated to kill about 2 million people every year. India has the world's highest Death rate from chronic respiratory diseases and asthma, according to the WHO. In Delhi, poor quality air irreversibly damages the lungs of 2.2 million or 50 percent of all children.

During the Covid-19 pandemic lockdown in India, the water quality of the Yamuna and Ganga river basin have improved as industries are closed due to the lockdown. The air quality has also significantly improved during the lockdown.

Measures taken by the Government to control the pollution in India are:

- 1) Promotion of cleaner production processes.
- 2) Launching of National Air Quality Index by the Prime Minister in April, 2015.
- 3) Implementation of Bharat stage norms in 63 selected cities and universalization of BS-IV by 2017.
- 4) Taxing polluting vehicles and incentivizing hybrid and electric vehicles.
- 5) Ban on burning of leaves, biomass, municipal solid waste.
- 6) Notification of Construction and Demolition Waste Management Rules.
- 7) Environment Ministry to create urban forests in 200 cities to increase green cover.
- 8) Workshop organized to discuss matter regarding environmental court cases need to present government perspective in its true spirit before various courts, Environment Minister.

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water