

- Q.1 What do you mean by environmental pollution?
 Ans. Environmental pollution means 'the release of harmful substances and energy from waste products of human activities.
- Q.2 What are pollutants?
 Ans. Pollutants are defined as any form of energy or matter that causes pollution and disturbs the existing natural balance of ecosystems.
- Q.3 Name four medium through which the pollution is transported and diffused and the associated four types of pollution?
 Ans. Four medium through which pollutants are transported and diffused are Air, Water, Land and Noise. The four associated pollution are (i) air pollution, (ii) water pollution, (iii) land pollution and (iv) noise pollution.

Water Pollution

- Q.4 What is water pollution?
 Ans. Degradation of the quality of water due to high concentrations of suspended particles, organic and inorganic substances is called water pollution.
- Q.5 **What are the Causes/sources of water pollution?**
 Ans. There are two important causes or sources of water pollution:
- 1) **Natural sources:** Due to erosion, landslides, decay and decomposition of plants and animals water get polluted naturally.
 - 2) **Human sources:** Due to industrial, agricultural and cultural activities water gets polluted intensively. The main factors are:
 - a. **Industrial activities:** is the most significant source of water pollution.
 - i. Industrial wastes, polluted waste water, poisonous gases, chemical residuals, heavy metals, dust, smoke, etc. causes water pollution.
 - ii. Most of the industrial wastes are disposed off in running water or lakes. Consequently, poisonous elements reach the reservoirs, rivers and other water bodies, which destroy the bio-system of these waters.
 - iii. Major water polluting industries are leather, pulp and paper, textiles and chemicals.
 - b. **Agricultural activities:**
 - i. Various types of chemicals used in modern agriculture such as inorganic fertilisers, pesticides and herbicides causes water pollution.
 - ii. These chemicals are washed down to rivers, lakes, tanks and under ground water and causes water pollution.
 - iii. Fertiliser induces an increase in the nitrate content of surface waters.
 - c. **Cultural activities:**
 - i. Such as pilgrimage, religious fairs, tourism, etc. also cause water pollution. In India, almost all surface water sources are contaminated and unfit for human consumption.
 - d. **Urban activities:**
 - i. Such as Sewage disposal, urban run-off causes water pollution.
- Q.6 What are the effects of water pollution on human health?
 Ans. Main effects are:
 - a. Water pollution is a source of various water borne diseases.
 - b. The diseases are diarrhea, intestinal worms, hepatitis, etc.

- c. World Health Organisation shows that about 25% of the communicable diseases in India are water-borne.

Sources of Pollution in the Ganga and the Yamuna Rivers

i. Ganga River:

- Q.1 Name three states of India where Ganga River is most polluted.
 Ans. Ganga River is polluted in the states of Uttar Pradesh, Bihar and West Bengal.
- Q.2 At which stretch/course the Ganga River is most polluted?
 Ans. Near Kanpur, Varanasi and Farrakka Barrage the Ganga River is most polluted.
- Q.3 What are the main causes of pollution of Ganga River in these areas?
 Ans. Causes of pollution in Ganga River are:
- i. Industrial pollution from towns like Kanpur.
 - ii. Domestic wastes from Kanpur, Allahabad, Varanasi, Patna and Kolkata.
 - iii. Dumping of carcasses in the river.

ii. Yamuna River:

- Q.1 Name three states of India where Yamuna River is most polluted.
 Ans. Yamuna River is most polluted in Delhi and Uttar Pradesh.
- Q.2 At which stretch/course the Yamuna River is most polluted?
 Ans. In Delhi, Mathura and Agra this river is most polluted.
- Q.3 What are the main causes of pollution of Ganga River in these areas?
 Ans. Causes of pollution in Yamuna River are:
- i. Extraction of water by Haryana and Uttar Pradesh for irrigation.
 - ii. Agricultural run off resulting in high levels of micro-pollutants in the Yamuna.
 - iii. Domestic and industrial waste of Delhi flowing into the river.

Air Pollution

- Q.7 What is air pollution?
 Ans. Increased concentration of contaminants like dust, fumes, gas, fog, odour, smoke or vapour in the air is called air pollution. This concentration may be harmful to flora and fauna and to property.
- Q.8 What are the causes/sources of air pollution?
 Ans. The main causes or sources are:
- i. Increased use of varieties of fuels such as coal, petrol and diesel.
 - ii. Increase in emission of toxic gases from industrial activities into the atmosphere.
 - iii. Mining activities release dust in the air which pollute the air.
 - iv. Important pollutants are oxides of sulphur and nitrogen, hydrocarbons, carbon dioxide, carbon monoxide, lead and asbestos.
- Q.9 What are the effects of air pollution?
 Ans. The main effects of it are:
- i. Air pollution causes various diseases related to respiratory, nervous and circulatory systems.
 - ii. Smoky fog over cities called as urban smog is caused by atmospheric pollution.
 - iii. Air pollution can also cause acid rains.

Noise Pollution

Q.10 What is noise pollution?

Ans. The state of high level of noise levels which is unbearable and uncomfortable to human beings is called noise pollution.

Q.11 What are the causes/sources of noise pollution?

Ans. The main causes or sources are:

- i. It is caused by noise from various factories, mechanised construction and demolition works, automobiles and aircrafts, etc.
- ii. Noise from sirens, loudspeakers used in various festivals, programmes associated with community activities.
- iii. The biggest noise pollution is produced by traffic.
- iv. In sea traffic, the noise pollution is confined to the harbour due to loading and unloading activities being carried.

Q.12 What are the effects of noise pollution?

Ans. Noise pollution causes stress and high blood pressure in people living close to the source of noise pollution.

Solid Waste

Q.13 What are solid wastes?

Ans. Solid waste refers to a variety of old and used articles dumped at different places.

For example stained small pieces of metals, broken glasswares, plastic containers, polythene bags, ashes, floppies, CDs, etc. These discarded materials are also termed as **refuse, garbage and rubbish**, etc.

Q.14 Mention two sources of solid wastes.

Ans. The solid wastes come from:

- i. **Household or domestic establishments:** The household wastes are disposed off either on public lands or on private contractors' sites.
- ii. **Industrial or commercial establishments:** The solid wastes such as ashes and debris of industrial units are collected and disposed off through public (municipal) facilities at low lying public grounds (landfill areas).

Q.15 Explain harmful effects of solid wastes.

Ans. Some of the harmful effects of solid wastes are:

- i. Solid wastes cause **health hazard** through creation of obnoxious smell, and harbouring of flies and rodents, which act as carriers of diseases like typhoid, diphtheria, diarrhoea, malaria and cholera, etc.
- ii. These wastes cause frequent **nuisance** as and when these are carelessly handled, spread by wind and splattered through rain water.
- iii. The dumping of industrial waste into rivers leads to **water pollution**. River pollution from city-based industries and untreated sewage leads to serious health problems downstream.
- iv. They release **toxic biogas** to the atmosphere.

Urban Waste Disposal Problem

Q.16 Explain any four major problems associated with urban waste disposal in India.

Ans. The problems associated with urban wastes in metropolitan cities of India are:

- a. Most of solid wastes in metropolitan cities are left uncollected. For example in small cities and towns about 30-50% of the solid wastes is uncollected.

- b. This uncollected waste accumulates on streets, in open spaces between houses and in wastelands leading to serious health hazards.
- c. Untreated wastes ferment slowly and release toxic biogas to the atmosphere, including methane.
- d. Lack of means to dispose urban waste causes water pollution and other environmental problems. The dumping of industrial waste into rivers is a major cause of water pollution.
- e. The composition of solid waste material has changed from biodegradable organic material to plastic and other synthetic materials which take more time to decompose.

Q.17 What use should the solid wastes be put to?

Ans. These wastes should be treated as **resource** and utilised for generating **energy** and **compost**.

Slum settlements

Q.18 State any six problems of related to slums in metropolitan cities of India.

Ans. Major Problems of slums in metropolitan cities of India are:

- i. The slums or "Jhuggi-Jhopari" are colonies of shanty structures.
- ii. These are environmentally unsuited and degraded areas.
- iii. Houses in slums are decaying.
- iv. Hygienic conditions are poor.
- v. There is no proper ventilation in houses and colony.
- vi. Basic amenities like drinking water, light and toilet facilities, etc. are not there.
- vii. These areas are overcrowded having narrow street pattern prone to serious hazards from fire.
- viii. They are illegal colonies settled on the vacant government lands.
- ix. People living in slums are poor therefore problems of drug abuse, alcoholism, crime, vandalism, etc. are common.

Q.19 What are slums?

Ans. The slums or "jhuggi-jhopari" are clusters and colonies of shanty structures in towns and cities, inhabited by poor people who migrated from the rural areas in search of livelihood.

Q.20 State any six problems of people living in slums.

Ans. The problems are:

- i. People living in slums works in high risk jobs and unorganised sector therefore they are paid less.
- ii. Consequently, they are the undernourished,
- iii. They are prone to different types of diseases and illness
- iv. They can not afford to give proper education to their children.
- v. The poverty makes them vulnerable to drug abuse, alcoholism, crime, vandalism,
- vi. They face social exclusion.

Land Degradation

Q.21 Define the concept of land degradation.

Ans. A temporary or a permanent decline in productive capacity of the land is called land degradation. It is also defined as a decline in the quality of agricultural land due to soil erosion, water-logging, salinisation and alkalinisation.

Q.22 Mention the processes that induce land degradation in India?

Ans. Land degradation in India is caused by many factors such as:

i. **Natural causes:**

- a. Soil erosion causes wastelands such as gullied/ravinous land.
- b. Lack of precipitation causes waste land such as desert sands.
- c. Sea water causes coastal sands,
- d. Mountainous areas have barren rocky land,
- e. Glaciers cause land degradation.

ii. **Human causes:**

- a. Water logging in fields causes land degradation such as marshy areas,
- b. Lack of moistures in the fields causes salinity and alkalinity,
- c. Due to shifting cultivation and plantation agriculture land get degraded.
- d. Deforestation and overgrazing on pastures land degrades them.
- e. Mining and industrial activities cause's wastelands.

Q.23 Name different types of degraded lands in India

Ans. Important types of degraded lands are:

i. **Natural Types:**

- a. Gullied /ravinous land,
- b. Desertic or coastal sands,
- c. Barren rocky areas,
- d. Steep sloping land,
- e. Glacial areas.

iii. **Human made Types:**

- a. Waterlogged and marshy areas,
- b. Land affected by salinity and alkalinity,
- c. Degraded shifting cultivation area and under plantation crops,
- d. Degraded forests,
- e. Degraded pastures,
- f. Mining and industrial wastelands.

Q.24 How the problem of land degradation can be tackled?

Ans. Some of the measures to avoid land degradation are:

- a. By adopting watershed development programme
- b. Making a balance between land, water, vegetation and local people.
- c. Improve livelihood of people by natural resource management and community participation.
- d. Having Government and NGO partnership.
- e. Reviving common property resources by community participation.
- f. Planting trees on common property resources.
- g. Planting fodder grass on pasture land and adopting social-fencing.
- h. Equal Sharing of benefits from watershed programme.