

In April 26, 1986, the melt down of the Chernobyl nuclear reactor, in Russia has leaked out the radioactive rays and radioactive materials

Effects:

Nearly 2000 persons have been killed by the accident

People suffered due to the illness such as degeneration of cells, severe bleeding, anemia, skin cancer

Animals ,plants also affected by nuclear radiation

## **TWO MARKS**

### **1. Define pollution.**

Environmental pollution may be defined as the unfavorable alteration of our surroundings its change the quality of the air, water and land which interferes with the health of humans and other life on earth.

### **2. Types of pollutants.**

- i) Biodegradable pollutants
- ii) Non-biodegradable pollutants

### **3. Define air pollution.**

Air pollution is defined as the presence of one or more contaminates like dust, smoke, mist and odor in the atmosphere which are injurious to human beings, plants and animals.

### **4. What are the different sources of air pollution?**

The two main sources of air pollution are

a. Natural Sources.

Natural sources include dust storms, volcanoes, lightening sea salt, smoke, and forest fires.

b. Man made or anthropogenic sources.

The man made sources are agricultural activities, industrial growth, domestic wastes, automobile exhausts, etc,

**5. Define photo chemical smog.**

A photochemical reaction is any chemical reaction activated by light that air pollution knows as photochemical smog is a mixture of more than 100 primary and secondary pollutants formed under the influence of sun light. Its formation begins inside automobile engines and the boilers an in coal-burning power and industrial plants.

**6. What do you know about particulate?**

In general the term „particulate“ refers to all atmospheric substances that are not gases. They can be suspended droplets or solid particles or mixtures of the two. Particulates can be composed of materials ranging in size from 100mm down 0.1 mm and less. The chemical composition of particulate pollutants is very much dependent upon the origin of the particulate.

**7. Define suspended particulate matter**

Suspended Particulate Matter (SPM) is a complex mixture of small and large particles with size less than 100u varying origin and chemical composition.

**8. Differentiate between Mist and Fog.**

Mist is made up of liquid droplets generally smaller than 10um which are formed by condensation in the atmosphere or are released from industrial operations. Fog is similar to mist but the droplet size bigger (> 10u) and water is the liquid. Fog is sufficiently dense to incomprehensible vision.

**9. What are effects of air pollution on animals?**

Animals take up fluorides of air through plants. Their milk production falls and their teeth and bones are affected. They are also prone to lead poisoning and paralysis.

**10. List some of the effects of air pollution on physical properties of atmosphere.**

- a. Decrease in the visibility
- b. Reduction of Solar radiation.
- c. Effects on weather conditions.
- d. Effects on atmospheric constituent.

**11. Briefly describe about the impacts of carbon monoxide on human health.**

At lower doses, they can impair concentration and neurobehavioral function whereas in higher doses they can cause heart pain and even death. When inhaled it has the ability to combine with haemoglobin of blood and reduce its ability in transfer of oxygen to the brain, heart, and other important organs. But carboxyaemoglobin contents of blood depend on the CO contents of the air inhaled, time of exposure and the activity of the person inhaling. It is particularly dangerous to babies and people with heart disease.

**12. How air pollution can be controlled at source?**

- a. Proper use of the existing equipment
- b. Change in process.
- c. Modification or Replacement of equipments.
- d. Installation of controlling equipments.

**13. Define water pollution.**

Water pollution may be defined as the alteration in physical, chemical and biological characteristics of water which may cause harmful effects on humans and aquatic life.

**14. What are the effects of inorganic substances in water?**

- a. Makes the water unfit for drinking and other purposes.
- b. Corrosion of metals exposed to such waters.
- c. Causes skin cancers, damages to spinal, CNS, liver and kidneys.
- d. Reduces crop yield.

**15. How do the nutrients from agricultural fields affect the watershed?**

Enrichment of nutrients (Eutrophication) from surrounding watershed affects the penetration of light through the water, causing damage to the characteristic of water and aquatic life.

**16. Define soil pollution.**

Soil pollution is defined as the contamination of soil by human and natural activities which may cause harmful effects on living beings.

**17. Define marine pollution.**

Marine pollution is defined as the discharge of waste substance into the sea resulting in harm to living resource, hazards to human health, hindrance to fishery and impairment of quality for use of sea water.

**18. Define noise pollution.**

Noise pollution is defined as the unwanted, unpleasant or disagreeable that causes discomfort for all living beings.

**19. What is the cause of noise pollution?**

- a. Road traffic noise
- b. Air traffic noise
- c. Rail traffic noise
- d. Domestic noise
- e. Industrial noise
- f. Incompatible land use.

**20. Define thermal pollution.**

Thermal pollution is defined as the addition of excess of undesirable heat to water that makes it harmful to man, animal or aquatic life or otherwise causes significant departures from the normal activities of aquatic communities in water.

**21. What are solid wastes?**

The wastes generated and discarded from human and animal activities that are normally solid are called as solid wastes.

**22. What are solid know about on –site handling?**

The activities involved in handling of solid wastes, at the point of generation, until they are placed in the containers used for their storage before collection are called as on –site handling. Handling requires to move the filled containers to the collection point and to return the empty containers to the generation point for the next collection.

**23. What is the purpose of on-site processing?**

On-site processing of solid wastes is used to recover the reusable materials from the solid wastes. This process also helps in reducing the volume of solid wastes or altering the physical form of the solid wastes.

**24. What are the types of municipal solid wastes collection system?**

1. Hauled container.
2. Stationary container systems.

**25. What are the main purposes of processing techniques used in solid waste management?**

- a. To improve the efficiency of solid waste management systems
- b. To recover the usable materials for reuse.
- c. To recover conversion products and energy.

**26. List out the techniques of processing of solid wastes.**

- a. Compaction (Mechanical volume reduction)
- b. Incineration (Chemical volume reduction)
- c. Shredding (Mechanical size reduction)
- d. Component separation
- e. Drying and Dewatering (Moisture content reduction).

**27. Name some of the mechanical separation methods of solid wastes?**

- a. Air separation
- b. Magnetic separation
- c. Screening

**28. List out the three types of system used in the collection of wastewater.**

- a. Separation System
- b. Combined System
- c. Partially Separate system.

**29. What is the main objective of sludge digestion?**

The main objective of sludge digestion is to break the organic matter of the sludge into liquid and simple compounds which are stable and unfold in nature.

**30. How can you define hazardous wastes?**

Wastes that create danger to the living community, immediately or over a period of time, are called as hazardous wastes.

**31. What are biomedical wastes?**

Biomedical wastes are defined as any solid, semi solid or liquid waste including its containers and any intermediate product which are generated during diagnosis, treatment or immunization of human being/ animals or in production and testing of biological parts.

**32. Can you list out some of the benefits of pollution prevention?**

- a. Minimizes health risks.
- b. Reduces the production of pollutants to a minimum or eliminates them.
- c. Accelerates the reduction or elimination of pollutants.
- d. Helps avoid transferring pollutants from one medium to another, thereby preventing diffusion in the environment.
- e. Helps promote a more effective use of energy, materials and resources.

**PART B:**

1. Explain air pollution.
2. What are the different sources and types of air pollutants?
3. How do you control air pollution?
4. Explain water pollution.
5. Write about soil pollution.
6. What are the different sources of soil pollution?
7. Give an account on marine pollution.
8. What are the different sources of marine pollution?
9. Describe the Thermal pollution.
10. Explain about nuclear hazards.