

OUR ENVIRONMENT

Question 1: Define environment.

Answer: Environment is defined as the surroundings in which the organism lives.

Question 2: How is the environment classified into three types?

Answer: The environment may be classified into three types based on the nature of its components. The physical environment that includes the physical features of the environment, the chemical environment that includes the chemical substances that make up the environment and the biological environment that includes the living organisms.

Question 3: What are the two components of the environment?

Answer: The two components of the environment are the biotic (plants, animals and microbes) and the abiotic (non-living component).

Question 4: Define conservation of environment.

Answer: Maintaining and judiciously using the environment is called conservation.

Question 5: Name any four environmental problems faced by today's world.

Answer: Four environmental problems being faced by today's world are:

- 1) Population explosion
- 2) Pollution
- 3) Global warming
- 4) Soil erosion

Question 6: Why is ozone layer important?

Answer: Ozone layer is important for us as it protects us from the harmful ultraviolet rays.

Question 7: How does municipal waste contribute to air pollution?

Answer: Municipal waste consists of organic matter. The decomposition of this under anaerobic conditions produces methane. Methane produces carbon monoxide on oxidation. The municipal wastes also contribute to air pollution by producing foul smelling gases on decomposition.

Question 8: What is greenhouse effect?

Answer: Earth is surrounded by an envelope of gases. Most of the solar radiation that reaches the earth is reflected back. However, some of the heat is absorbed by the gases like carbon dioxide that form an insulating layer around the earth. This heating of earth by the insulating effect of the gases is called greenhouse effect.

Question 9: What is ozone? How is it beneficial to us?

Answer: Ozone (O₃) is a gas present in the stratosphere of the atmosphere. Ozone is known to absorb the ultraviolet (UV) rays present in the sun's radiation. The UV rays are believed to cause skin cancer and mutations. Thus, the ozone protects us from the harmful effects of the UV rays.

Question 10: What is oxygen depletion?

Answer: The sewage contains the organic matter that encourages the growth of microorganisms. These organisms consume the oxygen present in water. This reduces the oxygen content of the water. This is called oxygen depletion. The aquatic organisms like the fish cannot then survive in such waters.

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Question 11: *Why are most industries situated along the riverbanks?*

Answer: Most industries are situated along the riverbanks for easy availability of water and disposal of wastes.

Question 12: *What are the two harmful effects of sewage?*

Answer: The two harmful effects of sewage are:

- 1) spread of diseases like cholera, gastroenteritis, amoebiasis, etc.
- 2) depletion of oxygen which is harmful for the fishes and aquatic organisms living in the waters.

Question 13: *How does a pesticide like DDT reach human body?*

Answer: Pesticides like DDT can reach human body through the food chains of the ecosystem. There are two ways:

- 1) The DDT enters the grass which is eaten by the cows. It can reach the human body through the milk of the cows.
- 2) The DDT, flows along the rain waters into the water bodies where they accumulate in the bodies of the fish. It can then reach the bodies of the persons eating these fish.

Question 14: *Mention the main steps of sewage treatment.*

Answer: The main steps of sewage treatment are:

- 1) Primary treatment - the suspended particles are removed.
- 2) Secondary treatment - the organic wastes are degraded.
- 3) Tertiary treatment - the inorganic pollutants are removed.

Question 15: *What is effluent treatment?*

Answer: Effluent treatment involves the removing of the harmful chemicals discharged from the industries into the water bodies or at least, rendering them harmless.

Question 16: *Mention three problems that have resulted due to population explosion.*

Answer: Three problems that have resulted due to population explosion are:

- 1) Strain on resources-both renewable and non-renewable.
- 2) Depletion of forests resulting in climatic change.
- 3) Increased levels of pollution due to more industrial activity.

Question 17: *What are the problems associated with accumulation of wastes?*

Answer: Accumulation of wastes increases the number of insect vectors like flies, mosquitoes, etc., scavengers such as stray dogs, pigs and rats. These spread dangerous diseases. It also generates bad odour and causes pollution.

Question 18: *What are the two types of wastes?*

Answer: Two types of wastes are: Biodegradable-The biodegradable wastes are those that can be decomposed by the natural processes and converted into the elemental form. For example, kitchen garbage, animal dung, etc.

Non-biodegradable-The non-biodegradable wastes are those that cannot be decomposed and remain as such in the environment. They are persistent and can cause various problems. For example, plastics, nuclear wastes, glass, etc.

Question 19: *What are the sources of wastes being generated in the cities?*

Answer: Most of the garbage in the cities come from the following sources: Domestic wastes, commercial wastes, ashes, animal wastes, biomedical wastes, construction wastes, industrial solid wastes and sewer.

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Question 20: What are the important aspects of waste management?

Answer: The important aspects of waste management are: Collection - collection of garbage such that it is not spread through out the city, Storage - facility for temporary storage to keep the stray dogs and other animals away, Transportation - proper transportation to the disposal sites, Recycling - reusing the non-biodegradable wastes so that pollution is minimised Disposal - Safe disposal so that the wastes do not cause any harm in the future.

Question 21: What does the concept of sustainable development expect every generation to do?

Answer: According to the concept of sustainable development, every generation will leave clean air, water and soil resources for the future generations.

Question 22: Give the interrelationship of population, environment and development.

Answer: As the population increases, their strain on the environmental resources also increases. The development of man is dependent on the resources that man gets from the environment. Thus, man has to pay attention to the conservation of the environment if he needs development. This is called sustainable development.

Question 23: How does the government ensure conservation and protection of the environment?

Answer: The government ensures conservation and protection of the environment by enacting laws within the framework of the constitution of the country. Laws are necessary to ensure that the environment is being conserved.

Question 24: What Happens when we Add our Waste to the Environment?

Effects of Solid Waste:

1. Solid waste is a health hazard and can cause the damage to the environment if not handled properly. The main risk to human health arises mainly by the breeding of disease carriers e.g. flies, rodents, mosquitoes etc. as the solid waste are ideal breeding places for pathogens. Workers are also threatened by handling and transfer of biological waste besides infection of diseases.
2. Improper disposal of solid wastes results the death of animals and humans through contamination of crops or water supplies. Waste causes environmental damage, as under controlled dumping of urban solid waste destroys the beauty of country side.
3. If the leakage from the refuse dump enters the surface water or ground water, then there is a fear of water pollution.
4. Uncontrolled burning of open dumps may cause air pollution.
5. Hazardous substances like pesticides and solvent cans, asbestos, debris, medical waste present in the solid waste, gaseous and particulate emissions from land fill areas and incinerators etc. cause environmental pollution.
6. Increased use of pesticides has resulted in soil and water pollution. Since these are nondegradable, cause biomagnification and persistent residues in soil.
7. Lead, mercury and arsenic are hazardous substances that affect human beings and animals differently.
8. Polychlorinated biphenyls (PCB) used for industrial purposes, cause long-term exposure problems. They are concentrated in the kidneys and liver causing damage to these organs. They also cause reproductive failure in birds and mammals.