

UNIT II

Environmental pollution

PART - A

1. Define pollution and pollutant?

(A.U. Apl/May 2007) -3

Pollution:

Pollution can be defined as any undesirable changes in the physical, chemical or biological characteristics of any component of the environment, which can cause harmful on various forms of property.

Pollutant:

Any substance present in the environment which adversely alters the environment is called pollutant.

2. Name any four air pollutants, and their sources and effects?

Carbon monoxide	Incomplete burning of fossil fuel	Coma, brain cell damage
Nitrogen dioxide	Burning of fossil fuel	Acid rain, lung damage
Sulphur dioxide	Coal burning	Acid rain, breathing problem
Lead	Paint, leaded petrol	Mental retardation, harm to wild life.

3. What are the point and non point sources of water pollution? (A.U. Apl/May 2012) -1

Point sources:

Discharge of pollutants at specific locations through pipes, ditches or sewers into bodies of surface water.

Non-point sources:

They cannot be traced to any single site of discharge. They are usually large areas or air sheds that pollute water by runoff, subsurface flow or deposition from the atmosphere.

4. Name the sources and effects of marine pollution?

Sources: Dumping of wastes and oil spillages.

Effects : Causes gastro-intestinal disorder for marine birds, insects. DO level of water will be reduced, effects the fauna and flora.

5. Define noise pollution?

(A.U. Dec. 2011) -2

The unwanted, unpleasant or disagreeable sound that causes discomfort for all living beings is called noise pollution.

6. 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 cause significant departure from the normal activities of aquatic communities.

7. Define disaster?

(A.U. Dec. 2012) -1

Disaster is a geological process and is defined as an event, concentrated in time and space, in which a society or sub-division of a society undergoes severe danger and causes loss of its member and physical society.

8. When does a sound causes noise pollution?

The sound intensity is measured in decibel (db), which is one tenth of the longest unit Bel. One db is equal to the faintest sound, a human ear can hear .if the intensity of the sound exceeds 1 db, noise pollution occurs.

9. Write any two causes of soil pollution?

- Industrial waste
- urban waste
- radioactive pollutants

10. How does earth quake occurs?

(A.U. Apl/May 2008) -3

The earth crust has several tectonic plates of solid rock. These plates move slowly along their boundaries when friction prevents these plates from slipping, stress develops and results in sudden fractures along the fault lines within the plates. This causes earthquake and violent vibrations in the earth.

11. Define the term BOD and COD?

(A.U. Apl/May 2009) -3

BOD: biological oxygen demand is defined as the amount of oxygen required for the biological oxidation of the organic matter under aerobic condition at 293k for a period of 5 days.

COD: it is the total amount of oxygen required to decompose the organic and inorganic materials completely.

12. What are the indicators of water quality?

i) Dissolved oxygen ii) BOD iii) COD iv) pH v) Total Hardness

13. What are the chemical treatments for industrial effluent?

i) Electro-dialysis ii) Reverse osmosis iii) Ion exchange

14. What is meant by solid waste?

Solid waste is the waste which is arising due to human and animal activities and that are discarded as useless or unwanted. The solid waste may generally classified as i) domestic ii) industrial iii) agricultural iv) construction v) commercial vi) biomedical

15. What are the main objectives of solid waste management?

The main objectives of solid waste management are removing discarded material from inhabited places in a timely manner to prevent the spread diseases, to minimize the pollution.

16. What is composting?

(A.U. Dec 2011) -2

Composting is the fragmentation process in which the decomposition of organic matter has been taken place by mixed population (earth worm). In a warm, moist and aerobic environment, the decomposed organic matter is called composting. Typical compost will have the following range.

Organic matter 25-50%, carbon 8-40%, nitrogen 0.5-3.5%, phosphorous 0.5-3.5%, potassium 0.5-2% and calcium 2-7%.

17. How to manage the solid waste?

i) Collection of waste ii) Transportation iii) Separation iv) Treatment v) Disposal of waste.

18. Define the term hazardous waste?

(A.U. Apl/May 2009) -3

These are waste which because of its quantity, quality, physical, and chemical characteristics can cause significant hazards to human health and cause serious irreversible damage of the environment.

19. Name some important natural and manmade sources for nuclear hazards?

Natural sources: Space, which emits cosmic rays. Soil, rocks, air, water, radioactive radon-222 etc., also contains one or more radioactive substances