Chapter 27

Short questions:

1. What is acid rain? (LB-2013)

Ans:

Acid Rain: Sulphur dioxide and Nitrogen dioxide produced during the burning of fossil fuels; combine with water vapors in the atmosphere to form acids,

Nitrogen dioxide + water vapors _____ Nitric acid + Nitrous acid.

Sulphur dioxide + water vapors _____ sulphuric acid + sulphurus acid.

These acids fall either dissolved in rain or as microscopic dry particles. This entire phenomenon is termed as acid rain.

2. What is Eutrophication? **(OR)** What is algal bloom? (LB-2015)

The gradual accumulation of nutrients such as phosphates from fertilizers, animal wastes from livestock and discharge from sewage treatment in aquatic ecosystem (lakes, seas) results in Eutrophication. In eutrophic (nutrient rich) lakes the rapid and extensive growth of algae and other organic matter on the surface water called as algal bloom.

3. What is Ozone? **(OR)** Give the importance of ozone layer. (LB-2017)

Ozone layer: A layer of ozone gas in upper atmosphere extending from 10-50 km above earth. In pure form Ozone is bluish explosive and highly poisonous gas. Chemically it is O_3.

4. What is pollutant?

A pollutant is a substance or energy introduced into the environment that has undesired effects, or adversely affects the usefulness of a resource.

5. Write names of various types of pollution. (LB-2011)

Pollution: The befouling of the environment by anything produced by human, which is or may be harmful to human life and other living organisms is called environmental pollution. Main types of pollution are

Air Pollution
Water Pollution
Soil Pollution
Radiation Pollution
Noise Pollution

6. What are the main sources of water pollution? **(OR)** Give main causes of water pollution. (LB-2012, 2015)

Water pollution: The befouling of the water bodies (like streams, rivers, lakes, bays, seas, oceans and underground water) by anything that is harmful to living organisms is called as water pollution.

Sources of water pollution:

The main sources are

- Sewage incomplete treatment
- Leakage of oil in sea
- Detergents from houses and laundries

7. Write the causes and effects of ozone depletion? **(OR)** Give the effects of ozone depletion on life. (LB-2012, 2019)

Cause of Ozone depletion: Major causes of ozone depletion are CFCs (Chlorofluorocarbons) produced from air conditioners and refrigerators. As CFCs rise in atmosphere, ultraviolet rays cause Chlorine to release which destroy O_3 molecules. A single chlorine atom can react with ultraviolet rays and destroy as many as one million ozone molecules.

Effects of Ozone depletion: Ozone depletion allows the ultraviolet rays to reach the earth. Ultraviolet rays will affect all life forms on earth by increasing temperature. They cause skin cancers and cataract in humans. They can also affect crops, plants, trees and even marine plankton and disturb weather pattern.

8. What are solid wastes and how these can be used as source of energy? **(OR)** Give importance of solid waste.

Solid waste recycling: Solid wastes like trash, paper, organic manures, and plastic materials, agricultural and industrial wastes can be converted into oil and gas by hydrogenation. Wastes as source of pollution can also be minimized.

9. What do you mean by non-renewable resources? **(OR)** What are renewable resources. Give examples. **(OR)** Differentiate between renewable and non-renewable resources. (LB- 2011, 2013, 2014, 2016, 2018)

Renewable Resources: These are such types of resources which are used again and again. There are a natural cycles to make them reusable.

Examples: air, water, food, land.

Non-renewable Resources: These are such type of resources which once consumed cannot be replaced. These are exhaustible resources and are not recycled.

Examples: metals, some non-metallic minerals and fossil fuels as coal, oil, gas.

10. What measures should be taken for conservation of energy? **(OR)** How we can save energy? Mention any four ways in which we can save energy. **(OR)** Write four ways of energy conservation? (LB-2014, 2017)

Energy conservation:

- Use energy efficient machines.
- Reduce wastage by recycling.
- Drive less, walk and use public transport more.
- Switch off light and other appliances when they are not in use.
- Minimize the use of air conditioners.
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11. What is deforestation? **(OR)** What is afforestation? **(OR)** What is reforestation? **(OR)** What is the difference between deforestation and afforestation? **(OR)** Differentiate between afforestation and reforestation. **(OR)** What is the difference among deforestation, afforestation and reforestation? (LB-2014, 2015, 2019)

Deforestation: Clearance of vast areas of forests for procuring lumber, planting crops or grazing cattle is called deforestation.

Aforestation: Establishment of new forests where no forest existed previously is called Aforestation.

Reforestation: Replantation of trees in an area where trees have been removed by deforestation is called reforestation.

12. Define greenhouse effect.

Green House Effect: The carbon dioxide of the atmosphere behaves like glass sheet of green house and absorbs the sun energy and do not allow it to escape outside. So the temperature of the atmosphere increases. This is called Green House effect. Its main **causes** are over-urbanization, deforestation and industrialization.

13. Describe abuses of land. (LB-2012)

Soil is continuously being depleted of its minerals nutrients due to vigorous crop production, poor agricultural practice, extensive grazing, leeching, rapid urbanization. Fertilizers, insecticides and pesticides are also polluting the soil.

14. Define soil and give its basic constituents. **(OR)** What is soil? **(OR)** What is soil? Give its basic constituents. (LB-2016, 2018)

Soil: can be defined as the upper layer of earth's crust. The basic components of soil are soil particles, soil water, soil air, and organic matter and soil organisms.

Role of soil:

- It provides water, organic and inorganic nutrients to plants.
- Provides support to terrestrial organisms as anchorage to plants. 11% area of land is under cultivation, so it meets the needs of growing human population

15. Differentiate between health and disease.

Normal Health: The steady internal state of homeostasis is known as Normal health.

Disease: It may refer to the departure from normal or steady internal state of homeostasis, through structural or functional disorders of the body.

16. Discuss importance of forests.

Importance of forests: Forests

- Provide protection to man and other species.
- Are source of fruits for animals.
- Regulate water flow, prevent soil erosion.
- Provide timber, firewood and medicines.
- Make the environment pleasant.
- Act as environment buffers.

17. Differentiate between Population Explosion and Population Pressure. **(OR)** Enlist some reasons of Population Explosion in the world also describe Population Pressure. **(OR)** Write the reasons of world Population Explosion**. (OR)** What do you mean by Population Explosion and give its two causes? (LB-2010,2013,2014)

Reasons for population explosion:

- Disease control, public, personal and food hygiene.
- Improved nutrition.
- Improved housing and living standard.
- Child care, maternity, parent-craft and welfare services.

Population pressure:

Effect of increasing population on the environment is called population pressure.

As the human population increases there is increased demand for food. To meet the needs, humans convert the natural ecosystems to farmlands. More people more, more agriculture and more industrialization is stressing the environment.

18. How is air important to life as a source? (LB-2012)

Air: Air is a thick blanket of atmosphere surrounding the earth. It consists of

- Nitrogen (79%),
- Oxygen (20%)
- CO_2 (0.03%) and
- Some inert gases.

Oxygen is consumed during respiration. CO_2 is used during photosynthesis. Nitrogen is used as raw material for many organic compounds

19. Name two pathogenic and two congenital diseases. (LB-2018)

Pathogenic diseases are Tuberculosis, Small pox, malaria. Congenital diseases are Haemophilia, Down's syndrome, and Turner's syndrome.

20. Why trees are called environmental buffers? **(OR)** Define environmental buffers.

Forests as environmental buffers:

Forests intercept heavy rainfall and release the water steadily and slowly to the soil beneath and to streams and rivers. The tree roots hold the soil in place so prevent soil erosion and silting up of lakes, rivers and dams. These also prevent heavy floods. Due to these reasons forests are called environmental buffers.

21. What is fossil fuel? (LB-2019)

Fossil fuels:

- Fossil fuels are the remains of plants and animals of past which became buried due to environmental hazards and were fossilized in deeper layers of earth and sea.
- Coal, oil and gas are fossil fuels which are completing our 95% of daily energy demand.
- As fossil fuels are very limited so they will exhaust soon. This will affect our standard and life style. This source is therefore very carefully used.

22. How man is responsible to increase the number of endangered species? (LB-2019)

- Human increases number of Endangered Species.
- Man is leaving negative effects on wild life.
- Due to uncontrolled hunting many species have become extinct or near to be extinct called endangered species.
- There are thousands of endangered species now present in this world.
- Wild life is also non-renewable resource so it needs conservation.
- Rare species are kept in zoo, where they can be safely breed
- Fishing in water reserves is prohibited which also one of the steps is taken to protect marine life.

23. How Depletion and Degradation of resource occur on planet earth? (LB-2019)

The earth's natural resources include the physical resources of water, air, soil, chemical elements and fossil fuels, together with all other species of living organisms.

- **Deforestation** and cutting down of natural woodlands for land clearance and building material, fuel requirement destroys natural habitat of organisms.
- **Forest:**

  Forests are very important component of human environment. They provide the man timber, fire wood, medicine and many other products. Deforestation is leading towards the clearance of land and creating many problems for man and other species.
- **Water**:

  Water is our natural resource and we cannot live without water. By extensive use of water, the natural recycling process is affected. Water reserves are so rapidly used that they cannot by replaced by rainfall. Water purification and sewage treatment are slow processes. Only 30% of the earth is dry land and the remains covered with water.