CBSE Test Paper 03

Chapter 14 Natural Resources

1. Which step is not involved in carbon cycle- **(1)**

   a. Burning of fossil fuel
   b. Transpiration
   c. Photosynthesis
   d. Respiration

2. Which of the following is a non-biodegradable pollutant? **(1)**

   a. Mud
   b. Leaves
   c. Plastic
   d. Fruits and vegetables

3. All of earth's water, land and atmosphere, within which life exists is knows as **(1)**

   a. biosphere
   b. biomes
   c. community
   d. population

4. Fertilizers cause _____ **(1)**

   a. All of these
   b. Eutrophication of water bodies
   c. Killing of most microorganisms
   d. Destruction of crumb structure of soil

5. Which of the following increases soil erosion **(1)**

   A Raising forests
   B Overgrazing by animals
   C Step farming
   D Deforestation

a. (b) and (d) are correct
b. All of these
c. (a) and (b) are correct
d. (a), (b) and (c) are correct

6. What are renewable resources? **(1)**

7. The atmosphere of the Earth is heated by which radiations? **(1)**

8. Define paedogenesis. **(1)**

9. In which zone of atmosphere is ozone layer present? **(1)**

10. Give any two uses of groundwater. **(1)**

11. Name the stages of the life cycle of aquatic animals which are affected by change in temperature. **(3)**

12. What is acid rain? **(3)**

13. How are winds created? **(3)**

14. How is soil formed? **(5)**

15. Why do organisms need water ?
    OR
    Why is water essential for life? **(5)**

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Answers

1. b. Transpiration
   Explanation: The process by which water is lost in form of water vapour from the aerial part of plant is called transpiration. Transpiration is not involved in carbon cycle.
2. c. Plastic
   Explanation: Those substances that can be broken down into simpler forms by action of microbes are called bio-degradable substance, leaves, fruits and vegetables and mud are biodegradable substance. Plastic cannot be broken into simpler forms so, it is an example of non-biodegradable pollutant.
3. a. biosphere
   Explanation: Atmosphere,Lithosphere and hydrosphere are called as biosphere.
4. a. All of these
   Explanation: Fertilizers cause problems with water quality when they runoff into rivers or percolate into groundwater. Chemical fertilizers affect micro-organisms living in the soil. Chemical fertilizers destroy the friability of soil.
5. a. (b) and (d) are correct
   Explanation: Overgrazing deforestation causes loosening of soil particles of top soil which enhances soil erosion
6. Resources which can replenish themselves by quick recycling are renewable resources. For example, Air ,water , wind , forests and wildlife.
7. Through long wave radiations re-radiated by land and water.
8. Paedogenesis is the process of formation of soil from upper rocky crust of earth.
9. Stratosphere.
10. It is used for human consumption and irrigation.

11. The eggs and larve of various aquatic animals are susceptible to tempeature changes. As the aquatic organisms are used to a certain range of temperature in the water body where they live, and sudden marked change in this temperature would be dangerous for them or affect their breeding.

12. Acid rain is rain with a pH of less than 5 due to dissolution of sulphur dioxide, nitrogen oxides and hydrochloric acid in it. Acid rain is caused when the oxides of nitrogen and sulphur are precipitated from the rain water. These oxides are present in the upper atmosphere and when rain falls these oxides get dissolved in rain water and forms nitric acid and sulphuric acid thus makes it acidic.

13. During the day, the air above the land gets heated faster and starts rising. As the air rises, a region of low pressure is created and the air over the sea moves into the area of low pressure. This movement of air from one region to another creates winds.

14. Soil is formed through two processes of weathering and humification.
    Weathering
    It is pulverisation of rocks or breaking of rocks into fine particles. There are three types of weathering – physical (atmospheric changes and mechanical forces), chemical and biological. Sun, water, wind and living organisms perform them.

    i. **Sun.** It causes expansion of rocks by heating. Cooling causes their contraction. Wetting and drying of rock components also cause their expansion and contraction. Uneven expansion and contraction produces cracks leading to fragmentation of rocks.
    ii. **Water.**
        a. **Wetting and Drying.** Certain rock components can pick up and lose moisture. They undergo swelling and contraction resulting in fragmentation of rocks.
        b. **Frost Action**. Water seeping in cracks would swell up and exert a great pressure if it freezes due to low temperature. The rock would undergo fragmentation.
        c. **Abrasion.** Running water carrying rock fragment would break and grind rocks occurring in the pathway. Rain and hail also cause rock breaking.
    iii. **Wind**. Dust and fine sand carried by wind cause abrasion of the rock surface when wind strikes the same.

iv. **Living Organisms.** Lichens secrete chemicals to dissolve minerals from the rock surface. This produces crevices where dust collects, Mosses grow there. They cause deepening of crevices and development of small cracks. Roots of short lived plants widen these cracks. Roots of larger plants cause fragmentation of rocks by entering the cracks and growing in size.

Humification.

Partially decomposed organic matter or humus mixes with weathered rock particles to form soil. Humus helps in formation of soil crumbs which are essential for maintaining proper hydration and aeration of soil.

15. Organisms need water due to following reasons.
    i. **Component of Living Matter.** Water is a major component (60–90%) of living matter.
    ii. **Solvent.** Water is a general solvent for chemicals found in the living world.
    iii. **Reaction Medium.** All biochemical reactions occur in the medium of water.
    iv. **Transport.** Substances are transported in the body of a living organisms only in the dissolved state.
    v. **Turgidity.** Cells, cell organelles, tissues and other structures maintain their shape only when they contain sufficient water to make them turgid.