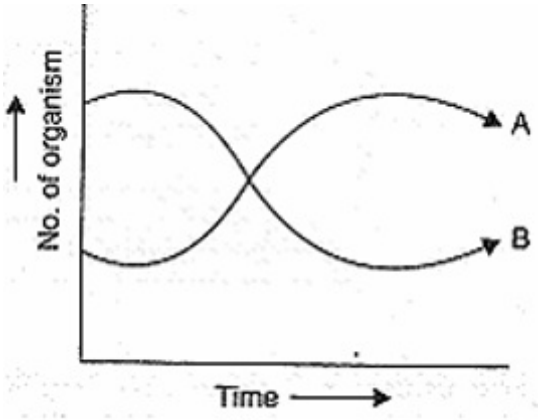
CBSE Test Paper 05

Ch-16 Environmental Issues

1. In normal adults, the enzyme which catalyses conversion of MHb into Hb is :
   a. MHbreductase
   b. MHb oxidase
   c. MHb lipase
   d. MHb protease
2. Read the following statements:
   i. carbondioxide is a qualitative pollutant.
   ii. carbondioxide is already present in environment and is termed as pollutant when it's concentration increases in the environment:
      a. Statement ii) is wrong and i) is correct
      b. both are correct
      c. both are wrong
      d. Statement i) is wrong and ii) is correct
3. When species area relationship is considered for a larger area, slope of the line become -
   a. Less steeper
   b. More steeper
   c. Form a straight line
   d. Remain unchanged
4. Electrostatic precipitator is employed to remove
   a. Aerosol pollutants
   b. Electronic particles
   c. Gaseous pollutants
   d. Particulate matter
5. Which one represents regulative function of forests
   a. Production of essential oils
   b. Production of wood
   c. Storage and release of gases
   d. Conservation of soil and water
6. What are the effects of waste water of thermal power plants if disposed directly into

water bodies?

7. What are secondary pollutants? Give two examples.
8. Mention the two major environmental issues of global nature.
9. Humans are not affected by biological magnification. (True/False)
10. What would be the impact on the environment around a thermal power plant if its electrostatic precipitator stops functioning? Give a reason.
11. Define biomagnifications.
12. Now a days we see that people use CD's and DVD's for storing information, movies and songs. Do you think these things create pollution?
13. What measures, as an individual, you would take to reduce environmental pollution?
14. i. The graph below represents the growth patterns of two types of aquatic organism over a brief period of time in a water body, surrounded by agricultural land, extensively supplied with fertilizers. Identify the organisms that would represent (a) A And (b) B.
    ii. State the reason for such a change in the water body and also write the term given to it.



15. During her tour to a renowned forest, Sakshi saw a highway being constructed which passes through the middle of the forest. She was unhappy. On return, she contacted the local eco club and approached the concerned department to stop the work.
    i. What values did Sakshi reflect here?
    ii. What would be the effect on Biodiversity if the highway is constructed?



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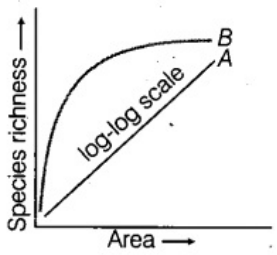
Answer

1. a. MHbreductase, **Explanation:** Methemoglobin cannot bind oxygen, unlike oxyhemoglobin. It is bluish chocolate-brown in color.
   In human blood a trace amount of methemoglobin is normally produced spontaneously, but when present in excess the blood becomes abnormally dark bluish brown.
   The NADH-dependent enzyme methemoglobin reductase (MHbreductase enzyme) is responsible for converting methemoglobin back to hemoglobin. .
   MHb is inactive forms that is converted into Hb that carries oxygen in blood.
2. d. Statement i) is wrong and ii) is correct, **Explanation:** Carbon dioxide is a quantitative pollutant. This gas is already present in environment in small quantity. When its concentration increases in the environmentit is termed as pollutant. It may cause greenhouse effect also.
3. b. More steeper, **Explanation:** Alexander von Humboldt studied the relationship shown in the graph above. He observed that species richness increased within an explored area but only upto a limit.

   Slope of the line 'B' will becomes steeper when area is very large like continents.
4. d. Particulate matter, **Explanation:** Electrostatic precipitator, also called electrostatic air cleaner, a device that uses an electric charge to remove certain impurities—either solid particles or liquid droplets—from air or other gases in smokestacks and other flues.
   The precipitator functions by applying energy only to the particulate matter

being collected, without significantly impeding the flow of gases.

5. c. Storage and release of gases, **Explanation:** The regulative function of forest is storage and release of gases. Plants in forests converts carbon dioxide gas into oxygen during photosynthesis.

6. Thermal water waste if disposed directly into water bodies eliminates or reduces the number of organisms sensitive to high temperature, and may change the growth of plants and fish in extremely cold areas after causing damage to the native flora and fauna.

7. Pollutants which are formed by reaction between the primary pollutants in the presence of sunlight are called secondary pollutants. Examples - Proxy-acyl nitrate (PAN)
   - Ozone

8.

   i. Increasing greenhouse effect.

   ii. Depletion of ozone in the stratosphere

9. False,Bio magnification affects humans the most because we are at the top of the food chain, thus the accumulated toxins and chemicals are in their largest concentration amongst us

10. Electrostatic precipitators remove 99% of the particulate matter present in the exhaust of a thermal power plant.
    Electrostatic precipitator removes particulate matter from the environment. If its stop functioning, it would cause harmful effects on the flora and fauna of the surrounding area around a thermal power plant. It may cause severe respiratory disorders like bronchitis, asthma,etc in humans.
    - In its absence, they will remain in the air as pollutants.

11. It is increase in concentration of toxicant at successive trophic levels. Toxic substances like mercury or DDT when passed onto next higher level gets accumulated in the food chain.

12. Yes. Because all this material contain heavy metals and toxics substances and known as e-wastes.

    Values

    • Concern about environment.

    • Awareness

13. - I will use only those articles which are either disposable or can be recycled.
    - I would help in tree plantation in my school and surroundings.
    - I will minimize the use of fossil fuels.

14. i. a. **Planktonic algae (algal growth):** Due to a large amount of nutrient free-floating algae develops in the lake (a water body)
    b. **Fishes:** Due to a decrease in B.O the fishes and other aquatic organisms die.

    ii. **Eutrophication:** The eutrophication is defined "as the natural ageing of a lake by biological enrichment of its water". The reason for it is: a young water body (lake) has cold, clear, life-supporting water. When it is supplied by fertilizers or some nutrient such as phosphorous as well as nitrogen are introduced in it the growth of aquatic organisms takes place. Then the microbes consume a lot of $O_{2.}$

15. i. Love for nature and environmental consciousness. She was brave, focused having the vision to see the disaster in the future.

    ii. Continuity of the habitat (here forest) is disrupted. Animals get confined to a smaller area. Fragmentation characteristically reduces species richness and taxon diversity and may reduce the efficacy of ecosystem functioning. Fragmentation not only reduces the amount of functional habitat, but it may isolate a species population into sub-populations, that may be sufficiently near the minimum viable population size to risk local extinction from successive demographic processes or catastrophic events.