

ClassIX
Lesson -Natural Resources(Bio)

- Q1.a)How does mathura refinery for problem to the Taj Mahal?
b)Why do lichen occur in delhi where as they commonly grow in Manali or Darjeeling?
C)What is smog? Mention its harmful effect.

Ans Mathura refinery produces a lot of hydrocarbon and of oxides of sulphur and nitrogen. These oxides cause acid rain.

The acid rain causes a threat to the colour of marble of world famous monument Taj Mahal which is corroding day by day due to acid rain.

b) lichen is a bio-indicator and sensitive to SO₂ pollution from automobiles. Delhi has maximum number of automobiles, hence has a highly polluted environment. But in Manali and Darjeeling the atmosphere is humid and Sulphur Dioxide pollution is low and so lichens grow their easily.

c) Smog is dark fog which is formed by condensation of water vapour ,dust and smoke particle etc.

It causes many respiratory problems in human and reduces visibility leading to accident etc.

Q 2.Why we cannot survive on moon?

Ans We cannot survive on moon due to lack of atmosphere, extremities of temperature i.e. - 190 degree celsius to 110 degree celsius and also due to absence of water and air.

Q3. How is the atmosphere of Venus/Mars different from that of earth?Name two main gases present in earth's atmosphere.

Ans 1(The major component of the atmosphere of Venus/Mars is carbon dioxide while on earth it is only a fraction of a per cent.

2)The carbon dioxide constitutes up to 95-97 /of the atmosphere on Venus and Mars but it constitutes only 0.03 to 0.04 percent of atmosphere on Earth.

Two main gases present in Earth's atmosphere are nitrogen and oxygen.

Q3. What are the causes of water pollution ? Discuss how you can contribute in reducing water pollution?

Ans Causes of water pollution: the major causes of water pollution are divided into following categories :

- 1Domestic sewage :Household waste, human excreta etc
- 2.Surface run off: Includes pesticides fertilizers etc.
- 3Industrial discharge: Toxic substances from industries
- 4Radioactive wastes: Radioactive molecules from nuclear industry
- 5 Oil spills :Oil spills and wastes from automobiles.

Control of water pollution :Water pollution can be controlled by

- 1Treatment of waste water before releasing in to rivers and fields
- 2Recycling of water.
- 3 judicious use of pesticides and fertilizers
- 4.Recycling of sewage.
- 5 Employing various legislative measures to control water pollution.

Q 4.What are the processes that make soil?

Ans Over long periods thousands and million of years, the rocks at or near the surface of earth broken down due to following factors

1 The sun: The sun heats up rocks during the day so, they expand.At Night these rocks cool down and contract.Since all parts of the rocks do not expand and contract at the same rate.This causes cracks in the rock resulting cracks and ultimately the huge rocks breakup into smaller pieces.

Water : the water help into wastewater collected in the rock cracks freezes andcauses the crack to widen.

Fast flowing water often carries big and small particles of downstream .the rock pieces rub together and form smaller to smaller particles.

Wind : Strong winds also erode the rocks and carries sand from one to another to form soil
Living organisms: Roots of plants break down the rocks .lichens while growing on rocks surfaces, release certain chemicals which powder down the rocks. Other small plants like moss are able to grow on surface now and they cause the rock to break up further.

Q5. Name two biological important compounds that contain both Oxygen and nitrogen

Ans Protein and nucleic acids

Q6. How are clouds formed ?

Ans The water evaporates due to heating up of water bodies and other biological activities .The air also heats up and rises.On rising, it expands and cools to form tiny droplets. these droplets grow bigger, expand and form clouds. The collection of dust and other suspended particle facilitate the process.

Q 7Mention any three important roles of water required for organisms on the Earth's surface

Ans All cellular processes take place in water medium.

Water regulates body temperature.

Water is required for transportation of nutrients from one part of the body to the other.

Q8. Why step farming is common in hills ?

A Step farming is carried out in the hills because it slows down the speed of rainwater current, checks soil erosion and increases water absorption by soil.

Q9. Why do people love to fly kites near the sea shore

Ans There is a regular unidirectional wind from sea to land.

It helps in flying the kite high. The wind is cooler and provide comfort even in bright sun.

Q10. Where is ozone layer found in atmosphere? What is its importance? Write the harmful effects of UV rays?

And Ozone Layer is found in the stratosphere zone of atmosphere. Importance: Ozone layer absorbs many harmful solar radiations such as ultraviolet rays by which it provides protection to our life.

Harmful effects of UV rays :It causes diseases like cataract cancer etc.

Q11 What is biological fixation? How is it different from nitrification?

And Fixation of Nitrogen by bacteria and algae is called biological fixation of Nitrogen. In biological fixation free atmospheric nitrogen is converted into nitrogen compounds, where as in nitrification ammonia and ammonium salts are converted into nitrites and nitrates by bacteria.

Q12. What is meant by the depletion of Ozone layer? State two causes and two effects of depletion of Ozone layer in the atmosphere.

Ans The destruction of ozone by any chemical or physical means causes thinning of Ozone layer. It is called depletion of Ozone layer.

Two causes of depletion of Ozone layer are:

- a)Use of aerosol chlorofluorocarbons
- b)Smoke of supersonic planes also react with ozone.

Two effects of depletion of Ozone layer are:

- a)UV rays coming to earth's surface
earth surface may cause skin cancer cataract
- b)It may change the gene structure in animals and plants.

Q13. How is greenhouse effect related to global warming? Explain

Ans An increase in the percentage of greenhouse gases like CO₂ prevents the escape of heat from the Earth. An increase in the percentage of such gases in the atmosphere would cause the average temperature to increase world wide and this is called greenhouse effect and an increase in the CO₂ content in the atmosphere would cause more heat to be released by the atmosphere and will lead to global warming.

Q14.Explain the following terms:

- 1)Nitrogen fixation
- 2)Nitrification
- 3) Denitrification

Ans 1) The process in which atmospheric nitrogen is converted into usable form like ammonia, nitrates and nitrites is called nitrogen fixation.

2) The process of formation of nitrites and then to nitrates from ammonium compounds is called nitrification.

3) The process of conversion of some ammonium compounds, nitrite and nitrate into molecular nitrogen is called denitrification.

Q15. Mention any three important roles of water essential for life of organisms on earth's surface.

Ans 1)All cellular processes take place in aquatic medium. Water is important component of protoplasm which is considered the basis of life .

2)Water regulate body temperature.

3) Water is required for transportation of nutrients from one part of the body to the other.

Q16. Write in brief the harmful effects of water pollution. Ans 1) Causes of water borne diseases.

- 2) Destroy harmful microorganisms thereby affecting self purification of water.
- 3) Decrease amount of dissolved oxygen.
- 4) Changes the temperature of water.
- 5) Disturbs the aquatic life in aquatic organisms.

Q17. How is soil pollution caused? Write three ways to prevent soil pollution.

Ans 1) The soil pollution may be caused by dumping of Industrial waste in vacant sites, along the roads, railway tracks or sanitary landfills etc.

2) The wastes from residences, cattle sheds, Industries agriculture fields etc. also pollute the soil.

3) The excessive use of fertilizers and pesticides also pollute the soil.

b) 1) By judicious use of fertilizers and pesticides.

2) By proper management of disposal of household waste.

3) Intensive cropping, terrace farming should be practised.

Q18. What is humus? What is its function in the soil?

Ans Humus is the decayed organic matter present in the soil formed by decomposition of dead organisms.

Functions: Humus is the major factor in deciding the soil structure because

1) it causes the soil to become more porous.

2) it allows water and air to penetrate deep underground to be available to the roots of plants.

Q19. In coastal areas when current move from sea towards the land during the day, but during night it move from land to sea. Discuss the reason.

Ans During day, the air above land gets heated quickly and starts rising this creates a region of low pressure, as a result the air above the sea rushes into to fill this area of low pressure.

This movement of air from one region to other creates winds.

But at night, air over the land cools down fast but air over sea slowly and hence remains hot.

This creates low pressure over sea and air moves from land to sea, which cause wind.