



BIOLOGY

BOOKS - PRADEEP BIOLOGY (HINGLISH)

NATURAL RESOURCES : OUR ENVIRONMENT

Questions And Exercises With Answers

1. How is our atmosphere different from the atmospheres on Venus and Mars?



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2. How does the atmosphere act as a blanket?



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3. How are winds produced?



4. How are clouds formed?



5. Lit any three human activies that you think lead to air pollution.



6. Why do organisms need water?

7. What is the major source of fresh water in the city/town village where you live?



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8. Do you know of any activity which may be polludting this (underground) water source ?



9. How is soil formed?



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10. What is soil erosion?



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11. What are the mathods or preventing or reducing soil erosion?



12. What are the different states in which water is found during the water cycle /



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13. Name two biological important compounds that contain both oxygen and nitrogen.



14. List any three human activities which would lead to an increase in the carbon dioxide content of air.



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15. What is green house effect? How is it called?



16. What are the two forms of oxygen found in the atmosphere?



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Ncert Exercises

1. Why is the atmosphere essential for life?



2. Why is water essential for life?



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3. How are living organisms dependent on the soil? Are organisms that live in water totally independent of soil as a resource?



4. You have seen weather reports on television and in newspapers. How do you think are able to predict the weather?



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5. We know that many human activities lead to increasing levels of pollution of the air, waterbodies and soil. Do you think that isolating these activities to specific and limited areas would help in reducing pollution?

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6. Write a note on how forests influence the quality of our air, soil and water resources.



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Ncert Exemplar Problems

1. The atmosphere of the earth is heated by resiations which are mainly

- A. radiated by the sum
- B. re-radiated by land
- C. re-radiated by water
- D. re-radiated by land and water

Answer: D



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2. If there were no atmosphere around the earth, the temperature of the earth will

- A. increase
- B. go on decreasing
- C. increase during day and decrease during night
- D. be unaffected

Answer: C



- **3.** What would happen, if all the oxygen present in the environment is converted to ozone?
 - A. We will be protected more
 - B. It will become poisonous and kill living forms
 - C. Ozone is not stable, hence it will be toxic
 - D. It will help harmful sun radiations to reach earth and damage many life forms.

Answer: B



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4. One of the following factors does not lead to soil formation in nature

A. the sun

B. water

C. wind

D. polythene bags

Answer: D



- **5.** The two forms of oxygen found in the atmosphere are
 - A. water and ozone
 - B. water and oxygen
 - C. ozone and oxygen
 - D. water and carbon dioxide

Answer: C



- **6.** The process of nitrogen-fixation by bacteria does not take place in the presence of
 - A. molecular form of hydrogen
 - B. elemental form of oxygen
 - C. water
 - D. elemental form nitrogen

Answer: B



- 7. Rainfall patterns depend on
 - A. the underground water table
 - B. the number of water bodies in an area
 - C. the density pattern of human popultion
 - in an area
 - D. the prevailing season in an area

Answer: B



- **8.** Among the given options, which one is not correct for the use of large amount of fertilisers and persticides?
 - A. They are eco-friendly
 - B. They turn the fields barren after some time

C. The adversally affect the useful

compounent from the soil

D. The destroy the soil fertility

Answer: A



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9. The nitrogen molecules present in air can be converted into nitrates and nitrites by

- A. a biological process of nitrogen fixing bacteria present in soil
- B. a boilogical process of carbon fixing factor present in soil
- C. any of the industries many facturing nitogenous compounds
- D. the plants used as cereal crops in field.

Answer: A



10. One of the following processes is not a step incolved in the water-cycle operation in nature

- A. evaporation
- B. transpiration
- C. precipition
- D. photosynthesis

Answer: D



- 11. The term "water-pollution" can be defined in several ways. Which of the following statements does not give the correct definition?
 - A. The addition of undesirable substnces to water bodies
 - B. The removal of desirable subtances from water bodies
 - C. A change in pressure of the water bodies

D. A change in temperature of the water bodies

Answer: C



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12. Which of the following is not a green house gas ?

A. Methane

B. Carbon dioxide

- C. Carbon monoxide
- D. Ammonia

Answer: D



- **13.** Which step is not involved in the carbon-cycle?
 - A. Photosynthesis
 - B. transpiration

- C. Respiration
- D. Burning of fossil fuels

Answer: B



- 14. Ozone-hole' means
 - A. a large sized hole in the ozone layer
 - B. thinning of the ozone layer
 - C. small holes scattered in the ozone layer

D. thickening of ozone in the ozone layer

Answer: B



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15. Ozone layer is getting depleted because of

A. excessive use of automobiles

B. excessive formation of industrial units e

C. excessive use of man made compounds

containing both fluorine and chlorine

D. excessive deforstation.

Answer: C



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16. Which of the following is a recently originated problem of environment?

A. Ozone layer depletion

B. Green house effect

C. Global warming

D. All of the above.

Answer: D



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17. When we breathe in air, nitrogen also goes inside along with oxygen. What is the fate of this nitrogen?

A. it moves along with oxygen into the cells

B. It comes out with the CO_2 during exhalation

C. It is absorbed only by the nasal cells

D. Nitrogen concentration is already more in the cells so it not at all absorbed.

Answer: B



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18. Top soil contains the following

- A. Humus and living organisms only
- B. Humus and soil particles only
- C. Humus, living organisms and plants
- D. Humus, living organisms and soil particles.

Answer: D



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19. Choose the correct sequences

A. CO_2 in atmosphere ightarrow decomposers

ightarrow organic carbon in animals ightarrow

organic carbon in plants

B. CO_2 in atmosphere o organic carbon in plants o oraganic carbon in animals o inorganic carbon in soil

C. Inorganic carbonates in water o organic carbon in plants o organic carbon in animals o scavengers

D. Organic carbon in animals -

decomposers $ightarrow CO_2$ in atmosphere

ightarrow organic carbon in plants

Answer: B



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20. Major source of mineral in soil is the

A. parent rock from which soil is formed

B. plants

- C. animals
- D. bacteria

Answer: A



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21. Total earth's surface covered by water is

- A. 0.75
- B. 0.6
- C. 0.85

D. 0.5

Answer: A



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22. Biotic component of biosphere is not constituted by

A. producers

B. consumers

C. decomposer

D. air

Answer: D



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23. An increase in carbondioxide content in the atmosphere would not cause

A. more heat to be retained by the environment

B. increase in photosynthesis in plants

- C. Global warming
- D. abundance of desert plants

Answer: D



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24. Oxygen is returned to the atmosphere mainly by

- A. burning of fossil fuel
- B. respiration

C. photosynthesis

D. fungi

Answer: C



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25. Low visibility during cold weather is due to

A. formation of fossil fuel unburnt carbon particles or hyderocarbons suspended in air

B. lack of adequte power supply

C. none of these

D.

Answer: B



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26. Growth of lichens on barren rocks is followed by the growth of

A. moss

- B. ferns
- C. gymnosperms
- D. algae

Answer: A



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27. Marked temperature changes in aquatic environment can affect

A. breeding of animals

- B. more growth of aquatic plants
- C. process of digestion in animals
- D. availability of nutrients.

Answer: A



- 28. Soil erosion can be prevented by
 - A. raising forests
 - B. deforstation

- C. excessive use of fertilizer
- D. overgrazing by animals

Answer: A



- **29.** What happens when rain falls on soil without vegetational cover?
 - A. Rain water percolates in soil effciently
 - B. Rain water causes loss of surface soil

- C. Rain watre leads to fertility of the soil
- D. Rain water does not cause any change in soil

Answer: B



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30. Oxygen is harmful for

A. ferns

B. nitrogen fixing bacteria

C. Chara

D. mango tree

Answer: A



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Short Answer Questions

1. Rivers from land, add minerals to sea water.

Discuss how?



2. How can we prevent the loss of top soil?



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3. How is the life of organisms living in water affected when water gets polluted ?



4. In coastal area, wind current moves from the sea towards the land during day, but during night it moves from land to the sea. Discuss the reason.



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5. Following are a few organisms Which among the above can grow on stones, and also help in formation of soild? Write the mode of their action from making soil.



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6. Soil formation is done by both abiotic factors. List the names of these factors by classifying them as abiotic and biotic?



7. All the living organisms are basically made up of C,N,S,P,H and O, . How do they enter the living forms? Discuss.



8. Why does the percentage of gases like oxygen, nitrogen and carbon dioxide remain almost the same in the atmosphere?



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9. Why does moon have very cold and very hot temperature variations e.g., from $-190^{\circ}C$ to $110^{\circ}C$ even though it is at the same distance from the sun as the earth is?



10. Why do people love to fly kites near the seashore?



11. Why does Mathura refinery pose problems to the Taj Mahal?



12. Why do not lichens occur in Delhi whereas they commonly grown in Manali or Darjeeling?



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13. Why does water need conservation even though large oceans surround the land masses?



14. There is mass mortality of fishes in a pond. What may be the reasons?



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15. Lichens are called pioneer colonisers of bare rock. How can they help in formation of soil?



16. Soil is formed by water'. If you agree to this statements then give reasons.



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17. Fertile soil has lots of humus. Why?



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18. Why step farming is common in hills?



19. Why are root nodules useful for the plants?



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20. What are inexhaustible resources?



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21. Difine renewable resources? Give examples.



22. Give two examples of non-renewable resources.



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23. Give two ways in which carbon dioxide is fixed.



24. Name the articles which act as nucleus for water droplets to form around in the atmosphere.



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25. Explain the phenomera:

(a) Acid rain (b) Eutrophication (c) Global warming



26. Name respiratory diseases that may occur due to air pollution.



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27. Name the two acids that are present in acid rain.



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28. What is rain water harvesting?





29. List main sources of water pollution.



30. What are non-biodegradable substances?



31. Name two types of biogeochemical cycles.



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32. Name two examples of green house gases which contribute maximum towards global warming.



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33. Give two examples of nitrifying bacteria.



34. Give two main sources of carbon. **Watch Video Solution 35.** Name two measures which prevent the soil erosion. **Watch Video Solution**

36. What do you mean by biological weathering? Give two examples.



37. Differentiate between humification and mineralization.



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38. Why is lead compound added to petrol? What is its harm?



39. What do you mean by hygroscopic water and combined water in the soil? Are these available to plants?



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40. What is biomagnification? Name two heavymetals which, when magnified resulted in diseases in humans.



41. What is eutrophication ? What it its consequence?



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42. Name two fresh water sources which provide fresh water for human use.



- **43.** (a) Name two acids that are usually present in rain water.
- (b) How these acids affect our hearitage monuments such as Taj Mahal?



44. Name any two climatic events that take place in the atmosphere.



45. Name any two fossil fuels being used by man which cause air pollution.



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- **46.** How do the fossil fuels being used by man which cause air pollution :
- (i) Volcanic eruptions
- (ii) Decay of vegetation matter in marshy places.



47. What are the sources of SO_2 . (NO_X) and methane.



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- **48.** (a) List two bacteria which bring about nitrification.
- (b) List one denitrifying bacteria.
- (c) List any two bacteria which play a role in biological nitrogen fixation.



- **49.** Differentiate between capillary water, hydroscopic water and combined water.
- (b) Which of the above types is drawn by the plants from the soil ?
- (c) Briefly describe rain water harvesting.



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50. (a) List the names of chemicals whose biomagnification result in following diseases in humans: (i) Minamata disease (ii) Itai Itai

disease

(b) Name the fertilizers whose excessive presence in water bodies results in algal bloom. What is the consequence of equtrophication?



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51. (a) List atleast three gaseous air pollutants that are emitted from automobiles and industries.

(b) Also, give their harmful effects on the health of human beings.



52. What is meant by terrace farming? What is its advantage?



53. How does accumulation of solid wastes make the human life miserable ?



54. What is the negative effect of excessive use of fertilizers and pesticides on the soil ?



55. What do you mean by biological weathering?



56. Name adtleast one free-living and one symbiotic bacterium reponsible for bilogical nitrogen fixation.



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57. Give atleast two sources of methane formation in nature.



58. Mention two examples of rocks wherein carbon is present as carbonates.



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59. What are renewable and non-renewable resource? Give one example of each.



60. In which part of atmosphere, and most of the atmospheric gases are present in troposphere.



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61. What is the percetage of CO_2 and O_2 in the air? Name the hiological process by which these gases are mainly returned to the atmosphere.



62. Name any two natural resources and manmade resources of air pollution.



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63. Name one disease each which may occur in man due to continuous ingalation of geseous pollutanst, and due to biomagnification of heacy metals in water bodies.



64. Why is aie called 'breath of lifem'?



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65. Why is the direction of wind form sea to land during the day in coastal areas?



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66. How H_2SO_4 and HNO_3 acids affect our heritage monuments such as Taj Mahal?

67. Name the fertilizers whose excessive presence in water bodis results in algal growth. What is the consequency of eutrophication.



68. (a) List atlest two gaseous air that are emitted from automobiles and industries.

(b) Give their harmful effectes on the health of human beings.



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69. How are clouds formed?



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70. How soil formatio occurs?



71. Draw diagram of (i) nitrogen cycle, (ii) carbon cycle.



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72. Explain water cycle in detail.



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73. What is global warming? Give its effects.



74. Briefly explain depletion of ozone layer and its effects.



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75. Explain the phenomena of : (a) Acid rain,

(b) Global warming



76. What are the methods or preventing or reducing soil erosion ?



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77. Explain the following:

- (a) Carbon monoxide poisoning
- (b) Eutrophication
- (c) Biological magnification.



78. Name four types of bacteria involved in nitrogen cycle.



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79. Explain rain water-harvesting.



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80. Draw diagrammatic sketch of oxygen cycle in nature.





81. Make sketc of hydrological cycle in nature.



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82. Briefly describe three aspects of nutrient cycles.



83. Give role of atmosphere in climatic control.



84. Briefly explain main layers of the atmosphere.



85. Expain natural and man-made sorces of air pollution.



86. Differentiate between point sources and non-point sources of water pollution.



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87. Explain various sources of soil polluton.



88. What are cyclones? Briefly explain.



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89. How do organisms contribute in the fomation of soil?



Watch Video Solution

90. Why is the direction of wind form sea to land during the day in coastal areas?



91. What is atmosphere ? Gove three important aspects of atmosphere.



92. What is smog? Give its harmful effects.



93. What do you mean by rain water harvesting? Give its various techniqus and advanrages.



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94. Give atleast three effects pf ozone depletion on man.



95. Explain the phenomenon of global warming.



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96. Give diagrammatic represntation of nitrogen cycle.



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Long Answer Questions

1. How do fossil fuels cause air pollution?



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



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



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4. Justify 'Dust is a Pollutant'.



5. Explain the role of the sun in the formation of soil.



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6. Carbon dioxide is necessary for plants. Why do we consider it as a pollutant?



7. Describe sources and harmful effectes of air pollution.



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8. Briefly discuss acid rain and its harmful effects.



9. Write bout rain-water harvesting and its advantages.



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10. Give an account of various sources and harmful effects of water pollution.



- 11. Explain the following:
- (a) Eutrophication
- (b) Biomagnification



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12. What is soil? How does it form?



13. Give various sources and harmful effects of soil pollution.



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14. Define soil erosion. Give its causes, effects and preventive measures.



15. Draw diagram of (i) nitrogen cycle, (ii) carbon cycle.



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16. Explain ozone layer, its depletion and effects of ozone depletion.



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17. Explain water cycle in detail.

- 18. Write note on the following:
- (a) How are clouds formed and precipitation occurs?
- (b) Biological and chemical weathering.



Additional Questions

1. Name the sommon air pollutant which causes depletion of ozone layer.



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2. Name the major green house gas responsible for causing global warming.



3. Name two common pathogens in polluted water.



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4. Name any three water pollutants.



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5. What is soil pollution?



6. Give two effects of soil erosion.



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7. What is the literal meaning of resource?



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8. Define netural resources.



9. Give one example each of inexhaustible and exhaustible resources.



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10. What percentage of carbon dioxide is present in the atmoshpere ?



11. Define soil.



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12. Name thre physical agents which cause weathering of rocks.



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13. Give two examples of non-renewable resources.



14. Name any inexhaustible natural resource.



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15. Why is life not possible on Venus and Mars?



16. Name the gas which has the highest percentage in air.



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17. How would you difine air pollution?



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18. Why is air called breath of life? Enumerate functions of air or atmosphere.

19. Name any one source of emission of carbon monoxide?



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20. Which of the following two gases has more affinity for hemoglobin?

(i) Oxygen (ii) Carbon monoxide



21. Name the component present in marble which reacts with acids present in acid rain.



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22. Name the type of water (present in the soil) which can be absorbed by plants.



23. What is detritus?



24. Name the two processes which contribute to soil formation.



25. What are detritivores? Name any one of them.



26. What is humus? What are its function?



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27. Explain the importance of soil for plant growth.



28. Name two planets other than Earth which also have an atmosphere.



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29. Lichens are sensitive to which derection during night?



30. In coastal areas, wind current moves from sea towards the land during day but during night it moves from land to the sea. Discuss th reason.



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31. What is rain gauge?



32. What is acid rain?



Watch Video Solution

33. Why is air called breath of life? Enumerate functions of air or atmosphere.



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34. Name any two surface water sources.



35. It is the collection and storage of rain water for use later in the non-rainy season.



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36. What is sewge?



Watch Video Solution

37. Define eutrophication.



38. Which compound is generally added to petrol to make it burn smoothly in automobile engines?



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39. Name atleast one disease that occurs in human beings due to biomagnification of heavy metals in the aquatic bodies.



Watch Video Solution

40. What are the two forms of oxygen found in the atmosphere?



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41. What is smog?



42. How is ozone layer useful to us?



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43. Name the two important biological processes in which air is essential.



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44. What is the fate of nitrogen gas that goes inside the lungs alongwith oxygen during

breathing? **Watch Video Solution 45.** Name two common types of pollutants of air. **Watch Video Solution** 46. Name the two acids that are present in acid rain. **Watch Video Solution**

47. What is humus? What are its function?



Watch Video Solution

48. What is weatheirng? Name atlest one fator responsible for weathering.



49. What is meant by photochemical fixation of nitrogen ?



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50. Name two examples of green house gases which contribute maximum toward global warming.



51. What is ozone hole? Where was it first located?



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52. What is meant by soil erosion?



Watch Video Solution

53. In which layer of soil profile one would find litter and humus ?



54. What is the main constituent in the following types of soil ?

- (a) Blace soil
- (b) Red soil



55. What do you mean by fossil fuels? Give one example of these.



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56. Name the reservoir for the nutrient elemetnts in (a) gaseous cycles (b) Sedimentary cycles.



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Questions With Answers

1. In the given region in Japan, fish eating people developed Itai-Itai disease. What was

the cause of disease and the phenomenon involved? Explain



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- **2.** (a) Kist two main sources of emmission of carbon nonxide.
- (b) How carbon monoxide poisoning is harmful?



3. (i) Given below is nitrogen cycle in nature.

Carafully study it and fill in the blanks (a), (b) (c) and (d).

(ii) What will happen if the step (e) does not occur.





- 4. (a) What is termed as 'breath of life'?
- (b) What is atmosphere? List its four main

concentric layers.

(c) Give three important aspects of atmospere.



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5. Give reasons for the direction of air currennts in coastal areas during

- (i) Day time,
- (ii) Night.



- **6.** Give reasons for the followign:
- (i) Fossil fuels are termed non-renewable resources.
- (ii) Solar energy is considered inexhaustible resource.
- (iii) Why is atmosphere considered blanket for living organisms?



7. Increased loading of nutrients in the water body results in algal bloom. Then, how is

eutrophication harmful to aquatic life?



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8. (I) Why are environmentalists concerned about Taj Mahal, The heritage monument at Agra these days?

Explain giving chemical reactions.

(ii) What is acid rain? Give atleast two effects of acid rain.



9. (i) What is somg? Is it a primary or secondaryy pollutant?

(ii) Why is it harmful to man? Justify by giving two reasons.



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10. (i) List atleast three ways in which CFCs are being commercially used for human benefits.

(ii) Give atleast three steps that should be adopted to minimize harmful effects of CFCs.



11. Recently, there was an editorial in the newspaper about 'Rhinoceros in Kajiranga National Park'. These consume foliage in large guanitities and then move to nearby waterbodies and defarcate there. As a result, water bodies witness algal growth and are subsequently getting choked.

(i) What is the possible reasons of algal growth in these water bodies? Name the process involved.

(ii) What will be the consequence of excessive

choking of water bodies with algal bloom? (iii) List atleat one step that governmet must take to save such water bodies.



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12. Why do people use marble in conrble in construction of residences ? Also, give its negative aspects.



13. How do solar radiation influence physical weathering of rocks ?



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14. What is 'capillary water' and 'hydroscopic water'? Can plants draw these types os water from soil?



15. During summer, if you go near the lake, you feel relief from the heat why?



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16. Why is majority of fres water not available to us for use ?



17. What is a green house? Why is air warmer in green that outside?



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18. What is ozone hole? Where ae it first discovered and when?



19. (a) How is do microorganisms utilize atmospheric and fix it to form amino acids and later proteins? What is this peocess celled?(b) Name such microorganisms.



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20. How is industrial nitrogen fixation different from biological nitrogen fixation? Explain.

