NEET BIOLOGY

ENVIRONMENTAL ISSUES

1. Catalytic converters are fitted into automobiles to reduce the emission of harmful gases. Catalytic converters changes unburnt hydrocarbons into
   a) Carbon dioxide and water b) Carbon monoxide
   c) Methane d) Carbon dioxide and methane
2. What percentage of total area in hilly regions does the National Forest Policy (1988) suggest to be under forests?
   a) 67% b) 33% c) 64% d) 34%
3. Increase the atmospheric temperature due to $CO_2$is called
   a) Pasteur effect b) Green house effect c) Blackman effect d) Emerson effect
4. Which one of following is not an air pollutant?
   a) Pollen from plants b) phosphates c) Carbon monoxide d) Hydrocarbon
5. DDT residues are rapidly passed through food chain causing biomagnifications because DDT is
   a) Lipo soluble b) Moderately toxic
   c) Non-toxic to aquatic animals d) Water soluble
6. Rain is called acid rain when its pH is below
   a) 7 b) 6.5 c) 6 d) 5.6
7. CFCs are responsible for
   a) Ozone layer depletion b) Global warming
   c) Acid rain d) None of these
8. Acid rain is due to
   a) CO_2 and H_2O b) CO_2 and NO_2 c) SO_2 and NO_2 d) SO_2 andN_2O
9. Noise is
   a) Loud sound b) Sound of high frequency
   c) Unwanted sound d) Constant sound
10. Domestic sewage contains nutrients like nitrogen and phosphorus which favours the excessive growth of planktonic (free floating) algae which can accelerate which of the following phenomenon?
    a) Algal bloom b) Biomagnification c) Eutrophication d) Both (a) and (c)
11. High level radioactive waste can be managed in which of the following ways?
    a) Open dumping b) Composting
    c) Incineration d) Dumping in sealed containers
12. Polyblend is mixed with …A… to lay roads in …B… . Complete the given statement by choosing appropriate option for A and B
    a) A-bitumen; B-Bengaluru b) A-carbon; B-Delhi
    c) A-plastic; B-Kolkata d) A-cement; B-Chennai
13. Most hazardous metal pollutant of automobile exhaust is
    a) Cadmium b) Lead c) Mercury d) Copper
14. Which one of the following is mainly responsible for green houses effect?
    a) SO_2 b) CO_2 c) CO d) O_2
15. Which one of the following pairs is mismatched?
    a) Biomass burning --- Release of CO_2 b) Fossil fuel burning --- Release of CO_2
    c) Nuclear power ---- Radioactive wastes d) Solar energy --- Green house effect
16. Consider the following statements

I. Soil without a vegetation cover is eroded by both wind and water
II. Excessive irrigation results in water logging of soil
III. Increased salt concentration damages agriculture
Which of the statements given above are correct?
a) I and II b) I and III c) II and III d) I, II and III

17. In India, the Air Prevention and Control of pollution Act came into force in …A…, but was amended in …B… to include …C… as an air pollutant
Complete the given statement by choosing appropriate option for A-C
a) A-1980, B-1986, C-water b) A-1981, B-1987, C-noise
c) A-1982, B-1988, C-radioactive d) A-1983, B-1989, C-soil

18. Which method is used to remove particulate matter present in exhaust of thermal power plant?
a) Wet scrubbers b) Absorption
c) Electrostatic precipitator d) Gravitational method

19. Restoring a forest cover over an area where one existed earlier but was removed at some point of time in the past is called
a) Reforestation b) Afforestation c) Deforestation d) None of these

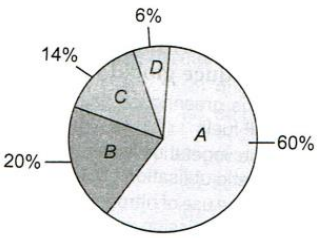
20. For the control of air pollution in Delhi, all buses of Delhi were converted to run on …A… by the end of …B… as per the directives of the …C…
Complete the given statement by choosing appropriate options for A-C
a) A-compressed natural gas, B-2000, C-High Court
b) A-Shale gas, B-2001, C-Central Government
c) A-compressed natural gas, B-2002, C-Supreme Court
d) A-Liquid pressure gas compressed natural gas, B-2003, C-Delhi Government

21. Green house gases are
a) CFCs, CO_2NH_4 and NO_2
b) O_2, N_2 and NO_2
c) N_2, CO_2 and NH_4
d) None of the above

22. In which state of India, Ecosave toilets are not found?
a) Kerala b) Delhi c) Sri Lanka d) None of these

23. Identify the correctly matched pair.
a) Montreal protocol - Global warming b) Kyoto protocol - Climate change
c) Ramsar convention - Ground water pollution d) Basal convention - Biodiversity conservation

24. Study carefully the following pie diagram representing the relative contribution of various greenhouse gases to total global warming. Identify the gases *A*, *B*, *C* and *D*



a) A-N_2O, B − CO_2, C − CH_4, D − CFCs b) A-CO_2, B − CH_4, C − CFCs, D − N_2O
c) A-CH_4, , B − CFCs, C − N_2O, D − CO_2 d) A-CFCs, , B − N_2O, C − CO_2, D − CH_4

25. The main cause of pollution is metrocities is
a) Burning of fossil fuels
b) Water plants
c) Domestic products
d) None of these

26. Chipko movement (1974) is the world's known eco development programme, started by Sunder Lal Bahuguna in Tehri Garhwal (Uttarakhand). It is associated with
    a) Plant conservation b) Deforestation c) Reforestation d) Afforestation
27. Which one of the following is a most efficient device to eliminate particulate matters from the industrial emissions?
    a) Cyclonic separators b) Trajectory separators
    c) Pyrolysis d) Electrostatic precipitator
28. Kyoto protocol is related with
    a) Ozone layer depletion
    b) Green house effect
    c) Water pollution
    d) Conservation of wildlife
29. …….. is an undesirable change in physical, chemical or biological characteristics of air, land, water or soil
    a) Pollution b) Ecological disturbance
    c) Ecological deterioration d) Adulteration
30. For the best ecological balance, land mass of a country in plains covered with forests
    a) 23% b) 33% c) 44% d) 35%
31. Desertification has become a major problem due to
    a) Decreased natural resources b) Increased urbanization
    c) Increased population d) All of the above
32. Why CNG is considered as good fuel over diesel/petrol?
    I. CNG burns most efficiently without leaving any unburnt remnant behind
    II. CNG is cheaper than petrol or diesel
    III. CNG cannot be siphoned off by thieves and adulterated like petrol or diesel
    Which of the statements given above are correct?
    a) I and II b) I and III c) II and III d) I, II and III
33. Eutrophicated lake has BOD
    a) Lower
    b) Higher
    c) Dependent on climate
    d) May be lower or higher
34. A sewage treatment process, in which a portion of the decomposer bacteria present in the waste is recycled into the beginning of the process, is called
    a) Cyclic treatment b) Primary treatment
    c) Activated sludge treatment d) Tertiary treatment
35. Consider the following statements about harmful effects of radioactive pollution
    I. Radiations from nuclear wastes causes mutation at a very high rate
    II. At high doses, nuclear radiations are lethal
    III. At low doses, radiations cause disorders and cancer
    Which of the statements given above are correct?
    a) I and II b) I and III c) II and III d) All of these
36. In 2002 AD, according to research, the concentration of CFC_s reached to
    a) 368 ppm b) 1750 ppb c) 261 ppt d) 326 ppb
37. Photochemical smog formed in congested metropolitan cities mainly consist of
    a) Ozone, peroxyacetyl nitrate and NO_x b) Smoke, peroxyacetyl nitrate and SO_2
    c) Hydrocarbon, SO_2 and CO_2 d) Hydrocarbon , ozone and SO_2
38. If there is no greenhouse effect, the average temperature at the surface of earth would have been
    a) 15°C b) −18°C c) −6°C d) 20°C
39. A disease caused by eating fish contaminated by industrial waste containing mercury compounds is known as

a) Bright's disease b) Minamata disease c) Hashimoto disease d) Osteosclerosis

40. The cause of decline in the population of reptiles and birds is
    a) DDT b) Biofertilizer c) Bioinsecticides d) Sewage
41. Consider the following statements regarding deforestation
    I. It is removal, decrease or deterioration of forest cover of an area
    II. It leads to soil erosion
    III. Deforestation often causes flash floods
    IV. Deforested area can be used variously as cropland, industrial area, residential area, fallow land, etc.
    Which of the statements given above are correct?
    a) I, II and III b) II, III and IV c) I, III and IV d) I, II, III and IV
42. Increase in concentration of a toxicant at successive trophic levels is called
    a) Eutrophication b) Accelerated eutrophication
    c) biomagnification d) Cultural eutrophication
43. In the town of Arcata situated on northern coast of …A… , an integrated waste water treatment process was developed with the help of biologists from …B… . Here A and B refers to
    a) A-Florida; B-Barry University b) A-California; B-Humboldt State University
    c) A-Florida; B-Abilence Christian University d) A-California; B-Becker University
44. Secondary sewage treatment is mainly a
    a) Mechanical process b) Chemical process c) Biological process d) Physical process
45. Which of the following diseases is related to cadmium pollution?
    a) Minamata b) Pneumoconiosis c) Anaemia d) Itai-itai
46. Shell of egg in bird becomes thin (not properly formed) due to the pollution of pesticides. This occurs due to disturbed
    a) Calcium metabolism b) Phosphorus metabolism
    c) Sodium metabolism d) Potassium metabolism
47. Which of the following are the main harmful effects of deforestation?
    I. Increase in carbon dioxide concentration in atmosphere
    II. Loss of biodiversity due to habitat destruction
    III. Disturbance in hydrologic cycle
    IV. Desertification
    Which of the statements given above are correct?
    a) I, II and III b) II, III and IV c) I, III and IV d) I, II, III and IV
48. Study the following statements regarding Ecosave toilet and select the incorrect ones
    a) They are working in Shri Lanka and Kerala
    b) Composting method for recycling of human excreta
    c) Recycled materials forms natural fertilisers
    d) Enhance the need for chemical fertilisers
49. The atmosphere around earth is warmed because
    a) Warm air cannot escape, as in a greenhouse
    b) Molecules in the atmosphere are warmed by radiation from earth and retain that heat
    c) Fossil fuels release heat
    d) Plants release CO_2
50. Which of the following is not used for disinfection of drinking water?
    a) Phenyl b) Chloramines c) Chlorine d) Ozone
51. Earth's climate
    a) Has been stable over the history of the planet
    b) Is changing as a result of natural and human processes
    c) Will stabilize over the next century, according to the predictions of most scientists
    d) Has been documented to have changed once due to the evolution of green photosynthesizing plants
52. Jhum cultivation refers to

a) Cultivation of neem trees
b) Cultivation of medicinal plants
c) Tribal methods of shifting cultivation
d) Cultivation of timber plants

53. Which of the following is not a green house gas?
a) Water vapour b) Carbon monoxide c) Methane d) Oxygen

54. Minamata occurs in
a) Japan b) Australia c) India d) China

55. In an area where DDT had been used extensively, the population of birds declined significantly because
a) Snake were feeding exclusively on birds
b) Many of the birds eggs laid, did not hatch
c) Bird stopped laying eggs
d) None of the above

56. The concept of Joint Forest Management (JFM) involves
a) Work in close association with the local communities for protecting and managing forests on mutual benefits
b) Conservation of forest and agricultural land by the NGOs
c) Conservation of forest and agricultural land by the state government
d) Conservation of forest and agricultural land by the local communities

57. According to Kyoto protocol, the major nations abide to reduce concentration of green –house gases by
a) 2008 b) 2010 c) 2012 d) 2018

58. This pollutant causes burning sensation of throat and eyes and vomiting sensation.
a) Hydrogen sulphide b) Sulphur c) Hydrogen cyanide d) Arsenic substances

59. Drinking of mineral water with very low level of pesticides (about 0.02 ppm) for long periods may
a) Produce immunity against mosquito
b) Cause leukaemia (blood cancer) in most people
c) Cause cancer of the intestine
d) Lead to accumulation of pesticide residues in body fat

60. The major goal of the green revolution was to
a) Decrease the use of modern farm equipment
b) Decrease population growth
c) Increase agricultural production
d) Increase population growth

61. In scrubber, the exhaust is passed through a
a) Spray of water b) Spray of time c) Both (a) and (b) d) Spray of hot water

62. During day time, sound level is silent zone is
a) 50 dB b) 70 dB c) 20 dB d) 30 dB

63. In India, Jhum cultivation is practiced mainly in
a) North eastern states of India
b) Western ghats of India
c) Gangetic plains
d) Deccan plateau

64. The unfavorable alteration of environment due to human activities is termed as
a) Ecological disturbance
b) Catastrophe
c) Ecological degradation
d) Pollution

65. CO_2, CH_4, N_2O and CFCs are called green house gases, because they can absorb
a) Ultraviolet radiation
b) Long wave infra-red radiation
c) Visible light radiation
d) X-rays radiation

66. Which one of the following is a correct option with reference to pathogenic bacteria and DDT?
a) Bacteria can undergo multiplication and DDT is degraded by living cells
b) Bacteria can be degrades by living cells and DDT can not be degraded by living cells.
c) Bacteria can undergo biological magnification and DDT can be degraded by living cells.
d) Bacteria can undergo biological magnification and DDT can not be degraded by living cells.

67. Expanded from of BOD is
a) Biochemical Oxygen Demand
b) Biosynthetic Oxygen Demand
c) Biogeochemical Oxygen Destroyer
d) Biological Oxygen Dimension

68. Relative Biological Effectiveness (RBE) usually refers to the damage caused by
a) Low temperature b) High temperature c) Radiation d) Pollution

69. Consider the following statements about pollution
I. Pollution is an undesirable change in physical, chemical or biological characteristics of air, land, water or soil
II. The air act was amendid in 1987 to include noise as air pollutant
III. In order to control environmental pollution, the Government of India has passed the environment Protection Act, 1976 to protect and improve the quality of our environment
Which of the statements given above are correct?
a) I and II b) I and III c) II and III d) I, II and III

70. The possible beneficial aspect of grazing animals is the
a) Removal of wild animals and pests b) Eradication of weeds
c) Removal of wild plants d) Addition of their excreta into the soil

71. Ozone hole results in
a) UV radiation reaches the earth b) Cataract
c) Increase in skin cancer d) All of the above

72. Given below a set of health problems
I. lack of sleep
II. high blood pressure
III. stress
IV. complete or partial hearing
V. anxiety
Which of the health problems given above are caused by noise pollution?
a) I, II and III b) II, III and IV c) II, III, IV and V d) I, II, III, IV and V

73. The intensity levels of whispering noise is
a) 10-15 dB b) 20-40 dB c) 45-50 dB d) 50-55 dB

74. Which of the following process is a cyclic, zero-waste procedure where waste products from one process are cycled in as nutrients for other processes, allowing maximum utilisation of resources and increasing the efficiency of production?
a) Natural farming b) Organic farming c) Chemical farming d) Artificial farming

75. The main component of photochemical smog is
a) SO_2 b) PAN c) O_3 d) Both (b) and (c)

76. The soil pollutants that affect the food chain and food web by killing microorganisms and plants are
a) Nitrogen oxides b) Pathogens c) Chemical fertilizers d) Pesticides

77. In acid rain, SO_2 accounts by
a) 70% b) 100% c) 50% d) 30%

78. According to the Central Pollution Control Board (CPCB), particles that are responsible for causing great harm to human health are of diameter
a) 2.50 micrometers b) 5.00 micrometers c) 10.00 micrometers d) 7.5 micrometers

79. Which of the following are the causes for deforestation?
I. Human settlements
II. Forest fires
III. Hydroelectric projects
IV. Overgrazing by livestock
V. Demand of wood
Which of the statements given above are correct?
a) I, II and III b) III, IV and V c) II, III, IV and V d) I, II, III, IV and V

80. BOD is concerned with
a) Microbes b) Organic matter
c) Microbes and organic matter d) None of the above

81. In electrostatic precipitator, electrode wires are provided with an electric current of several thousand volts, which produces a corona that release …A…
These electron attach to dust particle and given them a …B… charge within a very small fraction of a second. Here A and B refers to
a) A-electron; B-positive
b) A-neutron; B-negative
c) A-electron; B-negative
d) A-proton; B-positive

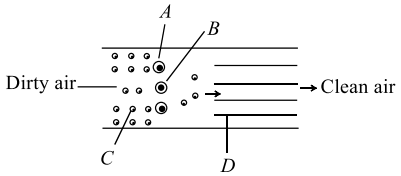
82. Cutting of trees in a forest is called
a) Reforestation
b) Afforestation
c) Deforestation
d) None of these

83. The gradual continuous increase in average temperature of surface of the earth as a result of increase in concentration of CO_2 and CFCs is termed as
a) Global warming
b) Greenhouse effect
c) Ozone degradation
d) Montreal protocol

84. Which one of the following is a major pollutant of automobile gases?
a) Carbon monoxide
b) Oxides of nitrogen
c) Oxides of sulphur
d) Carbon dioxide

85. Which of the following are the example of industrial solid wastes?
a) Scraps
b) Flyash
c) Both (a) and (b)
d) Irreparable computers

86. The below diagram shows electrostatic precipitator. Identify A, B, C, D and select the correct option



a) A-Dust particle, B-Negatively charged wire, C-Discharge corona, D-Collection plate grounded
b) A-Discharge corona, B-Collection plate grounded, C-Dust particle, D-Negatively charged wire
c) A-Discharge corona, B-Negatively charged wire, C-Dust particle, D-Collection plate grounded
d) A-Discharge corona, B-Dust particle, C-Negatively charged wire, D-Collection plate grounded

87. World most problematic aquatic weed is
a) *Azolla*
b) *Wolffia*
c) *Eichhornia*
d) *Trapa*

88. Solid waste can be
a) Biodegradable
b) Non-biodegradable
c) Both (a) and (b)
d) None of these

89. Addition of phosphate and nitrates/fertiliser into water and that water ultimately draining into lake firstly affects
a) Growth of aquatic organisms in lake
b) Eutrophication of lake
c) The environment of lake
d) Organic remains deposited on the lake bottom

90. Biomagnification is highest in
a) Producers
b) Primary consumers
c) Secondary consumers
d) Decomposers

91. Ozone (O_3) depletion is due to
a) PAN
b) NO_x
c) CFCs
d) Sulphates

92. Polyblend
a) Enhance the bitumen's water repellant properties
b) Helps to increase the life of road
c) Both (a) and (b)
d) Is a type of magnet which improve blood circulation when applied in human body part

93. The ozone layer is found in
a) Troposphere
b) Mesosphere
c) Stratosphere
d) Atmosphere

94. Which of the following health problem originates due to the inhalation of fine particulate matter?
a) Irritation
b) Inflammation
c) Damage of lungs and premature deaths
d) Eunuchoidism

95. Irreparable computers and other electronic goods are known as

a) Electronic waste
b) Radioactive waste
c) Electronic industrial waste
d) Solid waste

96. Eutrophication is excessive growth of algae, plants and animals in water-bodies due to nutrient enrichment particularly with
a) Nitrogen and phosphorus
b) Calcium and phosphorus
c) Sodium and calcium
d) Nitrogen and calcium

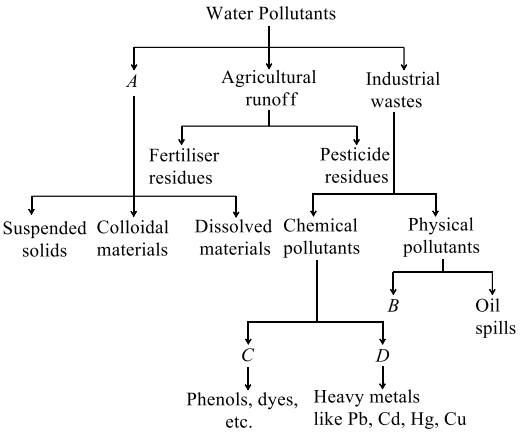
97. Peeling of ozone umbrella, which protects us from UV rays, is caused by
a) CFCs
b) CO_2
c) PAN
d) Coal burning

98. Chipko movement was started in Garhwal, Himalayas in
a) 1973 by Shri Sunder Lal Bahuguna
b) 1973 by a Bishnoi Woman Amrita Devi
c) 1974 by Shri Sunder Lal Bahuguna
d) 1974 by a Bishnoi Woman Amrita Devi

99. Ultraviolet radiations from sunlight causes a reaction that produces
a) Fluorides
b) Carbon monoxide
c) Sulphur dioxide
d) Ozone

100. Ozone hole is largest over
a) Antarctica
b) New York
c) Arctic
d) Tokyo

101. The below chart shows the sources of water pollution



Read carefully the chart and identify, A, B, C, and D
a) A-Domestic sewage, B-Thermal (hot) waste water, C-Organic compound, D-Inorganic compounds
b) A-Chemical sewage, B-Industrial waste water, C-Inorganic compound, D-Organic compounds
c) A-Industrial sewage, B-Domestic waste water, C-Phenol group, D-Heavy metallic group
d) A-Sewage, B-Chemical industry waste water, C-Organic compound, D-Inorganic compounds

102. Ozone depletion is occurring widely in
a) Ionosphere
b) Stratosphere
c) Both (a) and (b)
d) Troposphere

103. Fluoride pollution mainly affects
a) Teeth
b) Kidney
c) Brain
d) Heart

104. Chipko movement was successfully launched by
a) SL Bahuguna
b) HL Bahuguna
c) KL Bahuguna
d) Amrita Devi

105. Stirred-tank bioreactors have been designed for
a) Addition of preservatives to the product
b) Purification of the product
c) ensuring anaerobic condition in the culture vessel
d) Availability of oxygen throughout the process

106. What did Chernobyl, Three Mile Island, the Love Canal and Bhopal, India all have in common?
a) They were all radioactive disasters
b) They were environmental problems caused by global warming
c) They were involved environmental racism
d) They were all technological disasters caused by solid wastes

107. Which of the following statement pertaining to pollutants is correct?
a) DDT is non-biodegradable pollutant

b) Excess fluoride in drinking water causes osteoporosis
c) Excess cadmium in drinking water causes black foot disease
d) Methyl mercury in water may cause 'Itai-Itai' disease

108. What device is fitted to automobiles for reducing the emission of poisonous gases like NO_2 and CO?
a) Catalytic converters b) Electrostatic precipitator
c) Scrubber d) Bag filter

109. Amrita Devi Bishnoi wildlife protection award is given to the individuals or communities from
a) Rural areas b) Urban areas c) NGOs d) Hilly areas

110. Which of the following are the indicators of pollution?
a) Lichen b) Fungi c) Algae d) None of these

111. To remove which pollutants, enzymatic filters are used?
a) Hydrocarbons b) Lead c) Nitrogen pollutants d) Chloride pollutants

112. What is the major cause of desertification?
a) Urbanization b) Greenhouse effect c) El Nino effect d) Both (a) and (c)

113. ESP is to arrest
a) Water pollution b) Air pollution c) Radioactive pollution d) Soil pollution

114. Which are sensitive to SO_2 pollution?
a) Mosses b) Algae c) Lichen d) Ferns

115. Reforestation is useful for
a) Increasing the fertility of soil b) Reducing floods
c) Preventing soil erosion and spread of deserts d) All of the above

116. Which of the following metals is a water pollutant and causes sterility in human being?
a) As b) Mn c) Mg d) Hg

117. Limit of BOD prescribed by Central Pollution Control Board for the discharge of industrial and municipal waste water into natural surface water, is
a) < 3.0 ppm b) < 10 ppm c) < 100 ppm d) < 30 ppm

118. Eutrophication is caused by
a) Acid rain b) Nitrates and phosphates
c) Sulphates and carbonates d) CO_2 and CO

119. Examples of regional pollution are
a) Acid rain b) Smog c) Both (a) and (b) d) None of these

120. World Summit on Sustainable Development (2002) was held in
a) Brazil b) Sweden c) Argentina d) South Africa

121. Which statement represents the harmful effect of depletion of earth's ozone layer?
a) The average temperature of earth's surface will increase gradually
b) The oxygen content of the atmosphere will decrease
c) Increased amount of ultraviolet radiation will reach earth's surface
d) Sea levels will rise as the polar ice caps will gradually melt

122. Which of the following statement is not correct?
a) Ozone layer do not allow UV-B to reach the earth surface
b) Ozone hole is an actual hole over Antarctica
c) Halons are ozone depleting substances
d) The active chlorine destroys ozone and convent it into O_2

123. Euro II norms were stipulated to control sulphur content at 350 ppm in …A… and 150 ppm in …B…. and aromatic hydrocarbons are to be contained at …C…
Complete the given statement by choosing appropriate option for A-C
a) A-petrol, B-diesel, C-44% b) A-diesel, B-petrol, C-42%
c) A-petrol, B-diesel, C-49% d) A-diesel, B-petrol, C-45%

124. World environment day is celebrated on
a) 1st February b) 8th March c) 6th December d) 5th June

125. A lake with nutrients is called
a) Trophic b) Euphotic c) Oligotrophic d) Eutrophic
126. Three mile island and chernobyl disasters are associated with accidental leakage of
a) Radioactive wastes b) Industrial wastes c) Municipal wastes d) Hospital wastes
127. Ozone is spread in the swimming pool because
a) It acts as disinfectant b) To absorbs UV radiations
c) Ozone is easily available from O_2 d) All of the above
128. Which of the following methods are useful for solid waste disposal?
I. Open burning
II. Sanitary landfills
III. Rag-pickers and kabadiwallahs
IV. Natural breakdown
V. Recycling
VI. Incineration
Choose the correct option
a) I, II, III and IV b) I, II, III, IV and V c) II, III, IV, V and VI d) I, II, III, IV, V and VI
129. Checking of re-radiating heat by atmospheric dust O_3, $CO_2$and water vapours is
a) Green house effect b) Solar effect c) Ozone layer effect d) Radioactive effect
130. Of the following four metropolitan Indian cities, where polluted air hangs above like a cloud is
a) Mumbai b) Delhi c) Kolkata d) Chennai
131. Which of the following are correctly matched?
I. Arsenic poisoning - Black foot disease
II. Secondary effluent
treatment - Biological process
III. Pyrolysis - Solid soil waste disposal
IV. $Tubifex$ - Water pollution indicator
V. Biomagnification - Degradable pollutants
a) I,II,III and V b) I,III,IV and V c) II,III,IV and V d) I,II,III and IV
132. Which of the following is a prime health risks associated with greater UV radiation through the atmosphere due to depletion of stratospheric ozone?
a) Damage to digestive system b) Increased liver cancer
c) Neurological disorder d) Increased skin cancer
133. Irrepairable goods, computers and other electronic devices are known as
a) a-wastes b) e-wastes c) c-wastes d) d-wastes
134. Consider the following statements
I. Reforestation is the process of restoring a forest that once existed but was removed at some point of time in the past
II. Reforestation may occur naturally in a deforested area
III. A tree plantation movement or Van Mahotsava is being carried out in India since 1982
Which of the statements given above are correct?
a) I and II b) I and III c) II and III d) I, II and III
135. Scrubber is used to remove gases like
a) CO_2 b) SO_2 c) CO d) NO_2
136. Consider the following statements about eutrophication
I. Eutrophication is the natural ageing of a water body by nutrient enrichment
II. The accelerated ageing of lakes due to sewage and agricultural and industrial wastes is called cultural or accelerated eutrophication
III. The plant nutrients responsible for eutrophication are nitrates and phosphates
IV. Phosphates and nitrates accelerate the growth of algae which utilise oxygen and may deoxygenate the water enough to kill the fish and other aquatic animals

Which of the statements given above are correct?

a) I and II b) I, II and III c) I, III and IV d) I, II, III and IV

137. A sewage treatment process in which a part of decomposer bacteria present in the waste is recycled into the starting of the process is called

a) Cyclic treatment b) Activated sludge treatment

c) Primary treatment d) Tertiary treatment

138. Cigarette smoking causes

a) Skin cancer b) Blood cancer c) Bone cancer d) Lung cancer

139. Ozone saves the biosphere by absorbing the high energy radiation called

a) Infra-red rays (IR) b) Ultraviolet rays (UV)

c) X-rays d) Gamma rays

140. The fertile top soil is removed by human activities like

a) Over-cultivation b) Unrestricted grazing

c) Deforestation and poor irrigation practices d) All of the above

141. Which of the following statement is correct?

a) Extensive use of chemical fertilizers may lead to eutrophication of nearby water bodies

b) Both *Azotobacter* and *Rhizobium* fix atmospheric nitrogen in root nodules of plants

c) Cyanobacteria such as *Anabaena* and *Nostoc* are important mobilizers of phosphates and potassium for plant nutrition in soil

d) At present, it is not possible to grow maize without chemical fertilizers

142. Algal blooms imparts a distinct colour to water due to

a) Their pigments

b) Excretion of coloured substance

c) Absorption of light by algal cell wall

d) Formation of coloured chemicals in water facilitated by physiological degradation of algae

143. Pollution is not caused by

a) Thermal power plant b) Automobile

c) Radioactive power plant d) Hydroelectric power plant

144. The term 'biomagnification' refers to the

a) Growth of organisms due to food consumption

b) Increase in population size

c) Blowing up of environmental issues by man

d) Increasing in the concentration of non-degradable pollutants as they pass through food chain

145. Carbon dioxide is called green house gas because it is

a) Used in green house to increase plant growth b) Transparent to heat but traps sunlight

c) Transparent to sunlight but traps heat d) Transparent to both sunlight and heat

146. One of the following acts as secondary pollutant

a) Br_2 b) Cl_2 c) NO_2 d) HNO_3

147. Which of the following toxic materials was present in Minamata bay of Japan?

a) Cd b) Pb c) Mg d) Hg

148. Global agreement in specific control strategies to reduce the release of ozone depleting substances, was adopted by

a) Rio de Janerio Conference b) Montreal Protocol

c) Kyoto Protocol d) Vienna Convention

149. Ecological sanitation is a sustainable system for handling human excreta, using dry composting toilets. Such 'Ecosave' toilets are working in

a) Asom and West Bengal b) Andhra Pradesh and Maharashtra

c) Kerala and Sri Lanka d) Karnataka and Andhra Pradesh

150. Common indicator organism of water pollution is

a) *Lemna pancicostata*

b) *Eichhornia crassipes*
c) *Escherichia coli*
d) *Entamoeba histolytica*

151. Kyoto protocol has specified the commitments of different countries
a) To mitigate climate changes
b) Limit production of chlorofluorocarbons
c) To prepare a world climate programme
d) None of the above

152. Which of the following groups of gases cause photochemical smog?
a) O_3PAN and CO
b) HC, NO and PAN
c) O_2,PAN and NO_2
d) O_2, PAN and NO_3

153. The phenomenon by which certain pollutants (*e.g.*, DDT, Mercury) accumulates in the body tissues in increasing concentration is called
a) Biological degradation
b) Biological magnification
c) Eutrophication
d) Bioprecipitation

154. Read the following statements carefully and select the correct ones
I. UV rays essential for the production as well as degradation of ozone gas
II. Ozone present in ionosphere acts as a shield absorbing UV radiation coming from the sun
III. One fourth of the incoming solar radiation is reflected by the atmospheric gases and clouds and only half of the incoming solar radiation falls on the earth's surface, heating it. Of this only a small portion is reflected back
a) I and II
b) I and III
c) II and III
d) I, II and III

155. In India, the heaviest demand of forests is for
a) Fuel wood
b) Timber wood
c) Wood for agricultural tools
d) Medicines

156. The ultraviolet radiations in the stratosphere are absorbed by
a) O_3
b) O_2
c) CO_2
d) H_2SO_4

157. Carbon monoxide is a pollutant because it
a) Reacts with O_2
b) Inhibits glycolysis
c) Reacts with haemoglobin
d) Makes nervous system inactive

158. It is estimated that out of the total global warming, the relative contribution of CO_2, CH_4, CFCs and N_2O are found respectively as
a) 60%, 20%, 14% and 6%
b) 6%, 14%, 20% and 60%
c) 20%, 60%, 14% and 6%
d) 20%, 14% ,60% and 6%

159. In big cities, the major atmospheric pollutant is
a) Carbon monoxide and oxide of sulphur
b) Hydrocarbon and hot air
c) Pollens and Marsh gas
d) Ozone

160. Steps taken by the Government of India to control air pollution include
a) Compulsory mixing of 20% ethyl alcohol with petrol and 20% biodiesel with diesel
b) Compulsory PUC(Pollution Under Control) certification of petrol driven vehicles, which tests for carbon monoxide and hydrocarbons
c) Permission to use only pure diesel with a maximum of 500 ppm sulphur as fuel for vehicles
d) Use of non-polluting Compressed Natural Gas(CNG) only as fuel by all buses and trucks

161. Which of the following plants is used for the purification of water?
a) *Beggiatoa*
b) *Chlorella*
c) *Spirogyra*
d) *Eichhornia*

162. Which of the following is non-biodegradable?
a) Sewage
b) DDT
c) Livestock waste
d) Market garbage

163. Minamata disease was caused due to the consumption of
a) Sea food containing lot of cadmium
b) Fish contaminated with mercury
c) Ousters with lot of pesticide
d) Sea food contaminated with selenium

164. Which one among the following is likely to have the highest level of DDT deposition in its body?

a) Phytoplanktons b) Sea gull c) Crab d) Eel fish

165. *Escherichia coli* is used as an indicator organism to determine pollution of water with
a) Industrial effluents b) Pollen of aquatic plants
c) Heavy metals d) Faecal matter

166. 'Bad' ozone is formed in
a) Atmosphere b) Ionosphere c) Stratosphere d) Troposphere

167. Which Act was formulated in the year 1986?
a) The Insecticide Act
b) The Water (prevention and control of pollution) Act
c) The Air (prevention and control of pollution) Act
d) The Environment (protection) Act

168. The thickness of ozone in a column of air from the ground to the top of the atmosphere is measured in terms of
a) Decibel units b) Pascal units c) Svedberg units d) Dobson units

169. The Montreal protocol refers to
a) Persistent organic pollutants b) Global warming and climate change
c) Substances that deplete the ozone layer d) Biosafety of genetically modified organisms

170. Green-house effect refers to
a) Cooling of earth b) Trapping of UV rays c) Production of cereals d) Warming of earth

171. I. Radiation from nuclear waste is …A… at a very high rate
II. At low doses, radiations causes …B…
Complete the given statement by choosing appropriate option for A and B
a) A-lethal; B-cancer b) A-cancer; B-mutation
c) A-mutation; B-down syndrome d) A-down syndrome; B-cancer

172. A pollutant can best defined as it
a) Has natural geochemical cycles b) Changes homeostasis of environment
c) Disturb natural flora of a place d) Become stabilized in ecosystem forever

173. Global warming can be controlled by
I. reducing deforestation
II. planting trees (afforestation)
III. slowing down the growth of human population
IV. reduction of emission of greenhouse gases into the atmosphere
V. cutting down the use of fossil fuels
Which of the statement given above are correct?
a) I, II, III and IV b) II, III, IV and V c) I, III, V and IV d) I, II, IV and V

174. What is true about the Euro II norms?
a) It stipulates to control sulphur at 350 ppm in diesel and 150 ppm in petrol
b) It stipulates to reduce sulphur level to 50 ppm in petrol and diesel
c) It stipulates to reduce sulphur level to 200 ppm in diesel and petrol
d) It stipulates to reduce sulphur level to 200 ppm in diesel and 100 ppm in petrol

175. Montreal protocol, which calls for appropriate action to protect the ozone layer from human activities was passed in the year
a) 1986 b) 1987 c) 1988 d) 1985

176. Consider the following statements about scrubber
I. It is used to remove gases like sulphur dioxide from industrial exhaust
II. In a scrubber, the exhaust is passed through a spray of water or lime
III. Water dissolves gases and lime reacts with sulphur dioxide to form a precipitate of calcium sulphate and sulphide
Which of the statements given above are correct?
a) I and II b) I and III c) II and III d) I, II and III

177. Excess atmospheric CO_2 increase green house effect as CO_2
a) Precipitates dust in the atmosphere
b) Reduces atmospheric pressure
c) Is opaque to infra red rays
d) Is not opaque to infra red rays

178. Removal of forest areas to fulfil the needs of growing human population is called
a) Deforestation
b) Reforestation
c) Depletion of forest
d) Afforestation

179. Which of the following is a secondary air pollution?
a) Hydrocarbons
b) Smog
c) Particulate matter
d) Automobile exhausts

180. Maximum green house gases are released by
a) India
b) Britain
c) USA
d) France

181. Good ozone is formed in
a) Atmosphere
b) Ionosphere
c) Stratosphere
d) Troposphere

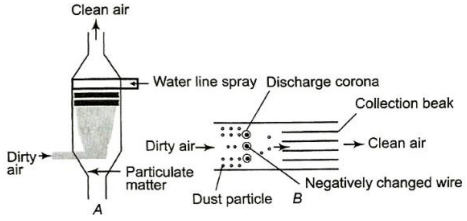
182. Ozone layer is depleted by
a) SO_2, NO_3
b) CFCs, CH_4, N_2O
c) CO, CH_4, O_2
d) NO_2, CO_2

183. Catalytic converters, which are fitted into automobiles for reducing the emission of poisonous gases possesses which of the following metals used as catalyst?
a) Platinum
b) Palladium
c) Rhodium
d) All of these

184. El Nino effect is closely associated with
a) Global warming
b) Acid rain
c) Greenhouse gases
d) All of these

185. Formation of non-functional methaemoglobin causes blue-baby syndrome. This is due to
a) Excess of arsenic concentration in drinking water
b) Excess of nitrates in drinking water
c) Deficiency of iron in food
d) Increased methane content in the atmosphere

186. Given diagram represent two devices *A* and *B* used to control air pollution. Identify them



a) A-Bag filter; B-Scrubber
b) A-Scrubber; B-Electrostatic precipitator
c) A-Scrubber; B-Bag filter
d) A-Electrostatic precipitator; B-Bag filter

187. One of the main reasons of soil erosion in India is
a) Jhum cultivation
b) Deforestation
c) Drought conditions
d) Temperature

188. Maximum noise permissible during day time in residential areas is
a) 75 dB
b) 55 dB
c) 65 dB
d) 45 dB

189. BOD increased by
a) Algae
b) Moss
c) Ferns
d) Distillated wastes

190. When the noise was recognized as an air pollutant?
a) 1992
b) 1963
c) 1949
d) 1987

191. Green house effect is the cumulative result of the influences of certain gases. Identify the gas, which is not involved in this influence?
a) Methane
b) Chlorofluorocarbons
c) Nitrogen
d) Carbon dioxide

192. Taj Mahal marble is affected by
a) SO_2
b) O_2
c) O_3
d) NO_2

193. An international treaty, Montreal Protocol in 1987 to curb the emission of ozone depleting substances, was held at
a) Canada
b) Kyoto
c) Washington
d) Rio de Janerio

194. The natural phenomenon of keeping earthworm due to presence of certain gases in the atmosphere is called
a) Global warming b) Ozone depletion c) Greenhouse effect d) El-Nino effect
195. Rise in temperature leads to deleterious changes in environment resulting in odd climatic changes called
a) Global warming b) El Nino effect c) La Nino effect d) Greenhouse effect
196. A lake with an inflow of domestic sewage rich in organic waste may result in
a) Drying of the lake very soon due to algal bloom b) An increased production of fish due to lot of nutrients
c) Death of fish due to lack of oxygen d) Increased population of aquatic food web organisms
197. Acid rain is mainly caused due to increase in the levels of the gas(es)
a) SO_2 only b) CO_2 only c) SO_2, CO_2 d) NO_2 and SO_2
198. Nutrient enrichment of a lake will cause
a) Eutrophication b) Stratification c) Biomagnifications d) Bioaccumulation
199. Catalytic converters
I. These are fitted into automobiles for reducing emission of poisonous gases like NO_2 and CO
II. They have expensive metals like platinum, palladium and rhodium as catalysts
III. As the exhaust emission passes through catalytic converter nitric oxide splits into nitrogen and oxygen: carbon monoxide is oxidized to carbon dioxide and unburnt hydrocarbons get burnt completely into CO_2 and H_2O
IV. Motor vehicles fitted with catalytic converter should use unleaded petrol because lead in the petrol inactivates the catalyst
Which of the statements given above are correct about catalytic converters?
a) I, II and III b) II, III and IV c) I, III and IV d) I, II, III and IV
200. Sound becomes a hazardous noise pollution if its level exceeds
a) 30 dB b) 80 dB c) 120 dB d) 150 dB
201. Old pollutant amongst the following is
a) SO_2 b) CO_2 c) CO d) Acid rain
202. What is soil erosion?
a) It is the process by which soil is formed
b) A harmful process that involves the removal and transport of soil by human activities, wind and water
c) A natural method of filtering harmful pollutants
d) A process often referred to as the 'greenhouse' effect
203. Ozone depletion in stratosphere shall result in
a) Forest fires b) Green house effect
c) Global warming d) Increased incidence of skin cancer
204. The oxygen concentration at the floor of the deep ponds and lakes is very low because of the
a) Over-hanging column of water b) Lesser amount of sunlight
c) Decomposers d) Large number of annual inhabitants
205. Which of the following is not an air pollutant?
a) NO_3 b) SO_2 c) Hydrocarbons d) CO_2
206. Montreal protocol aims at
a) Reduction of ozone depleting substances b) Biodiversity conservation
c) Control of water pollution d) Control of CO_2 emission
207. Sulphur dioxide causes
a) Asthma b) Bronchitis c) Emphysema d) All of these
208. Forests in India, according to Central Forestry Commission (1980) are about
a) 19.4% b) 18.3% c) 30% d) 14.0%
209. Which of the following are advantages of ecological sanitation?
I. It is a practical, hygienic and efficient method of waste disposal

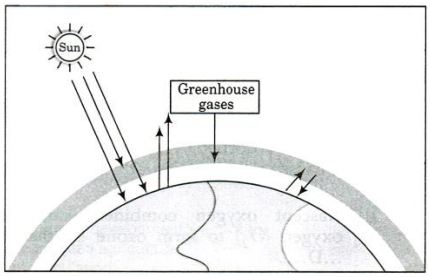
II. It is cost effective
III. Human excreta can be recycled into natural fertilisers, to replace chemical fertilisers

a) I and II b) I and III c) II and III d) I, II and III

210. Which element is caused of itai-itai disease?
a) Hg b) Pb c) Cd d) As

211. Organic farming is the technique of raising crops through the use of
a) Manure b) Biofertilisers c) Resistant varieties d) All of these

212. Given diagram represents the greenhouse effect



I. Greenhouse gases absorb infrared radiation from the earth. The absorbed radiations again come to earth's surface and heat it up
II. CO_2, CH_4, CFCs and N_2O are the gases which are responsible for greenhouse effect
III. Increase in the level of greenhouse gases results considerable heating of earth leading to global warming
Which of the statement given above are correct?

a) I and II b) II and III c) I and III d) I, II and III

213. Loss of forest, urbanization, increasing pollution are all due to
a) Global warming b) Green house effect
c) Population explosion d) Ozone depletion

214. Motor vehicles equipped with catalytic converter should use unleaded petrol because lead
a) In petrol inactivates the catalyst b) Increases the burning of petrol
c) Decreases the efficiency of vehicles d) Is a heavy metal

215. The accelerated ageing of lakes due to sewage and agricultural and industrial waste is called
a) Nutrient enrichment b) Accelerated eutrophication
c) Biomagnification d) None of the above

216. Which of the following is biodegradable pollutant?
a) Sewage b) Plastic c) Polythene d) DDT

217. Eutrophication results in reduction of
a) Mineral salts b) Dissolved oxygen c) Parasitic Protozoa d) Dissolved nitrate

218. Which one of the following gases can deplete ozone layer in the upper atmosphere?
a) Ammonia b) Methane c) Carbon monoxide d) Sulphur dioxide

219. Arrange the following options in ascending order of their BOD value.
I. Sample of highly polluted pond water.
II. Sample from unpolluted pond water.
III. Distilled water.

a) III → I → II b) II → III → I c) III → II → I d) I → III → II

220. In the treatment of waste water discharge, which treatment stage involves biological treatment?
a) Primary treatment b) Secondary treatment
c) Tertiary treatment d) Reverse osmosis stage

221. Which of the following is secondary pollutant?
a) CO_2 b) SO_2 c) NO_2 d) H_2O

222. Increase in toxic concentration from one trophic level to another trophic level is called
a) Ecological toxification b) Biomagnifications
c) Biocoenosis d) Cytological effect

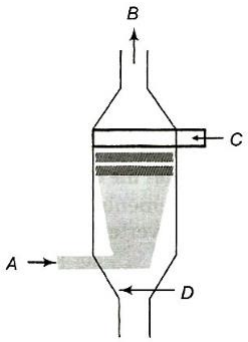
223. At present, the concentration of CO_2 in the atmosphere is about
a) 100 ppm b) 240 ppm c) 380 ppm d) 520 ppm

224. Which one of the following is the correct percentage of the two(out of the total of four) green house gases that contribute to the total global warming?
a) CFCs 14%, CH_4 20% b) $CO_2$40%, CFCs 30% c) N_2O 6%, CO_2 86% d) CH_4 20%, N_2O 18%

225. Which of the following is a point source of pollution
a) Mining area b) Industrial estate c) Chimney d) All of these

226. Which of the following is not as a consequence of global warming?
a) Rising sea level
b) Increased agricultural productivity worldwide
c) Worsening health effects
d) Increased storm frequency and intensity

227. The below diagram shows a scrubber. Identify A, B, C and D



a) A-Particulate matter, B-Clean air, C-Dirty air, D-Dust particle
b) A-Dirty air, B-Clean air, C-Water line spray, D-Particulate matter
c) A-Clean air, B-Dirty air, C-Particulate matter, D-Water line spray
d) A-Dust particle, B-Clean air, C-Particulate matter, D-Collection plate grounded

228. In 1984, the Bhopal gas tragedy took place because methyl isocyanate
a) Reacted with DDT b) Reacted with NH_3 c) Reacted with CO_2 d) Reacted with H_2O

229. Which of the following strategies is not a correct approach to reduce global warming?
a) Reducing the green-house gas emission by limiting the use of fossil fuels
b) Increase the vegetation cover particularly the forest for photosynthetic utilization of CO_2
c) Minimising the use of nitrogen fertilizers, in agriculture for reducing NO_2 emission
d) Increasing the use of air conditioners, refrigeration unit and production of plastic

230. Air pollutants
I. cause injury to all living organism
II. reduce growth and yield of crops and causes premature death of plants
III. affects the respiratory system of humans and animals
Which of the statements given above are correct?
a) I and II b) I and III c) II and III d) I, II and III

231. Gaseous pollutants can be controlled by
a) Arrestors b) Electrostatic precipitators
c) Pyrolysis d) Incineration

232. CFCs are not recommended to be used in refrigerators because they
a) Increase temperature b) Deplete ozone
c) Affect environment d) Affect human body

233. Green house effect with respect to global climate refers to
a) Cooling and moist condition b) Warming effect
c) Increase rainfall and greenery d) Desertification

234. Foul smell in the water bodies of tanks, ponds ,etc, is due to
a) Aerobiosis b) Anaerobiosis

c) Psammophytes d) Biological magnification

235. Green house effect is due to the increased concentration of
a) CO_2 b) Ne c) SO_2 d) NO_2

236. 5^{th} June is celebrated as
a) World forest day b) World environment day
c) World red cross day d) World food day

237. Effect of pollution is on
a) Crossing over b) Ecological balance c) Linkage d) Mutation

238. Photochemical smog pollution does not contain
a) Ozone b) Nitrogen dioxide c) Carbon dioxide d) PAN

239. Minamata disease is caused due to presence of …….. in water.
a) Cadmium b) Lead c) Arsenic d) Mercury

240. SO_2 and NO_2produce pollution by increasing
a) Acidity b) Alkalinity c) Neutrality d) Buffer action

241. Which one of the chemical is responsible for the reduction of ozone content of the atmosphere?
a) SO_2 b) Chlorofluorocarbon
c) HCl d) Photochemical smog

242. Which of the following are the harmful effect of global warming?
I. The temperature of the earth has increased by 0.6℃ is last three decades, which will lead to change in precipitation patterns
II. This rise in temperature will lead to the increased melting of polar ice caps which will cause the rice in sea level and many coastal areas will be submerged
III. Increased temperature will lead to increased weed growth, eruption of diseases and pests. Thus, crop productivity will decrease
a) I and II b) I and III c) II and III d) I, II and III

243. Which method is used for the removal of sulphur dioxide and ammonia from the polluted air?
a) Electrostatic precipitator b) Wet scrubbers
c) Gravitational method d) Absorption

244. Biochemical Oxygen Demand (BOD) is a measure of
a) industrial wastes poured into water bodies
b) Extent to which water is polluted with organic compound
c) amount of carbon monoxide inseparably combined with haemoglobin
d) amount of oxygen needed by green plants during night

245. Which one of the following is the heavy toxic metal present in waste water from industries?
a) Mercury b) Cadmium c) Lead d) All of these

246. Consider the following statements
I. Algal blooms are formed by free floating algae
II. Algal bloom causes fish mortality and deterioration of water quality
III. Water hyacinth, the world's most problematic aquatic weed is also called 'Terror of Bengal'
Which of the statements given above are correct about algal blooms?
a) I and II b) I and III c) II and III d) I, II and III

247. Consider the following statements about Ramesh Chandra Dagar's work in the field of organic farming
I. Ramesh Chandra Dagar's work includes bee-keeping, dairy management, water harvesting, composting and agriculture in a chain of processes
II. In this process there is no need to use chemical fertilisers for crops as cattle excreta is used as manure
III. Crop waste is used for making compost which is used as natural fertilizer
IV. Compost generates natural gas which is used for energy needs of farm
Which of the statements given above are correct?
a) I, II and III b) I, III and IV c) II, III and IV d) I, II, III and IV

248. All automobiles and fuel (petrol and diesel) were to have met the Euro III emission specification in eleven Indian cities from 1 April 2005 and have to meet the Euro IV norms by
a) 1 April 2007 b) 1 April 2008 c) 1 April 2009 d) 1 April 2010

249. In the 1990s, Delhi ranked …….. among the 41 most polluted cities in the world
a) 4th b) 5th c) 6th d) 7th

250. The term 'Terror of Bengal' is used for
a) *Eichhornia crassipes* b) Decreased biological oxygen demand
c) Biomagnification d) Algal bloom

251. Which one is incorrect for the effects of deforestation?
a) It leads to soil erosion
b) It alters the weather pattern by decreasing rainfall
c) It speeds up nutrient recycling
d) It destroys natural habitats of wildlife

252. Amrita Devi Bishnoi wildlife protection award is for the individuals or communities from rural areas that have extraordinary courage in
a) Reducing greenhouse effect b) Reducing air pollution
c) Reducing global warming d) Protecting wildlife

253. Which of the following compounds are well known for biological magnification?
a) DDT b) Mercury c) Both (a) and (b) d) Methane

254. Catalytic converter in vehicle is used for controlling
a) Air pollution b) Water pollution c) Radioactive pollution d) Soil pollution

255. Which of the following statement is correct about DDT?
a) It is a biomagnifying biodegradable pollutant
b) It is non-biomagnifying biodegradable pollutant
c) It is biomagnifying non-biodegradable pollutant
d) It is not a pollutant

256. NEERI is situated in
a) Delhi b) Mumbai c) Nagpur d) Bangaluru

257. E-waste are buried in …A… or …B… . Complete the given statement by choosing appropriate option for A and B
a) A-land fills; B-incinerated b) A-open area; B-recycle
c) A-dumping zone; B-recycle d) A-open area; B-incinerated

258. SO_2 pollution affects
a) Chloroplast b) Nucleus c) Mitochondria d) Cell membrane

259. Choose the correct statement regarding the catalytic converters
a) Motor vehicles equipped with catalytic converter should use leaded petrol
b) Catalytic converters have expensive metals namely platinum-palladium and rhodium as catalyst
c) Catalytic converters help in reducing particulate matter
d) As the exhaust passes through the catalytic converter nitrogen gas is covered to nitric oxide

260. Desertification
I. conversion of former moist and fertile land into arid desert area
II. is a product of soil erosion
III. desertified area cannot be put to any use
Which of the statements given above are correct?
a) I and II b) I and III c) II and III d) I, II and III

261. In a coal fired power plant, electrostatic precipitators are installed to control emission of
a) SO_2 b) NO_x c) SPM d) CO

262. One of the human disease due to biomagnifications of heavy metals is
a) Minamata b) Asthma c) Tuberculosis d) Elephantiasis

263. If a pond food chain gets polluted by DDT, the tissue concentration of DDT would be highest in

a) Aquatic weed b) Herbivorous fish c) Carnivorous fish d) Bird feeding on fish

264. Which of the following practices has caused maximum damage to the biodiversity of Indian forests?
a) Selective harvesting b) Block cutting c) Taungya cultivation d) Jhoom cultivation

265. Which of the following problem is created by a brief exposure to extremely high sound level, 150 dB or more generated by take off of a jet plane or rocket?
a) Deafness b) Damage eardrums c) Both (a) and (b) d) Damage of brain

266. The amount of biodegradable organic matter in sewage water can be estimated by measuring
a) Biological oxygen demand
b) Biochemical oxygen demand
c) The growth of microorganisms in water
d) The growth of bacteria in water

267. Deforestation brings about
a) Increased sunlight b) Increased grazing area
c) Weed control d) Soil erosion

268. Nitrogen oxides produced from the emission of automobiles and power plants are the source of fine air borne particles which lead to
a) Photochemical smog b) Dry acid deposition c) Industrial smog d) Wet acid deposition

269. Acid rains are produced by excess
a) Release of carbon monoxide by incomplete combustion
b) Formation of CO_2 by combustion and animal respiration
c) Production of NH_3 by industry and coal gas
d) NO_2 and SO_2 from burning fossil fuels

270. In almost all Indian metropolitan cities like Delhi, the major atmospheric pollutant (s) is /are
a) Suspended particulate matter (SPM) b) Oxides of sulphur
c) Carbon dioxide and carbon monoxide d) Oxides of nitrogen

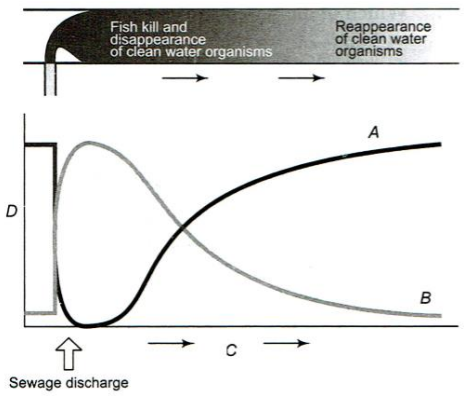
271. Increasing skin cancer and damaged DNA in living organisms results due to
a) Ozone depletion b) Acid rain c) Greenhouse effect d) Global warming

272. What steps should be taken before the disposal of nuclear waste?
a) Nuclear waste should be pretreated b) In should be stored in shielded containers
c) In should be buried about 500 m deep with in rockd) All of the above

273. Polyblend is a
a) Mixture of two different type of plastics b) Mixture of two same type of plastics
c) Fine powder of recycled modified plastic d) Blend of plastic and bitumen

274. Which of the following is absent in polluted water?
a) *Hydrilla* b) Water hyacinth c) Larva of stone fly d) Blue-green algae

275. Given below is a flow chart showing the effect of sewage discharge on some important characteristics of a river. Read carefully and identify A, B, C and D



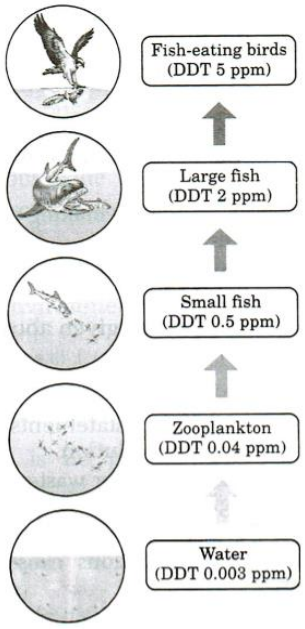
a) A-BOD, B-Dissolved oxygen, C-Concentration, D-Direction of flow
b) A-Dissolved oxygen, B-BOD, C-Direction of flow, D-Concentration
c) A-Dissolved oxygen, B-BOD, C-Concentration, D-Direction of flow

d) A-BOD, B-Dissolved oxygen, C-Direction of flow, D-Concentration

276. The post Bhopal gas disaster analysis showed that the accident started, when the leakage of a tank started containing
a) Methyl isocyanide b) Methyl isocyanate c) Ethyl isocyanide d) Ethyl isocyanate

277. Undesirable changes in soil profile, affecting its productivity is called
a) Soil erosion b) Soil conservation c) Soil pollution d) Soil degradation

278. The diagram below show the biomagnification of DDT in an aquatic food chain. Choose the correct statement regarding this



I. Biomagnification refers to increase in concentration of the toxicant at successive trophic levels
II. High concentrations of DDT disturb calcium metabolism in birds, which causes thinning of eggshell and their premature breaking
III. River water may have a very low concentration of DDT, but the carnivorous fish in that river may contain high concentration of DDT, which is still suitable for consumption by human beings
Which of the statements given above are correct?
a) I and II b) I and III c) II and III d) I, II and III

279. Which of the following problem is not created by noise pollution?
a) Silicosis b) Hypertension c) Sleeplessness d) Deafness

280. If global warming continues, the organism which may face more severe threat is
a) Cow b) Dogs c) Snow leopard d) Dolphin

281. Domestic sewage contains
a) Suspended solid b) Colloidal material c) Dissolved material d) All of these

282. UV-rays are non-ionizing type and are lethal due to inactivation of
a) Proteins b) Pigments c) Nucleic acid d) All of these

283. Which form of UV-radiation is allowed to pass through ozone and reach the earth surface?
a) UV-A b) UV-B c) UV-C d) None of these

284. Measuring Biological Oxygen Demand (BOD) is a method used for
a) Measuring the activity of *Saccharomyces cerevisiae* in producing curd on a commercial scale
b) Working out the efficiency of RBCs about their capacity to carry oxygen
c) Estimating the amount of organic matter in sewage water
d) Working out the efficiency of oil driven automobile engines

285. Which of the following are true?
I .Benzene hexachloride is a non-biodegradable pollutant
II. Anthropogenic air pollutants are natural in origin
III. Carbon monoxide is a primary air pollutant.

IV. Sulphar dioxide causes brown air effect during traffic congestion in cities

a) I and III b) I and II c) II and III d) II and IV

286. Which of the following gases are the contributor to the greenhouse effect?

I. Carbon dioxide

II. Methane gas

III. Nitrous oxide

IV. Chlorofluorocarbon

a) I, II and III b) II, III and IV c) I, III and IV d) I, II, III and IV

287. Deforestation refers to

a) Planting of trees b) Cultivation of crops

c) Disappearance of forests d) Increasing plant population

288. CO_2, CH_4, N_2O and CFCsare called green house gases because they absorb and emit

a) UV-rays b) Heat rays c) X-rays d) Gamma rays

289. Which of the following are the main causes of air pollution?

I. Smoke from forest fires, volcanic eruptions

II. Decomposition of garbage resulting in the release of unwanted doses into the atmosphere

III. Burning of fossil fuels in automobiles and industries releases particulate and air pollutants

IV. Use of leaded petrol

V. Particulate byproducts of various industries

Which of the statements given above are correct?

a) I, II and III b) II, III and IV c) II, III, IV and V d) All of these

290. Which are the primary constituent of photochemical smog?

a) CO_2 and NO_2 b) Hydrocarbons and CFCs

c) SO_2 and CO d) NO_2 and hydrocarbons

291. It is used in refrigerator and air conditioners and it is a source of CI^-

a) Benzopyrene b) Freon c) Benzene d) CH_4

292. Which of the following is a major source of radioactive pollution?

a) Leakage of radioactive materials from power plants

b) Unsafe disposal radioactive wastes

c) Both (a) and (b)

d) Solid waste disposal sites

293. Slash and burn agriculture is called

a) Ley farming b) Commercial agriculture

c) Jhum cultivation (shifting cultivation) d) All of the above

294. One green house gas contributes 14% to total global warming and another contributes 6%. There are respectively identified as

a) N_2O and CO_2 b) CFCs and N_2O c) CH_4 and CO_2 d) CH_4 and CFCs

295. Fly ash is a/an

a) Insectivorous plant b) Light airborne particulate matter

c) New name of orchid plant d) Causal organism of various disease

296. Delhi is one of the most polluted cities of the world. Which of the following steps were taken by the government to reduce vehicular pollution in Delhi

I. Phasing out of old vehicles

II. Use of unleaded petrol

III. Use of low sulphur petrol and diesel

IV. Use of catalytic converters in vehicles

V. Applying stringent pollution level norms for vehicles

VI. Switch over of public transport from diesel/petrol to CNG

Which of the statements given above are correct?

a) I, II and III b) II, III, IV and V c) I, III, IV and V d) All of these

297. The beauty of Taj Mahal is endangered due to
a) Degradation of marble due to high temperature b) Discharge of industrial waste in Yamuna river
c) Air pollutants released from oil refinery d) Riparian erosion

298. Jhum cultivation
I. Also called as slash and burn agriculture, is the farming practice in North Eastern states of India
II. Farmers cut down the trees of forest and burn the plant remains
III. The ash is used as a fertilizer and the land is then used for farming or cattle grazing
IV. After cultivation, the land is left for several years, so as to allow its recovery
Which of the statements given above are correct about Jhum cultivation
a) I, II and III b) II, III and IV c) I, III and IV d) I, II, III and IV

299. As we travels along the food chain, the concentration of DDT
a) Increases b) Remains constant
c) Decreases d) Fluctuates randomly

300. Soil erosion can be prevented by
a) Increasing bird population b) Afforestation
c) Removal of vegetation d) Overgrazing

301. Which one of the following is not a bioindicator of water pollution?
a) Sludge worms b) Blood worms c) Stone flies d) Sewage fungus

302. In India, at the beginning of the twentieth century, forests covered about …A… % of land whereas by the end of the century, it shrunk to …B… %
a) A-40; B-20.4 b) A-30; B-19.4 c) A-50; B-25.4 d) A-20; B-10.4

303. Effect of pollution is observed first on
a) Microorganisms b) Food crop c) Green vegetation d) Herbivores

304. In India almost 40% forest have been lost in the …A… and 1% forest in the …B… region
Here A and B refers to
a) A-gangetic plains; B-deccan plateau b) A-tropics; B-temperate
c) A-temperate; B-tropics d) A-western ghats; B-gangetic plains

305. Peroxy Acetyl Nitrate, a class of hazardous air pollutants, stems from
I. O_2 II. SO_x III. NO_x IV. HC
a) I and III b) II and III c) III and IV d) II and IV

306. Which act was formulated in the year 1974?
a) The Water (Prevention and Control of Pollution) Act
b) The Air (Prevention and Control of Pollution) Act
c) The Noise (Prevention and Control of Pollution) Act
d) The Environment (Protection) Act

307. Carbon monoxide causes
I. giddiness
II. headache
III. decreased vision
IV. Cardiovascular malfunction
V. asphyxia
Which of the statements given above are correct?
a) I, II and III b) II, III, IV and V c) I, III, IV and V d) I, II, III, IV and V

308. Clearing of waste water in Arcata Marsh involves
a) Only conventional method of sewage treatment
b) Removal of dissolved heavy metals through biological process
c) Filteration, chlorination like chemical processes
d) Enhance the need for chemical fertilisers

309. Which of the following is secondary pollutant?
a) NO b) NO_2 c) SO_2 d) PAN

310. When and where the ozone hole was discovered?
a) 1984, Antarctica b) 1985, Antarctica c) 1986, Arctic d) 1987, Arctic
311. In the phosphorus cycle, weathering makes phosphate available first to
a) Decomposers b) Consumers c) Producers d) All of these
312. Terracing is done in
a) Desert areas b) Hilly areas c) Dry areas d) Plain areas
313. High amount of *Escherichia coli* in water indicates
a) Hardness of water b) Industrial pollution
c) Sewage pollution d) Pollution due to electromagnetic radiation
314. Which one of the following pairs of gases are the major cause of 'Green house effect'?
a) CO_2 and CO b) CFCs and SO_2 c) CO_2 and N_2O d) CO_2 and O_3
315. In plants, air pollution causes
a) Reduced growth and yield b) Leads to premature death
c) Both (a) and (b) d) Wilting
316. Recent reports of acid rains in big industrial cities are due to the effect of atmospheric pollution by
a) More release of $NO_2$and $SO_2$by burning of fossil fuels
b) More release of $CO_2$by burning of coal /wood cutting of forests and increasing populations
c) Excessive release of NH_3 by coal gas / industries
d) Excessive release of CO by incomplete combustion of carbonaceous fuels
317. Major cause of air pollution in big cities is
a) Domestic exhaust b) Burning of cooking gas
c) Thermal power plant d) Automobile exhaust
318. Which one of the following statement is wrong in case Bhopal gas tragedy?
a) Thousands of human being died
b) Radioactive fall out engulfed Bhopal
c) It look place in the night of December 2/3,1984
d) Methyl isocyanate gas leakage took place
319. Why ozone is known as 'chemical weed'?
a) Because it is formed by chemical reactions
b) Because it is harmful as well useful
c) Because it is harmful, just like weeds for mankind
d) Ozone is not designated as chemical weed
320. Consider the following statements
I. Noise causes psychological disorder in humans
II. Noise causes physiological disorder in humans
III. Noise measurable unit is dB but some times it is measured in Dobson unit
IV. 150 dB is tolerate for human
Which of the above statements are true?
a) I and IV b) I and II c) I, II and IV d) I and III
321. Which of the following gases does not cause acid rain?
a) Sulphur dioxide b) Methane c) Nitrous oxide d) Carbon monoxide
322. Electrostatic Precipitator (ESP)
I. Is an electrical device to remove particulate matter present in the exhaust of thermal power plant
II. More than 99% particulate matter can be removed by this method
III. ESP has electrode wires and a stage of collecting plates
Which of the statements given above are correct?
a) I and II b) I and III c) II and III d) I, II and III
323. The pollutants which are already present in nature, but are released in substantial amounts by man are known as
a) Qualitative pollutants b) Degradable pollutants

c) Primary pollutants d) Quantitative pollutants

324. One of the chief causative factor of desertification is
a) Overgrazing b) Human developmental activities
c) Irrigated agriculture d) Population

325. Which method is used to control pollutants of particulate nature?
a) Solvent recovery system b) Thermal oxidisers
c) Electrostatic precipitator d) Scrubber

326. The national forest policy of India has recommended …A… % forest cover for the plains and …B… % for the hills
a) A-33; B-67 b) A-35; B-66 c) A-35; B-65 d) A-33; B-64

327. SO_2 pollution is indicated by
a) $Desmodium$ $(grasses)$
b) $Sphagnum$ $(mosses)$
c) $Usnea$ $(lichens)$
d) $Cucurbita$ $(climbers)$

328. Hydrogen sulphide causes
a) Nausea b) Eye irritation c) Throat irritation d) All of these

329. Which of the following statements regarding decomposition is false?
a) Warm and moist environment favours decomposition
b) Decomposition rate is slower if detritus is rich in chitin and lignin.
c) Earthworm is a detritivore
d) Precipitation of soluble inorganic nutrients into the soil horizon as unavailable salts is called mineralisation

330. Ozone layer is being destroyed by
a) SO_2 b) NO_2 c) CFCs d) Photochemical smog

331. Consider the following statement about polyblend
I. In 1998, Ahmed Khan developed polyblend, a fine powder of recycled modified plastic
II. Polyblend has been mixed with bitumen to lay roads in Bengaluru
III. Polyblend enhances bitumen's water repellant properties and helps to increase the life of road
Which of the statements given above are correct?
a) I and II b) I and III c) II and III d) I, II and III

332. Chipko movement
I. It is movement initially meant for protecting trees but now meant for preservation of environment including habitat and wildlife
II. Chipko movement was started in Garhwal, Himalayas in 1973 Shri Sundar Lal Bahuguna to prevent cutting down of trees
III. Local women hugged trees to prevent their cutting by the contractor
Which of the statements given above are correct?
a) I and II b) I and III c) II and III d) I, II and III

333. Biochemical Oxygen Demand (BOD) in a river water
a) Remains unchanged when algal bloom occurs
b) Has no relationship with concentration of oxygen in the water
c) Gives a measure of *Salmonella* in the water
d) Increase when sewage gets mixed with river water

334. Noise pollution is measured in
a) Decibels b) Amperes c) Fathoms d) Ohm

335. Due to attack of fumes of sulphur dioxide and sulphuric acid, the marble of Taj Mahal and Red stone of Red fort changed into calcium sulphate which causes
a) Stone leprosy b) Stone mosaic c) Corrosion d) None of these

336. Which of the following is not a device used to control a particulate matter?

a) Arresters b) Scrubbers
c) Filters d) Incinerator

337. What was the aim of Chipko movement?
a) Human rights b) Political rights
c) Agricultural expansion d) Forest (plant)conservation

338. Which one of the following is a wrong statement?
a) Greenhouse effect is a natural phenomenon
b) Eutrophication is a natural phenomenon in freshwater bodies
c) Most of the forests have been lost in tropical areas
d) Ozone in upper part of atmosphere is harmful to animals

339. According to central Pollution Control Board (CPCB), which particulate size in diameter (in micrometres) of the air pollutants is responsible for greatest harm to human health?
a) 2.5 or less b) 1.5 or less c) 1.0 or less d) 5.2 or 2.5

340. Lichens are described as indicator of
a) Air pollution
b) Water pollution
c) Soil pollution
d) Agriculture productivity

341. The two gases making highest relative contribution to the green house gases are
a) CO_2 and CH_4 b) CH_4 and N_2O c) CFCs and N_2O d) CO_2 and N_2O

342. Which of the chemical reaction is not correct?
a) $CFCl_3 \xrightarrow{UV-C} CFCl_2 + Cl$ b) $CF_2Cl_2 \xrightarrow{UV-C} CF_2Cl\ Cl$
c) $NO + O_3 \xrightarrow{hv} NO_3 + O$ d) $NO_2 + O_3 \xrightarrow{hv} NO_3 + O_2$

343. Term used for accumulation of non-degradable pollutant in higher trophic level is
a) Biomagnification b) Eutrophication c) Biome d) Ecotone

344. Domestic sewage mainly contains …A… wastes which are readily decomposed with the help of …B… . Here A and B refers to
a) A-inorganic; B-bacteria b) A-biodegradable; B-decomposers
c) A-chemical; B-microorganisms d) A-Synthetic; B-bacteria

345. Which insecticide is more hazardous to human health?
a) Rotenone b) Pyrethrum c) DDT d) Humulin

346. Which of the following statement is/are not correct regarding biomagnification?
I. Heavy metals and persistent pesticides pass into food chain and increases in amount per unit weight of organisms with the rise in trophic level due to their accumulation in fat
II. Accumulation of zinc can cause thinning of eggshell in birds
III. DDT accumulation is a major cause of killing of fish-eating birds
IV. Biomagnification occurs only in marine food chain
a) I and II b) II and III c) II and IV d) I and III

347. In which one of the following, the BOD (Biochemical Oxygen Demand) of sewage (S), distillery effluent (DE), paper mill effluent (PE) and sugar mill effluent (SE) have been arranged in ascending order?
a) SE < S < PE < DE b) SE < PE < S < DE
c) PE < S < SE < DE d) S < DE < PE < SE

348. Decibel (dB) is a standard abbreviation used for the quantitative expression of
a) The density of bacteria in a medium b) A particular pollutant
c) The dominant *Bacillus* in a culture d) A certain pesticide

349. Eutrophication is often seen in
a) Fresh water lakes b) Ocean c) Mountains d) Deserts

350. Mercury pollution causes
a) Black foot disease b) Itai-itai disease

c) Blue-baby syndrome d) Minamata disease

351. Which of the following is not shortwave radiation?

a) X-rays b) Radio waves c) Ultra-violet rays d) Cosmic rays

352. Euro II norms were stipulated to control

a) Carbon content b) Sulphur content c) Nitrogen content d) Phosphorus content

NEET BIOLOGY

ENVIRONMENTAL ISSUES

: ANSWER KEY :

1)	a	2)	a	3)	b	4)	b	169)	c	170)	d	171)	a	172)	b
5)	a	6)	d	7)	a	8)	c	173)	d	174)	a	175)	b	176)	d
9)	c	10)	d	11)	d	12)	a	177)	c	178)	a	179)	b	180)	c
13)	b	14)	b	15)	d	16)	d	181)	c	182)	b	183)	d	184)	a
17)	b	18)	c	19)	a	20)	c	185)	b	186)	b	187)	b	188)	b
21)	a	22)	b	23)	b	24)	b	189)	a	190)	a	191)	c	192)	a
25)	a	26)	a	27)	d	28)	b	193)	a	194)	c	195)	b	196)	c
29)	a	30)	b	31)	d	32)	d	197)	d	198)	a	199)	d	200)	b
33)	b	34)	c	35)	d	36)	c	201)	d	202)	b	203)	d	204)	b
37)	a	38)	b	39)	b	40)	a	205)	d	206)	a	207)	d	208)	a
41)	d	42)	c	43)	b	44)	c	209)	d	210)	c	211)	d	212)	d
45)	d	46)	a	47)	d	48)	d	213)	c	214)	a	215)	b	216)	a
49)	b	50)	a	51)	b	52)	c	217)	b	218)	b	219)	c	220)	b
53)	d	54)	a	55)	b	56)	a	221)	b	222)	b	223)	c	224)	a
57)	c	58)	a	59)	d	60)	c	225)	a	226)	b	227)	b	228)	d
61)	c	62)	a	63)	a	64)	d	229)	d	230)	d	231)	d	232)	b
65)	b	66)	b	67)	a	68)	c	233)	b	234)	b	235)	a	236)	b
69)	a	70)	d	71)	d	72)	d	237)	b	238)	c	239)	d	240)	a
73)	a	74)	b	75)	d	76)	d	241)	b	242)	d	243)	b	244)	b
77)	a	78)	a	79)	d	80)	c	245)	a	246)	d	247)	d	248)	d
81)	c	82)	c	83)	a	84)	a	249)	a	250)	a	251)	c	252)	d
85)	c	86)	c	87)	c	88)	c	253)	c	254)	a	255)	c	256)	c
89)	a	90)	c	91)	c	92)	c	257)	a	258)	d	259)	b	260)	d
93)	c	94)	d	95)	a	96)	a	261)	c	262)	a	263)	d	264)	d
97)	a	98)	c	99)	d	100)	a	265)	c	266)	b	267)	d	268)	a
101)	a	102)	b	103)	a	104)	a	269)	d	270)	c	271)	a	272)	d
105)	d	106)	a	107)	a	108)	a	273)	c	274)	c	275)	b	276)	b
109)	a	110)	a	111)	a	112)	a	277)	c	278)	a	279)	a	280)	c
113)	b	114)	c	115)	d	116)	b	281)	d	282)	d	283)	a	284)	c
117)	b	118)	b	119)	c	120)	b	285)	a	286)	d	287)	c	288)	b
121)	c	122)	a	123)	b	124)	d	289)	d	290)	d	291)	b	292)	c
125)	d	126)	a	127)	a	128)	d	293)	c	294)	b	295)	b	296)	d
129)	a	130)	b	131)	d	132)	d	297)	c	298)	d	299)	a	300)	b
133)	b	134)	a	135)	b	136)	d	301)	c	302)	b	303)	c	304)	b
137)	b	138)	d	139)	b	140)	d	305)	d	306)	a	307)	d	308)	b
141)	a	142)	a	143)	b	144)	d	309)	d	310)	b	311)	c	312)	b
145)	c	146)	b	147)	d	148)	b	313)	c	314)	c	315)	c	316)	a
149)	c	150)	c	151)	a	152)	c	317)	d	318)	b	319)	b	320)	b
153)	b	154)	b	155)	a	156)	a	321)	b	322)	d	323)	d	324)	b
157)	c	158)	a	159)	a	160)	d	325)	c	326)	a	327)	c	328)	d
161)	d	162)	b	163)	b	164)	b	329)	d	330)	c	331)	d	332)	d
165)	d	166)	d	167)	d	168)	d	333)	d	334)	a	335)	a	336)	d

337)	**d**	**338)**	**d**	**339)**	**a**	**340)**	**a**	**349)**	**a**	**350)**	**d**	**351)**	**b**	**352)**	**b**
341)	**a**	**342)**	**c**	**343)**	**a**	**344)**	**b**								
345)	**c**	**346)**	**c**	**347)**	**b**	**348)**	**b**								

NEET BIOLOGY

ENVIRONMENTAL ISSUES

: HINTS AND SOLUTIONS :

1 **(a)**
As the exhaust emission passes through catalytic converter, nitric oxide splits into nitrogen and oxygen; carbon monoxide is oxidised to carbon dioxide and unburnt hydrocarbons get burnt completely into CO_2 and H_2O

2 **(a)**
The National forest Policy (1988) of India has recommended 33% forest cover for the plains and 67% for the hills

3 **(b)**
Green house effect leads to an increase in atmospheric temperature due to CO_2 and other gases.

4 **(b)**
Phosphate is a major component of many fertilizers and certain other compounds or chemical, which cause water and soil pollution, while pollens from plants carbon monoxide, hydrocarbons, sulphur dioxide cause air pollution.

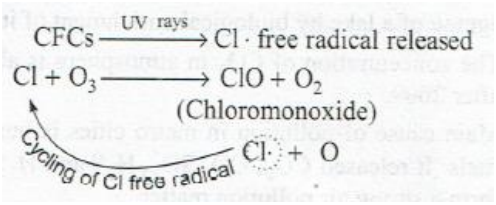
5 **(a)**
Many of the pesticides, such as DDT, aldrin and dieldrin are accumulated in the environment. They are fat soluble and generally non-biodegradable. They get incorporated into the food chain and ultimately deposited in the fatty tissues of animals and humans. In the food chain, because of their build up, they get magnified in the higher trophic levels called biological magnification. The phenomenon of biological magnification is also reported for certain other pollutants such as, heavy metals, e.g. mercury, copper and radioactive substances as strontium-90.

6 **(d)**
Acid rain results from air pollution by oxides of nitrogen (NO_x) and sulpaur (SO_x). These gases react with water and form acids.

$SO_2 + H_2O \rightarrow H_2SO_3$
$SO_3 + H_2O \rightarrow H_2SO_4$
$N_2O_5 + H_2O \rightarrow 2HNO_3$

When the pH of rain is below 5.6, it is called acid rain.

7 **(a)**
CFC_s(Chlorofluorocarbons) are mainly responsible for ozone layer depletion.
CFC_s are used as cooling materials in refrigerators and air conditioners, propel aerosol sprays, etc.
UV ray breaks CFC molecules and release chlorine molecules, which reduce the ozone content in the atmosphere. One chlorine free radical is sufficient to destroy a lac of ozone molecules.



8 **(c)**
Acid rain is result of SO_2 and NO_2 pollution in atmosphere, SO_2 causes formation of $H_2SO_4$and NO_2 causes formation of HNO_3.Both are strong acids.

9 **(c)**
Noise is defined as undesired high level of sound. It is a physical form of pollution that affects the receiver directly. Noise or pollutant sound has a value of 80 dB and above

10 **(d)**
Eutrophication is the phenomenon of nutrient enrichment of a water body that initially support a dense growth of plants and animal life
Extensive increase of these algae is called water bloom. In many cases blooms are formed by blue-green algae. They are toxic to animals and humans

11 **(d)**
Nuclear waste should be pre-treated and stored in shielded containers and then buried about 500 m deep with in rocks

12 **(a)**

A-bitumen; B-Bengaluru.
A fine powder of recycle modified plastic is called polyblend. Polyblend has been mixed with bitumen to lay roads in Bengaluru. Polyblend enhanced bitumen's water repellant properties and helped to increase the life of road

13 **(b)**
Automobiles burn petroleum inefficiently causing 80% of air pollution and 75% of noise pollution. Automobile exhausts consists of hydrocarbon (13.7%), carbon monoxide (77.2%), nitrogen oxides (7.7%), sulphur oxides, ammonia, aldehydes and lead (90% of total lead poisoning). Lead is present in the form of $Pb(CH_3)_4$and $(C_2H_5)_4$as anti-knock agent in automobiles exhaust. It interferes with oxygen and glucose metabolism, haeme synthesis and damages the vital organs of body.

14 **(b)**
Green house effect refers to selective energy absorption by CO_2 in the atmosphere which allows short wavelength energy to pass through but absorbs longer wavelength and reflects heat back to earth. It is caused by carbon dioxide, methane, nitrogen dioxide and water vapour.

15 **(d)**
Mainly $CO_2$is responsible for the green house effect.

16 **(d)**
Fertile top soil takes hundreds of years to develop. Soil without a vegetation cover is eroded by both wind and water. A sandy patch is formed. Water logging in soil results from irrigation without proper drainage of water. This effects the plants draws salts to the soil surface. The salt is either deposited as a layer on land surface or collects at root of plants. Increased salt concentration damages agriculture

17 **(b)**
A-1981, B-1987, C-noise

18 **(c)**
Electrostatic precipitator is used to remove particulate matter present in the exhaust of thermal power point. They are very efficient devices which remove 99% of particulates of 5-20 μm size present in the industrial and thermal plant exhausts

19 **(a)**
Reforestation is the natural or intentional restocking of existing forests and woodlands that have been depleted, usually through deforestation

20 **(c)**
A-Compressed Natural Gas (CNG), B-2002, C-Supreme Court

21 **(a)**
CFCs , CO_2, CH_4, NO_2 are green house gases. These gases cause increasing in temperature.

22 **(b)**
An ecologically compatible system of disposal of human excreta is the use of dry composting toilets, called ecosave toilets. No water is required. Human excreta is converted into a resource as it forms natural fertilizer. Ecosan toilets are already working in many parts of Kerala and Sri Lanka

23 **(b)**
Kyoto protocol deals with climate changes while Montreal Protocol deals with ozone depletion.

24 **(b)**
$A-CO_2(60\%), B-CH_4(20\%), C-$ $CFCs(14\%), D-N_2O(6\%)$

25 **(a)**
Main cause of pollution in metro cities is burning of fossil fuels. It releasedCO_2, CO, SO_2,H_2S and H_2SO_4.All these form a strong air pollution matter.

26 **(a)**
Plant conservation.
The lesson chipko talks about the conservation and importance of trees and forest. Its an ecological movement started by Sunder Lal Bahuguna

27 **(d)**
Electrostatic precipitator (ESP) is the most efficient device to eliminate the submicron particulates from the industrial and then collected on an electrode or hanging pipe. Then these are removed by hanging the pipes with hammers.

28 **(b)**
An international conference was held in Kyoto, the ancient capital of Japan on 1 to 10 December, 1997 of G-77 countries. It is popularly known as Kyoto protocol. In this, emphasis is given on global warming. Later is the result of increasing use of green house gases such as CO_2, methane, oxides of nitrogen, CFC_s,etc.

29 **(a)**

Pollution.

Pollution is an undesirable change in physical, chemical or biological characteristics of air, land, water or soil. Agents that bring about such undesirable changes are called as pollutants. Pollution is the unfavorable alteration of our environment largely because of human activities

30 **(b)**

The National Forest Policy (1988) of India has recommended 33% forest cover for the plains and 67% for the hills

31 **(d)**

Desertification is a type of land degradation in which a relatively dry land region becomes increasingly arid, typically losing its bodies of water as well as vegetation and wildlife. It is caused by a variety of factors, such as climate change and human activities

32 **(d)**

Compressed natural gas is a better fuel than petrol or diesel because it is (i) Cheaper (ii) Burns more efficiently (iii) Does not produce much pollution (iv) Cannot of siphoned off by thieves (v) Cannot be adulterated like petrol and diesel

33 **(b)**

Eutrophication is increase in amount of nutrients in water due to detergents, pesticides, etc, and it leads to organic loading, depletion of O_2, etc. Eutrophicated lake (polluted water) has higher Biochemical Oxygen Demand (BOD), it is the amount of O_2in mg required to decompose organic matter present in one litre of heavily polluted water.

34 **(c)**

The word 'activated sludge system' is derived from the practice of adding to the incoming sewage of the sludge from a previous batch. This sludge inoculums contains large numbers of metabolizing bacteria, together with yeasts, molds and Protozoa. An especially important ingredient of the sludge are species of *Zoogloea* bacteria, which from flocculent masses (floc) in the aeration tanks. The activity of these aerobic microorganisms oxidizes much of the effluent's organic matter into carbon dioxide and water. When the aeration phase is completed, the floc (secondary sludge) is allowed to settle to the bottom just as the primary sludge settle in primary treatment.

35 **(d)**

Radiations from nuclear wastes cause mutations at a very high rate. A high doses, nuclear radiations are lethal. At low doses, radiations cause disorders and cancer. Nuclear waste should be pretreated and stored in shielded containers and then buried about 500 m deep with in rocks

37 **(a)**

Photochemical smog or oxidizing type of pollution is characterized by the presence of large concentration of ozone, oxides of nitrogen and various hydrocarbons. It occurs in Los Angeles.

38 **(b)**

If there is no greenhouse effect, the average temperature at the surface of earth would have been $-18°C$

39 **(b)**

In Minamata bay of Japan, a disease was caused by eating fish contaminated by industrial waste containing mercury compounds. This disease was called as Minamata disease.

40 **(a)**

The reptiles and birds are mostly secondary or tertiary consumers. The concentration of DDT is increased in them. DDT is non-biodegradable pollutant, responsible for decline in the population of birds and reptiles.

41 **(d)**

Deforestation is the conversion of forested areas to non-forested area. Deforestation generally increases rates of soil erosion. Deforestation and soil erosion causes floods and droughts, as upper layers of soil become vulnerable to water and wind erosion. Deforestation include conversion of forest land to farms, ranches or urban use

42 **(c)**

Biomagnification refers to increase in concentration of the toxicant at successive trophic levels. This happen because a toxic substance accumulated by an organism cannot be metabolized or excreted and is thus, passed on to the next higher trophic level. This phenomenon is well known for mercury and DDT.

43 **(b)**

A-California; B-Humboldt State University

44 **(c)**

In secondary or biological treatment of municipal waste rich in sewage, the organic matter is decomposed with the help of microbes. Decomposition of organic matter occurs by one of the three methods-water hyacinth pond, trickling

filter method and activated sludge method. After decomposition the treatment water is sterilized through chlorination.

45 **(d)**
Itai-itai (ouch-ouch disease) is caused by cadmium.

46 **(a)**
Calcium metabolism in birds in disturbed due to the pollution of pesticides which results in thinning of eggshell. This leads to decline in bird population

47 **(d)**
Deforestation can be resulted into increase in carbon dioxide (CO_2) concentration in the atmosphere because trees that could hold a lot of carbon in their biomass are lost with deforestation. Deforestation also causes loss of biodiversity due to habitat destruction, disturbs hydrologic cycle, causes of soil erosion and may lead to desertification in extreme cases

48 **(d)**
Enhance the need for chemical fertilisers.
An ecologically compatible system of disposal of human excreta is the use of dry composting toilets, called ecosave toilets. No water is required. Human excreta is converted into a resource as it forms natural fertilizer. Ecosan toilets are already working in many parts of Kerala and Sri Lanka

49 **(b)**
The atmosphere around earth is warmed because molecules in the atmosphere are warmed by radiation from earth and retain that heat

50 **(a)**
Phenyl is not used for disinfection of drinking water.

51 **(b)**
Earth climate is changing as a result of natural and human processes

52 **(c)**
Jhum cultivation, commonly called as slash and burn agriculture in the north eastern states of India, has also contributed to deforestation. In jhum cultivation, the farmers cut down the trees of the forest and burn the plant remains. The ash is used as a fertiliser and the land is then used for farming or cattle grazing. After cultivation, the area is left for several years so as to allow its recovery. The farmers then move on to other areas and repeat this process

53 **(d)**
Oxygen is not a green house gas. The main gases responsible for green house effect are CO_2, CH_4, CFC_s and N_2O.

54 **(a)**
Minamata was reported due to mercury (Hg) pollution in Minamata Bay of Japan.

55 **(b)**
In an area where DDT had been used extensively, the population of birds declined significantly because many of the birds eggs laid, did not hatch

56 **(a)**
In 1980, the Government of India has introduced the concept of 'Joint Forest Management (JFM)' to work closely with the local communities for protecting and managing forests on mutual benefits

57 **(c)**
International conference held in **Kyoto, Japan** obtained commitments from different countries for reducing overall green house gas emission at a level 5% below level by 2012.

58 **(a)**
The source of hydrogen sulphides are refineries and chemical industries, bituminous fuels etc. It has smell like rotten eggs. It causes nausea, irritation in eyes and throat.

59 **(d)**
In India, prolonged use of 13-13 ppm of DDT (pesticide) can be detected in the body fat of the people, highest in the world. Most toxic pollutants such as pesticides do not degrade easily and, therefore accumulate within the body of an organism specially in fat deposited portion. This process is known as biochemical concentration.

60 **(c)**
In India the major goal of the green revolution was to increase agricultural production. MS Swaminathan initiated collaboration with Dr. Borlaug which reached the highest point into the green revolution through introduction of Mexican varieties of wheat in India. Green revolution depend mainly on plant breeding techniques for high yielding and disease resistant varieties in wheat, rice, maize etc.

61 **(c)**
Spray of water or lime.
A scrubber can remove gases like sulphur dioxide. In a scrubber, the exhaust is passed through a spray of water or lime

62 **(a)**
Human hear can hear a frequency of 500 to 5000 hertz, , sound energy is measured in terms of units called decibel(dB). Sound in our city homes (silent zone) during day time averages 40-50 dB, but street noise average 70-80 dB. Sounds upto 80 dB are considered bearable by man, but higher sound intensity are hazardous, causing nervous stress, irritability, increased blood pressure, etc.

63 **(a)**
North eastern states of India.
Jhum cultivation, commonly called as slash and burn agriculture in the north eastern states of India, has also contributed to deforestation. In jhum cultivation, the farmers cut down the trees of the forest and burn the plant remains. The ash is used as a fertiliser and the land is then used for farming or cattle grazing. After cultivation, the area is left for several years so as to allow its recovery. The farmers then move on to other areas and repeat this process

64 **(d)**
Pollution is an undesirable change in physical, chemical or biological characteristics of air, land, water or soil. Agents that bring about such undesirable changes are called as pollutants. Pollution is the unfavorable alteration of our environment largely because of human activities

65 **(b)**
Green house gases are those gases, which are transparent to solar radiations but retain and partially reflect back long wave heat radiations, i.e., infra red radiations. The various green house gases are $\mathbf{CO_2}$, $\mathbf{CH_4}$, **CFCs**, $\mathbf{N_2O}$, $\mathbf{O_3}$ and water vapours.

66 **(b)**
Bacteria is a prokaryotic organism and biodegradable while DDT is a non-biodegradable pollutant and undergo biological magnification.

67 **(a)**
The full form of BOD is **Biochemical Oxygen Demand**.

69 **(a)**
Pollution is an undesirable change in physical, chemical or biological characteristics of air, land, water or soil. Agents that bring about such an undesirable change are called as pollutants. A pollutant is a chemical geochemical substance as a biological product that deteriorates our natural environment. In order to control environmental pollution, the government of India has passed the Environment Protection Act, 1986 to protect and improve the quality of our environment (air, water and soil). The air act was amended in 1987 to include noise as air pollution

70 **(d)**
Grazing animals are very harmful because over grazing leads to destruction of vegetation and also cause desertification. The possible beneficial aspect of grazing animals is the addition of their excreta (dung) into the soil, which increases soil fertility.

71 **(d)**
Ozone is formed in the stratosphere by UV-radiation through reaction between primary pollutants. Ozone layer of stratosphere protects the earth livings from UV rays (less than 300 mm). Depletion or thining of ozone layer allows harmful UV rays to reach earth and causes skin cancer, cataract, etc.

72 **(d)**
The first effect of noise is anxiety and stress. Noise causes headache by dilating blood vessels of the brain, eye strain by dilating the pupil, etc. It can also cause increase in the rate of heart beat, constriction of blood vessels, decreased heart out put and defective night and colour vision
Prolonged and continuous high intensity noise not only causes partial hearing loss but may cause a permanent loss of hearing. A sudden loud noise such as an explosion can damage the tympanic membrane

73 **(a)**
The strength of sensation of sound perceived by the individual is called loudness, which is measured in decibels. The level of audible sound is about 10 dB and of whisper is 10-15 dB and sometimes upto 20 decibel.

74 **(b)**
Organic farming.
Organic farming is a form of agriculture that relies on techniques such as crop rotation, green manure, compost, resistant varieties and biologicals pest control

75 **(d)**
Main components of photochemical smog are ozone, peroxyacetyl nitrate, aldehydes, etc.

76 **(d)**
Pesticides are the chemicals that repel or destroy the weeds, pathogens and other pests and thus,

affect the food chain and food web. These chemicals may remain present in soil as pollutants.

77 **(a)**
Acid rain is due to air pollution of oxides of nitrogen (NO_x) and sulphur (SO_x). Sulphar dioxide (SO_2) reacts with water moisture and forms sulphuric acid, which accounts about 70% of acid rain.

78 **(a)**
According to Central Pollution Control Board (CPCB), particulates size 2.5 micrometers or less in diameter (PM 2.5) are responsible for causing the greatest harm to human health.
These fine particulates can be inhaled deep into the lungs and can cause breathing and respiratory symptoms, irritation inflammations and damage to the lungs and premature deaths. Failure of testosterone secretion causes eunuchoidism

79 **(d)**
Forest wealth suffers loss in many ways
(i) **Forest Fires** Fire is the worst enemy of forests
(ii) **Hydroelectic Projects** Dams, barriers constructed across the streams to form water reservoirs for generating power or preventing floods submerge and kill large tracts of forests
(iii) **Grazing by Livestock** The animals first eat young plants, then destroy the leaves on the lower branches of tall trees and finally damage their trunks and roots
(iv) **Population** Man has cleared large areas of forests to reclaim land for agriculture, housing, factories and roads. Increased demand for timber, fuel wood, **wooden crates** and paper has also contributed to the large scale **felling** of trees

80 **(c)**
Biochemical Oxygen Demand (BOD) is a measure of pollution by organic matter present in a sample of water
BOD is higher in polluted sewage water and is connected with both microbes and organic matter. More the organic pollution, specially sewage, more would be the BOD of water

81 **(c)**
In electrostatic precipitator, electrode wires are provided with an electric current of several thousand volts, which produces a corona that release electron. These electron attach to dust particle and given them a negative charge within a very small fraction of a second

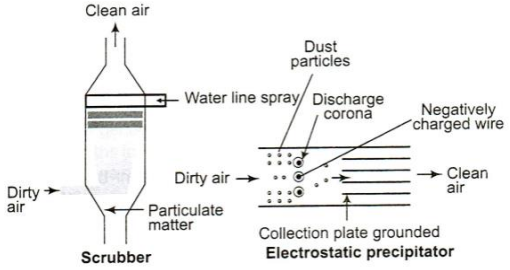
82 **(c)**
Deforestation.
Deforestation is the removal of a forest or stand of trees where the land is thereafter converted to a non-forest use. Examples of deforestation include conversion of forest land to farms, ranches or urban use

83 **(a)**
The gradual continuous increase in average temperature of surface of the earth as a result of increase in concentration of greenhouse gases is termed as global warming

84 **(a)**
80% of automobiles exhaust is carbon monoxide. It is a colorless, odourless gas. When inhaled, this gas combines with blood haemoglobin about 200 times faster than does oxygen and results in oxygen deficiency.

85 **(c)**
Scarps and flyash both.
Solid wastes are discarded solid materials which are produced due to various human activities. Solid wastes can be biodegradable, recyclable or non-biodegradable
Solid wastes can be of the following types
(i) **Municipal Solid Waste** Wastes from homes, offices, schools, hospitals etc.
(ii) **Industrial Wastes** The wastes like scraps, flyash, etc., generated by industries
(iii) **Hospital Wastes** Hazardous wastes containing disinfectants and other harmful chemicals generated by hospitals
(iv) **Electronic Wastes** These are the damaged electronic goods and irreparable computers

86 **(c)**
A-Discharge corona, B-Negatively charged wire, C-Dust particle, D-Collection plate grounded.



87 **(c)**
Eichhornia.
Water hyacinth (*Eichhornia crassipes*) also called 'Terror of Bengal' is one such plant that sometimes chokes ponds, lakes and rivers

resulting in imbalance of ecosystem dynamics of water-bodies

88 **(c)**
Solid waste can be biodegradable, recyclable or non-biodegradable.
Solid wastes are discarded solid materials which are produced due to various human activities.
Solid wastes can be biodegradable, recyclable or non-biodegradable
Solid wastes can be of the following types
(i) **Municipal Solid Waste** Wastes from homes, offices, schools, hospitals etc.
(ii) **Industrial Wastes** The wastes like scraps, flyash, etc., generated by industries
(iii) **Hospital Wastes** Hazardous wastes containing disinfectants and other harmful chemicals generated by hospitals
(iv) **Electronic Wastes** These are the damaged electronic goods and irreparable computers

89 **(a)**
Addition of phosphate of nitrate in water or lake firstly affect the growth of organisms. Large algae in presence of nitrate and phosphate growsery fast and occupy a large area
As the overload of aquatic organisms increase, the organic remain start depauted at the bottom of lake and over centuary pile up the lake and ultimately converting into land. So eutrophication is natural ageing of lake by nutrient enrichment of its water

90 **(c)**
Many of pesticides such as DDT, aldrin and dieldrin have a long life time in the environment. They are fat soluble and generally non-biodegradable. They get incorporated into the food chain and ultimately deposited in the fatty tissues of animals and humans. In the food chain, because of their build up, they get magnified at higher trophic level, called biological magnification.

91 **(c)**
The main cause of ozone layer depletion is chlorofluorocarbons (CFCs) released from aerosol spray cans, polyurethane foams, air conditioners and refrigerators.

92 **(c)**
A fine powder of recycle modified plastic is called polyblend. Polyblend has been mixed with bitumen to lay roads in Bengaluru. Polyblend enhance bitumen's water repellant properties and helps in increase the life of road

93 **(c)**
Stratosphere extends from 16 to 50 km. Temperature shows a gradual increase with increase in altitude. It includes much of ozone layer.

94 **(d)**
Fine particulates can be inhaled deep into the lungs and can cause breathing and respiratory symptoms, irritation, inflammations and damage to the lungs and premature deaths. failure of testosterone secretion causes eunuchoidism

95 **(a)**
Electronic waste.
Solid wastes are discarded solid materials which are produced due to various human activities.
Solid wastes can be biodegradable, recyclable or non-biodegradable
Solid wastes can be of the following types
(i) **Municipal Solid Waste** Wastes from homes, offices, schools, hospitals etc.
(ii) **Industrial Wastes** The wastes like scraps, flyash, etc., generated by industries
(iii) **Hospital Wastes** Hazardous wastes containing disinfectants and other harmful chemicals generated by hospitals
(iv) **Electronic Wastes** These are the damaged electronic goods and irreparable computers

96 **(a)**
Eutrophication is excessive growth of algae, plants and animals in water-bodies due to nutrient enrichment particularly with nitrogen and phosphorus

97 **(a)**
Chlorofluorocarbons.
Ozone protects us from the harmful UV radiations from the sun. Major pollutants responsible for the depletion of ozone layer are chlorofluorocarbons, nitrogen oxides and hydrocarbons
CFCs are widely used as coolants in air conditioners and refrigerators, cleaning solvents, aerosol propellants and in foam insulation. The threat to O_3 is mainly from CFCs, which are known to deplete O_3 by 14% at the current emission rate

98 **(c)**
Chipko Movement was started in Garhwal, Himalayas in 1974 by Shri Sundar Lal Bahuguna to prevent cutting down of trees. Local woman

hugged trees to prevent their cutting by the contractors

99 **(d)**
In presence of ultraviolet radiation, atomic oxygen reacts with oxygen molecule to form ozone

$$O_2 + O \rightarrow O_3$$

100 **(a)**
Ozone layer is present in stratosphere of atmosphere. Ozone layer is being destroyed by release of many substances such as CFCs, methane, etc. In 1975, atmospheric scientists first discovered the formation of ozone hole maximum over Antarctica.

102 **(b)**
Ozone depletion is occurring widely in the strotasphere, the depletion is particularly marked over the Antarctic region. This has resulted in formation of a large area of thinned ozone layer, commonly called as ozone hole

103 **(a)**
Prolonged intake of fluoride polluted water causes stiffing of bone and joints particularly spinal cord. Due to affinity with calcium, fluoride stores in bones which causes mottling of teeth, bone pains and outward bending of kegs from the knees. This is known as **Knock Knee Syndrome.**

104 **(a)**
Sundar Lal Bahuguna.
Chipko Movement was started in Garhwal, Himalayas in 1974 by Shri Sundar Lal Bahuguna to prevent cutting down of trees. Local woman hugged trees to prevent their cutting by the contractors

105 **(d)**
The most common type of aerobic bioreactors in use today is the stirred-tank reactor, which may feature a specific internal configuration designed to provide a specific circulation pattern. The stirred-tank bioreactor have been designed for availability of oxygen throughout the process.

106 **(a)**
They were all radioactive disasters

107 **(a)**
DDT, BHC, PCBs, etc are non-biodegradable pollutants, which are not degraded easily and are long lasting in the environment.

108 **(a)**
Catalytic converters are fitted into automobiles for reducing emission of poisonous gases like NO_2 and CO. They have expensive metals like platinum-palladium and rhodium as catalysts

109 **(a)**
In 1731, a Bishnoi woman, Amrita Devi showed **exemplary** courage by hugging a tree to prevent its cutting. Government of India has recently instituted the Amrita Devi Bishnoi Wildlife Protection Award for individuals or communities from rural areas that have shown extraordinary courage and dedication in protecting wildlife

110 **(a)**
Lichens are extremely sensitive to pollutants in the atmosphere and thus, they can be used as bio-indicator of air quality. Their sensitively results from their ability to absorb substances dissolved in rain and dew.

111 **(a)**
Combined biological and enzymatic treatment are used to remove phenol Chydrocarbony. Tyrosinase extraxted from mushroom *Agaricus bisporus* was used in the removal.

112 **(a)**
Urbanization is the major cause of disertification

113 **(b)**
One of most appreciated air pollution cleaner system, ESP is widely used in various industries. It is applicable to pollutants particulate matter and hazardous air pollutants such as most metals. Wet ESPs are often used to control acid mists and can provide incidental control of volatile organic compounds.

114 **(c)**
Lichens are sensitive to SO_2environment. They cannot grow in sulphur dioxide polluted area. So, lichens are called pollution indicating plants.

115 **(d)**
Reforestation is an inexpensive but slow process for flood control. Reforestation improve soil fertility and reduce soil erosion

116 **(b)**
Mn causes sterility, eye disease, loss of memory or loss of vision in human beings.

117 **(b)**
The Central Pollution Control Board prescribed the BOD limit for the discharge of industrial and municipal waste water as < 10 ppm.

118 **(b)**
Eutrophication is the excessive nutrient enrichment of a water body. It is caused due to

the addition of domestic sewage, phosphates, nitrate, etc.

119 **(c)**

Acid rain and smog are example of regional pollution.

Acid rain is caused mainly by oxides of sulphur and nitrogen and has a pH of 4 or 4.5. once in the air these oxides may react with moisture to form H_2SO_4 and HNO_3.

SO_2 (oxidized) $\longrightarrow SO_3 + H_2O \longrightarrow H_2SO_4$

NO(oxidized) $\longrightarrow NO_2 + H_2O \longrightarrow HNO_3$

Smog is harmful mixture of smoke and fog. It consists of mixture of primary and secondary pollutants (*eg*. Hydrocarbons, NO_2, PAN,HCHO).

120 **(b)**

In 1992, world leaders convened an **Earth Summit** in **Rio de Janeiro, Brazil**, in search of international agreements that could help to save the world from pollution, poverty and the waste of resources. Another Earth Summit was convened from 26th August to 4th September 2002 in Johannesburg, South Africa.

121 **(c)**

Depletion or thining of ozone layer allows harmful UV rays to reach earth and causes skin ageing, skin cancer, cataract, etc.

122 **(a)**

Ozone hole is not an actual hole but an area of extreme reduction in ozone concentration in the ozone layer in stratosphere

123 **(b)**

A-diesel, B-petrol, C-42%

124 **(d)**

World environment day is celebrated on 5th June

125 **(d)**

A lake highly enriched with nutrients is called eutrophic.

126 **(a)**

Radioactive wastes.

Nuclear energy was assumed to be a natural, non-polluting way of electricity generation till the incidents at Three Mile Island and Chernobyl. It is now considered as the most potent pollutant

Leakage of radioactive materials from thermal power plants and unsafe disposal of radioactive wastes are the main causes of radioactive pollution

128 **(d)**

Methods of Solid Waste Disposal

(i) **Open Burning** Municipal waste is reduced by burning in open dumps but the unburnt waste serve as the breeding ground for rats and flies

(ii) **Sanitary Landfills** Wastes are dumped in a depression or trench after compaction and covered with dirt. Seepage of chemicals from these landfills can pollute underground water resources

(iii) **Rag-pickers and Kabadiwallahs** Wastes are collected and separated out into reusable or recyclable categories

(iv) **Natural Breakdown** The biodegradable materials are kept into deep pits in the ground for natural breakdown

(v) **Recycling** E-wastes can be recycled in specifically built facilities or manually to recover important metals

(vi) **Incineration** Majority of e-wastes generated in developed world is exported to developing world where they are incinerated

129 **(a)**

The main gases responsible for green house effect are CO_2, CH_4, CFCs, O_3, etc.

130 **(b)**

In Delhi, polluted air hangs above like a cloud.

131 **(d)**

Biomagnification or **biological amplification** is the passing of non-degradable pollutants like pesticides (DDT), etc, into the food chain and increase in amount per unit weight of organisms with the rise in trophic level due to accumulation in the body.

132 **(d)**

Increasing skin cancer and damages DNA and proteins in living organisms are the result of ozone depletion

133 **(b)**

Electronic waste (e-waste) describes loosely, discarded surplus, obsolete or broken electrical or electronic devices. Environmental groups claim that the informal processing of e-waste in developing countries cause serious health and pollution problems.

134 **(a)**

Reforestation is restoring a forest cover over an area where one existed earlier but was removed at some point of time in the past. It may occur naturally in a deforested area.

A tree plantation movement or Van Mahotsava is being carried out in India since 1950. Under this

movement, both government and private agencies perform tree plantation during July and February every year. In these months soil has sufficient water to support the growth of plant

135 **(b)**

SO_2.

A scrubber can remove gases like sulphur dioxide. In a scrubber, the exhaust is passed through a spray of water or lime

136 **(d)**

Eutrophication is excessive growth of algae, plants and animals in water-bodies due to the nutrient enrichment particularly with nitrogen and phosphorous. Eutrophication is both natural and accelerated. Natural eutrophication is nutrient enrichment of a water-body due to natural ageing

Accelerated eutrophication is nutrient enrichment of water-bodies plants and due to human activities like passage of sewage, industrial effluents and run off from fertilised fields rich in nitrates and phosphates. Nutrients present in sewage, agriculture wastes and fertilisers cause dense growth of plants and planktonic algae. These are toxic to animals and humans

137 **(b)**

The activated sludge treatment involves the decomposition of organic matter through sewage fungus and decomposer bacteria by aeration in oxidation tanks. This aeration helps in the oxidation of sludge.

138 **(d)**

Carcinogen		Cancer tissue
Cigarette smoke	-	lungs
Soot, coal tar	-	Skin

Leukamemia is blood cancer resulted due to unchecked proliferation of White Blood Cells(WBCs).

139 **(b)**

Ozone (O_3) is a gas, which is present as a layer in the stratosphere. It absorbs the high energy radiations or ultra violet (UV) rays from sun and protects us from the harmful effects of these radiations.

140 **(d)**

Over cultivation, unrestricted grazing deforestation and poor irrigation practices.

Soil erosion occurs when the soil is blown away by the wind or washed away by the rain. Human play a major role in soil erosion through their use and abuse of natural resources, for example deforestation, grazing, faulty farming systems, high crop intensity, housing construction by cutting plant mining, etc.

141 **(a)**

Eutrophication is a natural state in many lakes and ponds, which have a rich supply of nutrients. Generally, it occurs due to excessive use of chemical fertilizers and causes foul smell of water and death of aquatic organisms.

142 **(a)**

Algal blooms impart a distinct colour to water due to their pigments

143 **(b)**

Hydroelectric power plants do not cause pollution. The **thermal power plants** and **automobiles** cause air pollution. The chief pollutants of thermal power plants are fly ash, So_2, hydrocarbons and other gases while the pollutants of automobiles are CO hydrocarbons, SPM and other gases.

144 **(d)**

The phenomenon of increasing concentration of harmful substances inside the body of organism at successive trophic level is known as **biomagnification**. The pesticides, DDT, inorganic nitrate and non-degradable pollutants enter into the body of plants and animals through food chain.

145 **(c)**

The excess of amount of CO_2 forms a thick 'blanket' in the atmosphere which is transparent to sunlight but absorbs infra-red radiation trapping heat near the earth's surface. In this way, due to CO_2blanket, the earth's atmosphere works very much like a green house which causes warming up of the interior. So, carbon dioxide is called green house gas.

146 **(b)**

Primary pollutants are the pollutants which enter the air directly from the source, e.g., NO_2, Br_2, Cl_2, CO, DDT, etc.

Secondary pollutants develop from the interaction of primary pollutants and atmosphere constituents, e.g., oxides of nitrogen react with atmospheric moisture (water vapour) and from HNO_3 which results in acid rain.

147 **(d)**
Minamata bay of Japan was polluted by mercury (Hg), which resulted into Minamata disease.

148 **(b)**
The Montreal protocol on substances that deplete the ozone layer is a landmark international agreement designed to protect the stratospheric ozone layer. The treaty was originally signed in 1987 (effected in 1989) and substantially amended in 1990 and 1992. The Montreal protocol stipulates that the production and consumption of compounds that deplete ozone in the stratosphere-chlorofluorocarbons (CFC_s), halons, carbon tetrachloride and methyl chloroform-are to be phased out by 2000(2005 for methyl chloroform).

149 **(c)**
Kerala and Sri Lanka.
An ecologically compatible system of disposal of human excreta is the use of dry composting toilets, called ecosave toilets. No water is required. Human excreta is converted into a resource as it forms natural fertilizer. Ecosan toilets are already working in many parts of Kerala and Sri Lanka

150 **(c)**
Since, large populations of *Escherichia coli* are found in human colon, the presence of E. coli in water indicates that, it has been contaminated with faecal matter. Thus, E. *coli* is commonly known as indicator of water pollution.

151 **(a)**
Kyoto protocol has specified the commitments of different countries to mitigate climate changes.

152 **(c)**
O_3, PAN (Peroxy Acetyl Nitrate) and NO_2 are responsible for photochemical smog.

153 **(b)**
Many pesticides, such as DDT, aldrin and dieldrin, have a long life time in the environment. They are fat soluble and generally non-biodegradable. They get incorporated into the food chain and ultimately gets deposited in the fatty tissues of animals and humans
In the food chain, because of their build up, they get magnified in the higher trophic levels called biological magnification. The phenomenon of biological magnification is also reported for certain other pollutants, such as heavy metals like lead, mercury and copper and radioactive substances as strontium-90

154 **(b)**
All of the given statements are correct except II
Ozone present in stratosphere acts as a shield absorbing UV radiation coming from the sun

155 **(a)**
In India, the heaviest demand on forests is for fuel wood

156 **(a)**
Ozone layer is confined to the stratosphere. It is formed when sunlight reacts with O_2molecules. The ozone protects the earth from harmful UV-rays by absorbing them.

157 **(c)**
Carbon monoxide is a pollutant. It is a poisonous gas. Hb has maximum affinity for CO.

158 **(a)**
The rise in concentration of green house gases resulting in increasing the global mean temperature. It is called global warming. The various green gases are CO_2 (warming effect 60%),CH_4(effect 20%),chlorofluorocarbons (effect 14%) and nitrogen oxide (effect 6%).

159 **(a)**
CO and oxides of sulphur from automobiles exhaust and smoke from factories is the main cause of pollution in big cities.

160 **(d)**
Air pollution problem in India become so serious that a public interest litigation (PIL) was filed in the supreme court. Under its directives, the government was asked to take appropriate measures including switching over the entire fleet of public transport from diesel to **compressed natural gas** (CNG).

161 **(d)**
Eichhornia and certain phytoplanktons have capacity of purification of water. Cells of these plants uptake and accumulate heavy metals and other toxicants of polluted water. Organic pollutants of water like petroleum can be degraded with the help of bacteria *Pseudomonas*.
Beggiatoa is a sulphur bacteria which oxidizes hydrogen sulphide to sulphar.
Chlorella and *Spirogyra* are green algae, which do not help in purification of water.

162 **(b)**
The materials and poison such as aluminium ions, mercurial salts and DDT that either do not

degrade or degrade only extremely slowly in the natural environment are called **non-biodegradable pollutants.**

163 **(b)**
Mercury was responsible for the Minamata epidemic that caused several deaths in Japan. This tragedy had occurred due to consumption of heavily mercury contaminated fish (27 to 102 ppm) by the villagers.

164 **(b)**
The increase in the concentration of a non-biodegradable pollutant through successive trophic levels is called **biological magnification**. **Sea gull** is the top consumer in the food chain therefore, highest concentration of DDT will be deposited in it. **Phytoplanktons** are producers in the water bodies therefore, they have least concentration of DDT.

165 **(d)**
E.coli resides in the large intestine of human. Therefore, if these are present in water supply, it can be guessed that water supply has been contaminated by sewage.

166 **(d)**
Bad ozone is formed in troposphere. It is harmful to plants and animals. Good ozone is formed in stratosphere and absorbs harmful UV radiation from the sun

168 **(d)**
The thickness of the ozone in a column of air form the ground to the top of the atmosphere is measured in terms of Dobson Units (DU).

169 **(c)**
Montreal protocol refers to the substances such as CFCs, (chlorofluorocarbons), methane that deplete the ozone layer.

170 **(d)**
Green house effect is the warming up of earth due to accumulation of green house gases. Green house gases mainly include carbon dioxide(CO_2), methane (CH_4),chlorofluorocarbons(CFCs), etc.

171 **(a)**
Radiations from nuclear wastes cause mutations at a very high rate. At high doses, nuclear radiations are lethal. At low doses, radiations cause disorders and cancer

172 **(b)**
Pollutant is any substance, chemical or factor, which has a potential to harmfully affect the human being, plants and other animals and therefore, the homeostasis of environment.

173 **(d)**
Increase in the level of greenhouse gases in the atmosphere causes the rise in global mean temperature called global warming. *Strategies for reducing global warming are*
(i) Reducing deforestation
(ii) Plantation
(iii) Reduction of emission of greenhouse gases into the atmosphere
(iv) Cutting down the use of fossil fuels

174 **(a)**
Euro II norms were stipulated to control sulphur content at 350 ppm in diesel and 150 ppm in petrol and aromatic hydrocarbons are to be contained at 42%

175 **(b)**
In 1987, twenty seven industrialized countries signed the **Montreal protocol** for reduction and release of CFCs(chlorofluorocarbons) depleting ozone layer, into the atmosphere. It was followed by increasingly stringent amendments in London in 1990 and in Copenhagen in 1992.

176 **(d)**
A scrubber can remove gases like sulphur dioxide. In wet scrubber, a fine spray of water or alkaline fluid like lime is allowed to fall over exhaust emissions. Water dissolves gases. The particles also become heavy and fall down. Lime reacts with sulphur dioxide to produce a precipitate of calcium sulphate or calcium sulphide is used to remove soluble gases and particles

177 **(c)**
CO_2 is opaque to infra-red rays, which allow entry of radiations in atmosphere but prevents return of heat to space from earth.

178 **(a)**
Population growth possesses serious threat to the forest. The forest are the basis needs of everyday life as they provide us food, shelter and raw material for other essentialities but these forests are deforested for fulfilling the increasing demands of overpopulation like clearing of forests for agriculture, industries, urban area, etc.

179 **(b)**
Smog secondary pollutants are formed by reactions amongst the primary pollutants. They are often more harmful than primary pollutants

180 **(c)**

According to **Holmes** et al, (1933), USA is responsible for the largest portion of man made contributions to the green house effect (21%), followed by Russia (14%), European countries (14%), India (4%) and the rest of the world (36%)

181 **(c)**
Stratosphere.
Bad ozone is formed in troposphere. It is harmful to plants and animals. Good ozone is formed in stratosphere and absorbs harmful UV radiation from the sun

182 **(b)**
CFC_s, CH_4, N_2O deplete ozone layers in atmosphere.

183 **(d)**
Platinum-palladium and rhodium.
Catalytic converters are fitted into automobiles for reducing emission of poisonous gases like NO_2 and CO. They have expensive metals like platinum-palladium and rhodium as catalysts

184 **(a)**
El Nino effect is closely associated with global warming. Rise in temperature leads to deleterious changes in the environment and results in odd climatic changes (*e*. *g*., El Nino effect)

185 **(b)**
The environmental Protection Agency (EPA) has set the Maximum Contamination Lavel (MCL) of nitrate for the safety of drinking water. Nitrate levels at or above this level have been known to cause a potentially fatal blood disorder in infants under six months of age called methaemoglobinemia or blue-baby syndrome, in which there is a reduction in the oxygen carrying capacity of blood.

187 **(b)**
Deforestation is the removal of a forest or stand of trees where the land is thereafter converted to a non-forest use. Examples of deforestation include conversion of forest land to farms, ranches or urban use

188 **(b)**
Noise is the most dangerous pollutant of the environment. The unit of sound level is decibel. In a residential areas, during day time 55 dB of sound (45 dB at night) is permissible through noise pollution control law.

190 **(a)**
In 1987, under Air Prevention and control of pollution Act, noise was recognised as an air pollutant

191 **(c)**
'Green house effect' refers to selective energy absorption by green house gases(e.g., carbon dioxide, methane , nitrogen oxide, chlorofluorocarbons and water vapour) in the atmosphere, which allows short wavelength energy to pass through but absorbs longer wavelength and reflect heat back to earth.

192 **(a)**
SO_2 emitted from Mathura refinery (located about 40 km from Taj Mahal) as well as from foundries, power houses and railway yards get mixed with the atmospheric moisture and get converted into sulphuric acid, which settle down on the exterior of Taj Mahal. It reacts with marble ($CaCO_3$) leading to corrosion and discolouration of the monument.

193 **(a)**
An international treaty, Montreal Protocol, was signed at Montreal, Canada, in 1987 to curb the emission of ozone depleting substance. More protocols have been laid down in controlling emission of CFCs

194 **(c)**
Greenhouse gases are those gases, which are transparent to solar radiation but retain and partially reflect back long wave heat radiations CFFs, CO_2, CH_4, NO_2, are greenhouse gases. The phenomenon of keeping the earth warm due to presence of these gases in the atmosphere is called greenhouse effect

195 **(b)**
The temperature of the earth has increased by 0.6°C in last three decades, which will lead to changes in precipitation patterns. Rise in temperature leads to deleterious changes in environment resulting in odd climatic changes called **El Nino effect**. The rise in temperature will lead to the increased melting of polar ice caps which will cause the rise in sea level and many coastal areas will be submerged

196 **(c)**
Due to addition of domestic wastes (sewage, phosphates, nitrates, etc) water body become rich in nutrients. With the addition of nutrients, there is stimulated luxuriant growth of algae in water leads to algal blooms. The algal blooms complete

with other aquatic plants for light and photosynthesis. Thus, oxygen level is depleted. Moreover, these blooms also release some toxic chemicals, which kill fish and other animals.

197 **(d)**
Acid rain problem can be attributed mainly to atmospheric pollutants such as oxides of sulphur and nitrogen. The oxides of sulphur are released from the smoke stacks of coal fired power plants, smelters and other industries. The oxides of nitrogen came from combustion of fuels in automobiles as well as in power plants.

198 **(a)**
Eutrophication is increased in amount of nutrients in water due to detergents, pesticides, etc, and it leads to organic loading, depletion of O_2, etc.

199 **(d)**
Catalytic converters are fitted into automobiles for reducing emission of poisonous gases like NO_2 and CO. Catalytic converters have costly metals like platinum, palladium and rhodium as catalysts. Exhaust gases first pass through catalytic converter
Hydrocarbons which have been left unburnt are oxidised to produce carbon dioxide and water. Carbon monoxide is also oxidised to form carbon dioxide. However, nitrogen oxide splits up to form nitrogen gas. Auto mobiles fitted with catalytic converter should not use leaded petrol because lead inactivates the catalyst of the converter

200 **(b)**
80 dB.
Noise is defined as undesired high level of sound. It is a physical form of pollution that affects the receiver directly. Noise or pollutant sound has a value of 80 dB and above

201 **(d)**
Acid rain is a liquid pollutant, whereas SO_2, CO and CO_2 are gaseous pollutants.

202 **(b)**
Soil erosion occurs when the soil is blown away by the wind or washed away by the rain. Human play a major role in soil erosion through their use and abuse of natural resources, for example deforestation, grazing, faulty farming systems, high crop intensity, housing construction by cutting plant mining, etc.

203 **(d)**
Ozone depletion in stratosphere shall result in increased incidence of skin cancer and cataract.

204 **(b)**
The oxygen concentration at the floor of the deep ponds and lakes is very low because of the lesser amount of sunlight.

205 **(d)**
CO_2 is normally not an air pollutant. It is necessary for photosynthesis. Its rise has been due to large scale deforestation and large scale combustion of fossil fuels. When CO_2goes to high concentration, it causes global warming.

206 **(a)**
In August 1989, 44 countries and EEC ratified the Montreal protocol, which provides a mechanism to review the efficiency of control measures. In a policy statement called Helsinki Declaration, the attending nations agreed to phase out the production and consumption of controlled CFCs as soon as possible but not later than the year 2007. They also agreed to phase out the halons and to control and reduce other Ozone Depleting Substances (ODSs).

207 **(d)**
Sulphur dioxide causes respiratory tract diseases like asthma, bronchitis, cancer, emphysema, etc.

208 **(a)**
Forests in India according to central Forestry commission (1980) are about 19.4%

209 **(d)**
An ecologically compatible system of disposal of human excreta is the use of dry composting toilets called ecosan toilets. No water is required. Human excreta is converted into a resource as it forms natural fertilizer. Ecosan toilets are already working in many parts of Kerala and Sri Lanka

210 **(c)**
Cadmium (Cd) poisoning leads to itai-itai (ouch-ouch) disease. Cadmium consumption causes diarrhea, bone deformation, kindly damage, retarded growth, CNS injury etc.
Mercury (Hg) poisoning causes Minamata disease, lead (Pb) consumption cause damage to liver, heat, kidney and reduction haemoglobin formation, while black-foot disease is caused by chronic exposure to arsenic.

211 **(d)**
Organic farming is a form of agriculture that relies on techniques such as crop rotation, green

manure, compost, resistant varieties and biologicals pest control

212 **(d)**

The atmosphere cover around the earth acts like glass walls of a greenhouse. It absorbs much of the incoming solar radiation from the sun and re-radiates to the earth's surface

However, it prevents the long wave infrared radiation emitted by the earth's surface to escape into the space

Thus, the atmosphere acts a greenhouse, trapping the heat. The gases in the atmosphere most responsible for keeping the earth's surface warm are CO_2, CH_4, CFCs and N_2O and water vapours

The increase in mean global temperature due to increased concentrations of greenhouse gases is called global warming. A recent survey has revealed 60%, 20%, 14% and 6% of warming effect of CO_2, CH_4, CFCs and N_2O respectively

213 **(c)**

Population explosion is the major cause of urbanization, deforestation and increasing pollution.

214 **(a)**

Motor vehicles fitted with catalytic converter should use unleaded petrol as leaded petrol inactivates the catalyst

215 **(b)**

Pollutants like effluents from the industries and sewage speed up this ageing process. This is called accelerated or cultural eutrophication. Hot waste water from electricity-generating units, thermal power plants are important pollutants

216 **(a)**

Biodegradable pollutants are those which can be degraded through microbial action, e.g., sewage, livestock wastes, etc.

217 **(b)**

Eutrophication is the phenomenon of nutrient enrichment of a water body. It initially supports a dense growth of plants and animal life causing algal bloom, which cuts off light from submerged plants. The latter die. This results in the reduction of dissolved oxygen.

218 **(b)**

Ozone is an isotope of oxygen. It exists at a height of about 15-60 km in the middle and upper stratosphere and lower mesosphere. Major pollutant responsible for the depletion of ozone are chlorofluorocarbons (CFCs), nitrogen oxides and hydrocarbons (like **benzene, methane**)

219 **(c)**

Biochemical oxygen demand is the oxygen in milligrams required for five days in one liter of water at 20^oC for the microorganisms to metabolise organic waste. BOD increases with increase of pollution.

220 **(b)**

Sewage treatment involves three stages:

1. **Primary treatment stage** It removes most of the suspended wastes and includes fragmentation, sedimentation, floatation and filtration.

2. **Secondary treatment stage** The sewage is accumulated in aerated tanks, where microorganism decompose the organic matter.

3. **Tertiary treatment stage** To remove mineral loads, the sewage undergoes additional filtering and chemical treatment.

Polluted water is purified by reverse osmosis technique which does not involve biological process.

221 **(b)**

When primary air pollutants (gases, particulates) take part in wide range of photochemical reactions, they form secondary pollutants. Important secondary pollutants areSO_2, H_2SO_4 PAN etc.

222 **(b)**

The phenomenon through, which certain pollutants (toxic substances) get accumulated in trophic level and increasing concentrations along the different trophic levels is called biological magnification or ecological magnification.

223 **(c)**

The concentration of CO_2 in atmosphere is above 380 ppm after 2009.

224 **(a)**

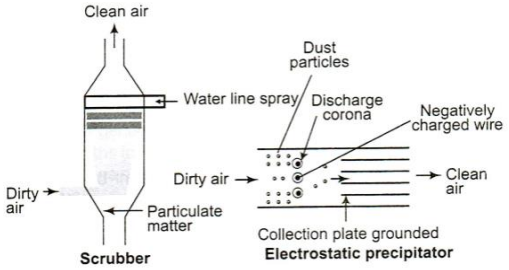
The various green house gases are CO_2(warming effect 60%), CH_4(20%), CFC_s(14%) and nitrous oxide N_2O(6%).

225 **(a)**

Chimney is a main source of pollution where pollutants are released from a single point. Mining areas and industrial estate are area source of pollution

227 **(b)**

A-Dirty air, B-Clean air, C-Water line spray, D-Particulate matter



228 **(d)**

Bhopal gas tragedy occurred (3 Dec, 1984) when MIC (Methyl Isocyanate) reacted with water in tank, an exothermic chemical reaction started and producing a lot of heat. As a result, the safety valve of tank burst because of increasing in pressure. It gave rise to a heavy gas leak which rapidly rank to the ground.

229 **(d)**

Global warming is the warming/ heating up of the earth's atmosphere due to depletion of '**ozone'** in the stratosphere. Major pollutants responsible for this depletion are chlorofluoro carbons (CFCs), nitrogen oxides and hydrocarbons.

CFCs are widely used as coolants in air conditioners and refrigerators, cleaning solvents, aerosol propellants and in foam insulation. It is also used in fire extinguishing equipments. On escaping to the stratosphere, it cause depletion or thinning of protective ozone layer. It results in direct and indirect harmful effects leading to temperature changes and rainfull failures on earth.

So, decreasing the use of air conditioners, jet planes, green house gases, etc, or developing the substitutes for CFCs can be able to reduce global warming.

230 **(d)**

Air pollution has several effects on all living organism and on climate. Diseases like bronchitis, lung cancer and emphysema are caused by air pollution

(i) NO_2 causes bronchitis and lowers the resistance to influenza

(ii) SO_2 obstructs breathing and irritates eyes

(iii) Nitric acid, nitrous acid and sulphuric acid causes respiratory diseases

Air pollutants reduce growth and yield of crops and cause premature death of plants

231 **(d)**

Incineration is a method for removing gaseous pollutants by burning them to CO_2, H_2O and interts. This works only for combustible vapours.

232 **(b)**

The ozone layer lies in the stratosphere between 20-26 km above the sea level. The chlorofluorocarbons produce active chlorine radicals in the presence of UV radiation. These active chlorine radicals catalytically destroy ozone layer converting into oxygen. Each chlorine radical can destroy as many as 1000 ozone molecules.

233 **(b)**

Green house effect involves the heating (warming) up of earth's surface due to increasing amount of CO_2in the atmosphere as its thick layer prevents the solar heat from being reradiated out of the earth's surface.

234 **(b)**

Entrophication is natural state in many lakes and ponds, which have a rich supply of nutrients, this leads to decomposition of nutrients through bacteria and other decomposers by the process of **anaerobic respiration**. This causes foul smell.

235 **(a)**

Due to increase in CO_2 concentration, a thick layer of CO_2 is formed, which function as glass panel of a green house that prevent the heat from being re-radiated out. This is called green house effect.

236 **(b)**

5^{th} June is celebrated as **world environment day.**

237 **(b)**

Ecological balance is the maintenance of an equilibrium between living and non-living components of an ecosystem. So, the pollution disturbs the ecological balance.

238 **(c)**

Some sulphates and nitrates can also be formed in photochemical smog due to oxidation of sulphur containing components (SO_2, H_2S) and $NO_x(N_2O_5, NO_2)$ but it does not contain CO_2. Photochemical smog materials cause damage to plants, human health hazards and corrosion problems.

239 **(d)**

Minamata disease is caused due to consumption of mercury polluted water.
Mercury consumption mainly affects central nervous system. This results impairment of vision, trembling, hair loss and inability to coordinate.

240 **(a)**
SO_2 and NO_2produce acidity, as a result of which acid rain occurs.

241 **(b)**
Ozone protects us from the harmful UV radiations from the sun. Major pollutants responsible for the depletion of ozone layer are chlorofluorocarbons, nitrogen oxides and hydrocarbons
CFCs are widely used as coolants in air conditioners and refrigerators, cleaning solvents, aerosol propellants and in foam insulation. The threat to O_3 is mainly from CFCs, which are known to deplete O_3 by 14% at the current emission rate

242 **(d)**
The phenomenon of greenhouse effect has resulted in rise of mean atmospheric temperature by 0.6°C in the 20th century. It may further rise to some where between 14°C to 58°C by the year 2100 from the 1990 level. Warming of atmosphere will considerably increase its moisture carrying capacity
Since warming of the troposphere, is accompanied by cooling of the stratosphere, patterns of air mass movements will change leading to widespread changes in precipitation patterns, particularly in the regions of middle and higher latitudes
(i) The global warming will raise the sea level due to the thermal expansion of sea water and melting of glaciers and green land ice sheets
(ii) Global warming will lead to explosive growth of weeds, increased incidence of plant diseases and pest as well as increased basal rate of respiration in plants

243 **(b)**
A scrubber can remove gases like sulphur dioxide. In a scrubber, the exhaust is passed through a spray of water or lime

244 **(b)**
Biochemical Oxygen Demand (BOD) is a measure of pollution by organic matter present in a sample of water.BOD is higher in polluted sewage water and is connected with both microbes and organic matter. More the organic pollution, specially sewage, more would be the BOD of water.

245 **(a)**
Industries like petroleum, paper manufacturing, metal extraction and processing, etc., release waste water containing heavy metals like mercury cadmium, copper, lead, etc.

246 **(d)**
The excess growth of planktonic algae that causes colouration of water is called algal blooms. They are toxic to animals and humans. In some cases, eutrophic water-bodies support excessive growth of floating plants. Water hyacinth (*Eichhornia crassipes*) also called 'Terror of Bengal' is one such plant that sometimes chokes ponds, lakes and rivers resulting in imbalance of ecosystem dynamics of water-bodies

247 **(d)**
Integrated organic farming is a cyclical, zero-waste procedure, where waste products from one process are cycled in as nutrients for other processes. This allows the maximum utilisation of resource and increases the efficiency of production. Ramesh Chandra Dagar, a farmer in Sonipat, Haryana, is doing just this. He includes bee-keeping, dairy management, water harvesting, composting and agriculture in a chain of processes, which support each other and allow an extremely economical and sustainable venture
There is no need to use chemical fertilisers for crops, as cattle excreta (dung) are used as manure. Crop waste is used to create compost, which can be used as a natural fertilizer or can be used to generate natural gas for satisfying the energy needs of the farm. Enthusiastic about spreading information and help on the practice of integrated organic farming. Dagar has created the Haryana Kisan Welfare Club, with a current membership of 5000 farmers

248 **(d)**
All automobiles and fuel were to have met the Euro III emission specification in eleven Indian cities from 1 April 2005 and have to meet the Euro IV norms by 1 April 2010

249 **(a)**
In the 1990s, Delhi ranked 4th among the 41 most polluted cities in the world

250 **(a)**
Water hyacinth (*Eichhornia crassipes*) also called 'Terror of Bengal' is one such plant that

sometimes chokes ponds, lakes and rivers resulting in imbalance of ecosystem dynamics of water-bodies

251 **(c)**
Deforestation can have many impacts including increase rates of soil erosion decrease levels of rainfall and destroys natural habitats of wildlife

252 **(d)**
Protecting wildlife.
In 1731, a Bishnoi woman, Amrita Devi showed **exemplary** courage by hugging a tree to prevent its cutting. Government of India has recently instituted the Amrita Devi Bishnoi Wildlife Protection Award for individuals or communities from rural areas that have shown extraordinary courage and dedication in protecting wildlife

253 **(c)**
Mercury and DDT are well known for biological magnification. Biological magnification is defined as increase in concentration of toxicants at successive tropic levels

254 **(a)**
The emission of exhaust from automobiles which causes **air pollution** can be reduced by devices such as positive crank case ventilation value and **catalytic converter**.

255 **(c)**
DDT has been recently banned because it is non-biodegradable and biomagnifying pollutant. Biomagnifications means the increase in amount of DDT in the body of organism alongwith the trophic level. Hence, the amount of DDT in first trophic level will be minimum and in top consumer will be maximum.

256 **(c)**
National Environment Engineering Research Institute (NEERI) is situated in **Nagpur**.

257 **(a)**
E-waste are buried in land fills and incinerated

258 **(d)**
At cellular level, SO_2pollution destroys all membrane systems. In intense exposure to SO_2, these is bleaching of leaf pigments due to conversion of chl. – a to phaeophytin−a. Thus, SO_2exposure has an impact on plant productivity. SO_2 pollution is the main cause of acid rain, which is threatening the shining of Taj Mahal. Mosses and lichens are very sensitive (indicator) to SO_2 pollution.

259 **(b)**
Catalytic converters are filled into automobiles for reducing emission of poisonous gases like NO_2 and CO. They have expensive metals like platinum-palladium and rhodium as catalyst. As the exhaust emission passes through catalytic converter, nitric oxide splits into nitrogen and oxygen; carbon monoxide is oxidised to carbon dioxide and unburnt hydrocarbons get burnt completely into CO_2 and H_2O. Motor vehicles filled with catalytic converter should use unleaded petrol as leaded petrol inactivates the catalyst

260 **(d)**
Desertification is a type of land degradation in which, a relatively dry land region becomes increasingly arid, typically losing its bodies of water as well as vegetation and wildlife. Desertified area cannot be put to any use. The main cause of desertification is overgrazing, others being soil erosion and deforestation

261 **(c)**
The electrostatic precipitors are installed to control emission of Suspended Particulate Matter (SPM).

262 **(a)**
Minamata is a disease, which is caused by the biomagnifications of heavy metal. It is caused by the excess of mercury. It affects different tissues and physiology.

263 **(d)**
Toxic substances cannot be metabolised or excreted therefore, they get accumulated in an organism and passed onto higher trophic levels. So, if a pond food chain gets polluted by DDT, the tissue concentration of DDT would be highest in bird feeding on fish

264 **(d)**
Jhum cultivation involved felling and burning of forests, followed by cultivation of crops for few years and abandoning cultivation to allow forest regrowth, but the major disadvantages is it lose free diversity of species

265 **(c)**
A brief exposure to extremely high sound level, 150 dB or more generated by take off a jet plane or rocket, may damage eardrums thus permanently impairing hearing ability. If an acidophilic tumour occurs causing high growth hormone secretion after adolescencs it causes acrdmegaly

266 **(b)**
Biochemical Oxygen Demand (BOD) is the amount of oxygen used for biochemical oxidation by microorganisms in a unit volume of water. Polluted water has high BOD. Thus, when sewage gets mixed with river water, BOD will increase

267 **(d)**
Deforestation generally increases rates of soil erosion. Deforestation and soil erosion causes floods and droughts, as upper layers of soil become vulnerably to water and wind erosion

268 **(a)**
Depending on climate conditions, tiny particles of nitrogen and sulphur oxides may be airborne for a while and then fall to earth as **dry acid deposition**. Most of sulphur and nitrogen dioxides dissolve in atmospheric water to form weak solutions of $H_2SO_4$and HNO_3. Winds can distribute them over great distances before they fall to earth in rain and now, this is called **wet acid deposition**.

269 **(d)**
R August (1872) coined the term **acid rain**, which have a pH of less than 5. Acid rain is caused by large scale emission of nitrogen oxides (NO_x), SO_2 and HCl from thermal power plants, industries and automobiles.

270 **(c)**
In all Indian metropolitan cities, the major pollutants are carbon dioxide and carbon monoxide.

271 **(a)**
Increasing skin cancer and damages DNA and proteins in living organisms are the result of ozone depletion
UV-rays damages DNA and proteins of living organisms causing mutation. It causes skin ageing, skin cell damage and skin cancers. UV-rays is absorbed by human eye and at high does it causes inflammation of cornea. This is called snow-blindness cataract

272 **(d)**
Nuclear waste should be pre-treated and stored in shielded containers and then buried about 500 m deep within rocks

273 **(c)**
A fine powder of recycle modified plastic is called polyblend. Polyblend has been mixed with bitumen to lay roads in Bengaluru. Polyblend enhanced bitumen's water repellant properties and helped to increase the life of road

274 **(c)**
Stone files are exopterygote insects with aquatic nymphs, long antennae, biting mouth parts and weak flight. Adults have the tendency to feed on lichens and unicellular algae. Hence, these are absent in polluted water.

275 **(b)**
A-Dissolved oxygen, B-BOD, C-Direction of flow, D-Concentration

276 **(b)**
It is presumed that the scientific reason for the accident at Bhopal was that water entered the tank where about 40 cubic meters of methyl isocyanate was stored. When water and MIC mixed, an exothermic chemical reaction started, producing a lot of heat. As a result, the safety value of tank burst due to the increase in pressure.

277 **(c)**
Soil pollution is the alteration in soil caused by the removal or addition of substances and factors, which decreases its productivity, quality of plants and ground water

278 **(a)**
Heavy metals and persistent pesticides (*e*. *g*., organochlorine or chlorinated hydrocarbons like DDT) pass into food chain and increase in amount per unit weight of organisms with the rise in trophic level due to their accumulation in fat. Higher amounts of pesticide disturb calcium metabolism of birds resulting in thinning of egg shells and their premature breaking that kills the embryos

279 **(a)**
Prolonged and continuous high intensity noise not only causes partial hearing loss but may cause a permanent loss of hearing. A sudden loud noise such as an explosion can damage the tympanic membrane. Noise also causes sleeplessness, increased heart beating, altered breathing pattern, thus considerably stressing humans. Silicosis and asbestosis are the common occupational lung disease. These diseases are caused due to chronic exposure of silica and asbestos death

281 **(d)**
Domestic sewage contains
Suspended solid, *e*. *g*., sand, silt and clay
Colloidal material, *e*. *g*., faecal matter, bacteria, paper and cloth fibres

Dissolved material, *e*. *g*., nitrates, ammonia phosphate, sodium, calcium salt

282 **(d)**

Ultraviolet (UV) light is electromagnetic radiation with a wavelength shorter than that of visible light but longer than X-rays. It is classified as non-ionising radiation, and can cause inactivation of protein, pigments and nucleic acids.

283 **(a)**

UV-A is the least harmful form of UV-radiation having wavelength 320-390 nm. They are allowed to reach the earth surface

284 **(c)**

Estimating the amount of organic matter in sewage water.

Biochemical Oxygen Demand (BOD) is a measure of pollution by organic matter present in a sample of water

BOD is higher in polluted sewage water and is connected with both microbes and organic matter. More the organic pollution, specially sewage, more would be the BOD of water

285 **(a)**

Non-degradable pollutants are man-made pollutants, e.g., sewage, pesticides, fertilizers, etc. primary air pollutants are those which enter the air directly from the source, e.g., carbon monoxide. In traffic congested cities, the brown air effect is caused due to oxides of nitrogen.

286 **(d)**

CFFs, CO_2, CH_4, NO_2 are greenhouse gases. The phenomenon of keeping the earth warm due to presence of these gases in the atmosphere is called greenhouse effect

287 **(c)**

Disappearance of forests.

Deforestation is the removal of a forest or stand of trees where the land is thereafter converted to a non-forest use. Examples of deforestation include conversion of forest land to farms, ranches or urban use

288 **(b)**

The gases responsible for green-house effect are CO_2, CH_4, N_2O, CFC_s, etc. the earth's atmosphere with high concentration of green house gases is transparent to incoming short wave solar radiations but absorbs outgoing longwave infra-red radiations, particularly earth's thermal radiations (heat-rays), trapping heat near the earth's surface. In this way, the earth's atmosphere works very much like a green house by warming the interior.

289 **(d)**

The major sources of air pollution are as follows

(i) Transportation

(ii) Use of leaded petrol

(iii) Industrial processes

(iv) Forest fire

(v) Solid waste disposal

(vi) Miscellaneous, including radioactive fall out

290 **(d)**

Photochemical smog is highly oxidizing polluted atmosphere comprising largely of nitrogen oxides (NO_x), ozone (O_3), H_2O_2, organic peroxides and PAN. This is produced as a result of photochemical reaction among primary constituents like nitrogen oxides (NO_x), hydrocarbons and ozone (O_3).

291 **(b)**

Freon and other chlorofluorocarbon (CFC) compounds are used in refrigerators, air conditioners and as filling agent in aerosol, also cause pollution.CFCs do not degrade easily in the troposphere due to which they rise into the stratosphere, where they are broken by UV light. These are mainly responsible for ozone depletion.

292 **(c)**

Nuclear energy was assumed to be a natural, non-polluting way of electricity generation till the incidents at Three Mile Island and Chernobyl. It is now considered as the most potent pollutant

Leakage of radioactive materials from thermal power plants and unsafe disposal of radioactive wastes are the main causes of radioactive pollution

293 **(c)**

Slash and burn farming is a form of shifting agriculture where the natural vegetation is cut down and burned as a method of clearing the land for cultivation and then, when the plot becomes infertile, the farmer moves to a new fresh plot and does the same again. This process is repeated over and over

294 **(b)**

Green House Gas		Percentage
CO_2	-	57
CH_4	-	20
CFCs	-	14
N_2O	-	6
Water Vapour	-	5

295 **(b)**
Fly ash is a light airborne particulate matter. Fly ash is mainly produced by coal based thermal plants. It should be removed through wet method and used in building material.
Insectivorous plants are plants, which use insects for N_2requirement, e.g., Drosera.
Orchid plants are epiphytic, which grow on other plants for support only.

296 **(d)**
Delhi has the maximum number of vehicles in India. The problem of air pollution was so serious in Delhi. So, the Supreme Court directed the government to take appropriate measure for reducing pollution caused by automobiles through
(i) Switch over of public transport from diesel/petrol to CNG
(ii) Phasing out of old vehicles
(iii) Use of unleaded petrol and reduced sulphur content of diesel
(iv) Fitting the vehicles with catalytic converters
(v) Compulsory regular check-up of pollution emission of vehicles and enforcement of Euro II norms

297 **(c)**
Mathura based petroleum refinery is poisoning threat to Taj Mahal in Agra and other monuments at Fatehpur Sikri complex. Petroleum or oil refineries are the major source of gaseous pollutants and the gases released from these are SO_2 and NO_x. NO_x and SO_2 get mixed with atmospheric moisture and form HNO_3, H_2SO_4, etc, which react with marble and cause corrosion.

298 **(d)**
Jhum cultivation or slash and burn agriculture is the farming practice in North-Eastern states of India. In this process the farmers cut the forest trees and burn the plant remains. The land is then used for farming cattle grazing and the ash is used as a fertiliser. After cultivation, the land is left barren for years

299 **(a)**
As we travels along the food chain the concentration of DDT increases

300 **(b)**
Afforestation is the process of establishing a forest on land that is not a forest or has not been a forest for a long time by planting trees or their seeds
Soil erosion occurs when the soil is blown away by the wind or washed away by the rain. Roots of trees/plants hold the soil. Thus, when more trees are planted their roots don't allow the soil to be blown or washed away and prevent soil erosion

301 **(c)**
Stoneflies (e.g., *Perla sp*) belongs to order-Plecoptera of class-Insecta, which has the terrestrial mandibulates. These are not bio-indicators of water pollution.

302 **(b)**
In India, at the beginning of the twentieth century, forests covered about 30% of land, whereas by the end of the century, it shrunk to 19.4%

303 **(c)**
Effect of pollution is observed first on green vegetation.

304 **(b)**
Almost 40% forest have been lost in the tropics and 1% forest in the temperate region

305 **(d)**
Peroxyacetylnitrates (PAN) is a secondary pollutant, which is formed by oxides of nitrates and hydrocarbons

306 **(a)**
The Government of India has passed the water (Prevention and Control of Pollution) Act, 1974, to safeguard our water resources

307 **(d)**
The pollutants that account for most of the air pollution worldwide are called criteria air pollutants, *e*. *g*., carbon monoxide (CO), sulphur dioxide (SO_2), nitrogen oxides (NO_x), ozone (O_3), H_2S, particulate matters (PM_{10}) and lead
(i) Carbon monoxide causes giddiness, headache, decreased vision, cardiovascular malfunction and asphyxia
(ii) Hydrogen sulphide causes nausea, eye and throat irritation
(iii) Sulphur dioxide causes respiratory tract diseases like asthma, bronchitis, cancer, emphysema, etc.
(iv) O_3 is an oxidizing pollutant

308 **(b)**
Cleaning of waste water in Arcata marsh involves removal of dissolved heavy metals through biological process

309 **(d)**
PAN (Peroxyacetyl nitrate) is a secondary pollutant.

310 **(b)**
The depletion of ozone is particularly marked over the Antarctic region in 1985. This has resulted in formation of a large area of thinned ozone layer, commonly called as the ozone hole

311 **(c)**
In the phosphorus cycle, weathering makes the phosphorus available to soil from where plants or producers get them first.

312 **(b)**
Terrace farming is widely practiced in hilly areas.

313 **(c)**
The presence of *E. coli* bacteria indicates possible sewage contamination of water because *E. coli* is found only in the mammalian intestinal tract including that of humans. *E. coli* bacteria belong to the coliform bacteria group. Coliforms found in mammals are called faecal coliforms. Most coliforms are *E. coli.* So, *E. coli* tests are used as indicator of faecal coliforms

314 **(c)**
The phenomenon of keeping the earth warm due to presence of certain gases in the atmosphere is called green house effect (Fourier,1827).The name is based after a similar warmer interior in glass-enclosed green house where glass panes, CO_2 and water vapour allow the solar radiations to enter but prevent the escape of long wave heat radiations $CO_2$and N_2O are the major cause of "green house effect" CO_2 contributes 60% of total global warming ,N_2O contributes 6% to green effect.

315 **(c)**
Air pollutants reduces the growth and yield of crops and causes premature death of plants

316 **(a)**
The acid rain is, infact, the cocktail of H_2SO_4 and HNO_3. The SO_2 and NO_2 produced during the combustion of coal and petroleum reacts with water vapour and formed H_2SO_4 and HNO_3 respectively.

317 **(d)**
The major cause of air pollution in big cities is automobile exhaust. In all major metropolitan cities, vehicular exhaust accounts for 70% of all CO (carbon monoxides), 50% of all hydrocarbons, 30-40% of all oxides and 30 % of all SPM. The vehicular exhaust produces many air pollutants including unburnt hydrocarbons, CO, NO_x and lead oxides along with traces of aldehydes, esters, ethers, peroxides and ketones.

318 **(b)**
Bhopal gas tragedy (Bhopal disaster) the world's worst industrial catastrophes. It occurred on the night of December 2/3,1984 at the Union Carbide India Limited (UCIL) pesticide plant in Bhopal, Madhya Pradesh. A leak of methyl ioscyanate gas and other chemicals from the plant resulted the exposure of hundreds of thousands of people. The official immediate death toll was 2,259 and the government of Madhya Pradesh has confirmed a total of 3,787 deaths related to the gas releases.

319 **(b)**
Good ozone present in stratosphere is useful and bad ozone present in troposphere is harmful for mankind

320 **(b)**
Noise pollution causes psychological and physiological disorder in human noise is only measured in dB unit

321 **(b)**
Acid rain is caused by large scale emission of nitrogen oxides (NO_x), SO_2,volatile organic carbon (VOC_s), some amount of carbon monoxide and HCI from thermal power plants, industries and automobiles. Methane is a green house gas.

322 **(d)**
Electrostatic precipitator is used to remove particulate matter present in the exhaust of thermal power plant. More than 99% particulate matter can be removed by this method. It has electrode wires that are maintained at several thousand volts which produces a corona that releases electrons

323 **(d)**
Quantitative pollutants are those substances which are already present in the environment, but are termed as pollutants when their concentration (quantity) increase in the environment, e.g., $CO_2$is present on the environment in greater quality than normal.

324 **(b)**
Human development activities.
Desertification is a type of land degradation in which a relatively dry land region becomes increasingly arid, typically losing its bodies of water as well as vegetation and wildlife. It is

caused by a variety of factors, such as climate change and human activities

325 **(c)**
Electrostatic precipitator.
Electrostatic precipitator is used to remove particulate matter present in the exhaust of thermal power point. They are very efficient devices which remove 99% of particulates of 5-20 μm size present in the industrial and thermal plant exhausts

326 **(a)**
A-33%; B-67%

327 **(c)**
Lichens (*Usnea*) are the indicator of air pollution, as these are very sensitive to air pollution (particularly SO_2pollution).

328 **(d)**
Hydrogen sulphide causes nausea, eye and throat irritation

329 **(d)**
Mineralization is the conversion of organic matter into inorganic matter.

330 **(c)**
Ozone protects us from the harmful UV-radiations from the sun. Major pollutants responsible for the depletion of ozone layer are chlorofluorocarbons, nitrogen oxides and hydrocarbons. CFCs are widely used as coolants in air conditioners and refrigerators, cleaning solvents, aerosol propellants and in foam insulation. The threat to $O_3$is mainly from CFCs, which are known to deplete O_3 by 14% at the current emission rate.

331 **(d)**
In 1998, Ahmed Khan aged 57 years old, developed polyblend a fine powder of recycled modified plastic in collaboration with RV College of Engineering and the Bengaluru city corporation. Ahmed Khan proved that blends of polyblend and bitumen, when used to lay roads, enhanced the bitumen's water repellant properties and helped to increase the life of road

332 **(d)**
Chipko movement is movement initially meant for protecting trees but now meant for preservation of environment including habitat and wildlife. Chipko movement was born in March 1973 in Gopeshwar in Chamoli district. Finally, Sunder Lal Bahuguna started organized Chipko Andolan in Garhwal Himalayas (Uttarakhand) when in 1974, local women of Advani village in Tehri Garhwal tied sacred thread round the trees to protect them from the axe of contractors by hugging them

333 **(d)**
Biochemical Oxygen Demand (BOD) is the amount of oxygen used for biochemical oxidation by microorganisms in a unit volume of water. Polluted water has high BOD. Thus when sewage gets mixed with river water, BOD will increase.

334 **(a)**
Noise pollution is measured in decibels (dB)

335 **(a)**
Stone leprosy is due to SO_2 that forms acid rain. The SO_2 from Mathura refinery is the cause of stone leprosy of Taj Mahal. The Red Fort in Delhi is near old Delhi Railway Station where SO_2 is main pollutant coming from coal burning in Railway yards and trains

336 **(d)**
Incinerator is a device used for destruction of waste material (and not particulate matter) by heat application. Thus, all combustible waste materials are burnt, and reduces their harmful effects.

337 **(d)**
The lesson chipko talks about the conservation and importance of trees and forest. Its an ecological movement started by Sunder Lal Bahuguna

338 **(d)**
The troposphere is the lowest layer of earth's atmosphere. Bad ozone formed in troposphere and is harmful to plants and animals

339 **(a)**
According to CPCB, air pollutants of size 2.5 or less (in micrometers) diameter are harmful to human health.

340 **(a)**
Distribution of lichen and mosses are the indicator of SO_2 pollution.

341 **(a)**
$CO_2(60\%)$ and $CH_4(20\%)$ are commonly known as green house gases because they are responsible for the green house effect, also called as global warming.

342 **(c)**
$NO + O_2 \xrightarrow{h\nu} NO_2 + O_2$
Nitric oxide (NO) released by jets reacts with ozone to form O_2

343 **(a)**
Biological magnification is the process by which heavy metals and pesticides become more concentrated at higher trophic level of food chain.

Eutrophication is accelerated by introduction of massive amounts of nutrients by human activity.

344 **(b)**
A-Biodegradable; B-Decomposers

345 **(c)**
DDT is the most hazardous, non-biodegradable insecticide, which is fat soluble but insoluble in water. It persists in the environment for a very long period. Being fat soluble, it accumulates in the animal tissues and gets concentrated at different trophic levels of food chain. In each step, DDT, is more concentrated, this called biomagnifications.

346 **(c)**
Biomagnification is defined as increase in concentration of toxicants at successive trophic levels. Higher amounts of pesticide disturb calcium metabolism of birds resulting in thinning of eggshells. Biomagnification occurs in all aquatic food chain

347 **(b)**
The ascending order of BOD is Sewage (S) < Distillary Effluent (DE) < Paper Mill Effluent (PE) < Sugar Mill Effluent (SE).

348 **(b)**
Noise pollution is a physical form of pollution that affects the receiver directly. dB (decibel) is a standard abbreviation used for the quantitative expression of noise.

349 **(a)**
Eutrophication is nutrient enrichment of water body resulting in increased growth of algae ,other plants and animals. It is often seen in fresh water lakes. Actually it is the natural ageing of a lake by biological enrichment of its water.

350 **(d)**

Disease	Caused by
Minamata	Mercury
Black foot	Arsenic
Itai-itai	Cadmium
Skeletal fluorosis	Fluoride
Blue-baby syndrome	Nitrate

351 **(b)**
Radio waves are not short wave radiations. These have high wavelength, *i*. *e*., 10^3 m.

352 **(b)**
Euro II norms were stipulated to control sulphur content at 350 ppm in diesel and 150 ppm in petrol and aromatic hydrocarbons are to be contained at 42%