CHEMISTRY

BOOKS - PATHFINDER CHEMISTRY (BENGALI ENGLISH)

ENVIRONMENTAL CHEMISTRY

Question Bank

1. During industrial revolution (in 1860), the amount of carbon dioxide was present in the atmosphere ~ 290 ppm. At present, the amount is ~330 ppm.

This is due to widespread industrialization of

A. Coal

B. Natural gas

C. Oil

D. All are correct

Answer: D

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2. Which of the following information is correct for ozone depletion ?

A. $O_3 + hy \xrightarrow{210\text{ nm to }300\text{ nm}} O + O_2$

B. $O_3 \xrightarrow{NOx} O_2 + \ldots.$

C. C.F.C

D. All are correct

Answer: D

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3. Which of the following reaction is incorrect for ozone depletion

A. $CFCl_3(g) \xrightarrow{\text{UV}} CFCl_2(g) + Cl(g)$

B. $CF_2Cl_2(g) \xrightarrow{\text{UV}} CFCl(g) + Cl(g)$

C. $CF_3Br(g) \xrightarrow{\text{IR}} CF_3(g) + Br(g)$

D. $C_2F_4Br_2 \xrightarrow{\text{UV}} C_2F_4Br(g) + Br(g)$

Answer: C

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4. Increased concentration of co_2 in atmosphere is due to

A. greenhouse effect

B. acid rain

C. lack of photosynthesis

D. death of aquatic life

Answer: C

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5. Which of the following oxides of nitrogen is not common air pollutant?

A. NO_2

B. N_2O

C. NO

D. N_2O_5

Answer: D

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6. Which of the following is a secondary pollutant?

A. CO_2

B. SO_2

C. NO

D. PAN

Answer: D

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7. If BOD and COD values are large

A. water is not at all polluted

B. water is polluted to some extent

C. water is heavily polluted

D. None of these

Answer: C

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8. Dobson is the unit of

A. quantity of whole in ozone layer

B. degree of DO of water

C. Intensity of sound

D. degree of smog

Answer: A

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9. Which of the following is most harmful for our body ?

A. Methyl amine

B. Methyl isocyanate

C. Chloroform

D. Phosgene

Answer: B

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10. Which of the following is a primary pollutant ?

A. NO_2

B. NO

C. N_2O

D. HNO_3

Answer: B

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11. PAH and PAN stand for

A. Peroxy aliphatic hydrocarbon and peroxyacylnitrate

B. Polycyclic aromatic hydrocarbon and peroxyacyl nitrate

C. Polycyclic aromatic hydrocarbon and polycyclic acetonitrile

D. None of these

Answer: B

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12. Which of the following is not a PAH ?

A. Benzene

B. Benzo α-Pyrene

C. Chrysene

D. Benzofluoranthene

Answer: A

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13. Acid rain has pH in the range

A. 0-3

B. 4.4320

C. 4.4383

D. 4.4476

Answer: B

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14. Main constituents of Acid rain are H_2SO_4, HCI and HNO_3. Which of the following belong to correct order in acid rain ?

A. $HCl > HNO_3 > H_2SO_4$

B. $H_2SO_4 > HCl > HNO_3$

C. $H_2SO_4 > HNO_3 > HCl$

D. None of these

Answer: C

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15. Which of the following is called reducing smog ?

A. Photochemical smog caused by oxygen

B. Photochemical smog caused by PAN

C. Photochemical smog caused by H_2O_2

D. Photochemical smog caused by sulphur dioxide

Answer: D

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16. The ozone layer forms naturally by

A. the interaction of CFC with oxygen

B. the interaction of UV radiation with oxygen

C. the interaction of IR radiation with oxygen

D. the interaction of oxygen and water vapour

Answer: B

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17. CO is poisonous, antidote for CO poisoning is

A. Carborundum

B. Carbogen

C. Carbonic acid

D. Pure oxygen

Answer: B

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18. Which of the following compound is very good for the smooth combustion of gasoline

A. TEL

B. Aniline

C. Ethanol

D. Xylene

Answer: A

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19. Diesohol' is a fuel. It is a mixture of

A. 85% Diesel and 15% ethanol

B. 70% Diesel and 30% ethanol

C. 85% gasoline and 20% ethanol

D. 85% Diesel and 15% Methanol

Answer: A

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20. Organic pollutants

A. increase the dissolved oxygen in water

B. decrease the dissolved oxygen in water

C. keep constant the proportion of dissolved oxygen in water

D. None of these

Answer: B

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21. Which of the following is a chlorinated organic pesticide ?

A. Aldrin

B. Chlordane

C. DDT

D. All are correct

Answer: D

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22. Which of the following is mostly used as synthetic detergent ?

A. Anionic detergent

B. Cationic detergent

C. Nonionic detergent

D. None of these

Answer: A

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23. A very good filler of synthetic detergent is

A. Sodium tripolyphosphate

B. Sodium silicate

C. Borax

D. Sodium hexametaphosphate

Answer: A

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24. What is the permissible limit of Arsenic in drinking water according to W.H.O ?

A. 0.02 mg/lit

B. 0.01 mg/lit

C. 0.005 mg/lit

D. 0.002 mg/lit

Answer: B

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25. Which of the following is a secondary pollutant?

A. CO

B. Hydrocation

C. Peroxyacyl

D. NO

Answer: C

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26. Which of the following is incorrect one ?

Name of the industry	Main elements present in the effluents
(a) Leather	Cr
(b) Textile	Cr
(c) Paper and pulp	Hg
(d) Pharmaceuticals	Zn

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27. What should be the pH of drinking water ?

A. 4.4-3.81

B. 7-8.5

C. 9-13

D. 4.4-5.40

Answer: B

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28. The process of 'eutrophication' is due to

A. increase in concentration of insecticide in water

B. increase in concentration of fluoride ion in water

C. the reduction in concentration of the dissolved oxygen in water due to phosphate pollution in water

D. attack of younger leaves of a plant by PAN.

Answer: C

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29. Photochemical smog occurs in warm, dry and sunny climate. One of the following is not amongst the components of photochemical smog. Identify it.

A. NO_2

B. O_3

C. SO_2

D. unsaturated hydrocarbons

Answer: C

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30. Ozone hole refers to

A. hole formed in troposphere from which ozone oozes out

B. reduction in thickness of ozone layer in troposphere.

C. reduction in thickness of ozone layer in stratosphere.

D. increase in concentration of ozone.

Answer: C

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31. Which metallic pollutant emitted from vehicles pollutes atmosphere?

A. Iron

B. lead

C. copper

D. Mercury

Answer: B

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32. The most powerful chemical responsible for ozone layer depletion -

A. CFC

B. SO_2

C. C_xH_y

D. Halon

Answer: D

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33. Which is more harmful?

A. Hg

B. $HgCl_2$

C. Hg_2Cl_2

D. CH_3Hg^+

Answer: D

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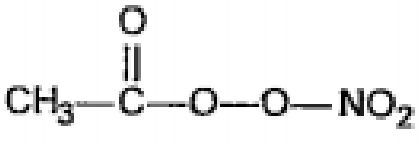
34. The correct formula for the compound 'PAN'?

A. $CH_2 = O$

B. $CH_2 = CH - CH = O$

C. 

D. $CH_3CH_2 - O - N = O$

Answer: C

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35. Gases responsible for formation of 'smog' -

A. O_2 and O_3

B. O_2 and N_2

C. Sulphur and Oxides of Nitrogen

D. O_3 and N_2

Answer: C

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36. Which free radicals are responsible for ozone layer Depletion?

A. Br

B. CH_3

C. N

D. Cl

Answer: D

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37. DDT is -

A. a chemical fertiliser

B. Bio-degradable pollutant

C. Non-biodegradable pollutant

D. Greenhouse gas

Answer: C

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38. Water smells foul due to abundance of DO (dissolved oxygen) is -

A. Less than the required amount

B. more than the required amount

C. equal to the required amount

D. None of the above

Answer: A

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39. Which one of the following is not a Greenhouse gas?

A. CFC

B. CO_2

C. NH_3

D. CH_4

Answer: C

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40. Which are the reactions meant by 'Green chemistry?'

A. Reactions related to ozone layer depletion.

B. Reactions occurred in plants

C. Reactions in which 'green' coloured products are formed

D. Reactions In which uses and production of harmful chemicals are decreased.

Answer: D

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41. What is environmental chemistry? What is environmental pollution?

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42. What are abiotic and biotic component of environment ?

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43. What is pollutant ? Give example.

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44. What is Primary air pollutant? Give one example.

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45. Name two secondary air pollutant

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46. Name a substance which is contaminant and as well as pollutant

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47. Give one example of biodegradable pollutant

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48. What is sink? Name one sink of SO_2

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49. How CO affects living organism?'

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50. What is smog? Name two major Greenhouse gases

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51. What is ozone blanket? What is green chemistry ?

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52. Write down two differences between classical smog and photochemical smog

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53. What is B.O.D. ? Write down the B.O.D. value of clean water?

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54. What is Greenhouse effect? What is Global warming?

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55. What is stone cancer? What is the main factor of water pollution?

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56. Name the diseases caused by Hg and Cd contamination of water. What is black foot disease?

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57. What is Eutrophication? Write its harmful effect.

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58. What is C.O.D. ? What is siltation?

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59. What is TLV?

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60. What is 'Pneumoconiosis?

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61. Write down the main characteristics of drinking water.

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62. Mention two harmful effects of photochemical smog?

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63. How does the ozone layer depletion and a preventive measure that can be taken to prevent it

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64. What is feron? Mention one of its effect.

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65. Give examples of a sink of CO and two sinks of CO_2

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66. Dissolved oxygen values of four water samples A, B, C and D are respectively 6 ppm, 5ppm, 1ppm and 3ppm. Which is polluted ?

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67. Biochemical oxygen demand value of four water samples P, Q, R and S are respectively 100 ppm, 50 ppm,150 ppm and 10 ppm. Arrange them in the descending order of their purity

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68. Threshold limit value of three pollutant X,Y and Z are respectively 9 ppm, 20 ppm and 5 ppm. Which one is the most toxic ?

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69. DO value of a water sample is 6 ppm. Calculate the weight of dissolved oxygen present in 100 Kg of water sample.

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70. 100 ml of a sample of water required 1.96 mg of potassium dichromate in the presence of $50\,\%\,H_2SO_4$ for the oxidation in the presence organic matter in it. Calculate the chemical oxygen demand.

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71. COD value of a water sample is 40 ppm, Calculate the amount of acidified $K_2Cr_2O_7$ required to oxidise the organic matter present in 500 ml of that water sample.

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72. Ozone is harmful in the environment segment X but is useful in the environment segment Y . What are x and y

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73. Freons are boon to industry, but curse to environment,justify

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74. Bleaching og paper with hydrogen peroxide is preferred now-a-day .Why?

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75. TLV value of four pollutants A, B C and D are 2ppm, 9 ppm, 20 ppm and 50 ppm. Among these four pollutants which one is the most toxic pollutant? Why ?

A. A

B. B

C. C

D. D

Answer: A

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76. COD of a water sample is 8 ppm, Calculate the weight of acidified $K_2Cr_2O_7$required to oxidise the matter present in one litre of water sample.

A. 30 mg

B. 42 mg

C. 49 mg

D. 52 mg

Answer: C

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77. $K_2Cr_2O_7$ in presence of the H_2SO_4 for the oxidation of dissolved organic matter present in it. Calculate the COD of the water.

A. 5.1 ppm

B. 6.2 ppm

C. 3.5 ppm

D. 8.2 ppm

Answer: B

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78. A sample of pond water contains 40mg of organic matter requires 32 mg of dissolved oxygen.if pond water contains 1100mg of organic matter per two litres, calculate BOD value of the water sample.

A. 26 ppm

B. 35.5 ppm

C. 28.6 ppm

D. 40 ppm

Answer: D

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79. There is a possibility of melting of polar ice caps and increase in the level of sea water due to

A. depletion of ozone layer

B. green house effect

C. acid rain

D. any one of these

Answer: B

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80. When rain is accompanied by a thunderstorm, the collected rain water will have a pH value

A. uninfluenced by occurrence of thunderstorm

B. which depends on the amount of dust in the air

C. slightly lower than that of rainwater without thunderstorm

D. slightly higher than that when the thunderstorm is not there

Answer: C

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81. Depletion of ozone layer is due to

A. Oxides of nitrogen

B. Oxides of carbon

C. Oxides of sulphur

D. none of these

Answer: A

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82. High concentration of hydrocarbon pollutant in atmospheric air causes

A. cancer

B. silicosis

C. respiratory disease

D. rednewcrop yield

Answer: A

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83. The smog is essentially caused by presence of

A. O_3 and N_2

B. O_2 and O_3

C. O_3 and NO_2

D. O_2 and N_2

Answer: C

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84. Lead in water can cause

A. eye disease

B. arthrities

C. hair falling

D. kidney disease

Answer: D

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85. Greenhouse efficiency factor is maximum for

A. CO_2

B. CH_4

C. O_3

D. CFC's

Answer: D

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86. One of the metals used as catalyst in automobiles catalytic convertor is

A. Palladium

B. Copper

C. Radium

D. Iron

Answer: A

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87. Most important cause of soil pollution is

A. iron junks

B. glaso junks

C. detergents

D. plastics

Answer: D

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88. Phosphate pollution is mainly caused by

A. weathering of phosphate rocks only

B. agricultural fertilizers

C. phosphate rocks and sewage

D. sewage and agricultural fertiliser

Answer: D

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89. Excess nitrate in drinking water can cause

A. Bright's disease

B. Hashimoto's disease

C. Etal-etai disease

D. methaemogbinemla

Answer: D

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90. How many of the following are responsible for depletion of ozone layer

A. Fullerenes

B. Freons

C. Polyhalogens

D. Ferrocene

Answer: B

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91. Which of the following is present in maximum amount in acid rain ?

A. H_2CO_3

B. HNO_3

C. H_2SO_4

D. HCL

Answer: C

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92. Air pollution is not caused by

A. pollen grains

B. hydroelectric power

C. thermal power plants

D. none of these

Answer: D

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93. Addition of phosphate and nitrate and nitrate fertilisers into water leads to

A. increased growth of decomposers

B. reduced algal growth

C. increased fungal growth

D. nutrient enrichment for algal growth

Answer: D

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94. Ozone depletion in stratosphere will result in

A. forest fire

B. increased incidences of skin cancer

C. global warming

D. none of the above

Answer: B

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95. Most effective and suitable dust removal equipment for removal of fiyash from fuel in a thermal power plant is

A. gravity settling chamber

B. cyclone separator

C. electrostatic precipitator

D. dod filter

Answer: B

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96. 10^{-3} gm equivalents of $K_2Cr_2O_7$ in 50% H_2SO_4 is needed to oxidise all the organic matter present in 1 liter of water. Then COD of water is

A. 1 ppm

B. 10 ppm

C. 12 ppm

D. 8 ppm

Answer: D

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97. Which is incorrectly matched ?

Disease	Disease→Cause
(1) Fluorosis	Fluorides in water
(2) Minamata	Mercury in fishing water
(3) Chlorosis	NO_2
(4) Skin cancer	Ozone hole

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98. Proper management of disposal of household and industrial wastes can be done by

A. Recycling the waste material to give useful products again

B. Burning (Incineration)

C. Sewage treatment

D. All the above

Answer: D

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99. There are several regions of atmosphere.Among the following which are the regions where temperature decreases with altitude?

A. Troposphere

B. stratosphere

C. Mesosphere

D. Thermosphere

Answer:

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100. How many of the following are responsible for depletion of ozone layer

A. NO

B. SO_2

C. $C_X y_Y$

D. $CFCs$

Answer:

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101. Among the following which are primary pollutant?

A. SO_2

B. H_2SO_4

C. NO_2

D. Particulate

Answer:

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102. Regarding green chemistry how many statements are wrong ?

A. These are reactions associated with formation of colour

B. It involves reduction of "use and production of new chemicals"

C. It relates to depletion of ozone layer

D. It relates with study of reaction in plants

Answer:

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The velocity of water in a river is 18 km/h near the surface. The river is 5 m deep. ($\eta_{water} = 10^{-2}$ poise)

Any atmospheric precipitation in the form of rain, snow, fog and dew which has pH less than normal pH i.e. 5.6 can be termed as acid rain.

Acid rain consist of two strong acids H_2SO_4 (major) and HNO_3 (lesser amount) and a weak acid i.e. H_2CO_3. Contribution of H_2CO_3 for acidity is negligible. Several reactions involved are

(i) **H_2CO_3**

$CO_2 + H_2O \rightarrow H_2CO_3$ (weak)

(in atmosphere)

(ii) **HNO_3**

$N_2 + O_2 \rightarrow 2NO$

$2NO + O_2 \rightarrow 2NO_2$

$2NO_2 + H_2O \rightarrow HNO_3 + HNO_2$

(iii) **H_2SO_4**

$SO_3 + H_2O \rightarrow H_2SO_4$

SO_3 is generated by the following reactions

(a) $2SO_2 + O_2 \xrightarrow[\text{particles}]{\text{dust}} 2SO_3$

(b) $SO_2 + O_3 \rightarrow SO_3 + O_2$

SO_2 is generated in the environment mostly through burning of coal, petroleum products, metallurgical processes and natural processes like volcanic eruptions, forest fires and bacterial decomposition of organic matter.

103.

The gases which are responsible for acid rain are

A. Oxides of nitrogen and sulphur

B. Oxides of phosphorus and carbon

C. Oxides of silicon and carbon

D. None of these

Answer: A

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The velocity of water in a river is 18 km/h near the surface. The river is 5 m deep. ($\eta_{water} = 10^{-2}$ poise)

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(i) **H_2CO_3**

$CO_2 + H_2O \rightarrow H_2CO_3$ (weak)

(in atmosphere)

(ii) **HNO_3**

$N_2 + O_2 \rightarrow 2NO$

$2NO + O_2 \rightarrow 2NO_2$

$2NO_2 + H_2O \rightarrow HNO_3 + HNO_2$

(iii) **H_2SO_4**

$SO_3 + H_2O \rightarrow H_2SO_4$

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SO_2 is generated in the environment mostly through burning of coal, petroleum products, metallurgical processes and natural processes like volcanic eruptions, forest fires and bacterial decomposition of organic matter.

104.

Among the following,identify the correct statements

A. pH of acid rain is less than 5.6

B. Acid rain mainly consist of H_2CO_3

C. Conversion of $SO_2 \rightarrow SO_3$ is not possible by ozone

D. None of these

Answer: A

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105. Match Column-I with Column-II

	Column-I		Column-II
(A)	Cu, Zn from chromium plating industry	(P)	Eutroophication
(B)	Phosphate, Nitrates sulphate	(Q)	pH of water changes and toxic to aquatic animals
(C)	Fluorides	(R)	Consumes dissolved oxygen
(D)	Cyanides, H_2S, CO_2 Nitrogen oxides	(S)	Bones and teeth are affected
		(T)	Affects human health and aquatic animals

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106. Match Column-I with Column-II

Column-I Pollution		Column-II Effect	
(A)	SO_4^{-2} >550 ppm	(P)	Causes disease blu baby syndrome
(B)	$(NO_3)^{-1}$ > 50 ppm	(Q)	Damage to kidney
(C)	Lead and Hg	(R)	Eutrophication of the pond
(D)	CO_2, H_2, O_2, N_2 NO_3^-, $(PO_4)^{-3}$	(S)	Causes laxative effect.

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107. Mention the causes for formation of polar stratospheric clouds over Antarctica ? What happens when such clouds break up in presence of sunlight?

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108. Acid rain is known to contain some acids. Name these acids and mention their source.

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109. Carbon monoxide is poisonous. Explain.

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110. The TLV's of four pollutants A,B,C and D are 9 ppm 10ppm, 100ppm and 500pmm respectively. The most toxic amount then is

A. A

B. B

C. C

D. D

Answer: A

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111. Which is incorrect about 'green house effect'

A. it is due to high concentration of CO_2 in atmosphere

B. it is influenced by gases like CH_4,O_2 and CFC_s

C. it results in lowering of the level of oceans

D. it results in warming up of the earth

Answer: C

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112. Lung diseases are four times more in urban areas then in rural areas.

This is due to the presence of

A. SO_2

B. CO_2

C. N_2

D. steam

Answer: A

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113. The species formed in the depletion of ozone layer by chlorofluorocarbons in free radical mechanism is

A. $ClO^{\cdot}$

B. $F^{\cdot}$

C. O_2F_2

D. ClO_2

Answer: A

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114. Wrong statement reading 'london smog' is

A. it is observed in winter season

B. it is reducing in nature

C. it is due to Carbon particles and `SO_2

D. it observed when solar radiation is high

Answer: D

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115. CFC' are effective scavengers for ozone due to

A. Photolytic reaction of O_2 producing Cl recidcals

B. Photolytic decomposition of O_3 producing O_2

C. Photolytic decomposition of CFC's producing Cl radicals

D. None of these

Answer: C

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116. Which of the following is environmental friendly is reaction

A. `A+BrarrC(wanted)

B. `HOCl(g)overset(hnu)rarrOH+Cl(g)

C. $CF_2Cl_2(g) \xrightarrow{h\nu} Cl(g) + CF_2 - Cl(g)$

D. $NO + O_3 \xrightarrow{\text{strato sphere}} NO_2 + O_2$

Answer: A

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117. 100 mt of a sample of water requires 0.98mg of $K_2Cr_2O_7$(M.W=294) in presence of the H_2SO_4 for the oxidation of dissolved organic matter in it. The C.O.D of the water is

A. 78.4 ppm

B. 1.6 ppm

C. 3.2pmm

D. 6.4 ppm

Answer: B

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118. A sample of pond water conditioning 20mg of organic matter requires 16ms of dissolved oxygen.(Pond water contains 10mg of organic matter per 2 liters).it's BOD is

A. 4000ppm

B. 400ppm

C. 4ppm

D. 40ppm

Answer: C

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119. Which of the following reaction causes depletion of ozone layer in summer season.

A. $ClONO_2(g) + H_2O \rightarrow HOCl(g) + HNO_3(g)$

B. $HOCl(g) \xrightarrow{hv} OH + Cl(g)$

C. $A + B \rightarrow C(\text{wanted product})$

D.

$$ClO + NO_2(g) \rightarrow ClONO_2(g). Cl(g) + CH_4(g) \rightarrow CH_3 + HCl(g)$$

Answer: D

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120. COD of water sample is 8ppm the weight of acidified $K_2Cr_2O_7$ required to oxidise the organic matter present in one liter of water sample is

A. 98 mg

B. 49mg

C. 796mg

D. 98g

Answer: B

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121. Which of the following statements is false ?

A. Photochemical smog cause irritation in eyes

B. London smog is a mixture of smoke and fog

C. photochemical smog results in the formation of PAN

D. London smog is oxidising in nature

Answer: D

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122. Phosphate pollution is mainly caused by

A. Weathering of phosphate rocks only

B. Agriculture fertilizers only

C. Phosphate rocks and sewage

D. Sewage and agriculture fertilizers

Answer: D

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123. Among the following how many are greenhouse gases ?

A. Ozone

B. CH_4

C. CO_2

D. water vapours

Answer:

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124. Which of the following gases are responsible for the formation of photochemical smog ?

A. Carbon dioxide

B. Sulphur dioxide

C. Nitric oxide

D. Hydro carbons

Answer:

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125. Regarding BOD_5, which statements are incorrect ?

A. Waste decomposed in 5 days

B. Oxygen used in 5 days

C. Microorganisms killed in 5 days

D. Dissolve oxygen left after 5 days

Answer:

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126. This question has Statement I and Statement II. Of the four choice given after the Statement, choice the one that best describes the two Statement.

Statement - I : The temperature in the thermosphere increases with attitude

Statement - II : Ozone present in stratosphere absorbs ultraviolet radiation

A. Statement - I is true, statement -II is true,Statement - II is a correct explanation of Statement - I

B. Statement - I is true, Statement - II is true, Statement - II is not a correct explanation of Statement - I.

C. Statements - I is true, Statement - II is false.

D. Statement - I is false, Statement - II is true.

Answer: B

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127. This question has Statement I and Statement II. Of the four choice given after the Statement, choice the one that best describes the two Statements.

Statement - I : ionosphere contains gases in the ionised form which form the bases for wireless communication.

Statement - II : The ions reflect back the radio waves tp the earth

A. Statement - I is true, statement -II is true,Statement - II is a correct explanation of Statement - I

B. Statement - I is true, Statement - II is true, Statement - II is not a correct explanation of Statement - I.

C. Statements - I is true, Statement - II is false.

D. Statement - I is false, Statement - II is true.

Answer: A

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128. This question has Statement I and Statement II. Of the four choice given after the Statement, choice the one that best describes the two Statements.

Statement -I : Rain water normal has a pH of 5.6

Statement - II : The presents of H_2SO_4 andHNO_3 produced from the oxides of sulphur and nitrogen lower the pH of rain.

A. Statement - I is true, statement -II is true,Statement - II is a correct explanation of Statement - I

B. Statement - I is true, Statement - II is true, Statement - II is not a correct explanation of Statement - I.

C. Statements - I is true, Statement - II is false.

D. Statement - I is false, Statement - II is true.

Answer: B

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129. This question has Statement I and Statement II. Of the four choice given after the Statement, choice the one that best describes the two Statements.

Statement- I : Smaller particles (Size <5 micron) cause fibrosis of the lung lining.

Statement - II : Smaller particles (Size <5 micron) are more likely to penetrate into the lungs.

A. Statement - I is true, statement -II is true,Statement - II is a correct explanation of Statement - I

B. Statement - I is true, Statement - II is true, Statement - II is not a correct explanation of Statement - I.

C. Statements - I is true, Statement - II is false.

D. Statement - I is false, Statement - II is true.

Answer: A

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130. This question has Statement I and Statement II. Of the four choice given after the Statement, choice the one that best describes the two Statements.

Statement - I : A solution of bromine in $\mathbb{C}I_4$ is decolourised on passing acetylene gas through it.

Statement - II : Bromine is expelled from the solution by the acetylene gas.

A. Statement - I is true, statement -II is true,Statement - II is a correct explanation of Statement - I

B. Statement - I is true, Statement - II is true, Statement - II is not a correct explanation of Statement - I.

C. Statements - I is true, Statement - II is false.

D. Statement - I is false, Statement - II is true.

Answer: C

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131. This question has Statement I and Statement II. Of the four choice given after the Statement, choice the one that best describes the two Statements.

Statement - I : Acid rain have been reported in some places which are far away from the places where industries are located.

Statement - II : Rain clouds move away from industries.

A. Statement - I is true, statement -II is true,Statement - II is a correct explanation of Statement - I

B. Statement - I is true, Statement - II is true, Statement - II is not a correct explanation of Statement - I.

C. Statements - I is true, Statement - II is false.

D. Statement - I is false, Statement - II is true.

Answer: A

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132. This question has Statement I and Statement II. Of the four choice given after the Statement, choice the one that best describes the two Statements.

Statement - I : Now a days surface of the earth gets heated up

Statement - II : CO_2 and water vapour partly reflects IR radiation back to earth's surface

A. Statement - I is true, statement -II is true,Statement - II is a correct explanation of Statement - I

B. Statement - I is true, Statement - II is true, Statement - II is not a correct explanation of Statement - I.

C. Statements - I is true, Statement - II is false.

D. Statement - I is false, Statement - II is true.

Answer: A

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133. This question has Statement I and Statement II. Of the four choice given after the Statement, choice the one that best describes the two Statements.

Statement -I : Holes in ozone layer are observed at the north and the south poles by scientists

Statement - II : Uv radiation damage eyes causing cataract of eyes

A. Statement - I is true, statement -II is true,Statement - II is a correct explanation of Statement - I

B. Statement - I is true, Statement - II is true, Statement - II is not a correct explanation of Statement - I.

C. Statements - I is true, Statement - II is false.

D. Statement - I is false, Statement - II is true.

Answer: B

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134. This question has Statement I and Statement II. Of the four choice given after the Statement, choice the one that best describes the two Statements.

Statement - I : Photochemical smog is oxidising in nature.

Statement - II : Photochemical smog is formed due to the combustion of coal and petroleum products

A. Statement - I is true, statement -II is true,Statement - II is a correct explanation of Statement - I

B. Statement - I is true, Statement - II is true, Statement - II is not a correct explanation of Statement - I.

C. Statements - I is true, Statement - II is false.

D. Statement - I is false, Statement - II is true.

Answer: C

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135. Which of the following phenomenon are the outcome of ozone hole ?

A. Acid rain

B. Greenhouse effect

C. Global warming

D. The uv radiation reach to earth

Answer: D

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136. The ozone layer is present in

A. Troposphere

B. Stratosphere

C. Mesosphere

D. Thermosphere

Answer: B

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137. Match Column -I with Column -II

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138. Match Column -I with Column -II

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139. A mixture of CO and O_2 when exposed to haemoglobin,it is CO and not O_2 that links to Fe. The number of groups to which Fe is

coordinated other than vacant site for CO in haemoglobin is

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140. How does carbon monoxide link to haemoglobin ?

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141. Differentiate pesticide and herbicides.Explain with example.

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142. What is meant by green chemistry ? How does it help in decreasing environmental pollution ?

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143. Metal ion responsible for the Minamata disease is

A. $Co^2 +$

B. $Hg^2 +$

C. $Cu^2 +$

D. $Zn^2 +$

Answer: B

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144. Among the following, the one which is not a "greenhouse gas", is

A. N_2O

B. CO_2

C. CH_4

D. O_2

Answer: D

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145. Which one of the following is not a common component of Photochemical smog ?

A. Ozone

B. Acrolein

C. Peroxyacetyl nitrate

D. Chlorofluorocarbons

Answer: D

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146. Ozone is present as a chief constituent in which region of the atmosphere ?

A. Troposphere

B. Stratosphere

C. Mesosphere

D. Thermosphere

Answer: B

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147. The gas leaked from a storage tank of the union Carbide plant in Bhopal gas tragedy was

A. Methyl isocyanate

B. Methylamine

C. Ammonia

D. Phosgene

Answer: A

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148. Use of chlorofluoro carbone is not encouraged because

A. They are harmful to the eyes of people that use it

B. They damage the refrigerators and air conditioners

C. They eat away the ozone in the ozone in the atmosphere

D. They destroy the oxygen layer

Answer: C

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149. Assertion Photochemical smog is produced by nitrogen oxides.

Reason pollution is a major source of nitrogen oxides.

A. If both Assertion and Reason are true and reason is correct explanation of Assertion

B. If both Assertion and Reason are true but reason is not the correct explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: B

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150. What is DDT among the following ?

A. Greenhouse gas

B. A fertilizer

C. Bio-degradable pollutant

D. Non-biodegradable pollutant

Answer: D

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151. Which of the following is a measurement of water pollution ?

A. PSC

B. PCB

C. BOD

D. COD

Answer: C

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152. Which of the following statements regarding photochemical smog is not correct

A. Carbon monoxide dose not play any role in photochemical smog formation

B. Photochemical smog is an oxidising agent in character

C. Photochemical smog is formed through photochemical reaction involving solar energy

D. Photochemical smog dose not cause irritation in eyes and throat

Answer: D

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153. Assertion CO and NO combine with haemoglobin

Reason Both have equal affinity for haemoglobin

A. Both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. Both Assertion and Reason are true but the Reason is not the correct explanation of the Assertion.

C. Assertion is true but Reason is false.

D. Both Assertion and Reason are false.

Answer: A

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154. Identify the incorrect incorrect statement from the following .

A. Oxides of nitrogen in the atmosphere can cause the depletion of ozone layer .

B. Ozone absorbs the intense ultraviolet radiations of the sun .

C. Depletion of ozone layer is because of its chemical reaction with chlorofluoroalkanes.

D. Ozone absorbs infrared radiations

Answer: D

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155. The ozone layer forms naturally by

A. The interaction of CFC with oxygen

B. The interaction of UV radiation with oxygen

C. The interaction of IR radiation with oxygen

D. The interaction of oxygen and water vapour

Answer: B

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156. Which one of the following statement is not true ?

A. Oxides of sulphur ,nitrogen and carbon are the most widespread air pollutant.

B. pH of drinking water should be between 5.5-9,5.

C. Concentration of DO below 6 ppm is good for the growth of fish

D. Clean water would have a BOD value of less than 5 ppm

Answer: C

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157. Excess nitrate in drinking water can cause

A. Methemoglobinemla

B. kidney damage

C. liver damage

D. laxative effect

Answer: A

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