CHEMISTRY

BOOKS - DISHA CHEMISTRY (HINGLISH)

ENVIRONMENTAL CHEMISTRY

Chemistry

1. The substance which is a primary pollutant?

A. H_2SO_4

B. CO

C. PAN

D. Aldehydes

Answer: B

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2. Ozone layer of stratosphere requires protection from indiscriminate use of

A. balloons

B. pesticides

C. atomic explosions

D. acrosois and high flying jets

Answer: D

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3. Which of the following acts as a sink for CO?

A. plants

B. haemoglobin

C. Microorganisms present in the soil

D. oceans

Answer: C

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4. The viable particulate among the following is

A. fumes

B. algae

C. smoke

D. mist

Answer: B

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5. Which of the following statements is not true about classical smog?

A. Its main components are produced by the action of sunlight on emissions of automobiles and factories.

B. Produced in cold and humid climate.

C. It contains components of reducing nature

D. It contains smoke fog and sulphur dioxide.

Answer: A

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6. Which of the following sequence ofT and F is correct for given statements. Here T stands for True statement and F stands for False statement.

(i) Troposphere is the lowest region of atmosphere in which the human beings along with other organisms live. (ii) Troposphere extends up to the height of I 0 km from sea level. (iii) Stratosphere lies above troposphere, between 10 and 20 km above sea level. (iv) Troposphere contains much little water

vapour, dinitrogen, dioxygen and ozone (v) Stratosphere contains ozone, and cloud formation also takes place in this region.

A. TTTTT

B. TFTFF

C. TTFFF

D. TFTFT

Answer: C

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7. Green chemistry means such reactions which

A. produce colour during reactions

B. reduce the use and production of hazardous chemicals

C. are related to the depletion of ozone layer

D. study the reactions in plants

Answer: B

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8. Photochemical smog consists of excessive ammmt of X, in addition to aldehydes, ketones, peroxyacetyl nitrate (PAN), and so forth, X is:

A. CO

B. CH_4

C. O_3

D. CO_2

Answer: C

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9. Which of the following statements about polar stratosphere clouds (PSCs) is not correct?

A. PSCs do not react with chlorine nitrate and HCI

B. Type I clouds are formed at about $-77^{\circ}C$ and contain solid $HNO_3.3H_2O$

C. Type II clouds are formed at about $-85^{\circ}C$ and contain some ice

D. A tight whirlpool of wind called Polar Vortex is formed which surrmmds Antarctica

Answer: A

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10. Which of the following statements are not correct?

(i) F^- ion concentration above 2 ppm causes brown mottling in teeth.

(ii) Excessive F^- (over 10 ppm) causes harmful effect to bones and teeth.

(iii) Excessive lead in drinking water causes disease methemoglobinemia (iv) Deficiency of sulphate in drinking water causes laxative effect

A. (ii) and (iv)

B. (ii) and (iii)

C. (ii), (iii) and (iv)

D. (iii) and (iv)

Answer: D

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11. 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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12. Minamata disease is due to pollution of

A. aresenic into the atmosphere

B. organic waste into drinking water

C. oil spill in water

D. industrial waste mercury into fishing water

Answer: D

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13. Eutrophication causes reduction in

A. dissolved oxygen

B. nutrients

C. dissolved salts

D. All the above

Answer: A

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14. Which of the following is/are formed when ozone reacts with the unburnt hydrocarbons in polluted air ?

(i) Formaldehyde (ii) Acrolein (iii) Peroxyacetyl nitrate (iv) Fonnic acid

A. (i) and (iv)

B. (ii) only

C. (iii) only

D. (i), (ii) and (iii)

Answer: D

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15. Use of which of the following solvent in dry cleaning will result in less harm to ground water ?

A. $Cl_2C = CCl_2$

B. liquid CO_2

C. H_2O_2

D. none of these

Answer: B

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16. Which among the following statements is false?

A. Oil slick in sea water increases D.O. value

B. The main reason for river water pollution is industrial and domestic sewage discharge

C. Surface water contains a lot of organic matter mineral nutrients and radioactive materials

D. Oil spill in sea water causes heavy damage to fishery

Answer: A

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17. The false statement among the followings :

A. The average residence time of NO is one month

B. Limestone acts as a sink for SO_x

C. SO_X can be removed from flue gases by passing through a solution of citrate ions

D. Ammonia acts as a sink for NO_X

Answer: A

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18. The aromatic compounds present as particulates are

A. polycyclic aromatic hydrocarbons

B. benzene

C. toluene

D. nitrobenzene

Answer: A

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19. Which one of the following pairs is mismatched ?

A. Fossil fuel burning release of CO_2

B. Nuclear power radioactive wastes

C. Solar energy Greenhouse effect

D. Biomass burning release of CO_2

Answer: C

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

A. pH of drinking water should be between 5.5-9.5

B. Concentration of DO below 6 ppm is good for the growth offish

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

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

Answer: B

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21. Surface water contains

A. suspended impurity

B. salt+ organic matte

C. only salt

D. organic matter

Answer: B

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22. Formation ofLondon smog takes place in

A. winter during day time

B. summer during daytime

C. summer during morning time

D. winter during morning time

Answer: D

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23. Dinitrogen and dioxygen are main constituents of air but these do not react with each other to form oxides of nitrogen because

---- –

A. the reaction can be initiated only in presence of a catalyst.

B. oxides of nitrogen are unstable

C. N_2 and O_2 are unreactive

D. N_2 and O_2 are reactive

Answer: A

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24. Which one of the following statements 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

Answer: A

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25. Lichens do not like to grow in cities

A. because of absence of the right type of algae and ftmgi

B. because of lack of moisture

C. Because of SO_2 pollution

D. because natural habitat is missing

Answer: C

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26. Which of the following statements about the depletion of ozone layer is correct?

A. The problem of ozone depletion is less serious at poles because NO_2 solidifies and is not available for consuming CiO^* radicals.

B. The problem of ozone depletion is more serious at poles because ice crystals in

the clouds over poles act as catalyst for photochemical reactions involving the decomposition of ozone of Cl^* and CiO^* radicals.

C. Freons and chlorofluorocarbons are inert. Chemically, they do not react with ozone in stratosphere.

D. Oxides of nitrogen also do not react with ozone in stratosphere.

Answer: C

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27. Acid rain is caused by or recent reports of acid rain in some industrial cities are due to the effect of atmospheric pollution by

A. excessive release of CO_2 by burning of fuels like wood and charcoal, cutting of forests and increased animal population

B. excessive release of NO_2 and SO_2 in atmosphere by burning of fossil fuel

C. excessive release of NH_3 by industrial plants and coal gas

D. excessive release of CO in atmosphere by incomplete combustion of coke, charcoal and other carbonaceous f i .1el in paucity of oxygen.

Answer: B

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28. A water sample has ppm level concentntion of following anions

$F^- = 10, SO_4^{2-} = 100, NO_3^- = 50$

the anion/anions that make/makes the water sample unsuitable for drinking is/are :

A. only NO_3^-

B. both SO_4^{2-} and NO_3^-

C. only F^-

D. only SO_4^{2-}

Answer: C

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29. Which of the following is the major cause of global warming?

A. re-radiation of U.V. rayd by CO_2 and H_2O

B. re-radiation of I.R. rays by CO_2 and H_2O

C. re-radiation of I.R. rays by O_2 and N_2

D. re-radiation of U.V. rays by O_2 and N_2

Answer: B

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30. Identify the incorrect statement from the following

A. Ozone absorbs the intense ultraviolet radiation of the sun.

B. Depletion of ozone layer is because of its chemical reactions with chlorotluoro

alkanes

C. Ozone absorbs infrared radiation.

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

Answer: C

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31. BOD is connected with

A. microbes and organic matter

B. organic maner

C. microbes

D. None of the above

Answer: A

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32. Which 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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33. In which of the following regions hydrogen and helium are found?

A. Stratosphere

B. Mesosphere

C. Exosphere

D. Troposphere

Answer: C

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34. Formation of ozone in the upper atmosphere from oxygen takes place by the action of

A. nitTogen oxides

B. ultraviolet rays

C. cosmic rays

D. free radicals

Answer: B

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35. Which of the following is/are the hazardous pollutant(s) present in automobile exhaust gases?

(i) N_2

(ii) CO

(iii) CH_4

(iv) Oxides of nitrogen

A. (ii) and (iii)

B. (i) and (ii)

C. (ii) and (iv)

D. (i) and (iii)

Answer: C

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36. The non-viable particulate among the following is

A. dust

B. bacteria

C. moulds

D. fungi

Answer: A

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37. The region containing water vapour is

A. thermosphere

B. stratosphere

C. troposphere

D. mesosphere

Answer: C

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38. The biggest particulate matter is

A. HNO_3 droplets

B. soot

C. H_2SO_4 droplets

D. fly ash

Answer: D

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39. How many time oxyhaemoglobin is less stable than carboxyhaemoglobin?

A. 50

B. 200

C. 500

D. 300

Answer: D

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40. When rain is accompanied by a thunderstonn, the collected rain water will have a pH value

A. slightly lower than that of rain water without thunderstorm

B. slightly higher than that when the thtmderstorm is not there

C. uninfluenced by occurrence oftbtmderstorm

D. which depends upon the amount of dust in air

Answer: A

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41. Which of the following can control the photochemical smog? (A) Use of catalytic converters in automobiles. (B) Plantation of trees like pinus, pyrus and vilis etc. (C) Using less sulphur containing fossil fuels

A. A and C

B. B

C. A and B

D. A, B and C

Answer: C

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42. Which of the following statement is false?

A. London smog is oxidising in nature

B. Photochemical smog causes irritation in eyes

C. London smog is a mixture of smoke and fog

D. Photochemical smog results in the formation of PAN

Answer: A

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43. Depletion of ozone layer causes

A. Breast cancer

B. Blood cancer

C. Lung cancer

D. Skin cancer

Answer: D

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