



# 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 of T 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 10 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 amount 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**



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

A. PSCs do not react with chlorine nitrate and HCl

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

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 surrounds

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. arsenic 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) Fomnic acid

A. (i) and (iv)

B. (ii) only

C. (iii) only

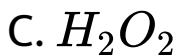
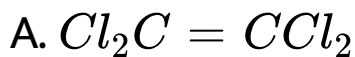
D. (i), (ii) and (iii)

**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 ?



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 of fish
- 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 pollutants.

**Answer: B**



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21. Surface water contains

A. suspended impurity

B. salt+ organic matter

C. only salt

D. organic matter

**Answer: B**



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22. Formation of London 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

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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 fungi
- B. because of lack of moisture
- C. Because of  $SO_2$  pollution
- D. because natural habitat is missing

**Answer: C**



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  $ClO^*$  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  $ClO^*$  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 fuel in paucity of oxygen.

**Answer: B**



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28. A water sample has ppm level concentration 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. rays 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 chlorofluoro

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. nitrogen 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 thunderstorm, 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 thunderstorm is not there

C. uninfluenced by occurrence of thunderstorm

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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