

CHEMISTRY

BOOKS - S DINESH & CO CHEMISTRY (HINGLISH)

ENVIRONMENTAL CHEMISTRY



1. Define environmental chemistry.



2. Explain tropospheric pollution in 100 words.
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3. Carbon monoxide gas is more dangerous than carbon dioxide gas. Why?
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4. The gases responsible for Green house effect are :
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5. Statues and monuments in India are affected by acid



6. What is smog? How is classical smog different from photochemical smogs?



7. Write down the reactions involved during the formation of photochemical smog.



8. What are the harmful effects of photochemical smog and how can they be controlled?



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9. What are the reactions involved for ozone layer depletion in the stratosphere?



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10. What do you mean by ozone hole? What are its consequences?



11. What are the major causes of water pollution? Explain.



12. Have you ever observed any water pollution in your area? What measures would you suggest to control it?



13. What do you mean by Biochemical Oxygen Demand (BOD)?



14. Do you observe any soil pollution in your neighbourhood? What efforts will you make for controlling the soil pollution?



15. What are pesticides and herbicides? Explain giving examples.



16. What do you mean by green chemistry? How will it help decrease environmental pollution?



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17. What would have happened if the greenhouse gases were totally missing in the earth's atmosphere? Discuss.



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18. A large number of fish are suddenly found floating dead on a lake. There is no evidence of toxic dumping

but you find an abundance of phytoplankton. Suggest a reason for the fish kill.



19. How can domestic waste be used as manure?



20. For your agricultural field or garden you have developed a compost producing pit. Discuss the process in the light of bad odour, flies and recycling of wastes for a good produce.



Short Answer Type Questions

1. Green house effect leads to global warming. Which substances are responsible for green house effect?



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2. Acid rain is known to contain some acids. Name these acids and where from they come in rain?



3. Ozone is a toxic gas and is a strong oxidising agent even then its present in the stratosphere is very important. Explain what would happen if ozone from this region is completely removed ?



4. Dissolved oxygen in wate is very important for aquatic life. What process are responsible for the reduction of dissolved oxygen in water?



5. On the basis of chemical reactions involved, explain how do chlorofluorocarbons cause thinning of ozone layer is stratosphere?



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6. What could be the harmful effects of improper management of industrial and domestir solid wate in a city?



7. During an educational trip, a student of botany saw a beautiful lake in a village. She collected many plants from that area. She notices that villagers were washings clothes around the lake and at some places waste material from houses was destroying its beauty. After few years, shw visited the same lake again. She was suprised to find that the lake was covered with algae, stinking smell was coming out and its water had become unusable. Can you explain the reason for this condition of the lake?



8. What are biodegradable and non-biodegradable pollutants?



9. What are the sources of dissolved oxygen in water?



10. What is the importance of measuring BOD of a water body?



11. Presence of large amount of nutrients in waters causes excessive growth of planktonic algae called



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12. A factory was started near a village. Suddenly villagers started feeling the presence of irriting vapour in the village and cases of headache, chest pain, cough, dryness of throat and breathing problems increased. Villagers blamed the emissions from the chimney of the factory for such problems. Explain what colud have happend. Give chemical reactions for the support of your explanation.



13. Oxidation of sulphur dioxide into sulphur trioxide in the absence of a catalyst is a slow process but this oxidation occurs easily in the atmosphere. Explain how does this happen? Give chemical reactions for the conversion of SO_2 into SO_3 .



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14. From where does ozone come in the photochemical smog ?



15. How was the protective ozone layer produced?



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16. Ozone is a gas hevier than air. Wy does ozone layer not settle down near the earth?



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17. Some time ago formation of polar stratospheri clouds reported over Antarctica. Why were these formed? What happens when such clouds break up by warmth of sunlight?



18. A person was using water supplied by Municipality. Due to shortage of water the started underground water. He felt laxative effect. What could be the cause?



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Long Answer Type Questions

- 1. How can you apply green chemistry for the following
- (a) To control photochemical smog.
 - (b) To avoid use of halogenated solvents in dryclening

- and that of chlorine in bleaching.
- (c) to reduce use of synthestic detergents.
- (d) To reduce the consumption of petrol and diesel.



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2. Green plants use carbon dioxide for photosynthesis and return oxygen to the atmosphere, even then carbon dioxide is considered to be responsible for green house effect. Explain why?



- **3.** (a) With the help of well labeled diagram explain water cycle in nature.
- (b) How is green house effect related to Global warming? Explain.



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Additional Important Questions

1. Difine the environmental pollulant. What do you understand by an environmental pollution model?



2. Why does rain water have normally pH of about 5.6?



3. Why is acid rain considered a threat to Taj Mahal?



4. Assertion: Smoking makes oxgyen less available to the body

Reason : In presence $CO,\,O_2$ binds less with haemoglobin.



5. Why does green house effect cause global warming? What could be the consequences of global warming?



6. Which gases are responsible for green house effect? Name these.



7. Name three gases which are the major source of pollution.



8. What do you understand by chlorosis? **Watch Video Solution** 9. Name the compounds which are mainly responsible for damaging ozone layer. **Watch Video Solution**

10. What is the composition of London smog?

11. "Photochemical smog" is a:



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12. Oxygen plays a key role in troposphere while ozone in the stratosphere. Elaborate.



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13. 75% of the Solar Energy reaching Earth is absorbed by earth's surface which increases its temperature. The reat of heat rediates back to the atmosphere. Some of the heat is trapped by gases such as CO_2 , CH_4 , O_3 , CFCS present in atmosphere. They

add to the heating of atmosphere which causes 'Global Warming'.

Answer the following questions on the basis of above paragraph:

(i)What is Green House effect?

(ii)What can we do to reduce the rate of Global Warming?



14. Write the neme of an air pollutant.



15. Ozone is a toxic gas and is a strong oxidising agent even then its present in the stratosphere is very important. Explain what would happen if ozone from this region is completely removed ?



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16. Write two causes of water pollution and soil pollution.



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Value Based Questions

1. Taj Mahal is regarded as eighth wonder the world. Millions of people from India and from abroad visit this great historic monument every year. They appreciate the architecture and the carvings. It is indeed, very prestigeous for every Indian. But over the years, it has faced immense pollution problems. It has lost its lustre due to the presence of traces of hydrogen sulphide and other pollutants present in air.

(i)What is the main reason for the damage done to Taj
Mahal and other historical monuments?

- (ii) How is damage actually caused?
- (iii) Suggest some ways to check the pollution?



Single Correct Option

1. Which of the following gases is not green house gas

?

A. CO

B. O_3

C. CH_4

D. H_2O vapours

Answer: A



2. 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
- $\mathsf{C}.\,SO_2$
- D. Unsaturated hydrocarbons.

Answer: C



3. Which of the following statement is not true about classical smog?

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

- B. It is produced in cold and humid climate.
- C. It contains compounds of reducing nature.
- D. It contains smoke, fog and sulphur dioxide.

Answer: A



4. Biochemical Oxygen Deman, (BOD) is a measure of organic material present in water. BOD value less than $5\mathrm{ppm}$ indicates a water sample to be

A. rich in dissolved oxygen.

B. poor in dissolved oxygen.

C. highly polluted.

D. not suitable for aquatic life.

Answer: A



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5. Which of the following statemennts is wrong?

- A. Ozone is not responsible for green house effect.
- B. Ozone can oxidise suphur dioxide present in the atmosphere to sulphur trioxide.
- C. Ozone hole is thinning of ozone layer present in stratosphere.
- D. Ozone is produced in upper stratosphere by the action of UV rays on oxygen.

Answer: A



6. Sewage containing organic waste should not be disposed in water bodies because it causes major water pollution. Fishes in such a polluted water die because of

- A. Large number of mosquitoes.
- B. Increase in the amount of dissolved oxygen.
- C. Decrease in the amount of dissolved oxygen in water.
- D. Clogging of gills by mud.

Answer: C



- **7.** Which of the following statements about photochemical smog is wrong?
 - A. It has high concentration of oxidising agents.
 - B. It has low concentration of oxidising agent.
 - C. It can be controlled by controlling the relesase of NO_2 , hydrocarbons, ozone etc.
 - D. Plantation of some plants like pinus helps in controlling photochemical smog.

Answer: B



8. The gaseous envelope around the earth is known ias atmosphere. The lowest layer of this is extended upto $10 \ \text{km}$ from sea level , this layer is

- A. Stratosphere
- B. Troposphere
- C. Mesosphere
- D. Hydrosphere

Answer: B



9. 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 is endothermic and requires very high temperature.

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

C. oxides of nitrogen are unstable.

D. N_2 and O_2 are unreactive.

Answer: A



10. The pollutants which come directly in the air from sources are called primary pollutes. Primary polluants are sometimes converted into secondary pollutants. Which of the following belongs to secondary air pollutants?

- A. CO
- B. Hydrocarbon
- C. Peroxyacetyl nitrate
- D. NO

Answer: C



- 11. Which of the following statements is correct?
 - A. Ozone hole is a hole formed in stratosphere from which ozone oozes out.
 - B. Ozone hole is a hole formed in the troposphere from which ozone oozes out.
 - C. Ozone hole is thinning of ozone layer of stratosphere at some places.
 - D. Ozone hole means vanishing of ozone layer around the earht completely.

Answer: C

12. Which of the following practices will not come under green chemistry a)If possible, making use of soap made of vegetable oils instead of using synthetic detergents b)Using H_2O_2 for bleaching purpose instead of using chlorine based bleachinf agents c)Using bicycle for travelling small distances instead of using petrol/diesel based vehicles d)Using plastic cans for neatly storing substances

A. If possible, making use of soap made of vagetable oils instead of using synthetic detergents.

- B. Using H_2O_2 for bleaching purpose instead of using chlorine based bleaching agents.
- C. Using bicycle for travelling small distances instead of using petrol/diesel based vehicles.
- D. Using plastic cans for neatly storing substances.

Answer: D



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Multiple Correct Options

1. Which of the following conditions shows the polluted enviorment?

A. PH of rain water is 5.6.

B. amount of carbon dioxide in the atmosphere is $0.03\,\%$

C. biochemical oxygen demand 10 ppm.

D. eutrophication.

Answer: C::D



2. Phosphate containing fertilisers cause water pollution. Addition of such compounds in water bodies causes....

A. enhanced growht of algae.

B. decrease in amount of dissolved oxygen in water.

C. deposition of calcium phosphate.

D. increase in fish population.

Answer: A::B



3. The acids present in acid rain are _____.

a)Peroxyacetylnitrate b) H_2CO_3 c) HNO_3 d) H_2DO_4

- A. Peroxyacetylnitrate
- B. H_2CO_3
- $\mathsf{C}.\,HNO_3$
- D. H_2SO_4

Answer: B::C::D



4. The consequences of global warming may be a)increase in average temperature of the earth b)melting of Himalayan Glaciers. c)increased biochemical oxygen demand. d)increased biochemical oxygen demand.

A. increase in average temperature of the earth

B. melting of Himalayan Glaciers.

C. increased biochemical oxygen demand.

D. eutrophication.

Answer: A::B



Matching Type Questions

1. Match the terms given in Column I with the compound given in Column II.

	Column I		Column II
Α.	Acid rain	1.	CHCl ₂ -CHF ₂
B.	Photochemical smog	2.	CO
C.	Combination with haemoglobin	3.	CO_2
D	Depletion of ozone layer	1	SO_2
υ.	Depresses ,	5.	Unsaturated hydrocarbons



2. Match the pollution(s) in column I with the effect(s) in column II.

	Column I		
	Column I		Column II
A.	Oxides of sulphur	1.	Global warming
B.	Nitrogen dioxide	2.	Damage to kidney
C.	Carbon dioxide	3.	'Blue baby' syndrome
D.	Nitrate in drinking water	4.	Respiratory diseases
E.	Lead	5.	Red haze in traffic and congested areas

3. Match the activity given in Column I with the type of pollution created by it given in Column II.

	Column I (Activity)		Column II (Effect)
Α	Releasing gases to the atmosphere after burning waste material containing sulphur	1.	Water pollution
В.	Using carbamates as pesticides	2.	Photochemical smog, damage to plant life, corrosion to building material, induce breathing problems, water pollution
C.	Using synthetic detergents for washing clothes	3.	Damaging ozone layer
D.	Releasing gases produced by automobiles and factories in the atmosphere	4.	May cause nerve diseases in human
E.	Using chlorofluorocarbon compounds for cleaning computer parts	5.	Classical smog, acid rain, water pollution, induce breathing problems, damage to buildings, corrosion of metals



4. Match the pollutants given in Column I with their effects given in Column II.

AND THE STREET OF SECURIOR STREET	Column I		Column II
Α.	Phosphate fertilisers in water	1.	BOD level of water increases
B.	Methane in air	2.	Acid rain
C.	Synthetic detergents in water	3.	Global warming
D.	Nitrogen oxides in air	4.	Eutrophication



Assertion Reason Type Questions

1. Assertion (A): Green house effect was observed in houses used to grow plants and these are made of green glass.

Reason (R): Green house name has been given because

glass houses are made of green glass a)Both A and R are correct and R is the correct explanation of A. b).Both A and R are correct but R is not the correct explanation of A. c)Both A and R are not correct. d)A is not correct but R is correct.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and R are correct but R is not the correct explanation of A.

C. Both A and R are not correct.

D. A is not correct but R is correct.

Answer: C

2. Assertion (A): The pH of acid rain is less than 5.6.

Reason (R): Carbon dioxide present in the atmosphere dissolves in rain water and forms carbonic acid. a)Both A and R are correct and R is the correct explanation of A. b).Both A and R are correct but R is not the correct explanation of A. c)Both A and R are not correct. d)A is not correct but R is correct.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and R are correct but R is not the correct explanation of A.

- C. Both A and R are not correct.
- D. A is not correct but R is correct.

Answer: B



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3. Assertion: Photochemical smog is oxidising in nature. Reason: Photochemical smog contains NO_2 and O_3

which are formed during the sequence of reactions.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and R are correct but R is not the correct explanation of A.

C. Both A and R are not correct.

D. A is not correct but R is correct.

Answer: A



4. Assertion (A): Carbon dioxide is one of the important greenhouse gases.

Reson (R): It is largely produced by respiratory function of animals and plants. a)Both A and R are correct and R is the correct explanation of A. b).Both A

and R are correct but R is not the correct explanation of A. c)Both A and R are not correct. d)A is not correct but R is correct.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and R are correct but R is not the correct explanation of A.

C. Both A and R are not correct.

D. A is not correct but R is correct.

Answer: B



5. Assertion (A) : Ozone is destroyed by solar radiation in upper streatosphere.

Reason (R): Thinning of the ozone layer allows excessive UV radiations to reach the surface of earth.

a)Both A and R are correct and R is the correct explanation of A. b).Both A and R are correct but R is not the correct explanation of A. c)Both A and R are not correct.d)A is not correct but R is correct.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and R are correct but R is not the correct explanation of A.

C. Both A and R are not correct.

D. A is not correct but R is correct.

Answer: D



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6. Assertion (A): Excessive use of chlorinated synthetic pesticides causes soil and water pollution.

Reason (R): Such pesticides are non-biodegradable.

Both A and R are correct and R is the correct explanation of A. a)Both A and R are correct and R is the correct explanation of A. b).Both A and R are correct but R is not the correct explanation of A. c)Both

A and R are not correct. d)A is not correct but R is correct.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and R are correct but R is not the correct explanation of A.

C. Both A and R are not correct.

D. A is not correct but R is correct.

Answer: A



7. Assertion: If BOD level of water in a reservoir is less than 5 ppm it is highly pollution.

Reason: High biological oxygen demand means low activity of vacteria in water.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and R are correct but R is not the correct explanation of A.

C. Both A and R are not correct.

D. A is not correct but R is correct.

Answer: C



Very Short Answer Questions

1. Define pollution.



2. What is the nature of normal rain water?



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3. What is acid rain?



4. What are the major causes of water pollution? Explain.



Short Answer Questions

1. Describe the major components of air pollution.



2. What is Ozone hole?



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Long Answer Questions

1. Ozone is a toxic gas and is a strong oxidising agent even then its present in the stratosphere is very important. Explain what would happen if ozone from this region is completely removed?



Multiple Choice Questions

- 1. The gas which reacts with haemoglobin in blood is:
 - A. CO
 - B. SO_2
 - $\mathsf{C}.\,CO_2$
 - D. NO

Answer: A



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2. Ozone layer is present in

- A. Thermosphere
- B. Mesosphere
- C. Stratosphere
- D. Troposphere.

Answer: C



- **3.** Water pollution is less if BOD is
 - A. less than 5 ppm
 - B. less than 15 ppm
 - C. less than 50 ppm

D. less than 100 ppm

Answer: A



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4. Which is responsible mainly for depletion of ozone layer?

A. CFCS

B. HCFs

C. CH_3Br

D. all are correct.

Answer: A



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- 5. An example of major air pollutant is
 - A. CO
 - B. Oxides of nitrogen
 - C. Oxides of sulphur
 - D. all.

Answer: D



- A. Ammonia
- B. Methyl isocyanate
- C. Mustard gas
- D. Nitrous oxide

Answer: B



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7. Besides CO_2 the other greenhouse gas is

A. CH_4

B. N_2

C. Ar

D. O_2

Answer: A



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8. Which oxide of nitrogen is not common pollutant?

A. NO_2

B. N_2O_5

C. NO

D. N_2O

Answer: B



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9. Acid rain are due to a)Oxides of Phosphorous

b)Oxides of nitrogen c)Oxides of sulphur d)Both 2 & 3

- A. formation of oxides of sulphur
 - B. formation of oxides of nitrogen
 - C. formation of H_2SO_4 and HNO_3
 - D. All of these

Answer: D



10. BOD is a measure of:

- A. Organic pollutant in water
- B. Oxides of SPN in air
- C. Inorganic pollutant in water
- D. Particle matter in water.

Answer: A



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11. Which is not a source of pollution?

A.	Fores	t fire

B. Coal fire

C. Volcanoes

D. Dust storm

Answer: D



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12. Which of the following will increase the BOD of water supply?

A. CO_2

B. O_3

 $\mathsf{C}.\,H_2O$

D. C_2H_5OH

Answer: D



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13. A considerable part of the harmful ultraviolet radiation of the sun does not reach the surface of earth. This is because in the upper atmosphere, there is a layer of

A. CO_2

B. O_3

- $\mathsf{C}.\,N_2$
- $\mathsf{D}.\,O_2$

Answer: B



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14. Which of the following process does not increase the amount of CO_2 in atmosphere?

- A. Decay of animals
- B. Breathing
- C. Photosynthesis
- D. Burning of petrol.

Answer: C



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15. Which of the following is not a vehicular pollutant?

A. CO

B. NO_2

C. Particulate matter

D. Hydrocarbons.

Answer: D



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16. Which of the following is least pollutant?
A. NO_x
B. SO_x
$C.CO_2$
D. $C_x H_y$
Answer: C

17. The gas released in Bhopal gas tragedy was

A. Ammonia

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- B. Methyl cyanide
- C. Methyl isocyanide
- D. Methyl isocyanate

Answer: D



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- **18.** Which of the following acids is most abundant in acid rain?
 - A. HCI
 - $\mathsf{B.}\,HNO_3$
 - $\mathsf{C}.\,H_2SO_4$

D. Organic acids

Answer: C



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19. The major source of CO pollution is :

A. Forest fire

B. Deforestation

C. Automobile exhaust

D. All the above

Answer: C

20. Which of the following is responsible for asthmatic attacks?

A. Inhalation of pollen

B. Cold wealth

C. Eating vegetables grown in polluted water

D. All the above

Answer: A



21. The secondary precursors of photochemical smog are:

- A. SO_2 and NO_2
- B. SO_2 and hydrocarbons
- C. NO_2 and hydrocarbons
- D. O_3 and PAN

Answer: D



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22. Which is a green house gas?

- A. CO_2
- B. CH_4
- C. CF_2CI_2
- D. All of these



- **23.** An object is located at a height of 18 km from the surface of earth. The object is located in :
 - A. thermosphere
 - B. mesophere

- C. ionosphere
- D. stratosphere



- **24.** Freons are not recommended to be used in refrigerators because they cause
 - A. global warming
 - B. acid rain
 - C. depletion of ozone layer
 - D. very less cooling

Answer: C



25. Photochemical smog is formed due to presence of :

- A. oxides of sulphur
- B. Oxides of nitrogen
- C. oxides of carbon
- D. oxides of lead

Answer: C



26. Incomplete combustion of petrol or diesel oil in automobile engines can be best detects by testing the fuel gases for the presence of

- A. CO and H_2O vapours
- B. CO and NO_2
- C. CO
- D. SO_2

Answer: C



27. The concentration of fluoride, lead, nitrate and iron in a water sample from an underground lake was found to be 1000 ppb,40 ppb,100 ppm and 0.2 ppm, respectively. This water is unsuitable for drinking due to high concentration of

- A. fluoride
- B. lead
- C. nitrate
- D. iron

Answer: C



28. Atmosphere of big cities is polluted most by

- A. Automobile exhausts
- B. Pesticide residue
- C. Household waste
- D. Radioactive fall out

Answer: A



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29. Chief air pollutant which is likely to deplete ozone layer is

- A. Sulphur dioxide
- B. Sulphur trioxide
- C. Carbon dipoxide
- D. Nitrogen oxides and chlorofluorocarbons



- **30.** Which one is not a pollutant normally?
 - A. Hydrocarbons
 - B. Carbon dioxide
 - C. Carbon nmonoxide

D. Suplhur dioxide

Answer: B



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31. Gas released during Bhopal tragedy was

A. Methyl isocyanate

B. Potassium isothiocyanate

C. Sodium isothiocyanate

D. Ethyl isothiocyanate

Answer: A

- 32. Minamata disease is due to pollution of
 - A. organic waste into drinking water
 - B. oil spill in water
 - C. industrial waste containing mercury into fishing

water

D. Arsenic into the atmosphere

Answer: C



- **33.** Cyclone collector is used for minimising
 - A. Radioactive pollution
 - B. Air pollution
 - C. Noise pollution
 - D. Water pollution

Answer: B



- **34.** Ultra violet light causes
 - A. Fromation of pyrimidines

- B. Sticky metaphases
- C. Photodynamic action
- D. Destruction of hydroen bonds between complementary DNA strands



- **35.** Sulhuyr dioxide affects
 - A. Cell wall
 - B. Plasmodesmata
 - C. All membrane systems

D. Nucleus

Answer: C



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36. Addition of phposphate and nitrate/feticlizers in to water leads to

- A. Increased growth of decomposers
- B. Reduced algal growth
- C. Increased algal growth
- D. Niutrient enrichment (eutrophication)



37. Pollutant of automobile exhausts that effects nervous system produces mental diseases is

- A. Mercury
- B. Lead
- C. Nitrogen oxisde
- D. Sulphur dioxide

Answer: B



38. SO_2 and NO_2 produce pollution by increasing:

- A. Alkalinity
- B. Acidity
- C. Neutrality
- D. Buffer action.

Answer: B



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39. Carbon monoxide is pollutant as it :

- A. Inactivate nerves
- B. Inhibits glycolysis
- C. Combines with oxygen
- D. Combine with haemoglobin



- **40.** Air pollutants that produce photochemical oxidants include
 - A. CO_2 , CO and SO_2
 - B. Nitrous oxide, nitric oxide and nitric acid

- C. Oxygen, chlorine and nitric acid
- D. Ozone, chlorine and suphur dioxide.

Answer: B



- 41. Acid rains are produced by
 - A. Exces NO_2 and SO_2 from burning fossil fuels
 - B. Excess production of NH_3 by industry and coal gas
 - C. Excess release of carbon monoxide by incomplete combustion

D. Excess formation of CO_2 by combustion and animal respiration.

Answer: A



- **42.** Spraying of DDT produce pollution of the type :
 - A. Air
 - B. Air and water
 - C. Air and soil
 - D. Air, water and soil



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43. Most abundant water pollutant is:

- A. Detergents
- B. Pesticide I
- C. Industrial wates
- D. Ammonia

Answer: C



44. Atmosphere pollutant is

- A. CO_2
- B. CO
- $\mathsf{C}.\,O_2$
- D. N_2

Answer: B



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45. Atmospheric content of CO_2 is

A. 0.0034~%

- B. 0.034~%
- C. $0.34\,\%$
- D. $3.4\,\%$

Answer: B



- **46.** Burning of fossil fuels is the main source of which of the following pollutants?
 - A. Nirtrogen oxide
 - B. Nitric oxide
 - C. Nirtrogen oxide

D. Suphur dioxide

Answer: D



- **47.** Modes of controlling pollution in large cities includes:
 - A. Cleanlinesss and less use of insecticides
 - B. Proper disposal of organic wastages, sewage and industrial effluents
 - C. Broader roads and shifting of factories out of the residential areas

D. All the above

Answer: D



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48. Domestic waste mostly constitute:

A. Non biodegradable pollution

B. Biodegradable pollution Effluents

C. Effluents

D. Air pollution

Answer: B

49. Ozone layer of upper atmosphere is being destroyed by:

A. Cholorofluorocarbon

B. SO_2

C. Photochemical oxidants $/O_2$ and CO_2

D. Smog

Answer: A



50. Increased asthmatic attacks in certain seasons are related to

- A. Inhalation of seasonal pollen
- B. Eatin of seasonal vegetables
- C. Low temperature
- D. Wet and dry environment

Answer: A



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51. Ozone depletion in stratosphere shall result in:

A. Froest fires B. Increased incidence of skin cancer C. Global warming D. None of the above **Answer: B Watch Video Solution 52.** Which one of the following dissolves more rapidlyin

bolld haemoglobin than oxygen?

A. Ozone Nitrous oxide

B. Nitrous oxide

- C. Sulphuir dioxide
- D. Carbon monoxide



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53. Which of the following forms a toxic substance in blood by combining with haemoglobin?

- A. Carbon dioxide
- B. Carbon monoxide
- C. Oxygen
- D. Methane

Answer: B



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54. DDT is

- A. Green house gas
- B. Degradable poolutant
- C. Nondegradable pollutant
- D. None of the above

Answer: C



55. Ulraviolet radiation from sun causes a reaction that produces:

- A. Fluorides
- B. Carbon monoxide
- C. Sulphur dioxide
- D. Ozone

Answer: D



56.	Most	hazardous	metal	pollutant	of	automobile
exhausts is :						
	A. Mer	cury				
	B. Cadmium					
	C. Leac	İ				
	D. Copper					
Answer: C						
Watch Video Solution						

57. Taj Mahal is reported to be affected by:

- A. Flood in yamuna
- B. Temperatrure mediated spoilage of marble
- C. Air pollutantfrom Mathura refinery
- D. All the above

Answer: C



- **58.** Classical smog occurs in places of :
 - A. Excess SO_2
 - B. Low temperature
 - C. High temperature

D. Excess NH_3

Answer: B



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59. Which is not a pollutant from exhaust of motor vehicle?

- A. Hydrocarbns
- B. Fly ash
- C. NO_x
- D. CO

Answer: B



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60. Acid rain is caused bu increase in the atmospheric concentration of:

- A. Ozone and dust
- $B. CO_2 \text{ and } CO$
- $C. SO_3$ and CO
- $D. SO_2$ and NO_2

Answer: D



61. Pollution is

- A. Removal of top soil
- B. Release of toxic/undesirable materials in environmnet
- C. conservation of energy
- D. All the above

Answer: B



- A. Mining
- B. Thermal power plant
- C. Agro industry
- D. All the above

Answer: D



View Text Solution

63. Lead is

A. Air pollutant

- B. Soil pollutant
- C. Radioactive pollutant
- D. Noise pollutant



- **64.** Which causes water pollution?
 - A. Smoke/fly ash
 - B. Automobile exhausts
 - C. Aeroplanes
 - D. 2,4-D and pesticides

Answer: D



View Text Solution

65. Air pollution is not caused by

- A. Pollen grain
- B. Hydroelectroc power
- C. Industries
- D. Automobiles

Answer: B



66. Carbon monoxide is harmful to human beings as it

A. is carcinogenic

B. is antagonistic to CO_2

C. has higher affinity for haemoglobin as compared

to oxygen

D. is destructive to O_3

Answer: C



67. Disease caused by eating fish found in water contaminated with industrial waste having mercury is

- A. Minamata disease
- B. Bright's disease
- C. Hashimoto's disease
- D. Osteosclerosis

Answer: A



View Text Solution

68. Drawback of DDT as pesticde is

- A. It becomes ineffective after some time
- B. It is less effective than others
- C. It is not easily/rapid degraded in natire
- D. Its high cost

Answer: C



- **69.** Fishes die in water bodies polluted by swage due to
- :
- A. Pathogens
- B. Clogging of gills by silt

- C. Reduction in oxygen
- D. Foul smell

Answer: C



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70. Drained sewage has biological oxygen demand (BOD):

- A. More than that of water
- B. Less than that of water
- C. Equal to that of water
- D. None of the above

Answer: A



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71. B.O.D is connected with

- A. Organic matter
- **B.** Microbes
- C. Microbes and organice matter
- D. None of the above

Answer: C



72. UV radiations bring about

- A. Skin cancer
- B. Mouth cancer
- C. Lung caner
- D. Liver cancer

Answer: A



View Text Solution

73. Taj Mahal is threatened by pollution from

A. Chlorine

- B. Suphur dioxide
- C. Hydrogen
- D. Oxygen



- **74.** Which one is the most toxic?
 - A. Carbon
 - B. CO
 - $\mathsf{C}.\,CO_2$
 - $\mathsf{D}.\,SO_2$



View Text Solution

75. BOD is

- A. Biological oxygen deficit
- B. Biosphere oxygen demand
- C. Biological oxygen demand
- D. None of the above

Answer: B



76. Which one is the major reason for pollution in big cities ?

- A. Fossil fuel
- B. Acid rain
- C. Heat dispersion
- D. None of the above

Answer: A



View Text Solution

77. Soil salinity can be measured by

- A. Calorimeter
- B. Potometer
- C. Porometer
- D. Conductivity meter

Answer: D



- **78.** Biodegrafdable pollutant is
 - A. Plastic
 - B. Asbestos
 - C. Sewage

D. Mercury

Answer: C



View Text Solution

79. Water pollution is mainly due to

A. Suphur dioxide

B. Carbon dioxide

C. Oxygen

D. Industrial discharges

Answer: D

80. Eutrophication cause reduction in

- A. Dissolved oxygen
- B. Dissolved salts
- C. All the above
- D.

Answer: B



81.	Chlorofluorocarbon	releases	а	chemical	harmful	to
ΟZ	one:					

- A. Fluorine
- B. Chlorine
- C. Nitrogen peroxide
- D. Sulphur dioxide



82. Measurement of rate of oxygen utilisation by a unit volume of water over a period of time is to measure.:

- A. Fermentation
- B. Biogas generation
- C. Biosynthetic pathway
- D. Biologicl oxygen demand

Answer: D



83. Increasing skin cancer and high mutation rate are the result of

- A. Acid rain
- B. Ozone depletion
- C. CO pollution
- D. $CO_2 pollution$

Answer: B



84.	Oxides	of	sulphur	and	nitrogen	are	important
poll	utants c	of:					
	A. water						
	B. Air						
	C. Soil						
	D. All the	e ab	ove				
Ans	wer: B						
7415							
	Watc	h Vi	deo Solut	ion			

85. Major source of methane in India is

A. Rice fields B. Sugarcane plantation C. Wheat fields D. Fruit orchards **Answer: A View Text Solution** 86. Ozone hole is maximum over A. Europe B. Antartica C. India

D. Africa

Answer: B



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87. Phosphate pollution is caused by

- A. Weathering of phosphate rocks only
- B. Agriculaturl ferticzers
- C. Phosphate rocks and sewage
- D. Sewage and agricultural fertilizers

Answer: D

88. Sewage water is purified by

A. Microorganisms

B. Ligh

C. fishes

D. Aquatic plants

Answer: A



89. Carbon monoxide, emitted by automobiles prevents transport of oxygen in body due to

- A. Copmbinbg with oxygen to form carbon dioxide
- B. Destruction of haemolglobin
- C. Preventing reaction between oxygen and haemoglobin
- D. Forming stable compound with haemoglobin

Answer: D



90. "Ozone hole" refers to:	one hole" refers	to:
-----------------------------	------------------	-----

- A. Hole in ozone layer
- B. Reductionin thickness of zone layer in sratetosphere
- C. Reduction of thickness of ozone in troposphere
- D. Increase concentration of ozone



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91. Photochemical smog is related to the pollution of :

A. Air
B. Water
C. Soil
D. Nostoc
Answer: A
Watch Video Solution
92. Most hazardous metal pollutant of automobile
exhausts is :
A. Mercury
B. Lead

- C. Cadmium
- D. Copper



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93. The depletion of ozone layer is due to:

- A. Oxides of nitrogen
- B. oxides of carbon
- C. Oxides of suphur
- D. None of the above

Answer: A



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94. Which of the following is a secondary pollutant

A. CO

B. CO_2

C. PAN

D. Aerosol

Answer: C



95. DDT is

- A. Biodegradable pollutant
- B. Nondegradable pollutant
- C. Not a pollutant
- D. An antibiotic

Answer: B



Watch Video Solution

96. Peeling of ozone umbrella, which protects us from UV rays, is caused by:

- A. CFCs
- B. PAN
- $\mathsf{C}.\,CO_2$
- D. Coal burining

Answer: A



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- **97.** Ozone layer of stratosphere required protection from indiscriminate use of
 - A. Fungicides, insecticides, bactericides and

medicines

- B. Aerosols and high flying jets
- C. Atomic explaoins and industrial wastes
- D. Baloons and turbo prop aeroplanes



- 98. Environmental pollution affects
 - A. Biotic components
 - B. Plants only
 - C. Man only
 - D. Biotic and abiotic components of environment

Answer: D



View Text Solution

99. Water pollution is due to

- A. A agricultural discharges
- B. Sewage and other wastes
- C. Industrial effluents
- D. All the above

Answer: D



100. Water of often treated with chlorine to

- A. Increase oxygen content
- B. Kill germs
- C. Remove harness
- D. Remove suspended particles

Answer: B



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101. Mottling of teeth is due to presence of an element in drinking water

A. Mercury

B. Fluorine

C. Boron

D. Chlorine

Answer: B



102. As it passes into food chain the concentration of DDT

- A. Reamins same
- B. Decreases

- C. Increases
- D. Unpredicatable

Answer: C



View Text Solution

103. Methane gas producing field is

- A. Wheat field
- B. Paddy field
- C. Cotton field
- D. Groundnut field



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104. Photochemical smog is caused by a light mediated reaction between:

A. CO

B. CO_2

 $C.O_3$

D. NO_2

Answer: D



105. Photochemical smog always contains

- A. O_3
- B. CO_2
- C. CH_4

D.

Answer: A



View Text Solution

106. Result of ozone hole is

- A. Green house effect
- B. Global warming
- C. Acid rain
- D. Uv rays reach the earth

Answer: D



- **107.** Bio-degradable pollutant is
 - A. Domestic waste
 - B. DDT
 - C. Mercury salt

D. Aluminimum foil

Answer: A



View Text Solution

Revision Questions From Competitive Exams

1. When rain is accompained by a thunderstorm, the collected rain water will have a pH:

A. uninfluenced by occurrence of thusnderstrom

B. which depends on the amount of dust in air

C. slightly lower that of rain water without

thunderstrom

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

Answer: C



- 2. Smog is essentially caused by the presence of
- A. O_2 and O_3
 - $B. O_3$ and N_2
 - C. Oxides of suphur and nitrogen

 $D. O_2$ and N_2

Answer: C



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3. Which one is responsible for depletion of ozone layer in the upper strata of the atmosphere?

- A. Fullerenes
- **B.** Freons
- C. Polyhalogens
- D. Ferrocene

Answer: B



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4. Ozone in stratosphere is depleted by:

A.
$$CF_2CI_2$$

B.
$$C_7 F_{16}$$

C.
$$C_6H_6CI_6$$

D.
$$C_6F_6$$

Answer: A



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5. Which is not a gaseous air pollutant?							
A. N_2							
B. N_2	9						
c. <i>NC</i>)						
D. <i>CO</i>)						
Answer: A Watch Video Solution							
		1.0					
6. Match	the lists an	id II and pick	the correct	matching			
form	the	codes	given	below:			

ListI ListII polycylic aromatic Global warming Polycyclic aromatic hydrocarbons Global warming **Dioxins** Photochemical smog Indigo Carcinogens IR active molecues Vat dye A. a - 3, b - 4, c - 1, d - 5, e - 2B. a - 1, b - 2, c - 3, d - 4, e - 5C. a - 3, b - 5, c - 1, d - 2, e - 4D. a - 2, b - 3, c - 1, d - 2, e - 4**Answer: A View Text Solution** 7. Pick up the correct statement

- A. CO which is major pollutant resulting from the combuistion of fuels in automobiles plays a major role in photochemical smog
- B. Classica smog has an oxidizing character while the photochemical smog is reducing in character
- C. Phototchemical smog occurs in dya time whereas the classical smog occurs in early morning hours
- D. During formation of smog the level of ozone in the atmopsphere goes down

Answer: C



8. Ozone depletion due to the formation of following compound in Antarctica

- A. acrolein
- B. peroxy acetyl nitrate
- $\mathsf{C}.\,SO_2$ and SO_3
- D. 'chlorine nitrate

Answer: D



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9. Which of the following gases is not green house gas

?

- A. CO_2
- B. CH_4
- $\mathsf{C}.\,O_3$
- D. N_2

Answer: D



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10. High concentration of fluoride is posionous and harmful to bones and teeth

- A. 1 ppm
- B. 2 ppm
- C. 5 ppm
- D. 10ppm

Answer: D



11. The atmospheric gas which cannot produce green house effect is

- A. N_2
- $B.H_2$
- $C. CO_2$
- D. O_3

Answer: A



View Text Solution

12. Green chemistry means such reactions which

- A. produce colour during reactions
- B. reduce the use and production of hazardous chemical s
- C. are related to depletion of ozone layer
- D. study the reactions in plants

Answer: B



- 13. Identify the worn statement in the following
 - A. ozone layer does not perit infrared radiation from the sun to reach the earth

- B. Acid rain is mostly because of oxides of nitrogen and suphur
- C. Chlorofluoro hyudrocarbons are responsible for ozone layer depletion
- D. Green house effect is responsible for globol warming

Answer: A



14. The process of eutrophication is due ot

- A. increase in the concentration of insectiside in water
- B. increase in concentration of Ifuroide in waater
- C. the reduction in concentratoion of the dissolved oxygen in water due to phosphate pollution in water
- D. attack of younger leaves of a plant buy peroxyacetylnitrate

Answer: C



15. The green house gas is	15.	The	green	house	gas	is
-----------------------------------	-----	-----	-------	-------	-----	----

- A. CO_2
- B. SO_2
- $\mathsf{C}.\,N_2$
- D. H_2S

Answer: A



View Text Solution

16. Photochemical smog is due to the presence of

A. oxides of suphur

- B. oxides of nitrogren
- C. oxides of carbon
- D. lead

Answer: B



- 17. Which one of the following statement is not true?
 - A. Clean water would have a BOD value of less than
 - 5 ppm
 - B. oxides of suphur nitrogen and carbon are the
 - most widesperead ari [pollutant

C. ph of drinking water should be between 5.5-9.5

D. concentration of DO below 6 ppm is good for the growth of fish

Answer: D



View Text Solution

18. What is DDT among the following?

A. Green house gas

B. A fertilizer

C. Biodegradable pollutant

D. Non bidodegardable pollutant

Answer: D



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- **19.** Which one of the following statements regarding photochemical smog is not correct?
 - A. photochemical smog is an oxidising agent in cahracter
 - B. photochemical smog is formed through photochemical reaction involving solsar energy
 - C. photochemical smog does not cause irritation in eyes and throat

D. carbon monoxide does not play any role in photochemical smog formation

Answer: C



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20. Maximum concentration of copper in drinking water is

A. 0.05

B. 3

C. 2

D. 0.005

Answer:



Watch Video Solution

21. The gas emitted by supersonic jet planes that slowly depletee the ozone layer is

A. CO

B. Nondegradable pollutant

 $\mathsf{C}.\,SO_2$

D. O_2

Answer: B



22. The pH of rain water, is approximately:

- A.0.5
- B. 7.5
- C. 5.6
- D. 3.5

Answer: C



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Linked Comprehension Type Mcqs

1. Here paragraph is given Based upon this paragraph some mutiple choice question are given. Each question has 4 choices A,B,C and D.out of which one is correct the correct option.

 $Paragraph \, / \, Comprehension - I$

Major source of oil pollution of sea water is

A. wreckage of oil tankers in open sea

B. human excreta, soaps and detergents

C. Industrial effluents

D. None of the above

Answer: A



2. Here paragraph is given Based upon this paragraph some mutiple choice question are given. Each question has 4 choices A,B,C and D.out of which one is correct the correct option.

 $Paragraph \, / \, Comprehension \, - \, I$

Oil spilt is

A. processs of mixing soil or rock salt in to waer

B. spreading of oil into sea water

C. thick layer on the surface of sea water

D. None of the above

Answer: B

3. Here paragraph is given Based upon this paragraph some mutiple choice question are given. Each question has 4 choices A,B,C and D.out of which one is correct the correct option.

Paragraph / Comprehension - I

Whick of the following is /are not the source of pollution of sea water

- A. Discharge of urboan sewage, silt, plasitcs
- B. Flow of pesticides and dimp[ed toxic chemical from aland

C. fFrom beach tourism discharging sanitary and kitchen waste into sea

D. all the above three

Answer: D



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4. Paragraph / Comprehension - 2

Environment is defined as the sum total of physical and biological factors that directly influence the survival, growth ,development and reproduction of organisms. The addition of certain harmful wastes to air , water and soil by a natural source or due to certain

human activitites to such a level of concentration which adversely effects the quality of environment is called environmental p[ollution and the undesirable material thus added to environment is called pollutant Photochemeical smog is the term used for the air [pollutants produced in the atmosphere as a result of photochemical reactions .Classical smog or London smog is a combination of particulateed and gaseouir oxided of suphur present in the atomospher. CO_2 is not considered as atmospheric polllutant but its increased concentrate leads to green house effect. Increased CO_2 content in the atmosphee will lead to

A. increase in earth's temperature

B. increase in photo synthesis

- C. decreases in rate of surface water evaporation
- D. increase in oxygen level of the atmosphere

Answer: A



- **5.** which one of the particulates is most toxic
 - A. Smog
 - B. Soil
 - C. Flyash
 - D. Inorganic compounds

Answer: B



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- **6.** The factor responsible for highes CO contamination in air is
 - A. volcanic acitvity
 - B. industrial processes
 - C. vehiclular exhaust
 - D. forest fires

Answer: C

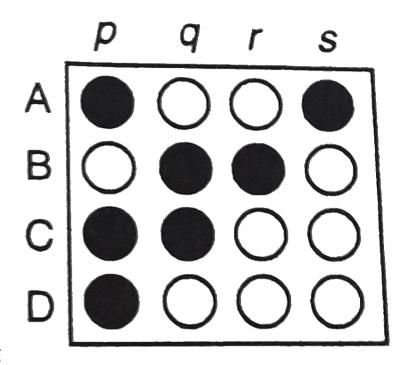


Matrix Match Type Mcqs

1. Here each question contains statement given in two columns which have to be matched statements in column I are labelled as A,B,C andD where as the statement in columns II are labelled as p,q,rand s .Tjhe answers to these questions are to be appropriately labelled as illlustrated in the following example

If the correct matches are A-p,A-s,B-q,B-r,C-p,C-q and D-p

then correctly labelled matches should look like the



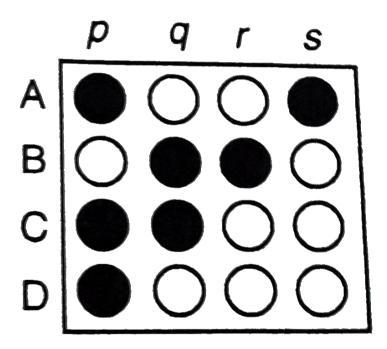
following



2. Here each question contains statement given in two columns which have to be matched statements in column I are labelled as A,B,C andD where as the

statement in columns II are labelled as p,q,rand s .Tjhe answers to these questions are to be appropriately labelled as illlustrated in the following example

If the correct matches are A-p,A-s,B-q,B-r,C-p,C-q and D-p then correctly labelled matches should look like the



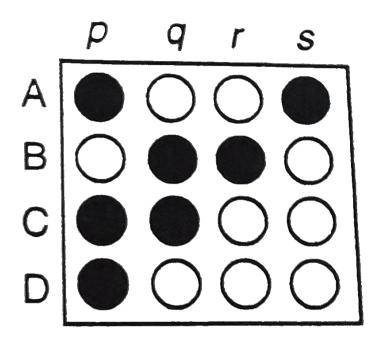
following



3. Here each question contains statement given in two columns which have to be matched statements in column I are labelled as A,B,C andD where as the statement in columns II are labelled as p,q,rand s .Tjhe answers to these questions are to be appropriately labelled as illlustrated in the following example

If the correct matches are A-p,A-s,B-q,B-r,C-p,C-q and D-p

then correctly labelled matches should look like the



following



Integer Type Questions

1. The answer to each of the following question is a single interger, ranging from 0 to 9 If the correct answers to questions, numbers A,B,Cand D say are 4,0,9 and 2, then the correct darkening of bubbles should be as shown on the side

(A) CO is a pollutant produced due to incomplete combindaation of butane. one mole of butane requires 6.5 moles of O_2 for complete combustion .If 6 moles of oxygen are available , the number of CO produced will be



2. The answer to each of the following question is a single interger, ranging from 0 to 9 If the correct answers to questions, numbers A,B,Cand D say are 4,0,9 and 2, then the correct darkening of bubbles should be as shown on the side

and ${\cal O}_2$ are present) beacuse CO is a stronger ligand than ${\cal O}_2$. The number of groups which Fe is coordinated other than vacant site for CO in haemoglobin is

(B) In haemoglobin , CO and not O_2 links Fe (if both CO



3. The answer to each of the following question is a single interger, ranging from 0 to 9 If the correct answers to questions, numbers A,B,Cand D say are 4,0,9 and 2, then the correct darkening of bubbles should be as shown on the side

(C)In measurement of BOD_n ,n is generally taken as



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4. Water is considered as pure if it has BOD less than ... ppm

