



CHEMISTRY

BOOKS - SURA CHEMISTRY (TAMIL ENGLISH)

ENVIRONMENTAL CHEMISTRY

Evaluation

1. The gaseous envelope around the earth is known as atmosphere. The region lying between an altitudes of 11.50 km is

A. Troposphere

B. Mesosphere

C. Thermosphere

D. Stratosphere

Answer: D



Watch Video Solution

2. Which of the following is natural and human disturbance in ecology ?

A. Forest fire

B. Floods

C. Acid rain

D. Green house effect

Answer: a



Watch Video Solution

3. Bhopal Gas Tragedy is a case of _____

A. thermal pollution

B. air pollution

C. nuclear pollution

D. land pollution

Answer: b



Watch Video Solution

4. Haemoglobin of the blood forms carboxy haemoglobin with

A. Carbon dioxide

B. Carbon tetra chloride

C. Carbon monoxide

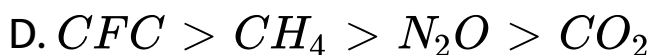
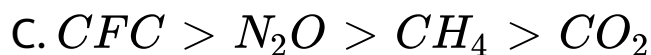
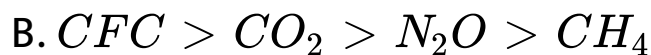
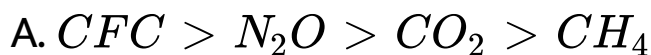
D. Carbonic acid

Answer: c



Watch Video Solution

5. Which sequence for green house gases is based on GWP ?



Answer: c



Watch Video Solution

6. Photo chemical smog formed in congested metropolitan cities mainly consists of

A. Ozone, SO_2 and hydrocarbons

B. Ozone, PAN and NO_2

C. PAN, smoke and SO_2

D. Hydrocarbons, SO_2 and CO_2

Answer: b



Watch Video Solution

7. The pH of normal rain water is

A. 6.5

B. 7.5

C. 5.6

D. 4.6

Answer: c



Watch Video Solution

8. Ozone depletion will cause

- A. Forest fires
- B. eutrophication
- C. bio magnification
- D. global warming

Answer: c



Watch Video Solution

9. Identify the wrong statement in the following

- A. The clean water would have a BOD value of less than 5 ppm
- B. Greenhouse effect is also called as Global warming
- C. Minute solid particles in air is known as particulate pollutants
- D. Biosphere is the protective blanket of gases surrounding the earth

Answer: a



Watch Video Solution

10. Living the atmosphere of CO is dangerous because it

A. Combines with O_2 present inside to form



B. Reduces organic matter of tissues

C. Combines with haemoglobin and makes it incapable to absorb oxygen

D. Dries up the blood

Answer: d



Watch Video Solution

11. Release of oxides of nitrogen and hydrocarbons into the atmosphere by motor vehicles is prevented by using _____

- A. grit chamber
- B. scrubbers
- C. trickling filters
- D. catalytic convertors

Answer: c



Watch Video Solution

12. Biochemical oxygen demand value less than 5ppm indicates a water sample to be

- A. highly polluted
- B. poor in dissolved oxygen
- C. rich in dissolved oxygen
- D. low COD

Answer: C



Watch Video Solution

13. Assertion (A) : If BOD level of water in a reservoir is more than 5 ppm it is highly polluted

Reason (R) : High biological oxygen demand means high activity of bacteria in water

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

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

C. Both (A) and R are not correct

D. (A) is correct but (R) is not correct

Answer: d



[View Text Solution](#)

14. Assertion (A) : Excessive use of chlorinated pesticide causes soil and water pollution.

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

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

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

C. Both (A) and R are not correct

D. (A) is correct but (R) is not correct

Answer: a



Watch Video Solution

15. Assertion (A) : Oxygen plays a key role in the troposphere

Reason (R) : Troposphere is not responsible for all biological activities.

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

- B. Both (A) and R are correct and (R) is not the correct explanation of (A)
- C. Both (A) and R are not correct
- D. (A) is correct but (R) is not correct

Answer: d



Watch Video Solution

Write Brief Answer To The Following Questions

1. Dissolved oxygen in water is responsible for aquatic life. What processes are responsible for the reduction in dissolved oxygen in water?



[View Text Solution](#)

2. What would happen, if the greenhouse gases were totally missing in the earth's atmosphere ?



[Watch Video Solution](#)

3. Define smog.



[Watch Video Solution](#)

4. Which is considered to be earth's protective umbrella ? Why?



[Watch Video Solution](#)

5. What are degradable and non-degradable pollutants ?



[Watch Video Solution](#)

6. From where does ozone come in the photo chemical smog ?



[Watch Video Solution](#)

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



[Watch Video Solution](#)

8. What is green chemistry ?



[Watch Video Solution](#)

9. Explain how does greenhouse effect cause global warming.



[Watch Video Solution](#)

10. Mention the standards prescribed by BIS for quality of drinking water



[Watch Video Solution](#)

11. How does classical smog differ from photochemical smog ?



[Watch Video Solution](#)

12. What are particulate pollutants ? Explain any three.



[Watch Video Solution](#)

13. Even though the use of pesticides increases the crop production, they adversely affect the living organisms . Explain the function and adverse effect of the pesticides.



Watch Video Solution

14. Ethane burns completely in air to give CO_2 , while in a limited supply of air gives CO. The same gases are found in automobile exhaust . Both CO and CO_2 are atmospheric pollutants.

What is the danger associated with these gases



[View Text Solution](#)

15. Ethane burns completely in air to give CO_2 , while in a limited supply of air gives CO. The same gases are found in automobile exhaust . Both CO and CO_2 are atmospheric pollutants.

How do the pollutants affect the human body ?



[View Text Solution](#)

16. On the basis of chemical reactions involved, explain how do CFC's cause depletion of ozone

layer in stratosphere ?



Watch Video Solution

17. How is acid rain formed ? Explain its effect.



Watch Video Solution

18. Differentiate the following

BOD and COD



Watch Video Solution

19. Differentiate the following

Viable and non-viable particulate pollutants



Watch Video Solution

20. Explain how oxygen deficiency is caused by carbon monoxide in our blood ?Give its effect.



Watch Video Solution

21. What are the various methods you suggest to protect our environment from pollution?



Watch Video Solution

 Watch Video Solution

22. Which among the following is a green house gas ?

A. CFC

B. CH_4

C. O_3

D. All of these

Answer: B

 Watch Video Solution

23. Which of the following is responsible for acid rain ?

A. SO_2

B. NO_2

C. CO_2

D. All of these

Answer: d



Watch Video Solution

24. _____ is responsible for global warming.

A. CO_2

B. NO_2

C. N_2O

D. None of these

Answer: a



Watch Video Solution

25. High concentration of lead in human blood damages

A. Brain

B. Liver

C. Both (a) & (b)

D. Neither (a) nor (b)

Answer: c



Watch Video Solution

26. The pH of acid rain is

- A. Equal to 7
- B. Less than 5.6
- C. More than 5.6
- D. Between 7.0 - 9.0

Answer: b



Watch Video Solution

27. The gas responsible for Bhopal Gas Tragedy is

- A. Methyl isocyanide
- B. Propane nitrite
- C. Methyl isocyanate
- D. Peroxy acetyl nitrate

Answer: c



Watch Video Solution

28. The pollutants that degrade naturally are called _____ pollution

- A. Bio-degradable

B. Non-biodegradable

C. Primary

D. Secondary

Answer: a



Watch Video Solution

29. Identify the secondary pollutant among the following .

A. CO

B. O_3

C. Pb

D. CH_4

Answer: b



Watch Video Solution

30. Pick out the pollutant(s) that causes eye irritation

A. CO_2

B. NO_2

C. SO_2

D. All of thes

Answer: c



Watch Video Solution

31. Which one of the following affects chlorophyll

?

A. SO_3

B. SO_2

C. CO_2

D. NO_2

Answer: b



Watch Video Solution

32. Green house gases cause

- A. Increase in temperature of atmosphere
- B. Prevents global warming
- C. Trap UV rays
- D. All the above

Answer: A



Watch Video Solution

33. NO_2 and SO_2 have some properties in common. Which property shown by one of these compounds, but not by the other?

- A. Forms acid
- B. Is a reducing agent
- C. Is soluble in water
- D. Is a it is used as a food -preservative.

Answer: c



View Text Solution

34. Statement I : Global warming is due to Green house effect.

Statement II : Green house gas is CH_4

A. Both statement I and statement II are true and statement II explains statement I

B. Both statement I and statement II are true but statement II does not explain statement I

C. Statement I is true but statement II is false

D. Both statement I and II are false.

Answer: b



Watch Video Solution

35. The layer of atmosphere which extends upto 10km from sea level is called _____.

A. Troposphere

B. Stratosphere

C. Ionosphere

D. Mesosphere

Answer: a



Watch Video Solution

36. The pollutants of troposphere contain

A. Dust

B. Water Vapours

C. Mist

D. All of these

Answer: d



[Watch Video Solution](#)

37. Pick the viable pollutant among the following

A. Smoke

B. Mould

C. Mist

D. Fumes

Answer: b



[Watch Video Solution](#)

38. Photochemical smog actually causes

- A. Soil pollution
- B. Noise pollution
- C. Water pollution
- D. Air pollution

Answer: d



Watch Video Solution

39. Which one of the following is not a property of classical smog ?

- A. Secondary pollutants play significant role
- B. Occurs at low temperature
- C. Contains SO_2
- D. Dark brown coloured.

Answer: A



Watch Video Solution

40. Photochemical smog always contain

A. SO_2

B. HNO_3

C. O_3

D. All of these

Answer: c



Watch Video Solution

41. Earth is protected from UV rays by

A. N_2

B. O_2

C. SO_3

D. O_3

Answer: d



Watch Video Solution

42. In Antartica, ozone layer depletion is due to the formation of

A. Peroxy acetyl nitrate

B. Acrolein

C. Chlorine nitrate

D. SO_2 and SO_3

Answer: c



View Text Solution

43. Statement I : Ozone depletion potential is maximum is CFC's

Statement II : CFC loses active chloride

- A. Both statement I and statement II are true and statement II explains statement I
- B. Both statement I and statement II are true but statement II does not explain statement I
- C. Statement I is true but statement II is false
- D. Both statement I and II are false.

Answer: b



View Text Solution

44. Statement I : Photochemical smog is also known as oxidizing smog.

Statement II : Photochemical smog is chiefly composed of O_3 , PAN, etc.

A. Both statement I and statement II are true and statement II explains statement I

B. Both statement I and statement II are true but statement II does not explain statement I

C. Statement I is true but statement II is false

D. Both statement I and II are false.

Answer: A



View Text Solution

45. Products of human activity to the environment.

- A. Environment pollution
- B. Green house effect
- C. Bio-degradable pollution
- D. Non-bio degradable pollution.

Answer: A



Watch Video Solution

46. Identify the component of photochemical smog which is not the common one.

A. Acrolein

B. Ozone

C. Peroxyacetyl nitrate

D. CFC

Answer: d



Watch Video Solution

47. Permissible level of nitrate ions in the drinking water is

A. 20 ppm

B. 30 ppm

C. 40 ppm

D. 50 ppm

Answer: d



Watch Video Solution

48. Which of the following is / are correct match

(i) Photochemical smog: SO_2

(ii) Nitrate in drinking water : Blue baby syndrome

(iii) Phosphate fertilisers in water : BOD level of water increases.

A. only (i)

B. (i) , and (ii)

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

D. (i) and (iii)

Answer: c



[View Text Solution](#)

49. Which causes water pollution ?

A. Jet planes

B. Herbicides

C. Smoke

D. Combustion of fossiles

Answer: b



[View Text Solution](#)

50. Most common and commercial water pollutant is

A. industrial waste

B. fertilizers

C. detergents

D. PCB's

Answer: a



Watch Video Solution

51. Cause of eutrophication is

- A. Increase of oxygen in water bodies
- B. Increase in number of aquatic organisms
- C. Nutrient enrichment of water bodies
- D. All of these

Answer: c



Watch Video Solution

52. Decomposition of organic matter through microbial activity is known as

- A. Eutrophication

B. Putrescibility

C. BOD

D. Stratification

Answer: b



Watch Video Solution

53. BOD_5 is

A. Oxygen used in 5 day

B. Waste decomposed in 5 days

C. Microorganisms killed in 5 days

D. Dissolved oxygen left after 5 days

Answer: a



Watch Video Solution

54. Which are produce during high temperature combustion processes ?

A. Oxides of hydrogen

B. Oxides of sulphure

C. Oxides of carbon

D. Oxides of nitrogen

Answer: d



View Text Solution

55. Green chemistry means such reaction which

A. Study the reaction in plants

B. Are related to the depletion of ozone layer

C. Reduce the use and production of
hazardous chemicals

D. Produce colour during reactions.

Answer: c



Watch Video Solution

56. Statement I : Value of COD is greater than BOD

Statement II : Used oxygen is demanded by some chemicals for oxidation of inorganic and organic pollutants.

- A. Both statement I and statement II are true and statement II explains statement I
- B. Both statement I and statement II are true but statement II does not explain statement I
- C. Statement I is true but statement II is false
- D. Both statement I and II are false.

Answer: a



View Text Solution

57. Statement I : Productivity of eutrophic lake is maximum.

Statement II : Cation is mainly due to adding of SO_4^{2-} and heavy metals.

A. Both statement I and statement II are true and statement II explains statement I

B. Both statement I and statement II are true but statement II does not explain statement I

C. Statement I is true but statement II is false

D. Both statement I and II are false.

Answer: c



View Text Solution

58. BOD values less than 5 ppm indicates a water sample to be

- A. Poor in dissolved oxygen
- B. rich in dissolved oxygen
- C. Highly polluted
- D. Not suitable for aquatic life

Answer: b



[View Text Solution](#)

59. Animal wastes are example of _____.

- A. Non-degradable pollutions
- B. Bio-degradable pollutions
- C. Non-bio degradable pollutions
- D. Bio-pollutants

Answer: b



[Watch Video Solution](#)

60. Which includes soil, rocks and mountains ?

A. Troposphere

B. Thermosphere

C. Lithosphere

D. Mesosphere

Answer: c



Watch Video Solution

61. Which cannot be decomposed by the natural biological processes ?

- A. Non-degradable pollutions
- B. Bio-degradable pollutions
- C. Non-bio degradable pollutions
- D. Bio-pollutants

Answer: c



Watch Video Solution

62. Assertion (A) : About 80% of the mass of the atmosphere is in troposphere .

Reason (R) : Troposphere extends from 0-10 km from the earth surface.

- A. Both (A) and (R) are false.
- B. (A) true but (R) false
- C. (A) false but (R) true
- D. Both (A) and (R) are true.

Answer: d



Watch Video Solution

63. Methyl isocyanate gas was _____ as heavy as air.

A. twice

B. three times

C. four times

D. six times

Answer: a



Watch Video Solution

64. Which of the following is incorrect ?

- A. The compounds composed of carbon and hydrogen only are called hydrocarbons.
- B. They are mainly produced by complete combustion of automobile fuel.
- C. They are potential cancer causing agents.
- D. All the above are incorrect.

Answer: b



Watch Video Solution

Short Answers

1. Write a note on the formation of ozone layer.



[Watch Video Solution](#)

2. What is green house effect ?



[View Text Solution](#)

3. Write a short note on global warming .



[Watch Video Solution](#)

4. Define stone leprosy and gives its equation.



[Watch Video Solution](#)

5. Define particulate pollutants.



[Watch Video Solution](#)

6. Write a short note on the source of water pollution.



[Watch Video Solution](#)

7. Among carbon monoxide (CO) and carbon-dioxide (CO_2) which is more dangerous? Why?



[Watch Video Solution](#)

8. What are Fumes ? Given one example.



[View Text Solution](#)

9. How will you contest photochemical smog ?



[View Text Solution](#)

[View Text Solution](#)

10. Write note about great London smog ?



[Watch Video Solution](#)

11. How can domestic wastes be used as manure ?



[View Text Solution](#)

12. Discuss the harmful effect of improper waste management in the city .



[View Text Solution](#)



[View Text Solution](#)

13. How will you further sub divide the lowest layer of atmosphere ?



[View Text Solution](#)

14. Define the terms

Air Pollution



[Watch Video Solution](#)

15. Define the terms

Water Pollution



Watch Video Solution

16. Define the terms

Soil Pollution



Watch Video Solution

Long Answers

1. What is environmental pollution ? How is it caused ?



[Watch Video Solution](#)

2. Discuss in detail about the gaseous air pollutants.



[View Text Solution](#)

3. What are non-viable particulates ? How are they classified ? Explain .



[Watch Video Solution](#)

4. What is water pollution ? Give a detailed account on causes and harmful effects of water pollution.



[View Text Solution](#)

5. Write an essay about soil pollution especially stating about the sources of pollution.



[View Text Solution](#)

6. How can you apply green chemistry for the following ?

(i) To avoid the use of halogenated solvents in dry cleaning.

(ii) To avoid the usage of Cl in paper bleaching.

(iii) To reduce use of synthetic chemicals.

(iv) To reduce the consumption of fuel.

(v) To avoid the use of chemical pesticides.



[View Text Solution](#)

7. Account for the following :

Ozone layer is necessary for life.



[Watch Video Solution](#)

8. Account for the following :

The temperature of thermosphere is $1500^{\circ}C$ but a person would not feel warm in it.



[Watch Video Solution](#)

9. Account for the following :

Smoking is harmful for pregnant ladies.



Watch Video Solution

10. Account for the following :

CO_2 keeps the earth warm.



Watch Video Solution

11. Account for the following :

The pH of normal rain water is 5.6



[Watch Video Solution](#)

12. Discuss the health hazards caused by particulate pollutants.



[View Text Solution](#)

13. Explain about the different layers of Earth's atmosphere.



[Watch Video Solution](#)

14. (i) How does pollutants vary from contaminants ?

(ii) Classify the pollutants on the following basis & give examples.

Depending on their physical state.

Depending upon their degradability.

Depending on their formation and existence in nature.



[Watch Video Solution](#)

Creative Questions Hots

1. Name three natural sources of air pollution.



[Watch Video Solution](#)

2. What compound will be formed when CO combines with blood ?



[Watch Video Solution](#)

3. What is the tolerable limit of fluoride ions in drinking water ? What happens if its exceeds 10 ppm ?





[Watch Video Solution](#)

4. Pick the acid odd out with respect to acid rain.

H_2SO_4 , HCl , HNO_3 , H_2CO_3 , CH_3COOH , H_2SO_4



[View Text Solution](#)

5. Name the regions of atmosphere where, the temperature increases and decreases with altitude.



[View Text Solution](#)

6. When does the transport of oxygen to different body cells stop ?



[View Text Solution](#)

7. Why and where do we use freons ?



[Watch Video Solution](#)

8. Although ozone is heavier than air, it does not settle down near the earth why ?



[View Text Solution](#)

9. Name any four methods of waste management.



[Watch Video Solution](#)

10. A person consuming metro water suddenly states consuming well water due to shortage of water supply from municipality . What effect was felt by him ? What could be the cause ?



[View Text Solution](#)

11. Comment on the statement - Green chemistry is a tool for reducing pollution.



View Text Solution

3 Marks

1. Write the impact of depletion of ozone layer on plants, human and aquatic life.



Watch Video Solution

5 Marks

1. List out some methods that you suggest to control water pollution in your locality.



Watch Video Solution