

Environmental Chemistry-1

I. Environmental Pollution and Environmental Segments

1. Environment consist of

A) Atmosphere

B) Hydrosphere

C) Biosphere

1) A & B

2) B&C

3) C & A

4) A, B, C

2. Which is containment?

1) SO_2

2) $COCl_2$

3) Pb

4) Methyl isocyanate

3. The pollutant is

1) Leakage of MIC

2) Oil spills from ships

3) Carbon monoxide

4) Leakage of CO_2

4. Good quality of water will have

A) High DO

B) High BOD

C) High COD

1) A

2) B & C

3) C & A

4) A, B, C

5. Four samples of water A,B,C and D have DO values 2mg/lit, 4mg/lit, 6mg/lit and 8mg/lit respectively. The more polluted sample of water is

1) A

2) B

3) C

4) D

6. TLV is the maximum limit of

A) Pollutant in the atmosphere

B) Toxic substance that do not cause damage to the industrial workers

C) Pollutants that should be present in mines

1) A

2) B

3) A & C

4) A, B, C

7. **The BOD value of municipal sewage is**
1) 1ppm 2) 5ppm 3) 5-10ppm 4) 100-400ppm
8. **The value of dissolved oxygen in polluted water is**
1) > 4ppm 2) < 4ppm 3) Equal to 4ppm 4) Equal to 6ppm
9. **In BOD determination the true period of study is fixed as**
1) 4Hrs 2) 2Hrs 3) 3days 4) 5days
10. **The major components of atmosphere are**
1) $CO_2 + CO$ 2) $CO_2 + N$ 3) $N_2 + O_2$ 4) $O_2 + SO_2$
11. **Untreated domestic sewage has a low**
1) BOD value 2) % of dissolved O_2
3) Amount of dissolved salts 4) % of suspended organic matter
12. **Pollution of water alerts**
A) The physical properties of water only
B) The chemical properties of water only
C) Biological properties of water only
1) A & B 2) B & C 3) C & A 4) A, B, C
13. **Which of the following oxidant is used in the determination of polluted water sample in the laboratory?**
1) KNO_3 2) $KMnO_4$
3) Oxalic acid 4) $K_2Cr_2O_7 + 50\% H_2SO_4$

14. The COD values of three water samples A, B and C are 60ppm, 990ppm and 120ppm respectively. The most polluted water sample is
- 1) A 2) B 3) C 4) All are equally polluted
15. In which of the following region ionization gases takes place
- 1) Troposphere 2) Stratosphere 3) Thermosphere 4) Atmosphere
16. The permissible limit of fluoride ion in drinking water is
- 1) < 1ppm 2) >1ppm 3) 1-2ppm 4) 0ppm
17. Photochemical oxidants such as PAN & PBN are formed
- A) By the action of nitrogen oxides on hydrocarbons in the presence of sunlight
- B) By the action of CO_2 on hydrocarbons in the presence of sunlight
- C) By the action of H_2S on hydrocarbon in the presence of sunlight
- 1) A only 2) B only 3) B & C 4) A & C
18. In Atmosphere ozone layer is present
- 1) Stratosphere 2) Troposphere 3) Mesosphere 4) Thermosphere
19. Pick up the correct statement
- 1) CO which is major pollutant reactivity from the combustion of fuels in automobiles plays a major role in photochemical smog.
- 2) Classification has an oxidizing character while the photochemical smog is reducing in the character.

3) Photochemical smog occur in the day time where as the classical smog occurs in the early morning hours.

4) During the formation of smog the level ozone in the atmosphere goes down.

20. Primary pollutants are

A) PAN B) CO C) NO_2 D) Hydrocarbon

1) A only 2) B & C 3) B, C, D 4) A, B, C

21. Which of the following type of pollution not caused by DDT?

1) Air pollution 2) Water pollution

3) Soil pollution 4) Radioactive pollution

22. For a healthy aquatic life amount of DO in water must be equal to (in ppm)

1) 5 2) 4 3) 3 4) 2

23. PAN stands for

1) CH_2O 2) $CH_2 = CH - CHO$

3) $CH_3 - CH_2O - N = O$ 4)
$$\begin{array}{c} CH_3 - C - O - ONO_2 \\ || \\ O \end{array}$$

24. A secondary pollutant is

1) CO 2) CO_2 3) PAN 4) Aerosol

Note: Each of the following contains Assertion and Reason. Each of these

questions also has four options and only one is correct. You have to select one of the code (1), (2), (3), and (4) given below

1) If A & R are correct, and R is the correct explanation.

2) If A & R are correct, and R is not the correct explanation.

3) If A is correct, but R is not correct.

4) If A & R are in correct.

25. **Assertion (A):** The medium which is affected by the pollutant is receptor.

Reason (R): The medium which reacts with pollutants is sinking.

26. **Assertion (A):** Fluorosis results if \overline{F} ion concentration exceeds 3ppm in drinking water.

Reason (R): Nalgonda Technique is the cheap method for removing \overline{F} ions from drinking water.

27. **Assertion (A):** Smaller particles (Size <5microns) causes fibrosis of the lung lining.

Reason (R): They are more likely to penetrate into the lungs.

28. **Assertion (A):** Ionosphere contains gases in the ionized form which form the basis for wireless communication.

Reason (R): These ions reflect back the radio waves to the earth.

29. **Assertion (A):** CO combines with hemoglobin.

Reason (R): It has affinity for hemoglobin.

30. **Assertion (A):** Photochemical smog is produced by nitrogen oxides.

Reason (R): Vehicle pollution is a major source of nitrogen oxides.

Matching Type Questions

31. Match the following.

List-I

List-II

- | | |
|--------|---|
| A) TLV | 1) Oxygen required to oxidize organic substance present in polluted water |
| B) COD | 2) Oxygen used by micro organisms present in water for 5 days |
| C) DO | 3) Oxygen present in water is dissolved state |
| D) BOD | 4) Permissible level of pollutant that can be present in a mine |

The correct match is

- | | |
|-----------------------|-----------------------|
| 1) A-4, B-2, C-1, D-3 | 2) A-4, B-2, C-3, D-1 |
| 3) A-4, B-1, C-3, D-2 | 4) A-4, B-3, C-2, D-1 |

32. Match the following.

List-I

List-II

- | | |
|-----------------|-------------|
| A) Mesosphere | 1) 0-11 Km |
| B) Troposphere | 2) 11-20 Km |
| C) Stratosphere | 3) 50-55Km |
| D) Thermosphere | 4) 85-500Km |

The correct match is

- | | |
|-----------------------|-----------------------|
| 1) A-4, B-3, C-2, D-1 | 2) A-3, B-2, C-2, D-4 |
| 3) A-4, B-3, C-1, D-2 | 4) A-4, B-2, C-3, D-1 |

33. Match the following.

List-I (Pollutant)

- A) Micro organism
- B) Plant nutrient
- C) Sediments
- D) Mineral Acids

List-II (Source)

- 1) Chemical fertilizes
- 2) Abandoned Coal mines
- 3) Domestic Sewage
- 4) Erosion of Soil by strip mining
- 5) Detergents

The correct match is

- 1) A-2, B-5, C-3, D-1
- 2) A-3, B-1, C-4, D-2
- 3) A-4, B-2, C-5, D-1
- 4) A-1, B-3, C-2, D-4

KEY

1. 4	2. 4	3. 3	4. 1	5. 1	6. 2	7. 4	8. 2	9. 4	10. 3
11. 2	12. 4	13. 4	14. 2	15. 3	16. 3	17. 1	18. 1	19. 4	20. 3
21. 3	22. 1	23. 4	24. 3	25. 2	26. 2	27. 1	28. 1	29. 1	30. 3
31. 3	32. 2	33. 2							

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4) Greater the Do value greater the quality of water

5) Lesser the Do value greater this pollution

14) Greater the COB value greater the pollution

24) Secondary pollutant in termed from primary pollution

32) Troposphere - 0-11

Stratosphere - 11-50

Nero sphere - 50-85

Thermosphere - 85-500

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