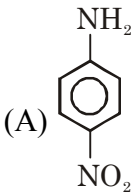


**SECTION-I (I)**

- This section contains **28** questions.
- Each question has FOUR options (A), (B), (C) and (D). **ONLY ONE** of these four option(s) is correct.
- For each question, darken the bubble(s) corresponding to all the correct option(s) in the ORS
- Marking scheme :  
 +3 If only the bubble(s) corresponding to all the correct option(s) is (are) darkened  
 0 If none of the bubbles is darkened  
 -1 In all other cases

- What is the pH of normal rain water :-  
 (A) 7 (B) 5.6 (C) 7.6 (D) 3.2
- Which two gases are mainly responsible for acid rain :-  
 (A)  $\text{NH}_3$ ,  $\text{SO}_2$  (B)  $\text{SO}_2$ ,  $\text{NO}_2$  (C)  $\text{O}_3$ ,  $\text{O}_2$  (D)  $\text{SO}_2$ ,  $\text{CO}_2$
- Leaching of heavy metals from drinking water pipes show presence of .....in drinking water :-  
 (A) CFC's (B) Ammonium wastage  
 (C) Phosphatic fertilizers (D) Dissolve  $\text{H}_2\text{SO}_4$  and  $\text{HNO}_3$
- After diwali in the atmosphere of Delhi most common air pollution (smog) is observed. Which is correct for that smog :-  
 (A) It is derived from smoke and fog and  $\text{SO}_2$  (B) Chemically it is reducing smog  
 (C) It is observed in cool and humid climate (D) All are correct
- Photochemical smog occurs in warm, dry and sunny climate :-  
 (A) Reducing smog (B) Oxidising smog (C) Both are possible (D) None
- Which of the following is not a particulate pollutants :-  
 (A) Ash from industries (B) Dust  
 (C) Smoke (D) Sulphur dioxide
- An important pollutant in oxidising smog is P.A.N. its structure is :-  



(A)

$$\text{CH}_3-\text{C}(=\text{O})-\text{O}-\text{O}-\text{NO}_2$$

(B)

$$\text{CH}_3-\text{C}(=\text{O})-\text{O}-\text{O}-\text{C}\equiv\text{N}$$

(C)

$$\text{CH}_3-\text{CH}_2-\text{O}-\text{O}-\text{NO}_2$$

(D)
- Chlorofluoro carbon compounds are mainly responsible for the pollution of :-  
 (A) Hydrosphere (B) Lithosphere (C) Stratosphere (D) Troposphere

9. How ozone protect us from U.V. radiation :-  
 (A) It reflect U.V. radiation out of earth  
 (B) It absorb U.V. radiation for HOMO-LUMO transition  
 (C) It absorb U.V. radiation for stretching of O–O bonds  
 (D) It absorb U.V. radiation to maintain dynamic equilibrium for decomposition and production of ozone
10. Which radical initiate chain reaction for ozone depletion :-  
 (A)  $O^{\bullet}$  (B)  $\dot{O}H$  (C)  $Cl^{\bullet}$  (D)  $ClO^{\bullet}$
11. Safe level of fluoride in water is :-  
 (A) 1 to 2 ppm (B) 2 to 10 ppm  
 (C) Less than 0.5 ppm (D) 10 to 20 ppm
12. Soluble fluorides is often added in drinking water to bring its concentration to safe because  $F^-$  ions make the enamel on teeth much harder by covering *by*  
 (A)  $CaF_2$  (B)  $3CaF_2 \cdot Ca(OH)_2$   
 (C)  $3Ca_3(PO_4)_2 \cdot Ca(OH)_2$  (D)  $3Ca_3(PO_4)_2 \cdot CaF_2$
13. Clean water would have B.O.D. value less than :-  
 (A) Less than 5 ppm (B) More than 17 ppm  
 (C) Higher than 5 ppm (D) 15 ppm
14. What is the value of dissolved oxygen in cold water :-  
 (A) 10 ppm (B) 100 ppm (C) 1000 ppm (D) 2000 ppm
15. A sample water have  
 $Fe = 0.2 \text{ ppm}$   
 $Al = 0.2 \text{ ppm}$   
 $Zn = 0.2 \text{ ppm}$   
 $Cd = 0.2 \text{ ppm}$   
 Which metal is not on safe level :-  
 (A) Fe (B) Al (C) Zn (D) Cd
16. Which is ecofriendly dry cleaning agent :-  
 (A)  $Cl_2C = CCl_2$  (B)  $H_2O_2$  (C)  $CO_2(\text{liq.})$  (D) D.D.T.
17. Match the column :-
- | Column (I)                    |     |     |     | Column(II)                      |  |  |  |
|-------------------------------|-----|-----|-----|---------------------------------|--|--|--|
| (A) $CO_2$                    |     |     |     | (1) Chemical pollutant of water |  |  |  |
| (B) $Cl^{\bullet}$            |     |     |     | (2) Soil pollutant              |  |  |  |
| (C) D.D.T.                    |     |     |     | (3) Global warming              |  |  |  |
| (D) Polychlorinated biphenyls |     |     |     | (4) Depletion of ozone layer    |  |  |  |
| (P)                           | (Q) | (R) | (S) |                                 |  |  |  |
| (A) 3                         | 4   | 1   | 2   |                                 |  |  |  |
| (B) 3                         | 4   | 2   | 1   |                                 |  |  |  |
| (C) 4                         | 3   | 1   | 2   |                                 |  |  |  |
| (D) 1                         | 4   | 3   | 2   |                                 |  |  |  |

18. A large number of fishes are suddenly found floating dead on lake. There is no evidence of toxic dumping but you find an abundance of phytoplankton.

Select reason for death of fishes :-

- (A) Toxic chemicals produce due to degradation of phytoplankton  
(B) Level of  $\text{CO}_2$  is increase due to degradation of phytoplankton  
(C) Level of  $\text{O}_2$  is decrease due to degradation of phytoplankton  
(D) Phytoplankton absorb in gills of fish
19. What would have happened if the green house gases were totally missing in earth atmosphere :-  
(A) Temperature of earth remain constant      (B) Temperature of earth increases  
(C) Temperature of earth decreases      (D) None
20. 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) Iron      (B) Fluoride      (C) Lead      (D) Nitrate
21. Photochemical smog consists of excessive amount of X, in addition to aldehydes, ketones, peroxy acetyl nitrate (PAN), and so forth. X is:  
(A)  $\text{O}_3$       (B) CO      (C)  $\text{CO}_2$       (D)  $\text{CH}_4$
22. Addition of phosphate fertilisers to water bodies causes :  
(A) deposition of calcium phosphate      (B) enhanced growth of algae  
(C) increase in fish population      (D) increase in amount of dissolved oxygen in water
23. The gas leaked from a storage tank of the Union Carbide plant in Bhopal gas tragedy was:-  
(A) Methylisocyanate      (B) Methylamine  
(C) Ammonia      (D) Phosgene
24. Identify the wrong statement in the following :-  
(A) Acid rain is mostly because of oxides of nitrogen and sulphur  
(B) Chlorofluorocarbons are responsible for ozone layer depletion  
(C) Greenhouse effect is responsible for global warming  
(D) Ozone layer does not permit infrared radiation from the sun to reach the earth
25. In which part of atmosphere, ozone layer is present ?  
(A) Stratosphere      (B) Troposphere  
(C) Mesosphere      (D) Thermosphere
26. The maximum prescribed concentration of cadmium in drinking water in ppm is :-  
(A) 0.05      (B) 3      (C) 0.005      (D) 5

- 27.** The gas emitted by supersonic jet planes that slowly depletes the concentration of ozone layer is :-  
(A) CO (B) NO (C) SO<sub>2</sub> (D) O<sub>2</sub>
- 28.** What is DDT among the following ?  
(A) A fertilizer (B) Biodegradable pollutant  
(C) Non-biodegradable pollutant (D) Greenhouse gas

**SECTION-I : (ii) ONE OR MORE OPTIONS CORRECT TYPE**

- Each question has **FOUR** options (A), (B), (C) and (D). **ONE OR MORE THAN ONE** of these four option(s) is (are) correct.
- For each question, darken the bubble(s) corresponding to all the correct option(s) in the ORS
- For each question, marks will be awarded in one of the following categories :

*Full Marks* : +4 If only the bubble(s) corresponding to the correct option(s) is (are) darkened.

*Partial Marks* : 0 No partial marking

*Zero Marks* : 0 If none of the bubbles is darkened.

*Negative Marks* : -2 In all other cases.

- 29.** Select correct option(s) :-
- (A) Carbon monoxide is more dangerous than  $\text{CO}_2$
  - (B)  $\text{CO}_2$  is responsible for green house effect
  - (C) Excess amount of  $\text{CO}_2$  disturbed natural green house balance
  - (D) Excess amount of  $\text{CO}_2$  in the air is decreases by green plants
- 30.** Which of the following is/are green house gases :-
- (A)  $\text{CH}_4$
  - (B) Water vapours
  - (C) Nitrous oxide
  - (D) CFC's and ozone