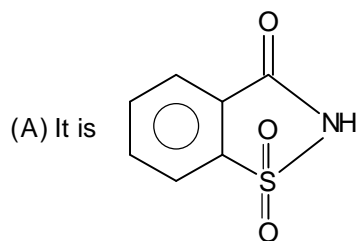


**Single Correct Answer Type:**

- In the precipitation of the iron group in qualitative analysis, ammonium chloride is added before adding ammonium hydroxide to
  - decrease concentration of  $\text{OH}^-$  ions
  - prevent interference by phosphate ions
  - increase concentration of  $\text{Cl}^-$  ions
  - increase concentration of  $\text{NH}_4^+$  ions
- A salt gives violet vapours when treated with  $\text{Conc.H}_2\text{SO}_4$ , it contains
  - $\text{Cl}^-$
  - $\text{I}^-$
  - $\text{Br}^-$
  - $\text{NO}_3^-$
- $\text{Fe}(\text{OH})_3$  can be separated from  $\text{Al}(\text{OH})_3$  by addition of \_\_\_\_\_
  - dil.  $\text{HCl}$
  - $\text{NaCl}$  solution
  - $\text{NaOH}$  solution
  - $\text{NH}_4\text{Cl}$  and  $\text{NH}_4\text{OH}$
- Which of the following pairs of ions would be expected to form precipitate when dilute solutions are mixed
  - $\text{Na}^+$ ,  $\text{SO}_4^{2-}$
  - $\text{Na}_4^+$ ,  $\text{CO}_3^{2-}$
  - $\text{Na}^+$ ,  $\text{S}_2^{2-}$
  - $\text{Fe}^{+3}$ ,  $\text{PO}_4^{-3}$
- Mark the compound which is soluble in hot water
  - Lead chloride
  - Mercurous chloride
  - Strontium chloride
  - Silver chloride
- Ferric ion forms a Prussian blue coloured ppt. of
  - $\text{K}_4[\text{Fe}(\text{CN})_6]$
  - $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3$
  - $\text{KMnO}_4$
  - $\text{Fe}(\text{OH})_3$
- A mixture, on heating with  $\text{Conc.H}_2\text{SO}_4$  and  $\text{MnO}_2$  liberates brown vapour of
  - $\text{Br}_2$
  - $\text{NO}_2$
  - $\text{HBr}$
  - $\text{I}_2$
- Nessler's reagent is used to detect
  - $\text{CrO}_4^{2-}$
  - $\text{PO}_4^{3-}$
  - $\text{MnO}_4^-$
  - $\text{NH}_4^+$
- Which of the following will not give positive chromyl chloride test?
  - $\text{CuCl}_2$
  - $\text{HgCl}_2$
  - $\text{ZnCl}_2$
  - $\text{C}_6\text{H}_5\text{NH}_3\text{Cl}$
- A substance on treatment with  $\text{dil.H}_2\text{SO}_4$  liberates a colourless gas which produces
  - turbidity with baryta water and
  - turns acidified dichromate solution green. The reaction indicates the presence of \_\_\_\_\_
  - $\text{CO}_3^{2-}$
  - $\text{S}^{2-}$
  - $\text{SO}_3^{2-}$
  - $\text{NO}_2^-$
- A white salt is readily soluble in water and gives a colourless solution with a pH of about 9. The salt could be
  - $\text{NH}_4\text{NO}_3$
  - $\text{CH}_3\text{COONa}$
  - $\text{CH}_3\text{COONH}_4$
  - $\text{CaCO}_3$
- Identify the correct order of solubility of  $\text{Na}_2\text{S}$ ,  $\text{CuS}$  and  $\text{ZnS}$  in aqueous medium is \_\_\_\_\_
  - $\text{CuS} > \text{ZnS} > \text{Na}_2\text{S}$
  - $\text{ZnS} > \text{Na}_2\text{S} > \text{CuS}$
  - $\text{Na}_2\text{S} > \text{CuS} > \text{ZnS}$
  - $\text{Na}_2\text{S} > \text{ZnS} > \text{CuS}$
- Aspirin is obtained by the reaction of  $\text{CH}_3\text{COCl}$  with \_\_\_\_\_
  - Phenol
  - Benzoic acid
  - Salicylic Acid
  - Benzaldehyde

14. Which is correct about saccharin?



- (B) It is 600 times sweeter than sugar  
(C) It is used as a sweetening agent  
(D) All of these

15. Tranquilizers are substances used for the treatment of

- (A) Cancer (B) AIDS (C) Mental diseases (D) Physical disorders

16. Bhopal gas tragedy was caused by

- (A) Carbon monoxide (B) Phosgene (C) Methyl cyanate (D) Methyl isocyanate

17. The gases which is/are not responsible for photochemical smog

- (A) Oxides of nitrogen (B) Hydrocarbons (C) Carbon monoxide (D) Inert gases

18. Phenol is used as

- (A) an antiseptic (B) a disinfectant (C) Both A and B (D) A styptic

19. Which of the following is used as an antacid?

- (A) Ampicillin (B) Omeprazole (C) Lansoprazole (D) Both B & C

20. Antiseptic chloroxylenol is

- (A) 4-chloro-3,5-dimethyl phenol (B) 3-chloro-4,5-dimethyl phenol  
(C) 4-chloro-2,5-dimethyl phenol (D) 5-chloro-3,4-dimethyl phenol

### Numerical Type:

21. Consider a titration of potassium dichromate solution with acidified Mohr's salt solution using diphenylamine as indicator. The number of moles of Mohr's salt required per mole of dichromate is \_\_\_\_\_

22. Water is considered to be polluted if the dissolved oxygen content is less than \_\_\_\_\_ ppm

23. Drinking water is harmless if the fluoride ion concentration is upto \_\_\_\_\_ ppm.

24. The COD value of a water sample is 40 ppm. The amount of acidified  $K_2Cr_2O_7$  required to oxidize the organic matter present in 500 ml of that water sample is \_\_\_\_\_ g.

25. DO value of a water sample is 6 ppm. The weight of dissolved oxygen present in 100 kg of water is \_\_\_\_\_ gm.

### KEY

- |       |       |       |            |         |
|-------|-------|-------|------------|---------|
| 1. A  | 2. A  | 3. C  | 4. D       | 5. A    |
| 6. B  | 7. A  | 8. D  | 9. B       | 10. C   |
| 11. C | 12. D | 13. C | 14. D      | 15. C   |
| 16. D | 17. D | 18. C | 19. D      | 20. A   |
| 21. 6 | 22. 5 | 23. 3 | 24. 0.1225 | 25. 0.6 |