

JEE CHEMISTRY

Topic - Salt Analysis

- Q.1 In the precipitation of the iron group in qualitative analysis, ammonium chloride is added before adding ammonium hydroxide to
 (A) decrease concentration of OH^- ions. (B) prevent interference by phosphate ions.
 (C) increase concentration of Cl^- ions. (D) increase concentration of NH_4^+ ions.
- Q.2 A salt gives violet vapours when treated with conc. H_2SO_4 , it contains
 (A) Cl^- (B) I^- (C) Br^- (D) NO_3^-
- Q.3 The acidic solution of a salt produced a deep blue colour with starch iodide solution. The salt may be
 (A) chloride (B) nitrite (C) acetate (D) bromide
- Q.4 When a mixture of solid NaCl , solid $\text{K}_2\text{Cr}_2\text{O}_7$ is heated with conc. H_2SO_4 , orange red vapours are obtained. These are of the compound
 (A) chromous chloride (B) chromyl chloride
 (C) chromic chloride (D) chromic sulphate
- Q.5 Which of the following pairs of ions would be expected to form precipitate when dilute solution are mixed?
 (A) Na^+ , SO_4^{2-} (B) NH_4^+ , CO_3^{2-} (C) Na^+ , S_2^{2-} (D) Fe^{3+} , PO_4^{3-}
- Q.6 Nessler's reagent is
 (A) K_2HgI_4 (B) $\text{K}_2\text{HgI}_4 + \text{KOH}$ (C) $\text{K}_2\text{HgI}_2 + \text{KOH}$ (D) $\text{K}_2\text{HgI}_4 + \text{KI}$
- Q.7 When bismuth chloride is poured into a large volume of water the white precipitate produced is
 (A) $\text{Bi}(\text{OH})_3$ (B) Bi_2O_3 (C) BiOCl (D) Bi_2OCl_3
- Q.8 Ferric ion forms a prussian blue coloured ppt. of
 (A) $\text{K}_4[\text{Fe}(\text{CN})_6]$ (B) $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3$ (C) KMnO_4 (D) $\text{Fe}(\text{OH})_3$
- Q.9 A mixture, on heating with conc. H_2SO_4 and MnO_2 , liberates brown vapour of
 (A) Br_2 (B) NO_2 (C) HBr (D) I_2

- Q.10 Which one of the following can be used in place of NH_4Cl for the identification of the third group radicals?
 (A) NH_4NO_3 (B) $(\text{NH}_4)_2\text{SO}_4$ (C) $(\text{NH}_4)_2\text{S}$ (D) $(\text{NH}_4)_2\text{CO}_3$
- Q.11 At the occasion of marriage, the fire works are used, which of the following gives green flame?
 (A) Ba (B) K (C) Be (D) Na
- Q.12 Nitrate is confirmed by ring test. The brown colour of the ring is due to formation of
 (A) ferrous nitrite (B) nitroso ferrous sulphate
 (C) ferrous nitrate (D) FeSO_4NO_2
- Q.13 $\text{Fe}(\text{OH})_3$ can be separated from $\text{Al}(\text{OH})_3$ by addition of
 (A) dil. HCl (B) NaCl solution (C) NaOH solution (D) NH_4Cl and NH_4OH
- Q.14 If NaOH is added to an aqueous solution of zinc ions a white ppt appears and on adding excess NaOH, the ppt dissolves. In this solution zinc exist in the
 (A) cationic part (B) anionic part
 (C) both in cationic and anionic parts (D) there is no zinc ion in the solution
- Q.15 Mark the compound which is soluble in hot water.
 (A) Lead chloride (B) Mercurous chloride (C) Stronsium sulphate (D) Silver chloride
- Q.16 Colour of nickel chloride solution is
 (A) pink (B) black (C) colourless (D) green
- Q.17 Sometimes yellow turbidity appears while passing H_2S gas even in the absence of II group radicals. This is because of
 (A) sulphur is present in the mixture as impurity.
 (B) IV group radicals are precipitated as sulphides.
 (C) the oxidation of H_2S gas by some acid radicals.
 (D) III group radicals are precipitated as hydroxides.
- Q.18 The ion that cannot be precipitated by H_2S and HCl is
 (A) Pb^{2+} (B) Cu^{2+} (C) Ag^+ (D) Ni^{2+}
- Q.19 In V group, $(\text{NH}_4)_2\text{CO}_3$ is added to precipitate out the carbonates. We do not add Na_2CO_3 along with NH_4Cl because
 (A) CaCO_3 is soluble in Na_2CO_3 .
 (B) Na_2CO_3 increases the solubility of V group carbonate.
 (C) MgCO_3 will be precipitated out in V group.
 (D) None of these
- Q.20 CuSO_4 decolourises on addition of excess KCN, the product is
 (A) $[\text{Cu}(\text{CN})_4]^{2-}$. (B) Cu^{2+} get reduced to form $[\text{Cu}(\text{CN})_4]^{3-}$
 (C) $\text{Cu}(\text{CN})_2$ (D) CuCN

- Q.21 Which of the following cations is detected by the flame test?
 (A) NH_4^+ (B) K^+ (C) Mg^{2+} (D) Al^{3+}
- Q.22 Which one among the following pairs of ions cannot be separated by H_2S in dilute HCl ?
 (A) Bi^{3+} , Sn^{4+} (B) Al^{3+} , Hg^{2+} (C) Zn^{2+} , Cu^{2+} (D) Ni^{2+} , Cu^{2+}
- Q.23 A metal salt solution gives a yellow ppt with silver nitrate. The ppt dissolves in dil. nitric acid as well as in ammonium hydroxide. The solution contains
 (A) bromide (B) iodide (C) phosphate (D) chromate
- Q.24 A metal salt solution forms a yellow ppt with potassium chromate in acetic acid, a white ppt with dilute sulphuric acid, but gives no ppt with sodium chloride or iodide, it is :
 (A) lead carbonate (B) basic lead carbonate
 (C) barium nitrate (D) strontium nitrate
- Q.25 Which is soluble in NH_4OH ?
 (A) PbCl_2 (B) AgCl (C) PbSO_4 (D) CaCO_3
- Q.26 Which of the following combines with Fe(II) ions to form a brown complex
 (A) N_2O (B) NO (C) N_2O_3 (D) N_2O_4
- Q.27 Nessler's reagent is used to detect
 (A) CrO_4^{2-} (B) PO_4^{3-} (C) MnO_4^- (D) NH_4^+
- Q.28 Prussian blue is formed when
 (A) ferrous sulphate reacts with FeCl_3 . (B) ferric sulphate reacts with $\text{K}_4[\text{Fe}(\text{CN})_6]$.
 (C) Ammonium sulphate reacts with FeCl_3 (D) ferrous ammonium sulphate reacts with FeCl_3
- Q.29 What product is formed by mixing the solution of $\text{K}_4[\text{Fe}(\text{CN})_6]$ with the solution of FeCl_3 ?
 (A) Ferro-ferricyanide (B) Ferri-ferrocyanide (C) Ferri-ferricyanide (D) None of these
- Q.30 Which of the following will not give positive chromyl chloride test?
 (A) Copper chloride, CuCl_2 (B) Mercuric chloride, HgCl_2
 (C) Zinc chloride, ZnCl_2 (D) Anilinium chloride, $\text{C}_6\text{H}_5\text{NH}_3\text{Cl}$

ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10
Ans.	A	B	B	B	D	B	C	B	A	C
Que.	11	12	13	14	15	16	17	18	19	20
Ans.	A	B	C	B	A	D	C	D	D	B
Que.	21	22	23	24	25	26	27	28	29	30
Ans.	B	A	C	C	B	B	D	B	B	B

