

## VIVA VOCE QUESTIONS WITH ANSWERS(BASIC RADICALS)

Q.Why different cations produce different colour in the flame?

ANS. The level from which the electrons of outermost shells are excited are different for different cations .they absorb different energy ,when electrons from different high energy states fall back to their ground level,different radiations are emitted.hence different colours are produced.

Q.what is the action of conc.H<sub>2</sub>SO<sub>4</sub> on KI?

ANS. KI reacts with conc. H<sub>2</sub>SO<sub>4</sub>on heating to liberate iodine

Q.Name some basic radicals which are coloured.

ANS. Cu<sup>2+</sup>,Fe<sup>2+</sup>,Ni<sup>2+</sup>,Mn<sup>2+</sup>,Co<sup>2+</sup>

Q.Is there any salt of Cu which is colourless.

ANS.Anhydrous CuSO<sub>4</sub>

Q. Why is kipp's apparatus used for getting H<sub>2</sub>S?

ANS .An intermittent supply of H<sub>2</sub>S is obtained with the help of kipp's apparatus

Q.Why 4<sup>th</sup> group radicals are not precipitated in the 2<sup>nd</sup> group yet both are precipitated as sulphides

ANS.The sulphides of group 2<sup>nd</sup> are precipitated in the acidic medium.in the presence of dil.HCl,the ionization of H<sub>2</sub>S is suppressed due to the presence of common ion .the sulphide ion conc. is decreased .the ionic product of the sulphides of the second group can exceed the solubility product and precipitation occurs .on the other hand ionic product of the 4<sup>th</sup> group cannot exceed the solubility product of the sulphides of the 4<sup>th</sup> group.hence no precipitation occurs.

Q.What is common ion effect ?

Ans. The degree of ionization of a weak electrolyte is suppressed by the addition of another electrolyte having common ion .

Q .What is solubility product?

ANS. The product of the molar conc.of ions in a saturated sol.

Q.What is Nessler reagent ?

Ans. It is an alkaline solution of Pot. Mercuric iodide.

Q.What is the function of NH<sub>4</sub>OH in grp 5.

Ans. Any bicarbonate if present as an impurity in  $(\text{NH}_4)_2\text{CO}_3$  may be converted into carbonate. the bicarbonate of  $\text{Ba}^{2+}, \text{Sr}^{2+}$  are soluble in water.

Q. Why is Mg not precipitated in grp 5

Ans.  $\text{NH}_4\text{Cl}$  present in the sol. suppresses the ionization of weak electrolytes of  $(\text{NH}_4)_2\text{CO}_3$  due to presence of common ion  $\text{NH}_4^+$  ion only limited no. of  $\text{CO}_3^{2-}$  are available in the solution which are only sufficient to precipitate grp 5 radicals and not  $\text{Mg}^{2+}$ .

Q. Can we use  $\text{Na}_2\text{CO}_3$  in place of  $(\text{NH}_4)_2\text{CO}_3$  in grp 5?

ANS. No. we cannot use  $\text{Na}_2\text{CO}_3$  because it is a strong electrolyte and its degree of ionization cannot be suppressed.