

101. (d) $AlCl_3$ on hydrolysis gives weak base and strong acid among all.
102. (c) Fe^{3+} ions are hydrolysed to develop acidic nature.
103. (c) $K_h = \frac{K_w}{K_a \times K_b}$
104. (a) KCN is salt of strong base and weak acid.
105. (c) Sulphides of Group-II radicals have low solubility product.
106. (c) Because NH_3 acts as Lewis acid and they give electron pair to H_3O^+ ion.

H_3O^+ is a Lewis base. Which accept the electron pair from NH_3 .

107. (c) Due to common ion effect.
108. (a) For $Ag_2SO_4 \rightarrow 2Ag^+ + SO_4^{2-}$

$$K_{sp} = (2x)^2 \cdot x; K_{sp} = 4x^3; K_{sp} = 4 \times (2.5 \times 10^{-2})^3$$

$$K_{sp} = 62.5 \times 10^{-6}$$

109. (b) For $AgCl \rightarrow Ag^+ + Cl^-$

$$K_{sp} = x^2; x = \sqrt{K_{sp}}, \sqrt{1 \times 10^{-6}} = 1 \times 10^{-3} \text{ mole/litre.}$$

110. (b) $AgCl \rightarrow Ag^+ + Cl^-$

After $NaCl$ is added $x = 1 \times 10^{-4}$

That is why Ag^+ will be less.

111. (b) Because of ionic product of $AgI >>$ solubility product of its.

112. (a) $AX_2 \rightarrow A_x + 2X_{2x}$



$$K_{sp} = 4x^3 ; x = \sqrt[3]{\frac{3.2 \times 10^{-11}}{4}} ; x = 2 \times 10^{-4} \text{ mole/litre.}$$



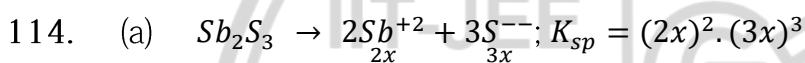
$$0.5 - \frac{.25}{100} \quad \frac{.25}{100} \quad \frac{.25}{100}$$

According to Ostwald dilution law.

$$K = \frac{\alpha^2 C}{1-\alpha} \quad (\because \alpha = \frac{.25}{100})$$

$$K = \alpha^2 C \quad (\because 1-\alpha = \text{Very small})$$

$$K = \frac{.25}{100} \times \frac{.25}{100} \times .5 ; K = 3.125 \times 10^{-6}$$



$$K_{sp} = 108x^5 ; K_{sp} = 108 \times (1 \times 10^{-5})^5 = 108 \times 10^{-25}.$$

115. (b) When increasing the temperature the value of ionic product also increases.

116. (a) Hydrolysis constant $h = \frac{K_w}{K_a}$

