



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 base and they give electron pair to H_3O^+ ion.
 H_3O^+ is a Lewis acid. Which accepts the electron pair from NH_3 .
107. (c) Due to common ion effect.
108. (a) For $Ag_2SO_4 \rightarrow 2Ag^+ + SO_4^{2-}$
 $2x \qquad \qquad x$
 $K_{sp} = (2x)^2 \cdot x$; $K_{sp} = 4x^3$; $K_{sp} = 4 \times (2.5 \times 10^{-2})^3$
 $K_{sp} = 62.5 \times 10^{-6}$
109. (b) For $AgCl \rightarrow Ag^+ + Cl^-$
 $x \qquad \qquad x$
 $K_{sp} = x^2$; $x = \sqrt{K_{sp}}$, $\sqrt{1 \times 10^{-6}} = 1 \times 10^{-3} \text{ mole/litre}$.
110. (b) $AgCl \rightarrow Ag^+ + Cl^-$
 $x \qquad \qquad x$
 After $NaCl$ is added $x \quad x + 1 \times 10^{-4}$
 That is why Ag^+ will be less.
111. (b) Because of ionic product of $AgI \gg$ solubility product of its.
112. (a) $AX_2 \rightarrow A + 2X$
 $x \qquad \qquad 2x$



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



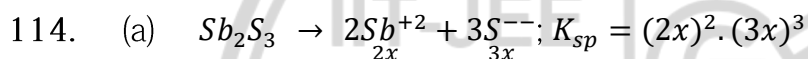
$$0.5 - \frac{.25}{100} \quad \frac{.25}{100} \quad \frac{.25}{100}$$

According to Ostwald dilution law.

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

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

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



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

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

