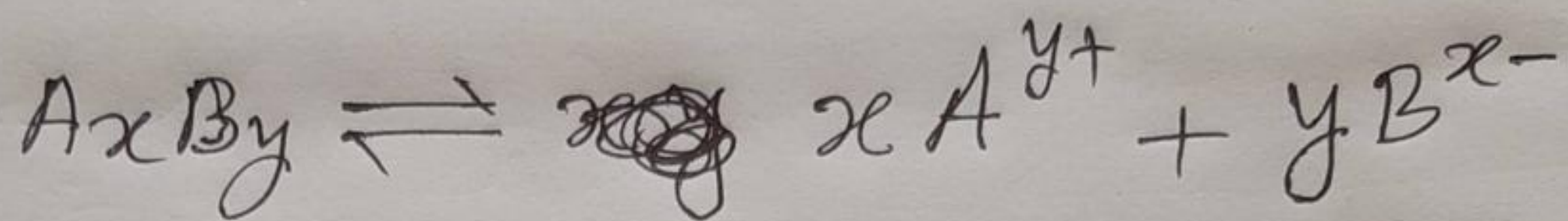


o For dissociation of solute:

Consider an electrolyte, A_xB_y which partially dissociates in solution yielding x ions of A^{y+} and y ions of B^{x-} and if α is the degree of dissociation and c is the initial concentration of the solute, then we can write



Initial concentration: C

Concentration at equilibrium: $C - C\alpha$ $x.C\alpha$ $y.C\alpha$

$$\begin{aligned} \therefore \text{Total moles at equilibrium} &= c - c\alpha + cx\alpha + cy\alpha \\ &= c[1 - \alpha + x\alpha + y\alpha] \\ &= \cancel{c[1 - \alpha(1 - x - y)]} \\ &= c[1 + x\alpha + y\alpha - \alpha] \\ &= c[1 + \alpha(x + y - 1)] \end{aligned}$$

Hence, $i = \frac{\text{No. of moles after dissociation}}{\text{No. of moles for no dissociation}}$

$$\text{or, } i = \frac{c[1 + \alpha(x+y-1)]}{c}$$

$$\alpha_i \quad i = 1 + \alpha(x+y-1)$$

$$2\delta, \quad l-1 = \alpha(x+y-1)$$