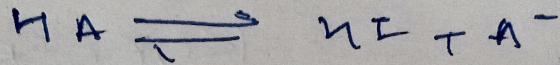


# Acid Buffer



$$K_a = \frac{[H^+][A^-]}{[HA]} \Rightarrow [H^+] = K_a \frac{[HA]}{[A^-]}$$

$$[H^+] = K_a \frac{[\text{Acid}]}{[\text{Salt}]}$$

$$\Rightarrow \boxed{pH = pK_a + \log \frac{[\text{Salt}]}{[\text{Acid}]}}$$

Buffer Capacity: No. of moles of Acid or base added in one litre soln to change pH by  $\pm 1 \Rightarrow \pm 1 \Rightarrow \boxed{\Delta pH = 2}$

$$(\beta) = \frac{\text{No. of moles of Acid/ Base}}{\text{Change in pH}}$$

$$\beta = \frac{\pm b}{\pm (pH)} \neq$$