

Q11 pKa of a weak Acid (HA) pKb of weak base (BOH) are 3.2 & 3.4 respectively. The pH of their salt (AB) soln is: (2017 Mains)

- (a) 7.2 (b) 6.9 (c) 7.0 (d) 1.0

Salt Hydrolysis (w.A + w.B)

$$pH = 7 + \frac{1}{2} p(K_a - \frac{1}{2} pK_b) \Rightarrow pK_a < pK_b$$

$$pH = 7 + \frac{1}{2} (3.2 - 3.4) = 7 + 1.6 - 1.7 = 6.9$$