

Arrange the following in increasing order of pH.



KNO_3 : salt of strong acid-strong base, solution is neutral, $\text{pH} = 7$. CH_3COONa : salt of weak acid-strong base, solution is basic, $\text{pH} > 7$.

NH_4Cl : salt of strong acid-weak base, solution is acidic, $\text{pH} < 7$.

$\text{C}_6\text{H}_5\text{COONH}_4$: both weak put NH_4OH is slightly stronger than $\text{C}_6\text{H}_5\text{COOH}$, pH close to 7 but slightly > 7 .

Hence, in order of pH, $\text{NH}_4\text{Cl} < \text{C}_6\text{H}_5\text{COONH}_4 > \text{KNO}_3 < \text{CH}_3\text{COONa}$.