The ionisation constant of an acid, Ka , is the measure of strength of an acid. The Ka values of acetic acid, hypochlorous acid and formic acid are 1.74 × 10–5, 3.0 × 10–8 and 1.8 × 10–4 respectively. Which of the following orders of pH of 0.1 mol dm–3 solutions of these acids is correct?

(i) acetic acid > hypochlorous acid > formic acid
(ii) (ii) hypochlorous acid > acetic acid > formic acid 8
(iii) formic acid > hypochlorous acid > acetic acid.
(iv) (iv) formic acid > acetic acid > hypochlorous acid

**(d)** $[H_3O^+] = \sqrt{K_a \cdot C}$ for the same concentration, $[H_3O^+] \propto \sqrt{K_a}$. But $pH = -\log [H_3O^+]$
Larger the value of $K_a$, larger will be $[H_3O^+]$ and lower will be pH.