15. **If both the roots of the quadratic equation**
$x^2 - 2kx + k^2 + k - 5 = 0$ **are less than 5, then**
k lies in the interval (2005)

1) $(5, 6]$ 2) $(6, \infty)$ 3) $(-\infty, 4)$ 4) $[4, 5]$

Ans.

(3) $\dfrac{-b}{2a} < 5$ and $f(5) > 0$

$\Rightarrow \dfrac{2K}{2} < 5$ and $25 - 10K + K^2 + K - 5 > 0$

$\Rightarrow k \in (-\infty, 4)$