30. If the directions cosines of a line are k, k, 'k, then

(a) $k > 0$ (b) $0 < k < 1$

(c) $k = 1$ (d) $k = \frac{1}{\sqrt{3}}$ or $-\frac{1}{\sqrt{3}}$

Sol. **(d)** Since, direction cosines of a line are k, k and k.

$\therefore$ $l = k$, $m = k$ and $n = k$

We know that, $l^2 + m^2 + n^2 = 1$

$\Rightarrow$ $k^2 + k^2 + k^2 = 1$

$\Rightarrow$ $k^2 = \frac{1}{3}$

$\therefore$ $k = \pm\frac{1}{\sqrt{3}}$