31. The distance of the plane $\vec{r} \cdot \left(\dfrac{2}{7}\hat{i} + \dfrac{3}{7}\hat{j} - \dfrac{6}{7}\hat{k} \right) = 1$ from the origin is

(a) 1   (b) 7   (c) $\dfrac{1}{7}$ (d) none of these

Sol. **(a)** The distance of the plane $\vec{r} \cdot \left(\dfrac{2}{7}\hat{i} + \dfrac{3}{7}\hat{j} - \dfrac{6}{7}\hat{k} \right) = 1$ from the origin is 1.

[Since $\vec{r} \cdot \hat{n} = d$ is the form of above equation, where d represents the distance of plane from the origin i.e., $d = 1$]