- A vector perpendicular to $\hat{i} + \hat{j} + \hat{k}$ is

1. $\hat{i} - \hat{j} + \hat{k}$
2. $\hat{i} - \hat{j} - \hat{k}$
3. $-\hat{i} - \hat{j} - \hat{k}$
4. $3\hat{i} + 2\hat{j} - 5\hat{k}$

$\vec{A}$

$\vec{A}\,\vec{B} = 0 \Rightarrow A_x B_x + A_y B_y + A_z B_z = 0$

$A_x = 1,\ A_y = 1,\ A_z = 1$

① $1\times1 + 1\times-1 + 1\times1 = 1$

④ $3\times1 + 2\times1 - 5\times1 = 0$