Past Year JEE Questions

Questions

Quetion: 01

Let $A = \begin{pmatrix} 0 & 2q & r \\ p & q & -r \\ p & -q & r \end{pmatrix}$. If $AA^T = I_3$, then $|p|$ is

A. $\frac{1}{\sqrt{2}}$

B. $\frac{1}{\sqrt{5}}$

C. $\frac{1}{\sqrt{6}}$

D. $\frac{1}{\sqrt{3}}$

Solutions

Solution: 01

Explanation

A is orthogonal matrix

$\Rightarrow 0^2 + p^2 + p^2 = 1$

$\Rightarrow |p| = \frac{1}{\sqrt{2}}$