

Three Dimensional Geometry - Class XII

Related Questions with Solutions

Questions

Question: 01

If the planes $\vec{r} \cdot (2\hat{i} - \hat{j} + \lambda\hat{k}) = 5$ and $\vec{r} \cdot (3\hat{i} + 2\hat{j} + 2\hat{k}) = 4$ are perpendicular, then value of λ is $-k$, $k > 0$ then $k =$

Solutions

Solution: 01

We know that the planes $\vec{r} \cdot \vec{n}_1 = d_1$ and $\vec{r} \cdot \vec{n}_2 = d_2$ are perpendicular, if $\vec{n}_1 \cdot \vec{n}_2 = 0$ therefore, given planes will be perpendicular to each other, if

$$(2\hat{i} - \hat{j} + \lambda\hat{k}) \cdot (3\hat{i} + 2\hat{j} + 2\hat{k}) = 0 \Rightarrow \lambda = -2$$

Correct Options

Answer:01

Correct Answer: 2