Yakeen NEET 2.0 (2026)

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Vectors

DPP: 4

Q1 If two vectors $2\hat{i} + 3\hat{j} - \hat{k}$ and $-4\hat{i} - 6\hat{j} - \lambda\hat{k}$ are anti paralleled to each other, then value of λ will be

(A) 0   (B) - 2

(C) 3   (D) 4

Q2 If a vector $2\hat{i} + 3\hat{j} + 8\hat{k}$ is perpendicular to the vector $4\hat{j} - 4\hat{i} + \alpha\hat{k}$, then the value of α is

(A) -1

(B) $\frac{1}{2}$

(C) $-\frac{1}{2}$

(D) 1

Q3 If $\hat{n}$ is a unit vector in the direction of the vector $\vec{A}$, then:

(A) $\hat{n} = \dfrac{\vec{A}}{|\vec{A}|}$

(B) $\hat{n} = \vec{A}|\vec{A}|$

(C) $\hat{n} = \dfrac{|\vec{A}|}{\vec{A}}$

(D) None of these

Q4 If $\vec{A} + \vec{B}$ is a unit vector along x-axis and $\vec{A} = \hat{i} - \hat{j} + \hat{k}$, then what is $\vec{B}$?

(A) $\hat{j} + \hat{k}$

(B) $\hat{j} - \hat{k}$

(C) $\hat{i} + \hat{j} + \hat{k}$

(D) $\hat{i} + \hat{j} - \hat{k}$

Q5 Forces $3\,N$, $4\,N$ and $12\,N$ act at a point in mutually perpendicular directions. The magnitude of the resultant force is:

(A) 19 N

(B) 13 N

(C) 11 N

(D) 5 N

Q6 Given that magnitudes of $\overrightarrow{A}$ and $\overrightarrow{B}$ are equal. What is the angle between $(\vec{A} + \vec{B})$ and $(\vec{A} - \vec{B})$?

(A) $30°$

(B) $60°$

(C) $90°$

(D) $180°$

Q7 If $\vec{P} \cdot \vec{Q} = PQ$, then angle between $\vec{P}$ and $\vec{Q}$ is:

(A) $0°$

(B) $30°$

(C) $45°$

(D) $60°$

Q8 The resultant of $\vec{A}$ and $\vec{B}$ is perpendicular to $\vec{A}$. What is the angle between $\vec{A}$ and $\vec{B}$?

(A) $\cos^{-1}\left(\frac{A}{B}\right)$

(B) $\cos^{-1}\left(-\frac{A}{B}\right)$

(C) $\sin^{-1}\left(\frac{A}{B}\right)$

(D) $\sin^{-1}\left(-\frac{A}{B}\right)$

Q9 If the vectors $(\hat{i} + \hat{j} + \hat{k})$ and $3\hat{i}$ form two sides of a triangle, then area of the triangle is:

(A) $\sqrt{3}$ unit

(B) $2\sqrt{3}$ unit

(C) $\frac{3}{\sqrt{2}}$ unit

(D) $3\sqrt{2}$ unit

Q10 In an clockwise system

(A) $\hat{j} \times \hat{k} = \hat{i}$

(B) $\hat{i} \cdot \hat{i} = 0$

(C) $\hat{j} \times \hat{j} = 1$

(D) $\hat{k} \cdot \hat{j} = 1$

Q11 Which of the following relation is correct between $\vec{A}, \vec{B} \& \vec{C}$ if $\vec{C} = \vec{A} + \vec{B}$

(A) $B + A < C < B - A$

(B) $A \leq C \geq B$

(C) $A - B \leq C \leq A + B$

(D) $A - B < C < A + B$

Q12 Two forces of magnitudes F and $\sqrt{3}F$ act at right angle to each other. Their resultant makes and angle β with F. The value of β is

(A) $30°$

(B) $45°$

(C) $60°$

(D) $135°$

Answer Key

Q1	(B)		Q7	(A)
Q2	(C)		Q8	(B)
Q3	(A)		Q9	(C)
Q4	(B)		Q10	(A)
Q5	(B)		Q11	(C)
Q6	(C)		Q12	(C)

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