Yakeen NEET 2.0 (2026)

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DPP: 4

Vectors

Q1 For what angle between the two vectors is their resultant minimum?
(A) π radian
(B) 2π radian
(C) Zero
(D) $\pi/2$ radian

Q2 If the components of a force are P and P along east and north directions, the force has magnitude of
(A) P
(B) $P/2$
(C) $\sqrt{2}P$
(D) $2P$

Q3 The unit vector along $2\mathrm{i} - 3\mathrm{j} + \mathrm{k}$ is
(A) $\frac{2\mathrm{i}-3\mathrm{j}+\mathrm{k}}{\sqrt{14}}$
(B) $\frac{2\mathrm{i}-3\mathrm{j}+\mathrm{k}}{5}$
(C) $\frac{2\mathrm{i}-3\mathrm{j}+\mathrm{k}}{\sqrt{15}}$
(D) None of these

Q4 If $\vec{A} = 7\hat{i} - 2\hat{j} + 3\hat{k}$, what is the vector $-3\vec{A}$?
(A) $-21\hat{i} + 6\hat{j} - 9\hat{k}$
(B) $-7\hat{i} + 2\hat{j} - 3\hat{k}$
(C) $21\hat{i} - 6\hat{j} + 9\hat{k}$
(D) $-7\hat{i} + 6\hat{j} - 9\hat{k}$

Q5 Two forces of 12 N and 8 N act upon a body. The resultant force on the body has maximum value of:
(A) 4 N
(B) 0 N
(C) 20 N
(D) 8 N

Q6 A particle is simultaneously acted by two forces equal to 4 *N* and 3 *N*. The net force on the particle is:
(A) 7 *N*
(B) 5 *N*
(C) 1 *N*
(D) Between 1 *N* and 7 *N*

Q7 Two vectors having magnitudes 8 and 10 can have maximum and minimum value of magnitude of their resultant as:
(A) 12, 6
(B) 10, 3
(C) 18, 2
(D) None of these

Q8 If angle between $\vec{A}$ and $\vec{B}$ is 30° then angle between $\vec{A}$ and $-\vec{B}$ will be:
(A) 60°
(B) 150°
(C) 45°
(D) 90°

Q9 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) $A - B < C < A + B$

Q10 If $|\vec{A} - \vec{B}| = |\vec{A}| = |\vec{B}|$, the angle between $\vec{A}$ and $\vec{B}$ is:
(A) 60°
(B) 0°
(C) 120°
(D) 90°

Q11 Two vectors $\vec{A}$ and $\vec{B}$ are such that $\vec{A} + \vec{B} = \vec{C}$ and $A^2 + B^2 = C^2$. Which of the following statements, is **correct**?

(A) $\vec{A}$ is parallel to $\vec{B}$

(B) $\vec{A}$ is anti-parallel to $\vec{B}$

(C) $\vec{A}$ is perpendicular to $\vec{B}$

(D) $\vec{A}$ and $\vec{B}$ are equal in magnitude

Q12 If $\vec{D} = \vec{A} - \vec{B}$, and $D^2 = A^2 + B^2$ then find angle between $\vec{A}$ and $\vec{B}$.

(A) 60°   (B) 180°

(C) 45°   (D) 90°

Q13 The resultant of two forces, each P, acting at an angle θ is:

(A) $2P \sin \frac{\theta}{2}$

(B) $2P \cos \frac{\theta}{2}$

(C) $2P \cos \theta$

(D) $P\sqrt{2}$

Q14 The angle between the direction of $\hat{i}$ and $\hat{i} + \hat{j}$ is:

(A) 90°   (B) 0°

(C) 45°   (D) 180°

Answer Key

Q1	(A)		Q8	(B)
Q2	(C)		Q9	(C)
Q3	(A)		Q10	(A)
Q4	(A)		Q11	(C)
Q5	(C)		Q12	(D)
Q6	(D)		Q13	(B)
Q7	(C)		Q14	(C)

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