

## ECAT Pre General Science Physics Chapter 2 Vectors and Equilibrium

Sr	Questions	Answers Choice
1	The direction of a vector in space requires:	A. X-axis B. X and Y-axes C. XYZ axes D. Y and Z-axes
2	The direction of vector in space is specified by:	A. One angle B. Two angles C. Three angles D. None of above
3	The vector in space has:	A. One Component B. Two Components C. Three Components D. None of these
4	By convention, torques producing clockwise rotation are taken as:	A. Positive B. Negative C. Zero D. None of these
5	The rectangular components of a vector are equal in magnitude when the vector makes an angle _____ with their x-component:	A. $0^\circ$ B. $30^\circ$ C. $45^\circ$ D. $60^\circ$
6	A force of 5 N is acting along Y-axis. Its component along X-axis is:	A. 7 N B. 5 N C. Zero D. 10 N
7	For measuring the angle between two vectors graphically, we join:	A. Tails of both the vectors B. Tail of one vector with the head of other C. Heads of both the vectors D. None of these
8	The sum of two or more vectors is equal to a single vector which is called:	A. Component vector B. Resultant vector C. Product vector D. None of these
9	The magnitude of resultant of three vectors is 3. Its x-component is one, y-component is two, then its z-component is:	A. 0 B. 1 C. 2

	with its z-component is.	<p><input checked="" type="radio"/> 2</p> <p><input type="radio"/> 3</p>
10	Unit vector is used to specify:	<p>A. Magnitude of a vector</p> <p>B. Dimensions of a vector</p> <p><input checked="" type="radio"/> C. Direction of a vector</p> <p>D. Position of a vector</p>
11	If the vector 5 N lies along with x-axis, then its component along y-axis will be:	<p><input checked="" type="radio"/> A. Zero</p> <p>B. 5 N</p> <p>C. 7 N</p> <p>D. 10 N</p>
12	Cosine of an angle is positive in:	<p>A. 2nd quadrant</p> <p>B. 3rd quadrant</p> <p><input checked="" type="radio"/> C. 4th quadrant</p> <p>D. All of these</p>
13	The resultant of two velocities 3 m/sec and 400 cm/sec making an angle $90^\circ$ with each other is:	<p>A. 20 m/sec</p> <p><input checked="" type="radio"/> B. 5 m/sec</p> <p>C. 3 m.sec</p> <p>D. None of these</p>
14	An vector of 10 N makes an angle of $45^\circ$ with x-axis. Angle between its rectangular components with be:	<p>A. <math>45^\circ</math></p> <p><input checked="" type="radio"/> B. <math>90^\circ</math></p> <p>C. <math>135^\circ</math></p> <p>D. Zero</p>
15	Torque is also called:	<p>A. Momentum</p> <p>B. Linear inertia</p> <p><input checked="" type="radio"/> C. Moment of a force</p> <p>D. Mass</p>
16	Two forces of 10 N and 8 N are applied simultaneously to a body. the maximum value of their resultant is:	<p>A. 2 N</p> <p>B. - 2 N</p> <p><input checked="" type="radio"/> C. 18 N</p> <p>D. 36 N</p>
17	If two forces of magnitudes 3.5 and 2.5 N act on a body such that the angle between the forces is zero, then magnitude of the resultant will be:	<p>A. 1.0 N</p> <p><input checked="" type="radio"/> B. 6 N</p> <p>C. 3.5 N</p> <p>D. 12 N</p>
18	A vector of magnitude 5 N is added to a vector of magnitude 8 N while the orientations are changeable. Range of their possible sum will be very from:	<p>A. Zero to 3 N</p> <p>B. 1 N to 13 N</p> <p><input checked="" type="radio"/> C. 13 N to 3 N</p> <p>D. None of these</p>
19	When a vector is multiplied by a negative number, its direction:	<p>A. Remains the same</p> <p>B. Changes</p> <p><input checked="" type="radio"/> C. Changes by <math>180^\circ</math></p> <p>D. None of these</p>
20	Two vectors having different magnitudes:	<p>A. Have their directions opposite</p> <p>B. May have their resultant zero</p> <p><input checked="" type="radio"/> C. Cannot have their resultant zero</p> <p>D. None of these</p>

