

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

Sr	Questions	Answers Choice
1	The vector is space has:	A. One Component B. Two Compnents C. Three Components D. Non of these
2	Two forces of 10N and 8N are applied simultaneously to a body. The maximum value of their resultant is:	A. 20 N B. -2 N C. 18 N D. 36 N
3	All trigonometric functions (since, cosine tangent etc. ) are positive in:	A. 1st Quadrant B. 2nd Quadrant C. 3rd Quadrant D. 4th Quadrant
4	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
5	The drection of vector si space is specified by:	A.  One angle B. Two angles C. Three angles D. None of above
6	Unit vector is used to specify:	A. Magnitude of a vector B. Dimensions of a vector C. Direction of a vector D. Position of a vector
7	Two vectors having different magnitudes:	A. Have their directions opposite B. May have their resultant zero C. Cannot have their resultant zero D. None of these
8	The change of order of vectors in a dot product of two vectors:	A. Changes its value B. Doesn't change it's value C. Changes the direction product quantity D. None of these
9	Scalar product is also called:	A. Cross product B. Dot product C. Product scalar D. <div>Product vector</div>
10	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
11	Tick the correct answer:	A. Torque is a vector quantity B. Torque is the turning effect of a force C. Torque is called moment of a force D. All of above
12	By convention, torques producing clockwise rotation are taken as:	A. Positive B. Nagative C. Zero D. None of these
13	Torque is also called:	A. Momentum B. Linear inertia C. Moment of a force D. Mass
14	The perpendicular distance from the axis of rotation to the line of action of force is called:	A. Moment arm B. Moment of a force C. Torque D. Non of these

15	Choose the set of physical quantities, which have both numerical and directional properties:	<p>A. Velocity, mass</p> <p>B. Speed, acceleration</p> <p>C. acceleration weight</p> <p>D. Distance, force</p>
16	The direction of a vector in space requires:	<p>A. X-axis</p> <p>B. X and Y-axes</p> <p>C. XYZ axes</p> <p>D. Y and Z-axes</p>
17	The direction of vector in space is specified by:	<p>A. One angle</p> <p>B. Two angles</p> <p>C. Three angles</p> <p>D. None of these</p>
18	Parallel vectors of same magnitudes:	<p>A. Are equal</p> <p>B. Are unequal</p> <p>C. When added give the some equal to zero</p> <p>D. Give the answer equal to zero</p>
19	If a vector lies in second quadrant, than $B_x$ and $B_y$ are:	<p>A. -, +</p> <p>B. +, -</p> <p>C. +, +</p> <p>D. -, -</p>
20	When the magnitude of two component vectors are equal to that of their resultant, then the angle between the components is:	<p>A. <math>60^\circ</math></p> <p>B. <math>90^\circ</math></p> <p>C. <math>120^\circ</math></p> <p>D. <math>150^\circ</math></p>
21	The rectangular components of a vector are equal in magnitude when the vector makes and angle _____ with their x-component:	<p>A. <math>0^\circ</math></p> <p>B. <math>30^\circ</math></p> <p>C. <math>45^\circ</math></p>

		D. 60°
22	If the vector 5 N lies along with x-axis, then its component along y-axis will be:	A. Zero B. 5 N C. 7 N D. 10 N
23	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:	A. Zero to 3 N B. 1 N to 13 N C. 13 N to 3 N D. None of these
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25	Two vectors to be combined have magnitudes of 60 N and 35 N. Pick the possible answer:	A. 100 N B. 70 N C. 20 N D. Zero
26	A person starts his journey from a point O, travels 4 Km SW, then 4 Km NW, and finally 4 Km north-east. At what distance is he now from point O?	A. 0 Km B. 4 Km C. 8 Km D. 12 Km
27	A vector which has magnitude 'one' is called:	A. Resultant vector B. A unit vector C. Position vector D. None of these
28	An vector of 10 N makes an angle of 45° with x-axis. Angle between its rectangular components with be:	A. 45° B. 90° C. 135° D. Zero
29	When a vector is multiplied by a negative number, its direction:	A. Remains the same B. Changes C. Changes by 180° D. None of these
30	Two forces each of 10 N act on a body, if the force are inclined at 30° and 60° respectively with x-axis, then x-component of their resultant is:	A. 20 N B. 13.66 N C. 10 N D. 8.66 N
31	Two forces of 10 N and 8 N are applied simultaneously to a body. the maximum value of their	A. 2 N B. - 2 N

31	resultant is:	<p>C. 18 N</p> <p>D. 36 N</p>
32	Two forces each of the magnitude F act perpendicular to each other. The angle made by the resultant force with the horizontal will be:	<p>A. <math>30^\circ</math></p> <p>B. <math>45^\circ</math></p> <p>C. <math>60^\circ</math></p> <p>D. <math>90^\circ</math></p>
33	All trigonometric functions (sine, cosine, tangent etc) are positive in:	<p>A. 1st quadrant</p> <p>B. 2nd quadrant</p> <p>C. 3rd quadrant</p> <p>D. 4th quadrant</p>
34	Which of the following is scalar quantity?	<p>A. Electric potential</p> <p>B. Velocity</p> <p>C. Momentum</p> <p>D. Force</p>
35	The vector in space has:	<p>A. One component</p> <p>B. Two components</p> <p>C. Three components</p> <p>D. None of these</p>
36	The magnitude of the resultant of two forces may be increased by:	<p>A. Increasing the angle between them</p> <p>B. Decreasing the angle between them</p> <p>C. Drawing a triangle to represent them</p> <p>D. None of these</p>
37	Cosine of an angle is positive in:	<p>A. 2nd quadrant</p> <p>B. 3rd quadrant</p> <p>C. 4th quadrant</p> <p>D. All of these</p>
38	A force of 5 n is acting Y-axis. Its component along X-axis is:	<p>A. 7 N</p> <p>B. 5 N</p> <p>C. Zero</p> <p>D. 10 N</p>
39	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>B. 5 m/sec</p> <p>C. 3 m.sec</p> <p>D. None of these</p>
40	The magnitude of resultant of three vectors is 3. Its x-component is one, y-component is two, then its z-component is:	<p>A. 0</p> <p>B. 1</p> <p>C. 2</p> <p>D. 3</p>
41	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>B. 6 N</p> <p>C. 3.5 N</p> <p>D. 12 N</p>

If x-component of a vector is -3 N and y-component is 3 N, then angle of resultant vector with x-axis is:

A.  $45^\circ$

B.  $315^\circ$

C.  $135^\circ$

D.  $225^\circ$