

## ECAT (Pre-Eng) Mathematics Chapter 24 Vectors

Sr	Questions	Answers Choice
1	If $\theta$ be angle between $u, v$ and $u, v$ determine the sides of a triangle then the third side opposite to angle $\theta$ has length	A. $ u+v $ B. $ u + v $ C. $ u-v $ D. $ u - v $
2	Question Image	A. direction ratios B. direction cosines C. direction angles D. none of these
3	Unit vector in the positive direction of x-axis is	
4	If $uv = \text{Proj}_{uv}$ then	A. $u$ and $v$ are parallel B. $v$ is a unit vector C. $u$ is a unit vector D. Both b and c
5	Which of the following is a scalar.	A. electric field B. magnetic field C. weight D. mass
6	Three points whose position vectors $a, b, c$ are collinear	A. $a \times b + b \times c + c \times a = 0$ B. $a, b + b, c + c, a = 0$ C. $a,  a \times c  = 0$ D. $a + b + c = 0$
7	Question Image	A. A, B, C are coincident B. A, B, C are collinear C. Both A and B D. None of these
8	Question Image	
9	For two vectors $a$ and $b$ , $a+b = \underline{\hspace{2cm}}$	A. $a$ and $b$ B. $b+a$ C. $b-a$ D. None
10	Question Image	
11	Question Image	C. 0 D. 1
12	Question Image	
13	Question Image	
14	The physical quantity which possesses both magnitude and direction is called a	A. scalar B. vector C. constant D. none of these
15	Question Image	D. none of these
16	If $\text{Proj}_{vu} = \text{Proj}_{uv}$ , then	A. $u$ and $v$ are parallel B. $ u = v $ C. $u$ and $v$ are perpendicular D. One of $u$ or $v$ is zero
17	The angle between the vectors $3i + j - k$ and $2i - j + k$ is	
18	Question Image	
19	The orthocenter of triangle whose vertices are $(0,0)(3,0)(0,4)$ is	A. $(0,0)$ B. $(1,1)$ C. $(2,2)$ D. $(3,3)$
20	If $a, b, c$ are unit vectors then $ a + b ^2 +  a - b ^2$	A. 4 B. $8ab$ C. $9\cos\theta$ D. $4(a, b)$

