

ECAT Mathematics Chapter 24 Vectors

Sr	Questions	Answers Choice
1	If $a + b + c = 0$ then which of the following is true	A. $a = b = c = 0$ B. $a, b = b, c = c, a$ C. $a \times b = b \times c = c \times a$ D. None
2	Question Image	A. $[0, 0, 0]$ B. $[1, 0, 0]$ C. $[0, 1, 0]$ D. $[0, 0, 1]$
3	Three points whose position vector 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. $a + b + c = 0$
4	Question Image	
5	Question Image	D. none of these
6	Question Image	
7	Question Image	
8	The null vector is regarded to be perpendicular to	A. Every vector B. In some cases C. Both a b D. None
9	Question Image	A. $[0, 0, 0]$ B. $[1, 0, 0]$ C. $[0, 1, 0]$ D. $[0, 0, 1]$
10	A vector of magnitude zero is called	A. Position vector B. Null vector C. Free vector D. None of these
11	Question Image	D. none of these
12	If 2 and 2 are x and y components of vector then its angle with x-axis is	A. 30° B. 45° C. 60° D. 90°
13	Question Image	
14	The number z so that the triangle with vertices $A(1, -1, 0), B(-2, 2, 1)$ and $C(0, 2, z)$ is a right triangle with right angle at vertex C	A. 1, 2 B. -1, -2 C. 2, -1 D. -2, 1
15	Question Image	A. A, B, C are coincident B. A, B, C are collinear C. Both A and B D. None of these
16	Question Image	D. none of these
17	If $ ai + (a+1)j + 2k = 3$ then value of a is	A. 1, 2 B. -1, -2 C. 1, -2 D. -1, 2
18	The position vector of a point (x, y) in xy plane is	D. none of these

19 Question Image

20 If $\text{Proj}_{\mathbf{u}} \mathbf{v} = \text{Proj}_{\mathbf{v}} \mathbf{u}$, then

- A. \mathbf{u} and \mathbf{v} are parallel
- B. $|\mathbf{u}|=|\mathbf{v}|$
- C. \mathbf{u} and \mathbf{v} are perpendicular
- D. One of \mathbf{u} or \mathbf{v}