

ECAT (Pre-Eng) Mathematics MCQ's Test For Chapter 23

Sr	Questions	Answers Choice
1	The modulus of $12-5i$ is:	A. 7 B. 13 C. $\sqrt{7}$ D. 119
2	If G is the centroid of the triangle, then $GA+GB+GC=$	A. 0 B. 1 C. -1 D. 3
3	The angle between the vectors $\underline{u} = [-3, 5]$ and $\underline{v} = [6, -2]$ is:	A. $\pi/2$ B. $-3\pi/2$ C. π D. None of these
4	If the angle between two vectors \underline{u} and \underline{v} is 0 or π , then the vectors \underline{u} and \underline{v} are:	A. Orthogonal B. Collinear C. Perpendicular D. None of these
5	a _____ quantity is one that possesses both magnitude and direction.	A. Scalar B. Vector C. Segment D. None of these
6	If $c = 2i+j+k$ and $d = -1 + 4j + 2k$, then $[c-d]=$	A. $\sqrt{7}$ B. $\sqrt{41}$ C. $\sqrt{19}$ D. $\sqrt{2&\amp;7}$
7	Vector additon is:	A. Commutative B. Associative C. Commutative and Associative D. None of these
8	The positive real number which is the measure of the length of a vector is called the	A. Unit vector B. Modulus C. Inverse D. None of these
9	The magnitude of vector $a=i-3j+5k$ is:	A. 3 B. $\sqrt{35}$ C. $\sqrt{17}$ D. $\sqrt{35}$
10	If m and n be two scalars, then $(m+n) \underline{g} =$	A. 0 B. $m+n$ C. $m \underline{a} + n \underline{a}$ D. $m \underline{a} - m \underline{a}$
11	If $\underline{u} = 2a\underline{j} + \underline{i} - \underline{k}$ and $\underline{v} = \underline{i} + a\underline{j} + 4\underline{k}$ are perpendicular then a =	A. 4 B. 1/2 C. 3 D. 4/3
12	If $\underline{u} = 2\underline{i} + p\underline{j} + 5\underline{k}$ and $\underline{v} = 3\underline{i} + \underline{j} + p\underline{k}$ are perpendicular , then p=	A. 1 B. 2 C. -1 D. -3
13	The vector $\underline{k} = [0,0,1]$ is called unit vector along:	A. x -axis B. y - axis C. z- axis D. None of these
14	If $\underline{u} = [3,-4]$, then modulus of \underline{u} is:	A. 5 B. 5i C. -5 D. $\sqrt{5}$
15	If $a \neq 0, b \neq 0$ and $ a \cdot b = a \cdot b $, then vectors a and b are:	A. Parallel to each other B. Perpendicular to each other C. Inclined at 60°

D. neither parallel nor perpendicular

16	If the angle between two vectors \underline{u} and \underline{v} is 0 or π , then the vectors \underline{u} and \underline{v} are:	A. Orthogonal B. Collinear C. Perpendicular D. None of these
17	$\underline{O}(0,0)$ is called:	A. Position vector B. Free vector C. Unit vector D. Null vector
18	If $a = [1,4,3]$ and $B = [2,-1,5]$ then the mid point M of AB is:	A. $[1,1,1.5]$ B. $[2,2,1.5]$ C. $[1.5,1.5,4]$ D. None of these
19	Vector $\underline{i} =$	A. $[1,0]$ B. $[0,1,0]$ C. $[0,0,1]$ D. None of these
20	If $a, b = 0$ then	A. $a \perp b$ B. $a \parallel b$ C. $a = b$ D. None