ECAT Mathematics Chapter 23 Pre Engineering Online Test

Sr	Questions	Answers Choice
1	If a,b = 0 then	A. a |b B. a||b C. a = b D. None
2	If a≠ , b≠ 0 and|a=b|=|a-b|,then vectors a and b are:	A. Parallel to each other B. Perpendicular to each other C. Inclined at 60^o D. neither parallel nor perpendicular
3	If aand bare two vectors then a+b =	A. b + a B. b - a C. ab D. a^ b
4	If a = 2i +2j, b= 3i -j and c=4i +5j, the 3b -a-2c =	A. -i -15j B. i-15j C. i-3j D. None of these
5	The angle between the vectors u = [-3 , 5] and v = [6 , -2] is:	A. π/2 B. -3π/2 C. π D. None of these
6	Vector i =	A. [1,0] B. [0,1,0] C. [0,0,1] D. None of these
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	I f a =5i + 2j, then|a| =	A. √13 B. √7 C. 1/√13 D. √29
10	The magnitude of vector a 2i-7j is	A. √23 B. √43 C. 3 D. √53
11	If|a| =|b|=|a + b|=1, then|a+ b| = 5, then|a-b| =	A. 4 B. 6 C. 5 D. 3
12	a _____quantity is one that possesses both magnitude and direction.	A. Scalar B. Vector C. Segment D. None of these
13	If the angle between two vectors u and v is 0 orπ, then the vectors u and v are:	A. Orthogonal B. Collinear C. Perpendicular D. None of these
14	The vector k = [0,0,1] is called unit vector along:	A. x -axis B. y - axis C. z- axis D. None of these
15	If u = 2ai +i - k and v = i +ai + 4k are perpendicular then a =	A. 4 B. 1/2 C. 3 D. 4/3

16	If u =[3,-4],then modulus of uis:	A. 5 B. 5i C. -5 D. √5
17	If the angle between two vectors u and v is 0 orπ, then the vectors u and v are:	A. Orthogonal B. Collinear C. Perpendicular D. None of these
18	If c = 2i+j+k and d= -1 + 4j +2k, then [c-d]=	A. √7 B. √41 C. √19 D. √(2&7)
19	If u = xi + yj, then|u|	A. x² + y² B. (x² +y²)² C. x²-y² D. √(x²+y²)
20	If a = [1,4,3] and B= [2,-1,5] athen 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
21	The modulus of a vector i-i+ k is:	A. √3 B. 1 C. √2 D. ∞
22	If m and n be two scalars, then (m+n) g =	A. 0 B. m+n<img width="9" height="20" src="file:///C:/Users/Softsol/AppData/Local/Temp/msohtmlclip1/01/clip_image002.png" v:shapes="_x0000_i1025"> <!--[endif]--><o:p></o:p> C. m_a+n_a D. ma - m_a <!--[endif]--><o:p></o:p>
23	The vector i = [1,0] is called unit vector along:	A. x-axis B. y - axis C. z- axis D. Botha a and y-axis
24	O (0,0)is called:	A. Position vector B. Free vector C. Unite vector D. Null vector
25	The modulus of 12-5i is:	A. 7 B. 13 C. √7 D. 119
26	If|a| =|b| = |a+b|=1, then|a-b| is equal to:	A. 1 B. √3 C. √2 D. 7
27	If the sum of two unit vectors is a unit vector the the magnitude of their difference is	A. √2 B. √3 C. 1 D. None of these
28	The magnitude of vector a=i-3j+5k is:	A. 3 B. √35 C. √17 D. √35
29	If a=5j + 2j,b=2i -3j, then|a+2b|=	A. √21 B. √97 C. √39 D. None of these
30	The angle between the vectors u =2i - i + k and v = -i + i is:	A. 3π/2 B. 2π/3 C. 5π/6 D. π/3
31	If u =2i +pi + 5k and v = 3i + i +pk are perpendicular , then p=	A. 1 B. 2 C. -1 D. -3
32	If G is the centroid of the triangle, then GA +GB+GC=	A. 0 B. 1 C. -1 D. 3