Mathematics ECAT Pre Engineering Chapter 24 Vectors Online Test

Sr	Questions	Answers Choice
1	The ortho center of triangle whose vertices are (0,0)(3,0)(0,4) is	A. (0,0) B. (1,1) C. (2,2) D. (3,3)
2	The area of the rhombus whose vertices are A(0,0),B(2,1),C(3,3),D(1,2) is	A. 36 square units B. 3 square units C. 6 square units D. 18 square units
3	If Projvu = Projuv, then	A. Uand vare parallel B. |u|=|v| C. Uandvre perpendicular D. One ofuorv
4	If uv= Projuv then	A. Uandvare parallel B. vis a unit vector C. Uis a unit vector D. Both b and c
5	u,v,wand u x (v.w) are	A. Equal B. Parallel C. Additive immense of each other D. Meaningless
6	If a force F = 2i + j +3k acts at point (1,-2,2) of a body then the moment of F about a pint lying on the line of action of the force is	A. 5 B. Equal to the moment of the force about origin C. 0 D. Cannot be found
7	If a,b,c are unit vectors then |a + b|2 +|a - b|2	A. 4 B. 8ab C. 9cos D. 4(a,b)
8	If θ be angle between u,v and u,v determine the sides of a triangle then the third side opposite to angle θ has length	A. |u+v| B. |u|+|v| C. |u-v| D. |u|-|v|
9	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
10	If a,b c are sides of a triangle taken in order then a x b =	A. b x c B. b x a C. cxa D. Both a & b
11	[i,j,k]	A. 0 B. 2 C. 1 D. -2
12	If |αi + (α+1)j +2k| =3 then value of α is	A. 1,2 B. -1,-2 C. 1,-2 D. -1,2
13	For two vector a and b, a+b = _____	A. a b B. b+a C. b-a D. None
14	The null vector is regarded to be perpendicular to	A. Every vector B. In some cases C. Both a b D. None
15	Projection of vector u along v is	A. |v| cosθ B. |u| cosθ C. |v| sinθ

		D. |u| sinθ
16	The zero vector is regarded to be parallel to	A. Every vector B. Is some cases C. Both a,b D. None
17	If a2 = b2 then	A. a = b B. a+b= 1 C. |a+b| =0 D. None
18	Three points whose position vector a,b,c are collinear	A. axb +b x c+ c x a = 0 B. a,b +b,c +c,a =0 C. a,|a xc| =0 D. a+b+c =0
19	If |a x b|2 + (a,b)2 = _____	A. |a|2 + |b|2 B. |a|2- |b|2 C. |a|2|b|2 D. None
20	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 xb=b xc =c xa D. None
21	If a,b,c are three non-coplanar vector then [a +b,b +c,c +a] = _____	A. [a.b.c] B. 2[a,b,c] C. [abc]-2 D. 2[abc]2
22	The physical quantity which can be specified by a number alongwith unit is called a	A. scalar B. vector C. constant D. none of these
23	The physical quantity which possesses both magnitude and direction is called a	A. scalar B. vector C. constant D. none of these
24	Which of the following is a scalar	A. weight B. force C. speed D. momentum
25	Which of the following us a scalar	A. displacement B. velocity C. acceleration D. density
26	Which of the following is a scalar.	A. electric field B. magnetic field C. weight D. mass
27	Which of the following is a vector	A. length B. momentum C. volume D. speed
28	Which of the following is a vector.	A. work B. time C. density D. electric field
29	Which of the following is a scalar.	A. force B. frequency C. weight D. acceleration
30	Which of the following is a vector.	A. energy B. force C. work D. power
31	Which of the following is a vector.	A. distance B. temperature C. energy D. acceleration
32	Question Image	
33	Question Image	
34	Which of the following does not represent absolute value of a vector	A. magnitude B. length

		C. norm D. number
35	Which of the following represents a vector	D. (x, y)
36	The unit vector along x-axis is	D. none of these
37	The unit vector along y-axis is	D. none of these
38	The unit vector along z-axis is	D. none of these
39	Question Image	A. [0, 0, 0] B. [1, 0, 0] C. [0, 1, 0] D. [0, 0, 1]
40	Question Image	A. [0, 0, 0] B. [1, 0, 0] C. [0, 1, 0] D. [0, 0, 1]
41	Question Image	A. [0, 0, 0] B. [1, 0, 0] C. [0, 1, 0] D. [0, 0, 1]
42	The zero vector is	A. [0, 0, 0] B. [1, 1, 1] C. [0, 1, 0] D. [0, 0, 1]
43	Which of the following is not a unit vector	A. [1, 1, 1] B. [0, 1, 0] C. [0, 0, 1] D. [1, 0, 0]
44	Question Image	
45	Question Image	
46	Question Image	D. none of these
47	Question Image	
48	Question Image	
49	Question Image	A. parallel vectors B. perpendicular vectors C. concurrent vectors D. collinear vectors
50	A vector with magnitude one is called	A. constant vector B. unit vector C. zero vector D. null vector
51	Question Image	D. none of these
52	Question Image	D. none of these
53	Question Image	D. none of these
54	Question Image	A. perpendicular vectors B. concurrent vectors C. parallel vectors D. none of these
55	Question Image	A. perpendicular vectors B. parallel vectors C. concurrent vectors D. none of these
56	The position vector of a point (x, y) in xy plane is	D. none of these
57	The position vector of any point in space is	
58	The position vector of the point P(a, b, c) is	
59	Question Image	
60	Question Image	
61	Question Image	
62	Question Image	

63	Question Image	
64	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°
65	Question Image	A. a₁+ a₂ B. a²₁+ a²₂
66	Question Image	
67	Question Image	
68	Question Image	D. none of these
69	Question Image	
70	Question Image	A. 25 B. 16 C. 5 D. 0
71	Question Image	A. direction ratios B. direction cosines C. direction angles D. none of these
72	Question Image	A. direction ratios B. direction cosines C. direction angles D. none of these
73	Question Image	
74	Question Image	D. none of these
75	Question Image	D. none of these
76	Question Image	D. none of these
77	Question Image	
78	Question Image	D. none of these
79	Question Image	
80	Question Image	A. 0 B. 1
81	Question Image	A. 1 B. 0
82	Question Image	A. 0 B. 1
83	Question Image	C. 0 D. 1
84	Question Image	C. 1 D. 0
85	Question Image	
86	Question Image	
87	Question Image	C. 0 D. 1
88	Question Image	D. none of these
89	Question Image	D. none of these
90	Question Image	D. none of these

91	Question Image	
92	Question Image	D. none of these
93	Question Image	D. none of these
94	Question Image	
95	Question Image	
96	Question Image	
97	Question Image	
98	Question Image	
99	Question Image	A. 12 B. 6 C. 8 D. none of these
100	If the angle between two vectors with magnitude 2 and 15 is 30°then their scalar product is	B. 15 C. 30
101	Question Image	A. Free vector B. Null vector C. Unit vector D. None of these
102	Unit vector in the positive direction of x-axis is	
103	A vector of magnitude zero is called	A. Position vector B. Null vector C. Free vector D. None of these
104	The magnitude of a vector can never be	A. Zero B. Negative C. Positive D. None of these
105	Question Image	
106	Which of the vectors have opposite direction?	
107	Question Image	A. l²+ m²+ n²= 0 B. l²- m²+ n²= 1 C. l²+ m²+ n²= 1 D. l²+ m²- n²= 0
108	The direction cosines of y-axis are	A. 1, 0, 0 B. 0, 1, 0 C. 0, 0, 1 D. 1, 1, 1
109	Question Image	
110	Question Image	A. 0 B. 90° C. 180° D. 360°
111	If the angle between two vectors with magnitude 6 and 2 is 60° when their scalar product is	A. 12 B. 6 C. 3 D. 0
112	If the vector 2i + 4j - 7k and 2i + 6j + xk are perpendicular then x = ?	A. 0 B. 2 C. 4 D. 7
113	Question Image	A. A B. 0 C. Unit vector D. None
114	The angle between the vectors 3i + j - k and 2i - j + k is	
115	3j . k x i	A. 0 B. 1 C. 3

		D. 9
116	Question Image	
117	Question Image	
118	Question Image	
119	Question Image	A. A,. B, C are coincident B. A, B, C are collinear C. Both A and B D. None of these
120	If C is the mid point of AB and P is any point outside AB, then	
121	Question Image	A. 0 B. 1 C. -1 D. None