ECAT Mathematics Online Test

Sr	Questions	Answers Choice
1	The equation of the tangent at vertex to the parabola is y2 = -8(x -3)	A. y=0 B. x=3 C. x=1 D. x=5
2	The straight line passing through the focus and perpendicular to the directrix of the conic is known as its	A. Tangent B. axis C. Focal chord D. major or manor axis
3	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
4	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
5	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
6	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
7	If a2 = b2 then	A. a = b B. a+b= 1 C. |a+b| =0 D. None
8	The zero vector is regarded to be parallel to	A. Every vector B. Is some cases C. Both a,b D. None
9	Projection of vector u along v is	A. |v| cosθ B. |u| cosθ C. |v| sinθ D. |u| sinθ
10	The null vector is regarded to be perpendicular to	A. Every vector B. In some cases C. Both a b D. None
11	For two vector a and b, a+b = _____	A. a b B. b+a C. b-a D. None
12	The point (1,3) is one solution of	A. 3x + 5y > 29 B. 3x + 5y < 7 C. x + 2y < 4 D. x + 4y > 3
13	Optimal solution is found by evaluation the objective function at	A. All point of feasible region B. Corner point C. Origin D. None
14	A function which is to be maximized or minimized is called an	A. Explicit function B. Implicit function C. Objective function D. None
15	Each point of the feasible region is called	A. Solution B. feasible solution C. Both a & b D. None

16	A point (x,y) which satisfy a linear inequality in two variables form its	A. Solution B. Domain C. Range D. None
17	If $|\alpha i + (\alpha+1)j +2k| =3$ then value of α is	A. 1,2 B. -1,-2 C. 1,-2 D. -1,2
18	[i,j,k]	A. 0 B. 2 C. 1 D. -2
19	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
20	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
21	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|
22	If a,b,c are unit vectors then |a + b|2 +|a - b|2	A. 4 B. 8ab C. 9cos D. 4(a,b)
23	A point where two of its boundary lines intersect is called	A. Corner point B. Feasible point C. Vertex D. Feasible solution
24	Corner point of the system x - y≤ 2,x + y≤ 4,2x -y≤ 6,x≥ 0,y≥ 0	A. (1,4) B. (4,2) C. (3,1) D. (4,1)
25	Which of the following is not a solution of system of inequalities 2x- 3y ≤6,2x +y≥ 2,x +2y≤ 8, x≥ 0,y ≥ 0	A. (1,0) B. (0,4) C. (3,0) D. (8,0)
26	Sum of two quantities is at least 20 is denoted by	A. x +y =20 B. x +y≥ 20 C. x +y≠ 20 D. x +y≤20
27	Maximum value of z =15x +20y subject to 3x+ 4y≤ 12,x,y≥ 0 is given by	A. 46 B. 60 C. 50 D. 70
28	The maximum value of Z = 3x+ 4y subjected to the constrains x+ y≤ 40,x+ 2y≤ 60, x≥ 0 and y≥ 0 is	A. 120 B. 100 C. 140 D. 160
29	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
30	u,v,wand u x (v.w) are	A. Equal B. Parallel C. Additive immense of each other D. Meaningless