Mathematics ECAT Pre Engineering Chapter 21 Linear Inequalities and Linear Programming Online Test

Sr	Questions	Answers Choice
1	If 4 - x >5, then	A. x > 1 B. x > -1 C. x < 1 D. x < -1
2	A _____ divides the plane into left and right half planes.	A. Vertical line B. Horizontal line C. Non vertical line D. Inequality
3	A point of a solution region where two of its boundary lines intersect, is called	A. Boundary B. Inequality C. Half plane D. Vertex
4	Which is in the solution set of 4x - 3y < 2	A. (3, 0) B. (4, 1) C. (1, 3) D. None
5	Question Image	A. p < r B. p > rr C. p + r < 0 D. p - r < 0
6	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
7	x = _____ is in the solution of 2x + 3 < 0	A. 0 B. 2 C. -1 D. -2
8	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)
9	A function which is to be maximized or minimized is called an	A. Explicit function B. Implicit function C. Objective function D. None
10	Which is not a half plane	A. ax + by < c B. ax + by > c C. Both A and B D. None
11	x = 1 is in the solution of the inequality	A. x + 1 > 0 B. x - 2 > 0 C. 3x - 1 < 0 D. x + 2 < 0
12	If x < y, 2x = A, and 2y = B, then	A. A = B B. A < B C. A < x D. B < y
13	The point _____ is in the solution of the inequality 2x + 3y < 5	A. (1,1) B. (2,2) C. (0,1) D. (0,2)
14	Which of the following ordered pair is a solution of the inequality x+2y<6?	A. (2,3) B. (2,2) C. (6,0) D. (1,1)
15	The set of ordered pairs (x,y) such that ax+ by < c, and (x,y) such that ax + by>0, are called	A. Half planes B. Boundary C. Linear Inequalities

		D. Feasible regions
16	x = _____ is in the solution of 2x - 5 > 0	A. 0 B. 2 C. -2 D. 3
17	The graph of y> 0 is the upper - half of:	A. y-axis B. x-axis C. 1st and 4th quandrant D. 2nd and 3rd quadrant
18	If ab > 0 and a < 0, which of the following is negative?	A. b B. -b C. -a D. (a - b)²
19	Optimal solution is found by evaluation the objective function at	A. All point of feasible region B. Corner point C. Origin D. None
20	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)
21	Inequalities have _____ symbol	A. 2 B. 3 C. 4 D. 1
22	(1,0) is in the solution of the inequality	A. 3x + 2y > 8 B. 2x - 3y < 4 C. 2x + 3y > 3 D. x - 2y < -5
23	3x + 4 ≤ 0 is	A. not inequality B. equation C. identity D. inequality
24	The graph of y < 2 is the	A. Left half plane B. upper half plane C. Right half plane D. Lower half plane
25	The graph of the linear equation of the form ax =by = c is a line which divided the plane into:	A. Two similar regions B. Two disjoint regions C. Four equal parts D. One region
26	ab > 0 and a > 0 then	A. a > b B. a < b C. a = b D. None
27	2x + 3y > 4 is a linear inequality in	A. one variable B. two variables C. three variables D. none of these
28	s > t then	A. (s - t)²> (t - s)² B. (s - t)²< (t - s)² C. (s - t)²= (t - s)² D. None
29	r + 3 >5 then which is true	A. r + 2 > 4 B. r + 2 < 4 C. r + 2 = 4 D. None
30	Optimize means _____ a quantity under certain constraints	A. Minimize B. Maximize C. Maximize or minimize D. None of these
31	ax + by < c is linear inequality in	A. four variables B. three variables C. two variables D. one variable
32	3x + 4 = 0 is	A. not inequality B. equation C. identity D. inequality

		D. inequality
33	3x + 4 ≥ 0 is	A. equation B. inequality C. identity D. none of these
34	The point (1,3) is one solution of	A. 3x + 5y > 29 B. 3x + 5y < 7 C. x + 2y < 4 D. x + 4y > 3
35	The feasible region which can be enclosed within a circle is called	A. Bounded region B. Convex region C. Unbounded region D. None
36	The corner point of the boundary lines, x- 2x x+2y=10 is:	A. (8,1) B. (1,8) C. (6,10) D. (3,5)
37	(2, 1) is in the solution of the inequality	A. 2x + y <u>></u> 7 B. x - y > 2 C. 3x + 5y < 6 D. 2x + y < 6
38	The total cost of 2 apples and 3 oranges is $1.70, which of the following is true	A. The cost of one apple B. The cost of one orange C. Both have equal cost per item D. Cost of each single item can not be determined
39	A point of a solution regions where two of its boundary lines intersect, is called:	A. Vertex of the solution B. Feasible point C. Point of inequality D. Null point of the solution region
40	The point _____ is in the solution of the inequality 2x - 3y > 5	A. (1, -1) B. (2,2) C. (0,0) D. (3,0)
41	x = -1 is in the solution of the inequality	A. x + 5 < 0 B. 2x + 3 <u><</u> 0 C. x > 0 D. 2x + 3 > 0
42	The corner point of the boundary lines, x-2y 2x + y = 2 is:	A. (2,6) B. (6,2) C. (-2,2) D. (2,-2)
43	x = 0 is in the solution of the inequality	A. x > 0 B. 3x + 4 < 0 C. x + 3 < 0 D. x - 2 < 0
44	An expression involving any of the symbols <,>,≤ or ≥ is called	A. equation B. inequality C. linear equation D. identity
45	For which of the following ordered pairs (s, t) is s + t > 2 and s - t < -3?	A. (3, 2) B. (2, 3) C. (1, 8) D. (0, 3)
46	There may be _____ feasible solution in the feasible region	A. Infinite B. Finite C. Defined D. None of above
47	The solution set of the inequality ax + by < c is	A. straight line B. half plane C. parabola D. none of these
48	(1, 2) is in the solution of the inequality	A. 2x + y > 8 B. 2x + y <u><</u> 6 C. 2x - y > 1 D. 2x + 3y < 2
49	The liner equation ax + by = c is called _____ of the inequality ax +by > c.	A. Associated equation B. Non-associated equation C. disjoint equation D. Feasible equation
		A. > or <

50	For graphing a linear inequality, solid line is drawn if the inequality involves the symbols:	B. <u>></u> or <u><</u> C. = or≠ D. = or >
51	(0,0) is in the solution of the inequality	A. x + y > 3 B. x - y > 2 C. 3x + 2y > 5 D. 3x - 2y < 2
52	Order (or sense) of an inequality is changed by multiplying or dividing its each side by a:	A. Zero B. one C. negative constant D. Non negative constant
53	x is a member of the set [-1, 0, 3, 5] y is a member of the set {-2, 1, 2, 4} which is possible?	A. x - y = -6 B. x - y < -6 C. x - y > -6 D. None
54	(0,1) is in the solution of the inequality	A. 3x + 2y > 8 B. 2x - 3y < 4 C. 2x + 3y > 5 D. x -2y < -5
55	(1, 1) is the in the solution of the inequality	A. 3x + 4y > 3 B. 2x + 3y < 2 C. 4x = 3y > 5 D. 2c - 3y > 2
56	The solution set of x < 4 is	A. -∞< x < 4 B. -∞> x > 4 C. -∞< x < 2 D. -∞> x > 2
57	3x + 4 > 0 is	A. equation B. identity C. inequality D. none of these
58	Each point of the feasible region is called	A. Solution B. feasible solution C. Both a & b D. None
59	x = _____ is in the solution of 2x - 3 < 0	A. 2 B. -2 C. 3 D. 4
60	The real numbers which satisfy an inequality form its	A. solution B. coefficient C. domain D. range
61	x = _____ is in the solution of 2x + 3 ≥ 0	A. 1 B. -2 C. -3 D. -4
62	The graph of linear equation 2x + 3y = 10	A. Parabola B. Circle C. Hyperbola D. Straight line
63	A point (x,y) which satisfy a linear inequality in two variables form its	A. Solution B. Domain C. Range D. None

64	If -1 < x < 0, which of the following statements must be true?	A. x < x²< x³ B. x < x³< x² C. x²< x³< x D. x²< x < x³
65	3x + 4 < 0 is	A. inequality B. equation C. identity D. not inequality
66	The points (x, y) which satisfy a linear inequality in two variables x and y from its	A. domain B. range C. solution D. none of these
67	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
68	The point _____ is in the solution of the inequality 4x - 3y < 2	A. (0,1) B. (2,1) C. (2,2) D. (3,3)
69	Multiplying each side of an inequality by (-1) will:	A. Not effect B. Change the sign C. Become zero D. Not defined
70	The point _____ is in the solution of the inequality 2x - 3y < 4	A. (0, -2) B. (1, -3) C. (2, 2) D. (3, 0)
71	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
72	A farmer possesses 100 hectometers of land and wants to grow corn and wheat. Cultivations of corn requires 3 hours per hectometer while cultivation of wheat requires 2 hours per hectometer. Working hours cannot exceed 240. If he gets a profit of Rs. 20 per hectometer for corn and Rs. 15 per hectometer for wheat. The profit function for the farmer is	A. P(x, y) = 20x + 15y B. P(x, y) = 2x + 3y C. P(x, y) = x + y D. P(x, y) = 3x + 2y
73	A point where two of its boundary lines intersect is called	A. Corner point B. Feasible point C. Vertex D. Feasible solution