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

Sr	Questions	Answers Choice
1	The graph of y < 2 is the	A. Left half plane B. upper half plane C. Right half plane D. Lower half plane
2	The feasible region which can be enclosed within a circle is called	A. Bounded region B. Convex region C. Unbounded region D. None
3	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
4	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
5	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
6	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)
7	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)
8	A point where two of its boundary lines intersect is called	A. Corner point B. Feasible point C. Vertex D. Feasible solution
9	A point (x,y) which satisfy a linear inequality in two variables form its	A. Solution B. Domain C. Range D. None
10	Each point of the feasible region is called	A. Solution B. feasible solution C. Both a & b D. None
11	A function which is to be maximized or minimized is called an	A. Explicit function B. Implicit function C. Objective function D. None
12	Optimal solution is found by evaluation the objective function at	A. All point of feasible region B. Corner point C. Origin D. None
13	The point (1,3) is one solution of	A. 3x + 5y > 29 B. 3x + 5y < 7 C. x + 2y < 4 D. x + 4y > 3
14	3x + 4 > 0 is	A. equation B. identity C. inequality D. none of these
15	3x + 4 ≥ 0 is	A. equation B. inequality C. identity

		D. none of these
16	3x + 4 < 0 is	A. inequality B. equation C. identity D. not inequality
17	3x + 4 ≤ 0 is	A. not inequality B. equation C. identity D. inequality
18	3x + 4 = 0 is	A. not inequality B. equation C. identity D. inequality
19	An expression involving any of the symbols <,>,≤ or ≥ is called	A. equation B. inequality C. linear equation D. identity
20	2x + 3y > 4 is a linear inequality in	A. one variable B. two variables C. three variables D. none of these
21	ax + by < c is linear inequality in	A. four variables B. three variables C. two variables D. one variable
22	The real numbers which satisfy an inequality form its	A. solution B. coefficient C. domain D. range
23	x = 0 is in the solution of the inequality	A. x > 0 B. 3x + 4 < 0 C. x + 3 < 0 D. x - 2 < 0
24	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
25	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
26	x = _____ is in the solution of 2x + 3 < 0	A. 0 B. 2 C. -1 D. -2
27	x = _____ is in the solution of 2x + 3 ≥ 0	A. 1 B. -2 C. -3 D. -4
28	x = _____ is in the solution of 2x - 3 < 0	A. 2 B. -2 C. 3 D. 4
29	x = _____ is in the solution of 2x - 5 > 0	A. 0 B. 2 C. -2 D. 3
30	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
31	The solution set of the inequality ax + by < c is	A. straight line B. half plane C. parabola D. none of these
32	(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
		A. 3x + 2y > 8 B. 2x - 3y < 4

33	(1,0) is in the solution of the inequality	B. 2x - 3y < 4 C. 2x + 3y > 3 D. x - 2y < -5
34	(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
35	(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
36	(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
37	The point _____ is in the solution of the inequality 2x + 3y < 5	A. (1,1) B. (2,2) C. (0,1) D. (0,2)
38	The point _____ is in the solution of the inequality 2x - 3y > 5	A. (1, -1) B. (2,2) C. (0,0) D. (3,0)
39	The point _____ is in the solution of the inequality 4x - 3y < 2	A. (0,1) B. (2,1) C. (2,2) D. (3,3)
40	(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
41	The point _____ is in the solution of the inequality 2x - 3y < 4	A. (0, -2) B. (1, -3) C. (2, 2) D. (3, 0)
42	If x < y, 2x = A, and 2y = B, then	A. A = B B. A < B C. A < x D. B < y
43	If ab > 0 and a < 0, which of the following is negative?	A. b B. -b C. -a D. (a - b)²
44	If 4 - x >5, then	A. x > 1 B. x > -1 C. x < 1 D. x < -1
45	Which is not a half plane	A. ax + by < c B. ax + by > c C. Both A and B D. None
46	A point of a solution region where two of its boundary lines intersect, is called	A. Boundary B. Inequality C. Half plane D. Vertex
47	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
48	Which is in the solution set of 4x - 3y < 2	A. (3, 0) B. (4, 1) C. (1, 3) D. None
49	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)
50	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
51	Question Image	A. p < r B. p > rr C. p + r < 0 D. p - r < 0
52	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
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	r + 3 >5 then which is true	A. r + 2 > 4 B. r + 2 < 4 C. r + 2 = 4 D. None
55	ab > 0 and a > 0 then	A. a > b B. a < b C. a = b D. None
56	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
57	Optimize means _____ a quantity under certain constraints	A. Minimize B. Maximize C. Maximize or minimize D. None of these
58	There may be _____ feasible solution in the feasible region	A. Infinite B. Finite C. Defined D. None of above
59	Inequalities have _____ symbol	A. 2 B. 3 C. 4 D. 1
60	The graph of linear equation 2x + 3y = 10	A. Parabola B. Circle C. Hyperbola D. Straight line
61	The solution set of x < 4 is	A. -∞< x < 4 B. -∞> x > 4 C. -∞< x < 2 D. -∞> x > 2
62	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
		A. Not effect B. Change the sign

63	Multiplying each side of an inequality by (-1) will:	B. Change the sign C. Become zero D. Not defined
64	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
65	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
66	A _____ divides the plane into left and right half planes.	A. Vertical line B. Horizontal line C. Non vertical line D. Inequality
67	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
68	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)
69	For graphing a linear inequality, solid line is drawn if the inequality involves the symbols:	A. > or < B. <u>></u> or <u><</u> C. = or≠ D. = or >
70	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
71	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)
72	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)
73	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
74	The graph of y < 2 is the	A. Left half plane B. upper half plane C. Right half plane D. Lower half plane
75	The feasible region which can be enclosed within a circle is called	A. Bounded region B. Convex region C. Unbounded region D. None
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80	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)

81	A point where two of its boundary lines intersect is called	A. Corner point B. Feasible point C. Vertex D. Feasible solution
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98	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

99	x = _____ is in the solution of 2x + 3 < 0	A. 0 B. 2 C. -1 D. -2
100	x = _____ is in the solution of 2x + 3 ≥ 0	A. 1 B. -2 C. -3 D. -4
101	x = _____ is in the solution of 2x - 3 < 0	A. 2 B. -2 C. 3 D. 4
102	x = _____ is in the solution of 2x - 5 > 0	A. 0 B. 2 C. -2 D. 3
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115	If x < y, 2x = A, and 2y = B, then	A. A = B B. A < B C. A < x D. B < y
116	If ab > 0 and a < 0, which of the following is negative?	A. b B. -b

		C. -a D. (a - b)²
117	If 4 - x >5, then	A. x > 1 B. x > -1 C. x < 1 D. x < -1
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		D. 1
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145	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)
		A. y-axis B. x-axis

146	The graph of y> 0 is the upper - half of:	B. x axis C. 1st and 4th quandrant D. 2nd and 3rd quadrant