ECAT Mathematics Chapter 21 Linear Inequalities and Linear Programming Online Test

Sr	Questions	Answers Choice
1	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)
2	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
3	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
4	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
5	If 4 - x >5, then	A. x > 1 B. x > -1 C. x < 1 D. x < -1
6	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 >
7	A function which is to be maximized or minimized is called an	A. Explicit function B. Implicit function C. Objective function D. None
8	x = _____ is in the solution of 2x - 3 < 0	A. 2 B. -2 C. 3 D. 4
9	Which is not a half plane	A. ax + by < c B. ax + by > c C. Both A and B D. None
10	3x + 4 > 0 is	A. equation B. identity C. inequality D. none of these
11	x = 0 is in the solution of the inequality	A. x > 0 B. 3x + 4 < 0 C. x + 3 < 0 D. x - 2 < 0
12	ab > 0 and a > 0 then	A. a > b B. a < b C. a = b D. None
13	The solution set of x < 4 is	A. -∞< x < 4 B. -∞> x > 4 C. -<span style="font-family: "Times New Roman"; font-

		size: 24px; color: rgb(34, 34, 34); text-align: center; background-color: rgb(255, 255, 248);">∞ < x < 2 D. -∞ > x > 2
14	The point _____ is in the solution of the inequality 2x - 3y < 4	A. (0, -2) B. (1, -3) C. (2, 2) D. (3, 0)
15	A point where two of its boundary lines intersect is called	A. Corner point B. Feasible point C. Vertex D. Feasible solution
16	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
17	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)
18	An expression involving any of the symbols <,>,≤ or ≥ is called	A. equation B. inequality C. linear equation D. identity
19	The point _____ is in the solution of the inequality 2x + 3y < 5	A. (1,1) B. (2,2) C. (0,1) D. (0,2)
20	The point _____ is in the solution of the inequality 4x - 3y < 2	A. (0,1) B. (2,1) C. (2,2) D. (3,3)
21	If ab > 0 and a < 0, which of the following is negative?	A. b B. -b C. -a D. (a - b)²
22	The graph of linear equation 2x + 3y = 10	A. Parabola B. Circle C. Hyperbola D. Straight line
23	Question Image	A. p < r B. p > rr C. p + r < 0 D. p - r < 0
24	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
25	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)
26	Which is in the solution set of 4x - 3y < 2	A. (3, 0) B. (4, 1) C. (1, 3) D. None
27	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
28	x = _____ is in the solution of 2x + 3 ≥ 0	A. 1 B. -2 C. -3 D. -4
29	A point of a solution region where two of its boundary lines intersect, is called	A. Boundary B. Inequality C. Half plane

		D. Vertex
30	Optimal solution is found by evaluation the objective function at	A. All point of feasible region B. Corner point C. Origin D. None
31	There may be _____ feasible solution in the feasible region	A. Infinite B. Finite C. Defined D. None of above
32	(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
33	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
34	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
35	3x + 4 = 0 is	A. not inequality B. equation C. identity D. inequality
36	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
37	The solution set of the inequality ax + by < c is	A. straight line B. half plane C. parabola D. none of these
38	ax + by < c is linear inequality in	A. four variables B. three variables C. two variables D. one variable
39	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)
40	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
41	x = _____ is in the solution of 2x + 3 < 0	A. 0 B. 2 C. -1 D. -2
42	If x < y, 2x = A, and 2y = B, then	A. A = B B. A < B C. A < x D. B < y
43	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
44	Multiplying each side of an inequality by (-1) will:	A. Not effect B. Change the sign C. Become zero D. Not defined
45	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
46	(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
47	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
48	(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
49	The real numbers which satisfy an inequality form its	A. solution B. coefficient C. domain D. range
50	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
51	r + 3 >5 then which is true	A. r + 2 > 4 B. r + 2 < 4 C. r + 2 = 4 D. None
52	Optimize means _____ a quantity under certain constraints	A. Minimize B. Maximize C. Maximize or minimize D. None of these
53	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)
54	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
55	The point (1,3) is one solution of	A. 3x + 5y > 29 B. 3x + 5y < 7 C. x + 2y < 4 D. x + 4y > 3
56	(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
57	A point (x,y) which satisfy a linear inequality in two variables form its	A. Solution B. Domain C. Range D. None
58	2x + 3y > 4 is a linear inequality in	A. one variable B. two variables C. three variables D. none of these
59	The graph of y < 2 is the	A. Left half plane B. upper half plane C. Right half plane D. Lower half plane
60	The feasible region which can be enclosed within a circle is called	A. Bounded region B. Convex region C. Unbounded region D. None
61	The point _____ is in the solution of the inequality 2x - 3y > 5	A. (1, -1) B. (2,2) C. (0,0) D. (3,0)
62	A _____ divides the plane into left and right half planes.	A. Vertical line B. Horizontal line C. Non vertical line D. Inequality
		A. Half planes B. Boundary

63	The set of ordered pairs (x,y) such that ax+ by < c, and (x,y) such that ax + by>0, are called	B. Boundary C. Linear Inequalities D. Feasible regions
64	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)
65	Inequalities have _____ symbol	A. 2 B. 3 C. 4 D. 1
66	(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
67	3x + 4 < 0 is	A. inequality B. equation C. identity D. not inequality
68	3x + 4 ≥ 0 is	A. equation B. inequality C. identity D. none of these
69	3x + 4 ≤ 0 is	A. not inequality B. equation C. identity D. inequality
70	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
71	(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
72	x = _____ is in the solution of 2x - 5 > 0	A. 0 B. 2 C. -2 D. 3
73	Each point of the feasible region is called	A. Solution B. feasible solution C. Both a & b D. None