# ECAT Mathematics Chapter 21 Linear Inequalities and Linear Programming

| Sr | Questions | Answers Choice |
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| 1 | (0,0) is in the solution of the inequality | A. x + y > 3<br>B. x - y > 2<br>C. 3x + 2y > 5<br>D. 3x - 2y < 2 |
| 2 | An expression involving any of the symbols <,>,≤ or ≥ is called | A. equation<br>B. inequality<br>C. linear equation<br>D. identity |
| 3 | A point where two of its boundary lines intersect is called | A. Corner point<br>B. Feasible point<br>C. Vertex<br>D. Feasible solution |
| 4 | 3x + 4 < 0 is | A. inequality<br>B. equation<br>C. identity<br>D. not inequality |
| 5 | The solution set of x < 4 is | A. -∞< x < 4<br>B. -∞> x > 4<br>C. -∞< x < 2<br>D. -∞> x > 2 |
| 6 | (2, 1) is in the solution of the inequality | A. 2x + y <u>></u> 7<br>B. x - y > 2<br>C. 3x + 5y < 6<br>D. 2x + y < 6 |
| 7 | x = 1 is in the solution of the inequality | A. x + 1 > 0<br>B. x - 2 > 0<br>C. 3x - 1 < 0<br>D. x + 2 < 0 |
| 8 | (1, 1) is the in the solution of the inequality | A. 3x + 4y > 3<br>B. 2x + 3y < 2<br>C. 4x = 3y > 5<br>D. 2c - 3y > 2 |
| 9 | A function which is to be maximized or minimized is called an | A. Explicit function<br>B. Implicit function<br>C. Objective function<br>D. None |
| 10 | A point of a solution region where two of its boundary lines intersect, is called | A. Boundary<br>B. Inequality<br>C. Half plane<br>D. Vertex |
| 11 | x = -1 is in the solution of the inequality | A. x + 5 < 0<br>B. 2x + 3 <u><</u> 0<br>C. x > 0<br>D. 2x + 3 > 0 |

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| 12 | The graph of $y < 2$ is the | A. Left half plane<br>B. upper half plane<br>C. Right half plane<br>D. Lower half plane |
| 13 | Corner point of the system $x - y \leq 2, x + y \leq 4, 2x - y \leq 6, x \geq 0, y \geq 0$ | A. (1,4)<br>B. (4,2)<br>C. (3,1)<br>D. (4,1) |
| 14 | The feasible region which can be enclosed within a circle is called | A. Bounded region<br>B. Convex region<br>C. Unbounded region<br>D. None |
| 15 | The point _____ is in the solution of the inequality $2x - 3y < 4$ | A. (0, -2)<br>B. (1, -3)<br>C. (2, 2)<br>D. (3, 0) |
| 16 | $3x + 4 \geq 0$ is | A. equation<br>B. inequality<br>C. identity<br>D. none of these |
| 17 | The liner equation $ax + by = c$ is called _____ of the inequality $ax + by > c$. | A. Associated equation<br>B. Non-associated equation<br>C. disjoint equation<br>D. Feasible equation |
| 18 | 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. $P(x, y) = 20x + 15y$<br>B. $P(x, y) = 2x + 3y$<br>C. $P(x, y) = x + y$<br>D. $P(x, y) = 3x + 2y$ |
| 19 | Which of the following ordered pair is a solution of the inequality $x+2y<6$? | A. (2,3)<br>B. (2,2)<br>C. (6,0)<br>D. (1,1) |
| 20 | A point of a solution regions where two of its boundary lines intersect, is called: | A. Vertex of the solution<br>B. Feasible point<br>C. Point of inequality<br>D. Null point of the solution region |