

ECAT Mathematics Chapter 21 Linear Inequalities and Linear Programming

| Sr | Questions | Answers Choice |
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| 1 | 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 |
| 2 | $r + 3 > 5$ then which is true | A. $r + 2 \geq 4$ B. $r + 2 \leq 4$ C. $r + 2 = 4$ D. None |
| 3 | 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. $P(x, y) = 3x + 2y$ |
| 4 | The graph of linear equation $2x + 3y = 10$ | A. Parabola B. Circle C. Hyperbola D. Straight line |
| 5 | $s > t$ then | A. $(s - t)^2 > (t - s)^2$ B. $(s - t)^2 < (t - s)^2$ C. $(s - t)^2 = (t - s)^2$ D. None |
| 6 | $(0,0)$ is in the solution of the inequality | A. $x + y \geq 3$ B. $x - y \geq 2$ C. $3x + 2y \geq 5$ D. $3x - 2y \leq 2$ |
| 7 | A point where two of its boundary lines intersect is called | A. Corner point B. Feasible point C. Vertex D. Feasible solution |
| 8 | The graph of $y < 2$ is the | A. Left half plane B. upper half plane C. Right half plane D. Lower half plane |
| 9 | $x = 0$ is in the solution of the inequality | A. $x \geq 0$ B. $3x + 4 \leq 0$ C. $x + 3 \leq 0$ D. $x - 2 \leq 0$ |
| 10 | $x = -1$ is in the solution of the inequality | A. $x + 5 \leq 0$ B. $2x + 3 < 0$ C. $x \geq 0$ D. $2x + 3 \geq 0$ |
| 11 | $ab > 0$ and $a > 0$ then | A. $a \geq b$ B. $a \leq b$ C. $a = b$ D. None |
| 12 | The corner point of the boundary lines, $x - 2x + 2y = 10$ is: | A. $(8,1)$ B. $(1,8)$ C. $(6,10)$ D. $(3,5)$ |
| 13 | Sum of two quantities is at least 20 is denoted by | A. $x + y = 20$ B. $x + y \geq 20$ C. $x + y \neq 20$ D. $x + y \leq 20$ |
| 14 | $(1,0)$ is in the solution of the inequality | A. $3x + 2y \geq 8$ B. $2x - 3y \leq 4$ C. $2x + 3y \geq 3$ D. $x - 2y \leq -5$ |
| | | A. $(2,3)$ |

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| 15 | Which of the following ordered pair is a solution of the inequality $x+2y<6$? | <p>B. (2,2) C. (6,0) D. (1,1)</p> |
| 16 | The point (1,3) is one solution of | <p>A. $3x + 5y > 29$ B. $3x + 5y < 7$ C. $x + 2y < 4$ D. $x + 4y > 3$</p> |
| 17 | If $ab > 0$ and $a < 0$, which of the following is negative? | <p>A. b B. -b C. -a D. $(a - b)^2$</p> |
| 18 | The liner equation $ax + by = c$ is called _____ of the inequality $ax + by > c$. | <p>A. Associated equation B. Non-associated equation C. disjoint equation D. Feasible equation</p> |
| 19 | If $-1 < x < 0$, which of the following statements must be true? | <p>A. $x < 2$ and $x > 3$ B. $x < 3$ and $x > 2$ C. $x > 2$ and $x < 3$ D. $x > 2$ and $x < 3$</p> |
| 20 | $2x + 3y > 4$ is a linear inequality in | <p>A. one variable B. two variables C. three variables D. none of these</p> |