CHAPTER NO 5 (HSSC – II)

(1) Inequalities are expressed by_____symbols.
A. One B. Two C. Four D. Three

(2) An expression involving any of the symbols $<, >, \leq, \geq$ *is called*: ?
A. Inequality B. Equation C. Not inequality D. Identity

(3) The real number x which satisfy the linear inequality in one variable x from its
A. *argument* B. *solution*
C. *coefficient* D. *none of these*

(4) $2x + 3 = 0$
A. *inequality* B. *identity*
C. *equation* D. *not inequality*

(5) $ax + b < c$ *is*
A. *linear inequality* B. *identity*
C. *equation* D. *not inequality*

(6) $ax + b < c$ *is linear inequality in*
A. *four variables* B. *three variables*
C. *two variables* D. *one variable*

(7) $2x - 7y > 3$ *is linear inequality in*
A. *four variables* B. *three variables*
C. *two variables* D. *one variable*

(8) Which one is an associated equation of $ax + by \leq c$?
A. $ax + by < c$ B. $ax + by \leq c$
C. $ax + by - c < 0$ D. $ax + by - c = 0$

(9) Non − negative constraints help in taking_____
A. Solutions B. maximization C. minimization D. decision

(10) Non − ve constraints are called _____variables.
A. Discrete B. continuous C. dependent D. decision

(11) The solution set of $x < 4$ *is*
A. $-\infty < x < 4$ B. $4 < x < \infty$
C. $0 < x < 4$ D. $-\infty < x < \infty$

(12) $x = 0$ is in the solution of inequality
A. $x < 0$ B. $2x + 3 < 0$ C. $x + 4 < 0$ D. $2x - 3 < 0$

(13) $x = 0$ is not in the solution of inequality
A. $2x + 3 > 0$ B. $2x + 3 < 0$ C. $x + 4 > 0$ D. $x + 5 > 0$

(14) $x = -5$ is in the solution of inequality
A. $2x - 3 > 0$ B. $2x + 3 > 0$ C. $x + 4 < 0$ D. $x > 0$

(15) $x = -1$ is in the solution of inequality

A. $3x + 11 > 0$ B. $2x + 3 < 0$ C. $x + 4 < 0$ D. $3x + 11 < 0$

(16) In the xy − plane, the graph of the inequality $2x \geq -3$ is the _____
A. Left half plane B. Right half plane
C. Upper half plane D. Lower halfplane

(17) The solution set of inequality $ax + by < c$ *is the*:
A. *Circle* B. Parabola
C. Half Plane D. Plane

(18) The graph of inequality $3x + 2y > 3$ *is a* _____.
A. Closed half plane B. Line only
C. Open half plane D. Full plane

(19) In which quadrant does the solution region of the inequalities $x \leq -1, y \geq 1$ lie?
A. Quadrant I B. Quadrant II C. Quadrant III D. Quadrant IV

(20) For which of the following inequalities (0,0) is NOT a solution?
A. $-2x + y < -1$ B. $x + y + 1 > 0$
C. $2x + y < 1$ D. $x - y < 1$

(21) $(0, 0)$ is NOT a solution of which of the following inequalities?
A. $2x + y < 1$ B. $-2x + y + 1 > 0$
C. $-2x + y < -1$ D. $x - y < 1$

(22) $(1, 0)$is not in the solution of inequality
A. $7x + 2y < 8$ B. $x - 3y < 0$ C. $3x + 5y < 7$ D. $3x + 5y \leq 3$

(23) $(0, 1)$ is in the solution of inequality
A. $x - 3y > 0$ B. $x - y < 2$ C. $3x + 5y > 7$ D. $3x + 5y \leq 3$

(24) $(3, 2)$ is not in the solution of inequality
A. $x + y > 2$ B. $3x + 5y < 7$ C. $3x + 5y > 7$ D. $3x - 7y < 3$

(25) $(3, 2)$ is not in the solution of inequality
A. $x + y > 2$ B. $x - y > 1$ C. $3x + 5y > 7$ D. $3x - 7y < 3$

(26) $(3, 2)$ is in the solution of inequality
A. $x + y < 2$ B. $x - y > 1$ C. $x - y \geq 1$ D. $3x - 7y > 3$

(27) $(2, 1)$ is in the solution of inequality
A. $2x + y \geq 6$ B. $x - y > 1$ C. $3x + 5y < 7$ D. $2x + y \leq 6$

(28) $(-1, -1)$ is a solution of which inequality given in the following?
A. $-x - 2y < 0$ B. $-4x + 3y > 0$
C. $2x - y > 10$ D. $-2x + y < -1$

(29) Which point in the following is not a solution of $2x - 3y < 5$ *e*?
A. $(-1, -1)$ B. $(2, -2)$ C. $(2, 2)$ D. $(3, 3)$

(30) Which of the following ordered pairs does not satisfy $4x - 3y < 2$?
A. $(3, 0)$ B. $(1, 1)$ C. $(-2, 1)$ D. $(0, 0)$

(31) The point which is not included in the solution region of the inequality $2x - 3y \leq 6$ is _____

A. $(6, 2)$ B. $(-2, 1)$ C. $(1, -2)$ D. $(3, 2)$

(32) Which of the following points is in the solution set of the linear inequality $2x - 3y - 5 \geq 0$?

A. $(2, 1)$ B. $(-2, 1)$ C. $(2, -1)$ D. $(-2, -1)$

(33) The points above the line $x + 2y = 4$ satisfy the inequality,

A. $x + 2y < 4$ B. $x + 2y \leq 4$ C. $x + 2y > 4$ D. $x + 2y \geq 4$

(34) A point of a solution region where two of its boundary lines intersect is called a

A. Solution B. Corner point C. Open half D. Half plane

(35) Corner point is also called

A. Origin B. focus C. vertex D. point of contact

(36) The corner point of the boundary lines of inequalities $x - y \leq 3,\ x + 2y \leq 6$ is _____

A. (4,1) B. (1,2) C. $(1, -1)$ D. $\left(\frac{9}{2}, \frac{1}{2}\right)$

(37) If lines are parallel, then solution:

A. Does not exist B. Is finite
C. Exists D. Is infinite

(38) A region which is restricted to the first quadrant is called:

A. Maximum region B. Minimum region
C. Feasible region D. Objective function

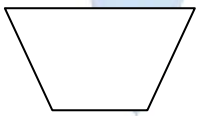
(39) Region which is restircted to the 1st quadrant is called:

A. *Feasible region* B. *Feasible area*
C. *Feasible solution* D. *Solution*

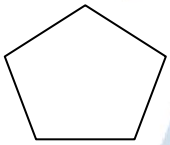
(40) There are _____feasible solutions in the feasible region.

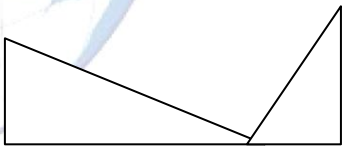
A. 2 B. 4 C. 6 D. infinite

(41) Which of the following in not convex?

A. 

B. 

C. 

D. 

(42) The feasible solution which maximizes or minimizes the objective function is called the_____

A. Feasible solution B. Simple solution
C. Optimal solution D. None of these

(43) The feasible solution which maximizes or minimizes the objective function is called:

A. Feasible solution B. Real solution
C. Optimal solution D. None of these

(44) A function which is to be maximized or minimized is called _____function

A. Optimal B. feasible C. objective D. corner

(45) Optimize means _____a quantity under certain constraints

A. Maximize B. minimize

C. either maximize or minimize D. both

(46) At which point, does the function $f(x, y) = 3x + 2y$ have minimum value ?

A. $(4, 1)$ B. $(1, 4)$ C. $(2, 3)$ D. $(3, 2)$

(47) When $f(x, y) = x + 3y$ is maximize, subject to $2x + 5y \leq 30, 5x + 4y \leq 20, x \geq 0, y \geq 0$ the maximum value of $f(x, y)$ is _____

A. (0,0) B. (0,5) C. (5,0) D. (5,5)

(48) If $H = 2x + y$ is minimize, subject to $x + y \geq 3, 7x + 5y \leq 35, x \geq 0, y \geq 0$ then H is maximum at

A. (0.0) B. (3,0) C. (0,3) D. (3,3)

(49) The largest and smallest value of $F = 3x + 4y$ subject to $x + 3y \leq 15, 4x + 3y \leq 24, x, y \geq 0$ are_____respectively

A. 25,5 B. 5,0 C. 25,10 D. 25,0

(50) A manufacturer makes two grades of concrete. Each bag of the high-grade concrete contains 10Kg Of gravel and 5Kg of cement, while each bag of low-grade concrete contains 12Kg of gravel and 3Kg of cement, there are 1,920 Kg of gravel and 780Kg of cement currently available. The manufacturer can be make a profit of $1.20 of each bag of the high grade and $ 1.00 on each bag of low grade concrete .Then the number of bags of low grade, high grade and the maximum profit are respectively?

A. 60,120,240, B. 120,60,240, C. 60,120,204, D. 120,60,204

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1	C	21	C	41	D		
2	A	22	B	42	C		
3	B	23	B	43	C		
4	C	24	B	44	C		
5	A	25	B	45	C		
6	D	26	C	46	A		
7	C	27	D	47	B		
8	D	28	B	48	C		
9	D	29	B	49	D		
10	D	30	A	50	C		
11	A	31	C				
12	D	32	C				
13	B	33	C				
14	C	34	B				
15	A	35	C				
16	B	36	A				
17	C	37	A				
18	C	38	C				
19	B	39	A				
20	A	40	D				