Started on	Thursday, 25 July 2024, 12:43 PM
State	Finished
Completed on	Thursday, 25 July 2024, 12:45 PM
Time taken	1 min 37 secs
Marks	0.00/13.00
Grade	**0.00** out of 100.00

Question 1

Not answered

Marked out of 1.00

Linear programming problems can be solved using which of the following:

Select one:

- a. Simplex method
- b. Quick method
- c. Stochastic method
- d. None of these answers

The correct answer is: Simplex method

Question 2

Not answered

Marked out of 1.00

Consider: A farmer can plant up to 8 acres of land with wheat and barley. He can earn $5,000 for every acre he plants with wheat and $3,000 for every acre he plants with barley. His use of a necessary pesticide is limited by federal regulations to 10 gallons for his entire 8 acres. Wheat requires 2 gallons of pesticide for every acre planted and barley requires just 1 gallon per acre. Problem: What is the maximum profit he can make? Assumptions: let x = the number of acres of wheat and let y = the number of acres of barley. Which of the following is a valid constraint for this problem?

Select one:

- a. y <= 8 - 2x
- b. x <= 0
- c. x <= 8-x
- d. y <= 10 - 2x

The correct answer is: y <= 10 - 2x

Question 3

Not answered

Marked out of 1.00

Consider the following figure:

	x_1	X_2	S_1	S_2	P	
S_1	2	3	1	0	0	1500
S_2	2	1	0	1	0	1000
p	-50	-40	0	0	1	0

Assuming we are implementing the simplex method, what does the highlighted item define?

Select one:

○ a.   Pivot column

○ b.   The Vertex
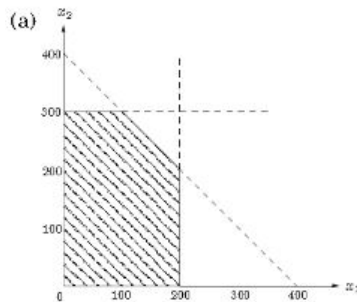
○ c.   Objective Value

○ d.   Optimal point

The correct answer is: Pivot column

Question 4

Not answered

Marked out of 1.00

Consider the following figure. What does the region that is shaded represent?

(a)

Select one:

○ a.   The Feasible region

○ b.   The Infeasible solutions

○ c.   The optimal solution

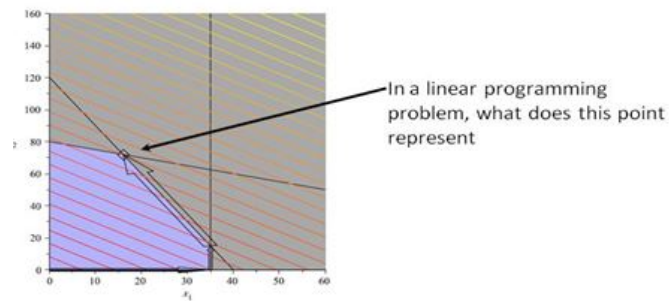○ d.   The Constraint Space

The correct answer is: The Feasible region

Question 5

Not answered

Marked out of 1.00

Consider the following figure:

Select one:

- a. The optimal solution
- b. An infeasible solution
- c. An Alternate vertex
- d. None of these answers

The correct answer is: The optimal solution

Question 6

Not answered

Marked out of 1.00

In a linear programming problem assuming the Simplex Method the following is known as:

z	$\mathbf{x_B}$	$\mathbf{x_N}$	RHS	
z	1	0	$c_B^T B^{-1} N - c_N^T$	$c_B^T B^{-1} b$	Row 0
$\mathbf{x_B}$	0	1	$B^{-1}N$	$B^{-1}b$	Rows 1 through m

Select one:

- a. The Constraints
- b. The Solution definition
- c. The Problem definition
- d. The Tableau

The correct answer is: The Tableau

Question 7

Not answered

Marked out of 1.00

In a linear programming problem, a statement such as max x1 + 6x2 represents:

Select one:

- a. A constraint function
- b. The Objective function
- c. The maximization function
- d. The feasible function

The correct answer is: The Objective function

Question 8

Not answered

Marked out of 1.00

True/False: Linear programming is used primarily to solve problems of optimization?

Select one:

○ True

○ False

The correct answer is 'True'.

Question 9

Not answered

Marked out of 1.00

True/False: In linear programming, either the constraints or the optimization criteria must be linear functions.

Select one:

○ True

○ False

The correct answer is 'False'.

Question 10

Not answered

Marked out of 1.00

True/False: In a linear programming problem there can be no more than 3 constraints:

Select one:

○ True

○ False

The correct answer is 'False'.

Question 11

Not answered

Marked out of 1.00

True/False: In linear programming a constraint must be represented as a inequality.

Select one:

○ True

○ False

The correct answer is 'False'.

Question 12

Not answered

Marked out of 1.00

True/False: Linear programming is an excellent approach for optimization problems where the objective function graphs as a curvilinear line.

Select one:

○ True

○ False

The correct answer is 'False'.

Question **13**

Marked out of 1.00

True/False: The Simplex method is important for computer programming, as the need for processing power is significantly lower when using it as opposed to other methods.

Select one:

○ True

○ False

The correct answer is 'True'.