**BUS 322 S22**

**Reference Quiz 4**

**Optional**

00:45:00

Last Name :


First Name


E-mail Address:


ID (last four digits of your university ID):


Please provide your information as requested below. You have 45 minutes to enter your answers. When ready, click the "next" button to start your quiz. No "in and out" privileges. Click "back" if you want to review your answers. Do not click "next", when you are on the last page of the quiz, unless you are ready to submit your answers. Good Luck !!!

**Question 1 of 30**

1. Which of the following statements are true regarding the concept of a Constraint?

* an equation or inequality that restricts the values of the decision variables
* restrictive conditions that may affect the optimal value of the objective function
* the aim of Linear Programming is to concurrently satisfy all constraints
* it is an equivalent of wearing seat belts
* a judgement against a person
* None of these.

**Question 2 of 30**

2. Problem formulation is:

*  the process of translating a verbal statement of a problem into a mathematical model
* a solution to a problem in which constraints conflict with each other
* a solution to a problem in which the objective function cannot be defined
* applies only to the binary problems
* none of these

**Question 3 of 30**

3. A constraint function is the portion of the constraint containing a variable:

* True
* False

**Question 4 of 30**

4. In Linear Programming an objective function is either maximized or minimized:

* True
* False

**Question 5 of 30**

5. Which of the following statement is true with regards to the concept of a Linear Program?

* it is a mathematical model with a linear objective function, a set of linear constraints, and non-negative variables.
* it does not contain a set of constraints
* the decision variables can be negative
* the objective function has equal to zero
* none of these

**Question 6 of 30**

6. Which of the following statement is true with regards to the concept of Non-negativity constraints:

* it is a set of constraints that require all variables to be non-negative
* it is a set of constraints that allow for some variables to be negative
* it is a set of constraints that requires all variables to be negative
* none of these

**Question 7 of 30**

7. A Feasible Solution is the solution that satisfies all constraints:

* True
* False

**Question 8 of 30**

8. An Optimal Solution is a feasible solution that maximizes or minimizes the value of the objective function:

* True
* False

**Question 9 of 30**

9. Standard Form is:

* a linear program in which all constraints are written as equalities.
* a linear program in which all constraints are written as inequalities
* a linear program with no constraints
* a linear program with all constraints equal to zero
* none of these

**Question 10 of 30**

10. Infeasible Linear Program is:

* a Linear Programming model that has no feasible solution.
* a Linear Programming model that results in an optimal solution
* a Linear Programming model that can be used to solve maximization problems
* a Linear programming model that can be used to solve minimization problems
* none of these

**Question 11 of 30**

11. Which of the following is correct in regard to the Properties of Linear Programming:

* problems seek to maximize or minimize an objective
* constrains limit the degree to which the objectives can be achieved
* there must be alternatives that are available
* mathematical relationships are linear
* Data Analysis functionality of Excel can be used to solve these problems
* all of these
* none of these

**Question 12 of 30**

12. Linear Programming is a technique that helps in resource allocation decisions

* True
* False

**Question 13 of 30**

13. Which of the following are technical requirements of Linear Programming?

* certainty
* proportionality
* additivity
* divisibility
* non-negativity
* neutrality
* none of these

**Question 14 of 30**

14. Product Mix Problems

* use LP to decide how much of each product to make, given a series of resource restrictions
* is used when the amounts of required ingredients are unknown
* are widely used as a project management tools
* none of these

**Question 15 of 30**

15. Which of the following steps are included in the Modelling Process:

* define the problem
* develop a model
* acquire data
* develop solution
* test the solution
* analyze the results
* develop the recommendations
* verify the actual real-world results.
* none of these

**Question 16 of 30**

16. Lack of feasible solution occurs:

* when constraints conflict with each other
* when constraints do not conflict with each other
* when there are no firm constraints
* none of these

**Question 17 of 30**

17. Which of the following is correct in regard to the concept of an Unbounded problem:

* it occurs when the profit in a maximization problem is shown to be infinitely large
* these kind of problems do not exist
* it is missing one or more constraints
* none of these

**Question 18 of 30**

18. A Redundant constraint:

* does not affect the feasibility solution
* will always affect the feasible solution
* converts a feasible solution to an unfeasible solution
* none of these

**Question 19 of 30**

19. Multiple Optimal Solution are possible in LP problems.

* True
* False

**Question 20 of 30**

20. Sensitivity Analysis:

* an important function of sensitivity analysis is to allow managers to experiment with values of the input parameters.
* can only be used in Integer Linear Programs
* can only be used in Binary Linear Programs
* none of these

**Question 21 of 30**

21. The Shadow Price is:

* the increase in the objective function that results from a one-unit increase in the right-hand side of the constraint.
* the ratio of profit or revenue over the amount of resources needed per unit of t
* the price that negotiated
* the unit retail price that does not cover its fixed cost
* none of these

**Question 22 of 30**

22. Media Selection Problem:

* can be approached with LP to maximize audience exposure
* used to minimize advertising costs
* widely applied by Best Buy in the selection of TV models on display
* none of these

**Question 23 of 30**

23. A Transportation LP Problem assumes that:

* one constraint for each demand source and one constraint for each supply destination
* it can be used in a media selection process
* it can be used in blending problems
* it can be used in a portfolio allocation process
* none of these

**Question 24 of 30**

24. Constrained Mathematical Model is a model with an objective function and one or more constraints:

* True
* False

**Question 25 of 30**

25. Which of the following is true with regards to the concept of a Slack Variables:

* these variables are added to each less than equal or equal to constraint
* each Slack Variable represents an unused resource
* it is a set of variables that does not require any work
* it is a set of variables that can be delayed
* none of these

**Question 26 of 30**

26. A Simplex Method is a matrix algebra method used in solving LP problems:

* True
* False

**Question 27 of 30**

27. Which of the following is true with regards to the concept of a Surplus Variable?

* it is a variable inserted in a greater-than or equal to constraint to create equality
* it represents the amount of resource usage above the minimum required usage
* it is not a part of the LP body of knowledge
* none of these

**Question 28 of 30**

28. Which of the following is true with regards to the concept of Integer Linear Program:

* the parameter values are known with certainty
* the applicable functions and constraints' returns are constant
* there is no interaction between decision variables
* a model in which some or all of the decision variables are restricted to integer values
* the results can be shown as fractions
* none of these

**Question 29 of 30**

29. Binary Integer LP: is a model in which all decision variables can have values other than 0 and 1.

* True
* False

**Question 30 of 30**

30. A Binding Constraint is a constraint that is satisfied with equity at the optimum point:

* True
* False

You have reached the end of the quiz. Click next to see your score.