0208M133

Candidate's Seat No :_____

B.Sc. Sem.-6 Examination

CC - 310

Statistics

Time : 2-00 Hours]

August 2021

[Max. Marks : 50

PAPER CODE AND NAME: STA -310 OPERATIONS RESEARCH
(New Course)

SECTION I (Attempt any three)

Q.1 A.	What is linear programming give its mathematical formulation also give it uses assumptions and limitations.	7
B.	Discuss the graphical method of solving linear programming problem	7
Q.2 A.	What is transportation problem explain it with suitable illustrations	7
B.	Describe the matrix minima method to obtain basic feasible solution	7
Q.3 A.	Describe Vogel's approximation method for solving transportation problem	7
B.	Explain assignment problem with suitable illustration	7
Q.4 A.	Explain Hungarian method of solving assignment problem	7
B.	Derive basic feasible solution of the following transportation problem by North -West corner rule.	7
Q.5 A.	Write differences between PERT and CPM	7
B.	Write a short note on critical path method	7
Q.6 A.	Explain terms (i) Optimistic time (ii) Pessimistic time (iii) Float time	7
B.	Explain with illustrations the following terms in reference to PERT (i) Activity (ii) Dummy activity	7
Q.7 A.	Write a note on Game theory.	7
B.	Explain Dominance rule of game theory.	7
Q.8 A.	Explain Simplex method.	7
B.	What is Operation Research? Explain its various applications.	7

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SECTION II

Q.9	Attempt any 8	8
1	In which method of solving transportation problem the unit cost of transportation is not taken into consideration. (i) VAM (ii) LCM (iii) NWCM (iv) HAM Method	
2	The outcome of the interaction of selected strategies of opponent in a game is called_____. (i) Income (ii) Profit (iii) Payoffs (iv) Gains	
3	What can you say about EST and LFT for the activities which lie on critical path? (i) EFT<LFT (ii) EFT>LFT (iii) EFT=LFT (iv) None of the above	
4	EST of any initial activity is_____. (i) Zero (ii) Zero+ te (iii) Non negative (iv) te	
5	Float time for any activities on a critical path is always_____. (i) Positive (ii) Non negative (iii) >LFT (iv) zero	
6	The feasible solution to a linear programming problem is_____. (i) Convex (ii) Negative (iii) Unknown (iv) Infinite	
7	Linear programming is of the most frequently used method of _____techniques. (i) Transportation problem (ii) Operations research	

	(iii) Correlation (iv) PERT CPM	
8	If three or more variables are there in a linear programming problem then _____ method is used to solve it. (i) Graphical (ii) Complex (iii) Simplex (iv) All of the three	
9	Linear programming was first introduced by _____. (i) Karl Pearson (ii) George B. Danting (iii) Newton (iv) Spearman	
10	The values of the variables in linear programming problem are _____. (i) Negative (ii) Zero (iii) Only positive (iv) Non negative	
11	In linear programming x y greater than equal to zero are called_____. (i) Non negativity constraints (ii) Zero condition (iii) Objective function (iv) All of the above	
12	The most frequently used method when only two variables are involved in a linear programming problem is_____. (i) Simplex method (ii) Graphical method (iii) Vogel's method (iv) EMV Method	
13	The limited resources can be expressed in the form of _____ in a linear programming problem. (i) Linear inequalities (ii) Objective function (iii) Optimum solution (iv) All of the three	
14	The non-negativity constraint asserts that the feasible region must be in the _____ quadrant. (i) First (ii) Second (iii) Third (iv) Fourth	
15	The feasible solution to a linear programming problem is _____.	

	Convex Negative Unknown Infinite	
16	In linear programming problem the optimal solution of a bounded feasible region always exists at _____. Any point Vertex Origin All of the above	