

[Total No. of Questions - 10] [Total No. of Printed Pages - 3]
(2063)

951

M.B.A. 2nd Semester Examination

Management Science-II

202

Time : 3 Hours

Max. Marks : 60

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt any five questions selecting one from each unit. Marks are given in brackets.

UNIT - I

1. Comment on the following statements:
 - (a) OR is the art of winning wars without actually fighting them.
 - (b) OR advocates system approach and is concerned with optimization. It provides a quantitative analysis for decision making. **(6+6)**
2. "Model building is the essence of the operation research approach". Discuss. **(12)**

UNIT - III

3. A dairy firm has two milk plants with daily milk production of 6 million litres and 9 million litres respectively. Each day the firm must fulfill the needs of its three distribution centres which have milk requirement of 7, 5 and 3 million one

951/

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million litres of milk from each plant to each distribution centre is given in hundreds of rupees below. Formulate the L.P. Model to minimize the transportation cost.

		Distribution Centres			Supply
		1	2	3	
Plant	1	2	3	11	6
	2	1	9	6	9
Demand		7	5	3	(12)

4. What is the significance of duality theory of linear programming? Describe the general rules for writing the dual of a linear programming problem. **(12)**

UNIT - III

5. Enumerate the various types of inventory models. **(12)**
6. Consider an item for which the following data are available:

Annual average demand = 10,000 units;
 Standard deviation of demand per milk = 50 units;
 Unit cost = Rs. 6; Ordering Cost = Rs. 10 per milk;
 Inventory carrying cost = 30 percent;
 Average lead time = 4 weeks;
 Maximum delay = 3 weeks; Probability of delay = 0.20;
 Service level = 95 percent. Design an appropriate inventory system of this item. **(12)**

UNIT - IV

7. What is a game in game theory? What are the properties of a game? Explain the maximum and minimax criterion of best strategy. **(12)**
8. Reduce the following game by dominance property and solve it. **(12)**

		Player B				
		1	2	3	4	5
Player A	I	1	3	2	7	4
	II	3	4	1	5	6
	III	6	5	7	6	5
	IV	2	0	6	3	1

UNIT - V

9. Explain the problem relating to replacement of items which deteriorate with time under (i) money value is disregarded & (ii) under money value is regarded. **(12)**
10. What is simulation? Discuss the various steps involved in the simulation process. **(12)**