[Total No. of Questions - 10] [Total No. of Printed Pages - 2]
(2123)

1433

MBA 2nd Semester Examination

Management Science-II (O.S.)

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 not more than a quantitative analysis of the problem.
   (b) OR replaces management by personality. **(12)**

2. Discuss in brief the role of OR model in decision making. **(12)**

UNIT - II

3. A company manufacturing air cooler has at present, firm orders for next 6 months. The company can schedule its production over the next 6 months to meet orders on either regular or overtime basis. The order size and production costs over the next six months are as follows:

Month	**1**	**2**	**3**	**4**	**5**	**6**
Orders	640	660	700	750	550	650
Cost/Unit (Rs.) Regular Production	40	42	41	45	39	40
Cost/Unit (Rs) Overtime Production	52	50	53	50	45	43

With 100 air coolers in stock at present, the company wishes to have at least 150 air coolers in stock at the end of 6 months. The regular and overtime production in each month is not to exceed 600 and 400 units respectively. The inventory carrying cost for air cooler is Rs. 12 per unit per month Formulate the L.P. model. **(12)**

4. What are the essential characteristics of a linear programming model? **(12)**

UNIT - III

5. What are the types of inventory? Why they are maintained? Explain the various costs related to inventory? **(12)**

6. A company uses annually 50,000 units of an item costing Rs. 1.20. Each order costs Rs. 45 and inventory carrying costs are 15% of the annual average inventory value.

   (i) Find EOQ.

   (ii) If the company operates 250 days a year, the procurement time is 10 days and safety stock is 500 units, find re-order level, maximum, minimum and average inventory.

   (4+8=12)

UNIT - IV

7. Show that every two persons 'zero sum' game with mixed strategies has a solution. **(12)**

8. Reduce the following game by dominance and find the game value:

		Player B			
		I	II	III	IV
Player A	I	3	2	4	0
	II	3	4	2	4
	III	4	2	4	0
	IV	0	4	0	8

(12)

UNIT - V

9. Describe various types of replacement situation. **(12)**

10. What is simulation? Discuss the various steps involved in the simulation process? **(12)**