Total No. of Pages: 2

Register Number: **6747**

Name of the Candidate:

M.B.A. DEGREE EXAMINATION - 2011

(THREE YEAR PROGRAMME)

(SECOND YEAR)

(PAPER – XIV)

260. OPERATION RESEARCH

December) (*Time: 3 Hours*

Maximum: 75 Marks

SECTION - A

Answer any FIVE questions. **(5 × 3 = 15)**

1. What is operation Research? Write its characteristics.
2. Define Independent float for CPM.
3. Give different Applications of Assignment problem
4. What are the types of decision? Explain.
5. What is two person zero sum game?
6. Explain the steps involved in simplex method LPP.
7. Explain use of managerial decision in simulation
8. Explain benefits of queuing theory

SECTION - B

Answer any THREE questions. **(3 × 10 = 30)**

9. Describe the models of operations research and limitations of operations research
10. Explain Monte Carlo simulation
11. Explain sequencing model processing n jobs through three machine
12. Solve graphically for the following LP problem:

Maximize $Z = 5x_1 + 3x_2$ subject to the constraints

$4x_1 + 5x_2 \leq 100$, $5x_1 + 2x_2 \leq 1000$, $3x_1 + 8x_2 \leq 1200$, $x_1, x_2 \geq 0$.

13. The cost of a machine is Rs.6100 and its scrap value is Rs.100.The maintenance cost is given below. When the machine should be replaced?

Year:	1	2	3	4	5	6	7	8
Maintenance cost:	100	250	400	600	900	1200	1600	2000

SECTION - C

Answer any TWO questions. (2 × 15 = 30)

14. Explain decision tree analysis with an example

15. Explain Applications of a) transportation model; b)Queuing theory; c)decision making under certainty.

16. A small maintenance project consists of the following jobs whose requirements are given below:

Job:	1-2	1-3	2-3	2-5	3-4	3-6	4-5	4-6	5-6	6-7
Duration (Days):	15	15	3	5	8	12	1	14	3	14

(i) Draw the network.

(ii) Find the critical path and the total project duration.

17. Solve the TP by Least cost method and VAM.

	S_1	S_2	S_3	Supply
W_1	5	4	3	6
W_2	4	5	6	8
W_3	2	7	8	12
W_4	8	6	7	4
Demand	8	10	12	

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