

MBA-387

MS-51

**M.B.A. DEGREE EXAMINATION –
AUGUST 2011.**

OPERATION MANAGEMENT

Time : 3 hours

Maximum marks : 75

PART A — (3 × 5 = 15 marks)

Answer any **THREE**.

1. What are the main characteristics of operation research?
2. What is meant by integer programming?
3. What are objectives of inventory control?
4. Define probability.
5. What is sampling?

PART B — (4 × 15 = 60 marks)

Answer any **FOUR**.

6. Discuss O.R. models in detail.
7. Discuss the properties of LPP in detail.

8. Solve graphically

$$\text{Minimize } Z = 2x_1 + 4x_2$$

Subject to

$$x_1 + x_2 \leq 14$$

$$3x_1 + 2x_2 \geq 30$$

$$2x_1 + x_2 \leq 18$$

$$x_1, x_2 \geq 0.$$

9. Find the initial basic solution by using North West Corner method.

	Destination				
	1	2	3	Available	
	1	8	9	10	42
Origins	2	9	11	11	30
	3	10	12	9	28
Requirements	35	40	25		100

10. Using the following cost matrix, determine

(a) Optimal job assignment

(b) The cost of assignment.

	Jobs				
Machinist	1	2	3	4	5
A	10	3	3	2	8
B	9	7	8	2	7

	Jobs				
C	7	5	6	2	4
D	3	5	8	2	4
E	9	10	9	6	10

11. A ticket window of a cinema is manned by a single individual customers arrive the purchase tickets in a Poisson fashion with a mean rate of 30 per hour. Time required to serve a customer has an exponential distribution with a mean of 30 seconds find
- Expected queue length Gujarat
 - Expected waiting time.
12. Write about
- Monte Carlo simulation
 - Vogel's approximation method.