MBAC 2004

M.B.A. DEGREE EXAMINATION, JUNE 2015.

Second Semester

General / Marketing / Finance / IB / HRM / RM / Tourism

OPERATIONS MANAGEMENT / OPERATIONS RESEARCH AND MANAGEMENT

(2012 – 2013 Batch onwards)

Time : Three hours   Maximum : 100 marks

PART A — (5 × 6 = 30 marks)

Answer any FIVE questions.

1. What are the objectives of production planning?

2. What are the factors that affect plant location decision?

3. Discuss the various applications of operations research.

4. What are the advantages and limitations of linear programming methods?

5. Discuss the costs involved in maintaining the inventory.

6. Explain the differences between PERT and CPM.

7. Distinguish between game of strategy and game of chance.

8. What are the characteristics of a queuing model?

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

9. Explain production planning strategies in detail.

10. An advertising company wishes to plan its advertising strategy in three different media- television, radio and magazines. The purpose of advertising is to reach as large a number of potential customers as possible. Following data have been obtained from market survey.

	Television	Radio	Magazine I	Magazine II
Cost of an advertising unit	Rs.30,000	20,000	15,000	10,000
No. of potential customer reached per unit	20,000	6,00,000	1,50,000	1,00,000
No. of female customer reached per unit	1,50,000	4,00,000	70,000	50,000

The company wants to spend not more than Rs.4,50,000 on advertising. Following are the further requirements.

(a) At least 1 million exposures take place among female customers.

(b) Advertising on magazines be limited to Rs.1,50,000.

(c) At least 3 advertising units to be bought on magazine I and 2 units on magazine II.

(d) The number of advertising units on television and radio should each be between 5 and 10. Formulate an LPP model for the problem.

11. Solve the following transportation problem to minimize the cost of transportation using Vogel's Approximation method.

Origin	Destination			Supply
	P	Q	R	
A	5	7	8	70
B	4	4	6	30
C	6	7	7	50
Demand	65	42	43	

12. Assign three jobs on three machines for following cost matrix:

Job	Machines		
	M1	M2	M3
J1	Rs.14	Rs.12	Rs.16
J2	Rs.11	Rs.17	Rs.21
J3	Rs.20	Rs.8	Rs.7

13. What is EOQ? What are the basic assumptions of the model? Explain the advantages and disadvantages of inventory.

14. Differentiate between:

(a) Crash project time and optimum project time

(b) Normal cost and crash cost.

15. Discuss the concept and applications of minimum spanning trees.

16. Arrival of machinists at a tool crib is considered to be distributed as Poisson distribution with an average rate of 7 per hour. The service time at the tool crib is exponentially distributed with mean of 4 minutes.

(a) What is the probability that a machinist arriving at the tool crib will have to wait?

(b) What is the average number of machinists at the tool crib?

PART C — (1 × 20 = 20 marks)

17. Case study: Compulsory

Consider the PERT network given below:
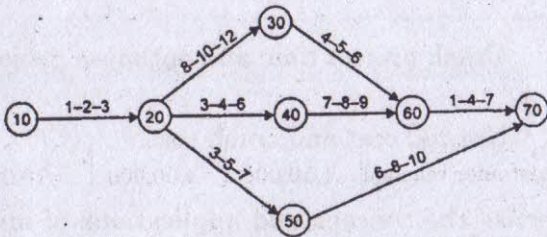
Determine the float of each activity and identify the critical path if the scheduled completion time for the project is 20 weeks.

————————

MBAC 2004