MBA 09 R

Second Semester
General, Finance, Marketing, HRM, IB, RM, Tourism, OSCM, IM, AM

OPERATIONS MANAGEMENT/OPERATIONS RESEARCH AND MANAGEMENT

Time: Three hours Maximum: 100 marks

SECTION A — (5 x 6 = 30 marks)

Answer any FIVE questions.

1. What are the importance of operation management?

2. State the process of planning.

3. What are the importance of graphical method?

4. Bring out the advantages of CPM.

5. What are the methods of material control?

6. State the features goal programming.
10. Examine the different types of layout and suggest location.

9. Critically examine the Weber theory of plant location.

Answer any FIVE questions.

SECTION B = (5 x 10 = 50 marks)

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Effectiveness matrix is given below:

Solve the minimal assignment problem whose profit:

Set up linear programming problem to maximize 100 A's and 200 B's but no more than 150 A's.

Each product has a processing time in minutes for each machine, and the required 3 and 2 respectively. The firm manufactures two products A and B. The firm manufactures two products A and B. The
Within the company, currently there exists no systematic way of generating and analyzing a plan for capital expenditure and profits optimization. Microsoft Excel and MS Project are used to do planning and scheduling. As a result, there is no line-of-sight to the financial impact of decisions made on the ground.

The challenge:

Optimal Solutions, Inc. was charged with the task of demonstrating a tactical planning application that:

- Generated feasible, cost-optimal plans
- Honored sequencing constraints in various recipes
- Provided a user-friendly interface.

11. State the limitations of games theory.

12. Explain the stages of development of operation research.

13. Discuss various manufacturing models.

14. The annual demand for product is 64,000 units (or 1280 units per week). The buying cost per order is Rs. 10 and the estimated cost of carrying one unit in stock for a year is 20%. The normal price of the product is Rs. 10 per unit. However, the supplier offers a quantity discount of 2% on an order of at least 1000 units of a time, and a discount of 5% if the order is for at least 5,000 units.

Suggest the most economic purchase quantity per order.

15. Solve the following $(2 \times 3)$ game graphically.

\[
\begin{pmatrix}
 y_1 & y_2 & y_3 \\
 I & II & III \\
 Ax_1 - I & 1 & 3 & 11 \\
 1 - x_1 - II & 8 & 5 & 2
\end{pmatrix}
\]
6. High sensitivity to cost is not typical and schedule of these sequences are a function of the production sequence is a critical element.

4. Production sequence is a critical element in supporting production. This element is critical in supporting production profile of various assets involved in the leverage application. produce for fast analysis of utilization and control. The total output of the tactical planning process in an optimization-based application was developed.

Case Study

(compulsory)

SECTION C: (1 x 20 = 20 marks)

Construct a PERT net work and compute Critical Path and its duration.

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Business description and background

A project has the following time schedule: