MMPO - 001

MBA Online (MBAOL)

OPERATIONS RESEARCH

Time: 3 Hours

Maximum Marks: 100

Section 1: Short Answer Questions (5x4=20 Marks)

Attempt any FIVE questions. All questions carry equal marks.

1.   What is linear programming?

2.   What is an artificial variable?

3.   Define the unbalanced transportation problem.

4.   What is Minimax Principle?

5.   What do you mean by Queue Discipline?

6.   What is dynamic programming?

7.   What is a separable programming technique?

Section 2: Medium Answer Questions (5x10=50 Marks)

Attempt any FIVE questions. All questions carry equal marks.

1.   What is a feasible region? Is it necessary that it should always be a convex set? Explain.

2.   What is the difference between the simplex method solution procedure for a 'maximisation' and a 'minimisation' problem? Explain.

3.   What is it transportation problem? Explain the procedure for getting a basic feasible solution using Vogel's Approximation Method (VAM)

4.   What are the major limitations of game theory? Explain.

5.   Explain the steps involved in the solution to dynamic programming problems.

6.   What is Monte Carlo Simulation? Briefly explain the advantages and limitations of simulation.

7.   Briefly explain the similarities in the solution procedures for transportation and assignment models.

Section-3: Long Answer Question (2x15=30 marks)

Attempt any TWO questions. All questions carry equal marks.

1.   What is Operations Research (OR)? Discuss the applications of OR in managerial decision-making.

2.   A TV repairman finds that the time spent on his job is exponentially distributed with a mean of 30 minutes. lf he repairs sets in the order in which they come and if the arrival of sets is approximately Poisson with an average rate of 10 per eight- hour day. What is his expected idle time each day? How many jobs are ahead of the set just brought in?

3.   Discuss integer linear programming.Give an example of a pure and a mixed integer linear programming problem.