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MMPO–001

**MASTER OF BUSINESS
ADMINISTRATION (MBA)**

Term-End Examination

June, 2024

MMPO–001 : OPERATIONS RESEARCH

Time : 3 Hours

Maximum Marks : 100

Weightage : 70%

Note : Answer any **five** questions. All questions carry equal marks.

1. What are the characteristics of operations research ? Discuss the limitations of operations research.
2. What is a linear programming problem ? Discuss the applications of linear programming in solving management problems.

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3. Determine the basic feasible solution to the following transportation problem by using the following :

- (i) North-West Corner Rule
- (ii) Vogel's approximation method

Distribution Centers						
Sources	D₁	D₂	D₃	D₄	D₅	Supply
A	2	11	10	3	7	4
B	1	4	7	2	1	8
C	3	9	4	8	12	9
Demand	3	3	4	5	6	

- 4. Discuss the cutting-plane algorithm for solving integer programming problems.
- 5. What is non-linear programming ? Explain the importance of convex and concave functions in problem of non-linear programming problem.
- 6. What is a game theory ? Explain the assumptions underlying in game theory. Discuss its importance to business decisions.

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7. Write short notes on any *four* of the following :
- (i) Branch and Bound method
 - (ii) Saddle point
 - (iii) Dynamic programming
 - (iv) Least cost method
 - (v) Monte-Carlo simulation