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Total No. of Pages: 02
Total No. of Questions: 07

MBA (Sem.-3rd)
APPLIED OPERATIONS RESEARCH
Subject Code: MB-301
Paper ID: [C0197]

Time: 3 Hrs.

Max. Marks: 60

INSTRUCTIONS TO CANDIDATE:

1. Section –A, is Compulsory.
2. Attempt any four questions from Section-B.

Section –A

(10x2=20)

Q.1.

- (a) Saddle point
- (b) Zero Game theory
- (c) PERT
- (d) Sensitivity Analysis
- (e) Decision tree analysis
- (f) Group Replacement
- (g) Early Start time
- (h) Principle of optimality
- (i) Slack variable
- (j) Crashing

Section –B

(4x10=40)

- Q.2.** Explain briefly the various Applications of OR. What are the advantages and disadvantages of OR studies?
- Q.3.** Explain in detail, any one method for solving a transportation problem. Would you recommend this method to solve an assignment problem?

Q.4. A project has following times schedule:

Activities	1-2	1-3	2-4	3-4	3-5	4-9	5-6	5-7	6-8	7-8	8-9	8-10	9-10
Days	4	1	1	1	6	5	4	8	1	2	1	8	7

Construct PERT network, Compute T_E and T_L for each event, Find Critical path and its duration.

Q.5. Show how to solve 1 2x2 two person zero sum game without any saddle point. Derive the expression for optimal strategies and the value of game

Q.6. A methods Engineer wants to assign four new methods to three work centers. The assignment of the new methods will increase production and they are given below. If only one method can be assigned to work centre, determine the optimum assignment:

	Work Centers		
	A	B	C
1	10	7	8
2	8	9	7
3	7	12	6
4	10	10	8

Q.7. Explain the LPP and briefly explain the simplex, duality and graphic methods.

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