

Roll No.

Total No. of Pages : 02

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B.Tech. (Ind. Engg. & Mgt.) (Spl. in TQM) (Sem.-5)

OPERATIONS RESEARCH

Subject Code : IEM-502

M.Code : 70993

Time : 3 Hrs.

Max. Marks : 40

INSTRUCTIONS TO CANDIDATES :

1. Attempt EIGHT out of TEN questions from SECTION-A carrying TWO marks each.
2. Attempt any FOUR out of SIX questions from SECTION-B carrying SIX marks each.

SECTION-A

1. Answer briefly :

- (a) Write two comprehensive definitions of OR.
- (b) Explain balking, reneging & jockeying in context to queuing.
- (c) Explain non-degenerate basic feasible solution of an LPP.
- (d) Explain assumptions of continuity & certainty in LP models.
- (e) What do you mean by Traffic Intensity in Queuing system?
- (f) What do you mean by pure & mixed strategies?
- (g) Differentiate between Deterministic & Probabilistic models.
- (h) Define key row & key column in simplex method.
- (i) What is the role of OR in decision making?
- (j) Define OR?

SECTION-B

2. Explain role of OR in solving Industrial problems.
3. Explain Bellman's principle of optimality.
4. What is dynamic programming & what type of problems can be solved by it? Give a mathematical formulation of a dynamic programming problem.
5. Write a detailed note on EOQ and average inventories.
6. Explain in detail Group Replacement policies.
7. Illustrate various Queuing systems and their characteristics.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.