Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 02

Total No. of Questions : 07

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.