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

Total No. of Questions : 18

B.Tech.(CSE/IT) (O.E. 2011 Onwards) (Sem.–6)

OPERATION RESEARCH

Subject Code : IT-310

M.Code : 71554

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION–A

Explain the following :

1) Discuss the advantages of O.R.

2) What is objective function?

3) Define Convex Set.

4) Surplus variable.

5) Find the feasible solution of the following transportation problem using North-West corner method.

Warehouse

	W_1	W_2	W_3	W_4	Supplies
F_1	14	25	45	5	6
F_2	65	25	35	55	8
F_3	35	3	65	15	16
Requirement	4	7	6	13	30 / 30

6) Define Cell Evaluation.

7) Solve the game :

		B		
		I	II	III
A	I	–2	15	–2
	II	–5	–6	–4
	III	–5	20	–8

8) Waiting line problem.

9) Queue Discipline.

10) Simulation

SECTION-B

11) Discuss significance and scope of OR in Business and industry.

12) How Simplex method of solving a linear programming problem is better than graphic method?

13) Explain Hungarian Assignment Method.

14) Solve the following problem by NWCM.

Warehouse / Factories	W_1	W_2	W_3	W_4	Capacity
F_1	19	30	50	10	7
F_2	70	30	40	60	9
F_3	40	8	70	20	18
Requirement	5	8	7	14	34

15) Discuss various stages of decision making theory.

SECTION-C

16) What is LPP? What are the assumption in formulating linear programming problem?

17) Given the following data, determine the least cost allocation of available machines to four jobs.

A	B	C	D
25	29	31	42
22	19	35	18
39	38	26	20
34	27	28	40

18) Explain the methods for solving a goal programming problem.

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.