

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	W₁	W₂	W₃	W₄	Capacity
Factories					
F₁	19	30	50	10	7
F₂	70	30	40	60	9
F₃	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.