

Roll No.

Total No. of Pages : 02

Total No. of Questions : 08

Master of Science (Fashion Marketing Management) (Sem.-3)

OPERATIONS RESEARCH

Subject Code : MSCFMM-310

M.Code : 72119

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. Attempt FIVE questions in total, selecting atleast ONE question from each UNIT.
2. All Question carry equal marks (12 marks)

UNIT-I

- Q1) List and explain the various phases of Operations Research. Also discuss the scope of Operations Research in Garment Industry, giving examples.
- Q2) List and discuss the various requirements and assumptions for formulating and solving Linear Programming problems.

UNIT-II

- Q3) Solve the following LPP graphically :

Maximize $Z = 13x_1 + 19x_2$

Subject to the constraints:

$$5x_1 - 2x_2 \leq 10; \quad 7x_1 + 6x_2 \geq 42; \quad 4x_1 - 3x_2 \geq 12; \quad x_1, x_2 \geq 0$$

- Q4) Solve the following Linear programming problem using simplex method :

Maximize $Z = 30x_1 + 45x_2$

Subject to the constraints :

$$2x_1 + x_2 \leq 6; \quad 4x_1 + 5x_2 \leq 20; \quad x_1, x_2 \geq 0$$

UNIT-III

- Q5) Given the supplying capacities from Plants P_1 , P_2 , P_3 and demands of Markets M_1 , M_2 , M_3 and M_4 , solve the following transportation problem optimally :

	M_1	M_2	M_3	M_4	Supply
P_1	12	11	16	13	30
P_2	14	12	11	13	40
P_3	15	17	12	11	20
Demand	20	15	25	30	

- Q6) Given the profits from 4 Jobs being processed by 4 Operators, optimally assign the jobs to the operators, so as to maximize the total profits.

	J_1	J_2	J_3	J_4
M_1	3	6	8	4
M_2	1	9	6	7
M_3	4	3	5	2
M_4	7	6	9	5

UNIT-IV

- Q7) Discuss and differentiate between PERT & CPM. Briefly explain the scope of PERT & CPM in your industry.
- Q8) Given the processing times (in hours) of Jobs J_1 to J_6 on Machines M_1 and M_2 , obtain an optimal sequence for the jobs, so as to minimize the idle times and total cycle time on the two machines:

Machines	JOBS					
	J_1	J_2	J_3	J_4	J_5	J_6
M_1	2	5	10	8	9	4
M_2	7	4	8	9	6	5

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.