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

Total No. of Questions : 08

M.Sc.(Fashion Marketing Management) (2015 to 2017)   (Sem.–3)

OPERATIONS RESEARCH

Subject Code : MSc. FMM-310

M.Code : 72119

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **Attempt any FIVE questions, selecting atleast ONE from EACH UNIT.**
2. **Each question carries TWELVE marks.**

UNIT-I

1. Discuss the various phases of Operations Research. Explain in detail the scope of Operations Research in Garment Industry.

2. Write a detailed note on the points to be kept in mind while formulating Linear Programming problems. Also explain the different applications of LPP in context to garment industry.

UNIT-II

3. Solve the following LPP graphically :

    Maximize $Z = 7x_1 + 9x_2$

    Subject to the constraints :

    $4x_1 + 5x_2 \geq 20;$ $3x_1 - 2x_2 \geq 12;$ $2x_1 - x_2 \leq 8;$ $x_1, x_2 \geq 0$

4. Solve the following Linear programming problem using simplex method :

    Maximize $Z = 30x_1 + 40x_2$

    Subject to the constraints :

    $10x_1 + 20x_2 \leq 30 ;$ $15x_1 + 20x_2 \leq 30 ;$ $x_1, x_2 \geq 0$

UNIT-III

5. Given the capacities of Factories F_1, F_2 and F_3 and the demands of Markets M_1, M_2, M_3 and M_4, solve and optimize the following transportation problem :

	M_1	M_2	M_3	M_4	Supply
F_1	8	4	9	6	100
F_2	5	4	6	7	200
F_3	2	8	4	9	150
Demand	100	50	150	150	

6. Given 4 men and 4 jobs, with their operation hours per job, optimally assign the men to the jobs, so as to minimize the total overall processing time.

	J_1	J_2	J_3	J_4
M_1	13	15	18	12
M_2	11	16	18	17
M_3	10	16	17	14
M_4	19	14	13	15

UNIT-IV

7. Discuss the role and scope of PERT & CPM in project management.

8. Given the processing times (in hours), obtain an optimal sequence for the following 6 jobs, so as to minimize the idle times and total cycle time on the two machines :

			JOBS			
Machines	J_1	J_2	J_3	J_4	J_5	J_6
M/c M_1	10	9	12	11	14	13
M/c M_2	6	4	8	3	7	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.