GALGOTIAS UNIVERSITY

ADMISSION NUMBER												

School of Finance and Commerce

Master of Business Administration in Financial Management
Semester End Examination - Nov 2023

Duration : 180 Minutes
Max Marks : 100

Sem III - MBAF0904 - Quantitative Techniques for Managers

General Instructions
Answer to the specific question asked
Draw neat, labelled diagrams wherever necessary
Approved data hand books are allowed subject to verification by the Invigilator

1) Describe the total floats in nerwork analysis. K1 (2)

2) Outline the conditions under which degeneracy happen in transportation problem. K2 (4)

3) Generalize the important characteristics of queing system. K2 (6)

4) Solve the following transportation problem K3 (9)

	D1	D2	D3	Supply
S1	8	5	6	120
S2	15	10	12	80
S3	3	9	10	80
Demand	150	80	50	

5) A health enthusiast wishes to mix two types of foods in his diet, in such a way that vitamin content of the mixture contains at least 10 units of vitamin B and 13 units of vitamin C. Food (F1) contains 1 unit/kg of vitamin B and 2 units/kg of vitamin C. Food (F2) contains 2 unit/kg of vitamin B and contains 1 unit/kg of vitamin C. F1 costs Rs 60/kg and F2 costs Rs 80/kg. Frame his diet plan making a linear programming problem in order to minimize the cost of the mixture. K3 (9)

6) The products A. B and C are produced in three machine centres X, Y and Z. Each product involves operation of each of the machine centres. The time required for each operation for unit amount of each product is given below. 100, 77 and 80 hours are available at machine centres X, Y and Z respectively. The profit per unit of A, B and C is Rs. 12, Rs. 3 and Rs. 1 respectively. Formulate suitable product mix so as to maximise the profit with help of simplex method K5 (10)

7) Classify the methods which are useful for decision-making under uncertainty. K4 (12)

8) Solve the following Game using Algebraic method. K5 (15)

	B1	B2
A1	5	1
A2	3	4

9) Solve the following Game using Algebraic method K5 (15)

	B1	B2
A1	2	-1
A2	-1	0

10) A company produces two types of TVs, one is black and white, while the other is colour. The company has the resources to make at most 200 sets a week. Creating a black and white set costs Rs. 2700 and Rs. 3600 to create a coloured set. The business should spend no more than Rs. 648000 a week producing TV sets. If it benefits from Rs. 525 per set of black and white and Rs. 675 per set of colours, How many sets of black/white and coloured sets should it produce in order to get maximum profit? Formulate this using LPP. K6 (18)