TM242973Q

Reg. No :.....

Name :.....

MASTER'S DEGREE (C.S.S) EXAMINATION, MARCH 2024

2023 ADMISSIONS REGULAR

SEMESTER II - P.G Diploma In Management In Business Analytics

BA2C06TM20 - Management Decision Science

Time : 3 Hours **Maximum Weight : 30**

Part A

I. Answer any Eight questions. Each question carries 1 weight **(8x1=8)**

1. Explain pivot element.
2. Define slack variable.
3. Explain balanced transportation problem.
4. List out the applications of distribution model.
5. List out the rules for constructing network diagrams.
6. Define payoff table.
7. Define decision alternatives.
8. Explain irregular fluctuations.
9. List out the components of time series.
10. Explain forecasting.

Part B

II. Answer any Six questions. Each question carries 2 weight **(6x2=12)**

11. Solve graphically,
    maximize 5X1-X2 subject to X1+X2>=2
    X1+2X2<=2
    2X1+X2<=2
    X1>=0,X2>=0

12. Solve graphically,
    maximize 5X1+3X2 subject to 4X1+5X2<=10
    5X1+2X2<=10
    3X1+8X2<=12
    X1>=0,X2>=0

13. Draw the network diagram to the following.

Activity(i,j)	1-2	1-3	1-4	2-5	3-5	4-6	5-6
Time duration	2	4	3	1	6	5	7

14. Determine an initial basic feasible solution to the following transportation problem by using the method having lowest cost.

	D1	D2	D3	D4	Supply
S1	21	16	15	3	11

S2	17	18	14	23	13
S3	32	27	18	41	19
Demand	6	6	8	23	

15. Explain optimistic approach.
16. Explain Laplace criterion.
17. Explain time series and its components.
18. Solve the game whose pay off matrix is given by,

	B1	B2	B3
A1	1	7	2
A2	6	2	7
A3	5	1	6

Part C

III. Answer any Two questions. Each question carries 5 weight **(2x5=10)**

19. Solve the LPP:
    maximize Z=3X1+5X2+4X3 subject to 2X1+3X2<=8
    2X2+5X3<=10
    3X1+8X2<=10
    3X1+2X2+4X3<=15
    X1>=0,X2>=0,X3>=0

20.
    1. Explain assignment problem.
    2. A company has four machines to do three jobs. Each job can be assigned to and only one machine. The cost of each job on each machine is given in the following table.

Machines					
Jobs		1	2	3	4
	A	18	24	28	32
	B	8	13	17	19
	C	10	15	19	22

21. Explain decision table and decision tree with an example.
22. Solve the following 2 x 3 game graphically

	B1	B2	B3
A1	1	3	11
A2	8	5	2