

Reg.No :

--	--	--	--

**D.K.M. COLLEGE FOR WOMEN (AUTONOMOUS),
SEMESTER EXAMINATIONS
APRIL - 2019**

RESOURCE MANAGEMENT TECHNIQUE

Time : 3 Hours

SECTION – A (10 x 2 = 20)

Answer ALL the questions.

1. *Define Modeling in OR.*
2. *Write any two scope in OR.*
3. *Define Slack Variable.*
4. *Write any two uses of LPP.*
5. *Define Assignment Problem.*
6. *Define Transportation Problem.*
7. *What are the methods of solving Transportation Problem?*
8. *Define saddle point.*
9. *Define pure strategy.*
10. *Define Pay - off Matrix.*

SECTION – B (5 x 5 = 25)

Answer any FIVE of the following questions.

11. *Explain the characteristics and phases of OR.*
12. *Explain the formulation of LPP.*
13. *Solve by graphical methods.*

$$\text{Max } Z = 3x_1 + 4x_2$$

$$\text{Subject to } 5x_1 + 4x_2 \leq 200$$

15. Solve the assignment problem.

	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
<i>I</i>	1	4	6	3
<i>II</i>	9	7	10	9
<i>III</i>	4	5	11	7
<i>IV</i>	8	7	8	5

16. Solve the transportation problem by VAM.

	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>Supply</i>
<i>1</i>	6	1	9	3	70
<i>2</i>	11	5	2	8	55
<i>3</i>	10	12	4	7	70
<i>Demand</i>	85	35	50	45	

17. Write about simplex algorithm.

18. Solve the game.

		<i>Player B</i>		
		<i>B₁</i>	<i>B₂</i>	<i>B₃</i>
<i>Player A</i>	<i>A₁</i>	2	5	6
	<i>A₂</i>	7	3	4

SECTION – C (3 x 10 = 30)

Answer ALL the questions

(b) Solve by Big M - method.

$$\text{minimize } Z = 12x_1 + 20x_2$$

$$\text{subject to } 6x_1 + 8x_2 \geq 100$$

$$7x_1 + 12x_2 \geq 120; x_1, x_2.$$

20. (a) Solve by dual simplex method.

$$\text{Min } Z = 5x_1 + 6x_2$$

$$\text{Subject to } x_1 + x_2 \geq 2$$

$$4x_1 + x_2 \geq 4; x_1, x_2 \geq 0.$$

(Or)

(b) Solve by maximization assignment problem operators.

	<i>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>	<i>V</i>
<i>A</i>	30	25	35	35	36
<i>B</i>	23	29	38	23	26
<i>C</i>	30	27	22	22	22
<i>D</i>	25	31	29	27	32
<i>E</i>	27	29	30	24	32

21. (a) Solve by Modi method CIBFS by VAM method.

	D_1	D_2	D_3	D_4	Supply
S_1	2	2	2	1	3
S_2	10	8	5	4	7
S_3	7	6	6	8	5
Demand	4	3	4	4	15

(Or)

