

c)

Approaches of OR:

→ Mathematical

→ Logical

→ Statistical

→ Physical

→ Psychological

→ Management

→ Decision making

→ Analytical

3  
10  
3  
2  
3  
3  
2

10

2

a)

Dummy Variable

Political party

which is binary in nature

used in regression

of data

3  
10  
3

3

20 M

b)

### Assignment Problem

1	1	1	1	1
2	1	1	1	1
3	1	1	1	1
4	1	1	1	1
5	1	1	1	1

Maximize

5/5 | 5/5

3  
3  
3  
3  
3

7

c)

### Transportation Cost

$ZCR = 19,700$

$LCM = 13,750$

$VAM = 12,250$

3  
3  
3  
3  
3

10

a)

Unbalanced problem in Assignment

no. of Rows are 704  
no. of Columns

704  
704  
3

3

b)

$$\text{Max. } Z = 120$$

$$x_1 = 4$$

$$x_2 = 4$$

$$(10, 6)$$

$$(12, 4)$$

704  
704  
3  
704  
704  
3

7

3

c)

$$\text{Min. } z = 40x_1 + 24x_2$$

Sub to Constraints

$$20x_1 + 50x_2 \geq 4800$$

$$80x_1 + 50x_2 \geq 7200$$

10  
3  
P.P.  
P.P.

non-negativity function

$$x_1, x_2 \geq 0.$$

2 A 3

10 4 2 6 4 = 8 3 5 1 1

3 0 0 1

6 4 = 8 2 0 1 1

0 3  
0 4  
0 4 2  
0 2 3  
0 4 1  
0 4 2 3

10

10 M

SCHEME OF EVALUATION

Internal Assessment Test 1- Aug 2024

Sub: OPERATION RESEARCH  
 Date: 29-08-24 Duration: 90mins Max Marks: 50 Sem: II

Code: 22MBA24  
 Branch: MBA

Note: Part A - Answer Any Two Full Questions (20\*02=40 Marks)  
 Part B - Compulsory (01\*10= 10marks)

Part	Question #	Description	Marks Distribution	Max Marks	
A	1	a) <u>OR</u> <u>OR is a scientific approach to problem solving for executive mgmt.</u>	<u>03</u> <u>03</u> <u>03</u>	3	20 M
		b) <u>Development of OR:</u> <u>→ problem identified</u> <u>→ Analytical method</u> <u>→ Decision made</u> <u>→ mgmt. of org.</u>	<u>43</u> <u>03</u> <u>03</u> <u>03</u> <u>03</u>	7	