UNIT-IV

8. Using suitable examples, explain and illustrate :

(i) Saddle point

(ii) Two person zero-sum game, and

(iii) Mixed strategies

9. Explain the process, advantages, limitations and applications of simulation.

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Roll No. .....

56027

MBA 2 Year 2nd Semester (N.S.) 2011 Examination– May, 2016

OPERATION RESEARCH

Paper : MBA-207

Time : 3 hours ***Max. Marks : 80***

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Q.No. 1 of Section-A is **compulsory** having eight short questions. From Section-B, attempt **one** question from each Unit. All questions carry equal marks.

SECTION - A

1. (a) What are the assumptions of linear programming ?

(b) What is unboundedness in LPP ? Show graphically.

(c) What is an unbalanced transportation problem ? Show.

(d) How many solutions will the following assignment problem have ? Show.

	P	Q	R
A	0	4	0
B	0	0	2
C	5	0	0

(e) What is dummy activity ? Explain and illustrate.

(f) Explain the 'decision making under certainty'.

(g) What is rule of dominance ? Explain and illustrate.

(h) Describe the applications of queueing theory.

SECTION - B

UNIT - I

2. Discuss the characteristics, methodology and applications of operations research.

3. Solve the following linear programming problems graphically :

(a) Minimize $z = 3x_1 + 2x_2$

Subject to $8x_1 + x_2 \geq 8$

$2x_1 + x_2 \geq 6$

$x_1 + x_3 \geq 6$

$x_1 + 6x_3 \geq 8$

$x_1, x_2 \geq 0$

(b) Maximize $z = 50x_1 + 60x_2$

Subject to $2x_1 + 3x_2 \leq 1500$

$3x_1 + 2x_2 \leq 1500$

$x_1 \leq 400$

$x_2 \leq 400$

$2x_1 \leq 3x_2$

$x_1, x_2 \geq 0$

UNIT - II

4. Obtain the optimal solution for the following problem, for minimising the total transportation cost.

From \ To	P	Q	R	S	T	Total
A	9	12	9	6	9	5
B	7	3	7	7	5	6
C	6	5	9	11	3	2
D	6	8	11	2	2	9
Total	4	4	6	2	4	

5. Solve the following travelling salesman problem for minimising the total distance (in kms)

From \ To	A	B	C	D	E
A	–	2	5	7	1
B	6	–	3	8	2
C	8	7	–	4	7
D	12	4	6	–	5
E	1	3	2	8	–

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   (e) What is dummy activity ? Explain and illustrate.

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SECTION - B

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