

7. State and explain posterior analysis. How decision tree is an improvement over Bayesian decision rule.

UNIT – IV

8. Determine the optimal strategies for the players and value of the game from the following pay-off matrix :

		B's Strategy	
		b_1	b_2
A's Strategy	a_1	8	-7
	a_2	-6	4

9. What is queuing theory ? Describe the basic characteristics of a queuing system. What types of problems can be solved in analyzing a queuing system ?

Roll No. _____

12623

MBA 2 Yr. 3rd Sem. New Scheme 2019-20
Examination – February, 2022

OPERATIONS RESEARCH

Paper : 20IMG23C3

Time : Three hours]

[Maximum 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 examination.

Note : Question No. 1 is compulsory, each part carry two marks. Attempt any four questions from Section-B selecting one question from each Unit, each question carry sixteen marks.

SECTION – A

1. Briefly explains the following :
- Optimal solution
 - Sensitivity analysis
 - Critical path

- (d) Laplace principle
- (e) Time-cost trade-off analysis
- (f) MODI method
- (g) System length
- (h) Efficiency of expected value of sample information

SECTION - B

UNIT - I

2. Solve the following LPP :

$$\text{Maximize : } Z = 2x_1 + 4x_2$$

Subject to :

$$2x_1 + x_2 \leq 18,$$

$$3x_1 + 2x_2 \geq 30$$

$$x_1 + 2x_2 = 26,$$

$$x_1, x_2 \geq 0$$

3. Define operations research. Discuss its nature, characteristics, economic significance and methodology.

UNIT - II

4. Describe the transportation problem and give its mathematical model of cost minimization.
5. Using the following cost matrix, determine (i) optimal job assignment, and (ii) the cost of assignment.

Machinist	Job				
	1	2	3	4	5
A	10	3	3	2	8
B	9	7	8	2	7
C	7	5	6	2	4
D	3	5	8	2	4
E	9	10	9	6	10

UNIT - III

6. What kinds of decision-making situations may be analyzed using PERT and CPM techniques ? State the rules for construction of a network.