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Total No. of Pages : 02

Total No. of Questions : 09

B.Com (Honours) (Sem.-6)

OPERATION RESEARCH

Subject Code : BCOM602-18

M.Code : 79471

Date of Examination: 02-01-2025

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY** consisting of TEN questions carrying TWO marks each.
2. **SECTIONS-B** consists of FOUR Sub-sections : Units-I, II, III & IV.
3. Each Sub-section contains TWO questions each, carrying TEN marks each.
4. Student has to attempt any ONE question from each Sub-section.

SECTION-A

1. Attempt all questions :

- a) Inventory Control
- b) Big M method
- c) Assumptions of LLP
- d) Saddle Point
- e) What is Duality?
- f) Slack and Float
- g) Functions of inventory management
- h) Dummy Activity
- i) Degeneracy in Transportation
- j) Queuing Theory

SECTION-B

UNIT-I

2. What do you mean by Operation Research? Discuss its scope as well as limitations.
3. Solve the following LLP:

$$\text{Max } Z = 2X_1 + 4X_2$$

$$\text{Sub to } 2X_1 + X_2 \leq 18$$

$$3X_1 + 2X_2 \geq 30$$

$$X_1 + 2X_2 = 26$$

$$\text{Whereas } X_1, X_2 \geq 0$$

UNIT-II

4. Solve the following Game theory problem:

		Player B		
Player A		B ₁	B ₂	B ₃
	A ₁	3	-2	4
	A ₂	-1	4	2
	A ₃	2	2	6

5. What is Decision tree analysis? How does decision analysis helps the decision maker?

UNIT-III

6. Discuss the concept of Network Analysis. Explain the PERT & CPM models and their utility.
7. What is queuing theory? In what types of problem situations can it be applied successfully? Discuss giving examples.

UNIT- IV

8. Critically discuss the various types of inventory models.
9. What is replacement policy? What are the various types of replacement policies?

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.