



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

U.G. DEGREE EXAMINATION – **ELECTIVE**

FOURTH SEMESTER – **APRIL 2023**

16 17 18UEC4ES01 / UEC 4602 – OPERATIONS RESEARCH

Date: 06-05-2023

Dept. No.

Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

PART-A

Answer any **FIVE** questions in about **75** words each.

(5×4=20 Marks)

1. Describe the various objectives of operation research.
2. State the meaning of linear programming.
3. Define transportation problem.
4. List out the assumptions of sequencing.
5. Bring out the optimality criterion of assignment problem.
6. Explain the term PERT.
7. Classify the various types of inventories.

PART-B

Answer any **FOUR** questions in about **250** words each.

(4×10=40 Marks)

8. Explain the essential characteristics of a linear programming model.
9. Illustrate the simplex method of solving linear programming problem.
10. Solve the transport problem using least cost method.

Plants	Distribution Centre				Supply
	2	3	11	7	6
	1	0	6	1	1
	5	8	15	9	10
Demand	7	5	3	2	T=17

11. Solve the sequencing model then find total elapsed time and idle time of both the machines.

Job	1	2	3	4	5	6	7
Machine A	3	12	15	6	10	11	9
Machine B	8	10	10	6	12	1	3

12. A company has a team of four salesman and there are four districts where the company wants to start its business. After considering the capabilities of salesman and the nature of districts, the company estimates that the profit per day in rupees for each salesman in each district is as below (Maximisation problem)

