DECEMBER 2022 **P/ID 77931/RMB2G**

Time : Three hours Maximum : 80 marks

SECTION A — ($10 \times 2 = 20$ marks)

Answer any TEN questions in 50 words each.

1. What is Operation Research?
2. Explain the objectives of Linear Programming.
3. What is Assignment Problem?
4. What is Optimum Solution?
5. Why dummy rows are added?
6. Define "PERT".
7. What is network analysis?
8. When can a TP has a multiple solution?
9. Define 'EFT'.
10. Define Saddle Point.
11. Define Dominance Property.
12. Explain game theory strategy.

SECTION B — ($5 \times 6 = 30$ marks)

Answer any FIVE questions in 250 words each.

13. Explain the nature of OR.

14. Explain Linear Programming Problem.

15. Obtain an initial basic feasible solution to the following transportation problem by North West Corner method.

			capacity
8	7	3	60
3	8	9	70
11	3	5	80
Demand	50	80	80

16. Express a transportation problem as a Linear programming model.

17. Give an algorithm to solve the assignment problem.

18. Differentiate deterministic and probabilistic inventory model.

19. Explain two person game and n-person game in detail.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions in 500 words each.

20. Differentiate symbolic model and analogical model in OR.

21. Summarise the procedure for the graphical solution to a linear programming problem.

22. Give the algorithm for obtaining an initial solution to a TP by least cost entry method.

23. On an average 96 patients arrive in an emergency clinic which works for 20 hours a day. Also on an average a patient requires 10 minutes of active attention. Assume that the facility can handle only one emergency at a time. Suppose that it costs the clinic Rs. 100 per patient and each minute of decrease in the average service time of 10 minutes would cost the clinic Rs. 10 more per patient. How much would have to be budgeted by the clinic to decrease the average size of the queue to half?

24. Solve the following game.

	Player B		
Player A	1	7	2
	6	2	7
	5	1	6