QP CODE: 24027468

24027468

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, OCTOBER 2024

Third Semester

B.Sc Information Technology Model III

COMPLEMENTARY COURSE - MM3CMT06 - MATHEMATICS - OPERATIONS RESEARCH

2017 Admission Onwards

5978D197

Time: 3 Hours Max. Marks : 80

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. Define operation research.
2. Write any two features of OR.
3. Who invented LPP ?
4. Write any two uses of LPP in management.
5. Write two application of LPP in industry.
6. Define maximisation in LPP.
7. Write the general form of the function to be minimized in a transportation problem.
8. Write any one definition of transportation problem.
9. How to write mathematical formulation in assignment problem?
10. Define competitive game.
11. Define strategy of a player in game.
12. Define maxmini principle.

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. What are the main models in OR?
14. OR is the art of winning war without actually fighting it. Comment.
15. Explain requirements for employing LPP.
16. How to construct a simplex table?
17. Explain big M method.
18. Explain Vogel's approximation method in a transportation problem.
19. Explain MODI method for optimality.
20. What is the difference between pure strategy and mixed strategy?
21. Explain principle of dominance.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Explain the various functions of Operation Research.
23. What do you understand by graphic method of solving LPP and what are the limitations of graphic method?
24. Solve the following assignment problem for minimizing cost :

	I	II	III	IV
A	32	26	35	38
B	27	24	26	32
C	28	22	25	34
D	10	10	16	16

25. Use dominance property to reduce the following to 2 X 2 game and find the optimal strategy and the value of the game.

Player B

Player A $\begin{bmatrix} 3 & -2 & 4 \\ -1 & 4 & 2 \\ 2 & 2 & 6 \end{bmatrix}$

(2×15=30)