1. Solve the following LPP by simplex method   
 Maximize z = 25x1+20x2  Subject to

16x1+12x2 ≤100 ; 8x1+16x2 ≤ 80 ; x1 ,x2 ≥ 0

2. Solve the LPP by Graphical method

Maximize z = 50x1+30x2  Subject to

2x1+x2 ≥18 ; 3x1+2x2 ≤ 34 ; x1+x2 ≥ 12 ; x1 ,x2 ≥ 0

3. Use Simplex method to Solve the following LPP   
 Maximize z = 3x1+2x2  Subject to

x1 - x2 ≤ 1 ; 3x1 -2x2 ≤ 6 ; x1 ,x2 ≥ 0

4. A carpenter has 100 sq.feet teak wood and 80 sq.feet rose wood. He wants to

make tables and bookshelves utilizing these two woods only. A table   
 requires 16 sq.feet of teak wood and 8 sq.feet of rose wood whereas a book   
 shelf requires 12 sq.feet teak wood and 16 sq.feet rose wood. He wants to  
 earn Rs. 25 per table and Rs. 20 per bookshelf. How many tables and   
 bookshelves can be make to earn maximum profit out of his available stock   
 of woods. Give a mathematical formulation of the Linear Programming   
 problem.

5. (a) Explain the Scope of OR?   
 (b) Explain the Characteristics of OR?

6. Solve the LPP by Graphical method

Maximize z = 3x1+4x2  Subject to

5x1+4x2 ≤ 200 ; 3x1+5x2 ≤ 150 ; 5x1+4x2 ≥ 100 ;   
 8x1+4x2 ≥ 80 x1 ,x2 ≥ 0

7. Solve the following LPP by simplex method   
 Maximize z = 30x1+20x2  Subject to

10x1+8x2 ≤800 ; x1 ≤ 60 ; x2 ≤ 75 x1 ,x2 ≥ 0

8. A Egg contains 6 units of Vitamin A per gram and 7 units of Vitamin B per  
 gram and costs 12 paise per gram. Milk contains 8 units of Vitamin A and 12   
 units of Vitamin B per gram and costs 20 paise per gram. The daily   
 minimum requirements of Vitamin A and Vitamin B are 100 units and 120   
 units respectively. Formulate a L.P model for the above problem

9. Explain standard form with example

10. Explain the Models of OR.