Tutorial 2 Excericises

1. A dietician wishes to mix two types of foods in such a way that vitamin contents of the mixture contain at least 8 units of vitamin A and 10 units of vitamin C. Food ‘I’ contains 2 units/kg of vitamin A and 1 unit/kg of vitamin C. Food ‘II’ contains 1 unit/kg of vitamin A and 2 units/kg of vitamin C. It costs Rs 50 per kg to purchase Food ‘I’ and Rs 70 per kg to purchase Food ‘II’. Formulate this problem as a linear programming problem to minimise the cost of such a mixture.

2. Obtain the solution of the following Linear programming problem using Big-M method

Min Z=4x1+2x2,

subject to the constraints:

3x1+x2 ≥27,

x1+x2≥21,

x1, x2 ≥ 0.