**Question 2**

BISCO MISR is a food industries Co. produces two types of chocolates; dark chocolate and white chocolate. Ingredients for both chocolates are sugar, nuts, milk and chocolate. Currently, the company has 100 kg of sugar, 20 kg of nuts, 15 kg of milk and 30 kg of chocolate in stock. The mixture of dark chocolate contains at least 20% nuts, no more than 10% milk and at least 50% chocolate. The mixture of white chocolate contains at least 10% nuts, at least 40% milk and no more than 15% chocolate. Assume that one kg of each ingredient contributes one kg to the final chocolates product. Each kg of dark chocolate can be sold at EGP 25 and each kg of white chocolate can be sold at EGP 20. Formulate an LP model to maximize the revenue. (3.1)

**Question 3**

Solve the following LP model graphically: (3.2)

Max Z = 9X1 + 15X2

ST.

3X1 + 4X2 ≤ 48

8X1 + 5X2 ≥ 50

8X2 ≤ 56

24X2 ≥ 60

X1, X2 ≥ 0