Department of Mathematics

KIIT Deemed to be University

Subject: Optimization Technique

Subject Code: MA-10003

Assignment-I (2022-23)

Full Marks-05

Q.1) NISSAN car company has launched 2 models, 1st model is meant for the National Clients and 2nd type is meant for the abroad clients. The 1st model car requires as much labour time as the 2nd model. If all cars are of 2nd model only, the company can produce a total of 30 cars a month. According to a survey, market limits of the monthly sales of the 1st and 2nd model will be 15 and 25 cars. Assuming that the expected profit per car will be 2500 USD and 4000 USD respectively for 1st and 2nd model

a) formulate a LPP model in order to determine the number of cars of each model to be produced so as to maximize the profit of the company. **[CO1]**

b) Solve the LPP by graphical method **[CO2]**

c) Solve the LPP by simplex method **[CO3]**