

G.V.M.'s G.G.P.R. COLLEGE OF COMMERCE AND ECONOMICS

FARMAGUDI - PONDA

BCA Semester V - INTRA SEMESTER ASSESSMENT TEST I

OPERATIONS RESEARCH

Duration: 45 mins

Max. Marks: 15

Answer the following:

1. Using graphical method find the optimal solution to:

$$\text{Max } z = 3x + 2y$$

$$\text{Subject to, } -2x + 3y \leq 9$$

$$-3x + 2y \geq 20$$

$$\text{And } x, y \geq 0$$

(5)

2. Alumco manufactures aluminum sheets and aluminum bars. The maximum production capacity is estimated at 800 sheets or 600 bars per day. The maximum daily demand is 550 sheets and 580 bars. The profit per ton is Rs. 40 per sheet and Rs. 35 per bar. Formulate this problem as an LPP. (3)

3. Solve the following LPP using Big M or Two Phase method:

$$\text{Maximize } z = 6x + 4y$$

$$\text{Subject to, } 2x + 3y \leq 30$$

$$3x + 2y \leq 24$$

$$x + y \geq 3$$

$$\text{And } x, y \geq 0$$

(7)

---- ALL THE BEST ----