

Sensitivity (Change Constraint in RHS)

Q1: ICI produce two products on two plants, a unit of product one requires 2 hours on plant A and 1 hour on plant B. for product two a unit requires 1 hour on plant A and 3 hours on plant B. the revenues per unit of product one and two are Rs.30 and Rs. 20 respectively. The total daily processing time available for each plant in 8 hours. If the capacity plant A is increase from 8 hors to 9 hours, Discuss the sensitivity (a) the rate of revenue (b) the range of capacity plant A.

$$\text{Rate of revenue} = \frac{Z_g - Z_c}{\text{capacity change}}$$

Z_g = increasing values and Z_c = original values

Sensitivity (Change Objective Function Coeff)

Q2: ICI produce two products on two plants, a unit of product one requires 2 hours on plant A and 1 hour on plant B. for product two a unit requires 1 hour on plant A and 3 hours on plant B. the revenues per unit of product one and two are Rs.30 and Rs. 20 respectively. The total daily processing time available for each plant in 8 hours.

If the change of the coefficient decision variables of objective function 35 and 25 respectively. Discuss the sensitivity:

- a) Optimal range of the coefficient $\frac{C_1}{C_2}$
- b) The optimal value of Z
- c) The range of the coefficients C_1 and C_2

Solution: