EXAMPLE 01

Suppose the price of a good is Rs. 100 and annual demand for that good is 50,000 units. Market research reveals that a price increase of Rs. 25 will result in a fall in the annual demand of 47,000 units.

Calculate price elasticity of demand.

$$PED = ((c\_demand - f\_demand) / (c\_price - f\_price)) * (f\_price / f\_demand)$$

$$= ((47000 - 50000) / (125 - 100)) * (100/50000)$$

$$= (-3000) / 25 * (1/500)$$

$$= -0.24 = 0.24$$

Inelasticity

 revenue is Increase

$$Revenue = 47000*125 - 50000*100$$

$$= 875,000$$

EXAMPLE 02

Suppose the price of a good is Rs. 200 and annual supply for that good is 270,000 units. Market research reveals that a price increase of Rs. 25 will result in a fall in the annual supply of 300,000 units.

Calculate price elasticity of supply.

$$PES = ((c\_supply - f\_supply) / (c\_price - f\_price)) * (f\_price / f\_supply)$$

$$= (300,000 - 270,000) / (225 - 200) * (200/270,000)$$

$$= (30,000 / 25) * (2/2700)$$

$$= 0.89$$

Inelastic

Supply change value is small.

EXAMPLE 03

Suppose the consumer income is Rs. 1500 and the quantity of demand is 1000. Market research reveals the increased consumer income is Rs. 1750 and the quantity of demand is 875.

Calculate income elasticity of demand.

Q=(c_demand-f_demand)/f_demand

= (875 – 1000)/ 1000 = -0.125

I=(c_income-f_income)/f_income

= (1750-1500)/ 1500   = 0.16667

YED=Q/I

= -0.125 / 0.16667

= -0.75

This good is Inferior good

EXAMPLE 04

When the price of Coca-Cola(y) increases by 250 to 300, the quantity demanded of Pepsi (x) increase by 150 to 180.

Calculate cross elasticity of demand.

Q=(x2_demand-x1_demand)/x1_demand

= (180-150) / 150   =   0.2

P=(y2_price-y1_price)/y1_price

= (300-250) / 250   = 0.2

XED=Q/P

= 0.2 / 0.2

= 1

X and Y good are substitute goods.

EXAMPLE 05

Table below shows the marginal utility (MU) for goods A and B. Suppose the price of good A is Rs. 40.00 and the price of good B is Rs. 20.00. Assume a consumer has Rs.160.00 to spend on the two goods. What is the optimum combination of goods this consumer would buy?

Unit	MU_A	MU_B	TU_A	TU_B
1	400	220	400	220
2	320	200	720	420
3	240	180	960	600
4	160	160	1120	760

Unit	MU_A/p_A	MU_B/P_b
1	10	11
2	**8**	10
3	6	9
4	4	**8**

160 = A unit*40 + B unit*20

= 2*40 + 4*20 = 160

2 units of A, 4 units of B