ELASTICITY OF DEMAND

Elasticity of demand refers to the degree of responsiveness of the quantity of a commodity to a change in price of the commodity.

Demand is said to be elastic when it is greater than 1, inelastic when it is less than 1, perfectly inelastic when it is equal to 0, perfectly elastic or infinitely elastic when it is infinite.

TYPES OF DEMAND

1. Price elasticity of demand
2. Income elasticity of demand
3. Cross elasticity of demand

PRICE ELASTICITY OD DEMAND

This measures the degree of responsiveness of quantity demanded of a commodity to a small change in price of the commodity

Price	Quantity demanded
a) 10	40
b) 8	48

FORMULAR

<u>% change in quantity demanded</u>

% change in price

Percentage change in quantity demanded

$$\frac{\text{Change in quantity demanded}}{\text{Old quantity demanded}} \mathbf{X} \frac{100}{1}$$

$$\frac{48-40}{40} \text{ X } 100$$

8/40x100=20%

Percentage change in price

$$\frac{\text{Change in quantity price}}{\text{Old price}} \text{ X } 100$$

$$\frac{10-8}{10} \text{ x } 100$$

$$\frac{2}{10} \text{ x } 100=20\%$$

$$\frac{20}{20} = 1$$

PED=1

Elasticity of demand is said to be unitary

INCOME ELASTICITY OF DEMAND

This measures the degree of responsiveness of quantity demanded of a commodity to a change in income of the consumer

Price		Quantity demanded	
Old	New	Old	New
$	$	$	$
40,000	50,000	200	280

a. Compute the income elasticity of demand

FORMULAR

<u>% change in quantity demanded</u>

% change in income

Percentage change in quantity demanded

<u>Change in quantity demanded</u> **X** <u>100</u>

Old quantity demanded 1

<u>200-280</u> X 100

200

80/200x100= 40%

Percentage change in income

$$\frac{\text{Change in income}}{\text{Old income}} \times 100$$

$$\frac{10{,}000}{40{,}000} \times 100 = 25\%$$

IED= 40/25 =1.6

Demand is said to be inelastic

CROSS ELASTICITY OF DEMAND

This measures the degree of responsiveness of quantity demanded to a change in price of another commodity that has close substitute

For example if the price of commodity Y increased from $8 to $10 and the quantity of X bought decreased from 40 units to 32 units. Determine the cross elasticity of demand

FORMULAR

$$\frac{\textbf{\% change in quantity demanded of a commodity}}{\textbf{\% change in price of another commodity}}$$

Percentage change in quantity demanded a commodity X

$$\frac{\text{Change in quantity demanded}}{\text{Old quantity demanded}} \times \frac{100}{}$$

$$\frac{40-32}{40} \times 100$$

8/40x100=20%

Percentage change in price of commodity Y

$$\frac{\text{Change in quantity price}}{\text{Old price}} \times 100$$

$$\frac{10-8}{8} \times 100$$

2/8 x100=25%

CES= 20/25= 0.8

Demand is said to be inelastic

FACTORS THAT AFFECTS ELASTICITY OF DEMAND

1. Consumer's income: the more a person earns the less he complains about arise of commodities. It's the poor people that complains bitterly about a rise in price
2. The possibility of close substitutes: in this case, goods that have close substitute are very elastic in demand." Garri and fufu" are close substitute, if the price of " garri" rises, more people will resort to buying "fufu"
3. Habit: if a person developed a habit of buying a particular item, it will be difficult for such a person to change even when the price of the commodities are rising.

ASSIGNMENT

INCOME ($)	QUANTITY DEMANDED
A. 20,000	120
B. 36,000	96
C. 40,000	160
D. 44,000	200

Calculate the income elasticity between (i) A and B (ii) C and D