CHAPTER – ELASTICITY OF DEMAND

❖ **ELASTICITY OF DEMAND:-** It refers to a percentage change in demand for a commodity with respect to % change in any of the factors affecting demand for that commodity.

Elasticity of Demand = % Change in demand for x
% change in a factor affecting the demand for x

❖ **TYPES OF ELASTICITY OF DEMAND:-**

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

1. **PRICE ELASTICITY OF DEMAND:-** It refers to degree of responsiveness of quantity demanded of a commodity in response to change in its price. In other words, it refers to the ratio of percentage change in quantity demanded of a commodity to a given percentage change in its price.

Ep = Percentage change in quantity demanded
Percentage change in price

Where Ep = Price elasticity if demand.

➢ **CLASSICFICATION OF PRICE ELASTICITY OR DEGREES OF PRICE ELASTICITY OF DEMAND:-**

A. **PERFECTLY INELASTIC DEMAND:-** When there is no change in demand with change in price, then demand for such a commodity is said to be perfectly inelastic. In such case Ed = 0 and a demand curve is a vertical straight line parallel to y-axis.

Quantity	Price
Q	P1
Q	P2

Diagram:-

EXPLANATION:- The quantity demanded remains constant at OQ as the price changes from OP to OP1 to OP2.

EXAMPLE:- It is just an imaginary situation. There is no situation when Ed = 0.

B. **PERFECTLY ELASTIC DEMAND:-** When there is a situation when consumers are prepared to purchase all that they can get all at particulars price but nothing at all at a slightly higher price, then the price elasticity of demand for a commodity is said to be perfectly elastic. In such a case, Ed = infinity and demand curve is horizontal straight line parallel to x-axis.

Price	Quantity
P	Q1
P	Q2

Diagram:-

EXPLANATION:- The QD can be OQ, or QD! Or OQ at the same price. It is an imaginary situation.

C. **UNITARY ELASTIC DEMAND:-** When percentage change in quantity demanded = percentage change of price, then demand for such a commodity is said to be unitary elastic. In such case, Ed = 1

and demand curve is a rectangular hyperbola is a curve in which the total area of rectangles at different points on the curve is same. Such a curve extends towards x-axis and y-axis but never touches the end.
$\Delta Q = \Delta P = 1$
The QD rises from OQ to OQ1 with the fall in Price from OP to OP1.
Diagram:

As, QQ is proportionately = PP1. The Ed = 1.
EXAMPLE:- refrigerator, T.V. etc.

D. **ELASTIC DEMAND:-** When the percentage change in quantity demanded is more than the percentage change in price, the demand for such commodity is said to be elastic or highly elastic. In such a case, Ed > 1. The highly elastic demand curve is flatter and its slope is inclined more towards x-axis.
The QD rises from OQ to OQ1 with the fall in price from OP to OP1. As OQ1 is proportionately more than PP1 (OQ >PP1), the Ed >1.
EXAMPLE:- A.C, D.V.D players etc.
Diagram:

E. **INELASTIC DEMAND OR LESS ELASTIC DEMAND:-** When percentage change in quantity demanded is less than the percentage change in price, then demand for such a commodity is said to be inelastic or less elastic. In such a case, Ed<1. The less elastic demand curve is steeper and its slopes is inclined more towards y-axis. The QD rises from OQ to OQ1 with fall in price from OP to OP1. QQ1 is less proportionately than PP1. (OQ1 > PP1).
So, Ed of DD < 1.
EXAMPLE:- Salt, sugar, vegetables etc.
Diagram**:**

➢ **METHODS OF MEASURING PRICE ELASTICITY**

A. PERCENTAGE OR PROPORTIONATE METHOD:- According to this, Ep of demand is measure as the rate of percentage change in QD to percentage change in price. This method was introduced by professor Marshall. It is also known as plux method.

a. $Ed = \frac{\%\text{ change in QD}}{\%\text{ change in price}}$
Percentage change in QD = $\frac{\text{Change in Q}}{\text{Interior Q}} \times 100$

b. Change in quantity = Q1-Q

c. Change in price = P1 – P

d. $Ed = \frac{\text{change in quantity} \times 100}{\text{Quantity}} = \frac{\text{change in quantity}}{\text{Quantity}} = \frac{\text{change in quantity} \times \text{price}}{\text{change in price} \times 100} = \frac{\text{change in price}}{\text{change in price}} = \text{change in price} = \text{quantity}$

B. **GEOMETRIC METHOD OR POINT METHOD or POINT METHOD or GRAPHIC METHOD or ARC METHOD:-** This was suggested by professor Martial. When there are infinitely small

changes in price, then this method is used. It is different at different point on the same straight line demand curve.

Ep / Ed = Lower segment of demand curve (LS)
Upper segment of demand curve (US)

Diagram:

At point A the demand curve touches vertical axis.

Ed at A = Line segment below A = AB = Infinity
Line segment above A O

This situation is known as perfectly elastic demand.

a. At any point above the mid point, but below A, say at 'e'
Ed at 'e' = BE is > 1.
EA
Because, lower segment > upper segment i.e. BE > EA. This is known as highly elastic demand.

b. At mid point D, Ed at D = BD = 1
BA
Because, the lower segment equal to upper segment i.e. BD = DA. This is known as unitary elastic demand.

c. At any point, below the mid point, but above B, say at C. Ed = BC < 1.
CA
This is known as less than elastic demand because the LS < UP (Smaller) i.e. BC < CA.

d. At point B, where DD curve touches the horizontal axis. Ep at B = O = 0
BA

❖ **FACTORS AFFECTING PRICE ELASTICITY OF DEMAND:-**

1. **AVAILABILITY OF SUBSTITUTE GOODS:-** Demand for a commodity with large number of substitutes will be more elastic because even a small rise in its price will encourage the buyers to go for its substitutes.
EXAMPLE:- A rise in price of pepsi encourages buyers to buy coke and vice a versa.
On the other hand, commodities with few or no substitutes like wheat, salt have less Ep of demand.

2. **NATURE OF COMMODITY:-** Elasticity of demand of commodity is influenced by its nature. A commodity for a person may be a necessity a comfort or a luxury.

- When a commodity is necessity like food grains, vegetables, medicines etc. its demand is generally inelastic as it is required for human survival and its demand does not fluctuate with the change in price.
- When the commodity is comfort like fans, refrigerator etc. Its demand is generally elastic as consumer can postpone its consumption.
- When the commodity is luxury like A.C., D.V.D player, its demand is generally more elastic as compared to demand for comforts.

3. **PROPORTION OF INCOME SPENT:-** Proportion of consumer income that is spent on a particular commodity also influence the elasticity of demand. Greater the proportion of income spent on the commodity more is the elasticity of demand for it and vice a versa. Demand for goods like salt, needle, soap, match box etc. tend to be inelastic as consumer spends a small proportion of their income on such

goods. When prices of such goods changed, consumer continue to purchase almost the same quantity of these goods.

4. **NO. OF USES OF COMMODITY:-** If the commodity has several uses, then its demand will be elastic. When prices of such commodity rises, then it is genially put to only more urgent uses. As a result, its demand falls.

   When the prises falls, then it is used for satisfying even less urgent needs and demand. **EXAMPLE**:- Electricity is a multiple used commodity, fall in its price will result in substantial increase in its demand particularly in those uses like A.C, Heat convectors etc. Where it not employed earlier due to high price.

5. **TIME FACTOR:-** Elasticity of demand varies directly with a time period. Demand is generally inelastic in short period because consumers find it difficult to change their habits in short periods. In order to respond to a change in price in a given commodity. Whereas demand is more elastic in long run comparatively it is easier to shift other substitutes, if prices rises.

6. **POSTPONEMENT OF CONSUMPTION:-** Commodities like biscuits, soft drinks, cake whose demand is not urgent have highly elastic demand as their consumption can be postponed in case of increase in their price. Commodities with urgent demand like life saving drugs have inelastic demand because of their immediate requirement.

7. **LEVEL OF PRICE:-** It also effects the Ep of demand. Costly goods like laptops, A.C. etc have highly elastic demand as their demand is very sensitive the changes in their prices. On the other hand, demand for in expensive goods like needle, matchbox is inelastic as change in prices of such goods do not change in their demand by considerable amount.

8. **HABBITS OF CONSUMER:-** Commodities which have become habitual necessities for the consumer have less elastic demand because such a commodity become his necessity and he continues to purchase it even if its prices rises. Example:- Alcohol, Tabaco, agitates are hobbit forming commodities.

❖ **FACTORS AFFECTING ELASTICITY OF DEMAND REASONS:-**

Lend towards elasticity	**Lend towards inelasticity**
1. Availability of substitutes	Lack of substitutes
2. Comforts, luxuries	Necessities
3. Larger proportion of income	Small proportion of income
4. Several number of uses	Single uses
5. Long period	Short period
6. Postponed possible	Urgently required
7. Price level increase, it is Ed.	Price level decrease, No Ed
8. Normality	Habitual