

## Chapter 3: Elasticity of Demand and Supply

### ***Elasticity of Demand***

#### Elasticity

Elasticity refers to the flexibility or change in position of something.

#### Elasticity of Demand( $E_d$ )

Elasticity of Demand means ratio between proportionate change in quantity demand and proportionate change in factors determinants of it.

i.e. Income, price, fashion etc. it is denoted by  $E_d$  mathematically it can be expressed as:

$$E_d = \frac{\text{Proportionate change in quatnity demand}}{\text{Proportionate change in factors determinants of it}}$$
$$E_d = \frac{\frac{\Delta Q}{Q} \times 100}{\frac{\Delta Z}{Z} \times 100}$$
$$E_d = \frac{\Delta Q}{\Delta Z} \times \frac{Z}{Q}$$

Where:

$\Delta Q$ =Change in quantity demand

$Q$ =Initial quantity demand

$\Delta Z$ =change in factors

$Z$ =Initial factors

### ***Price Elasticity of demand***

price elasticity of demand means ratio between proportionate change in quantity demand and proportionate change in price of a commodity. It is denoted by  $E_p$  mathematically it can be expressed as;

$$E_p = \frac{\text{Proportionate change in price of a commodity}}{\text{Proportionate change in quantity demand}}$$
$$E_p = \frac{\frac{\Delta Q}{Q} \times 100}{\frac{\Delta P}{P} \times 100} ,$$
$$E_p = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

Where:

$\Delta Q$ =Change in quantity demand

$Q$ =Initial quantity demand

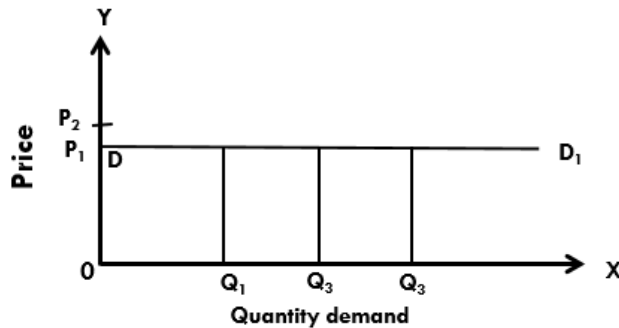
$\Delta P$  = Change in price of a commodity

$P$  = Initial price of a commodity

### ***Types of Price Elasticity of Demand***

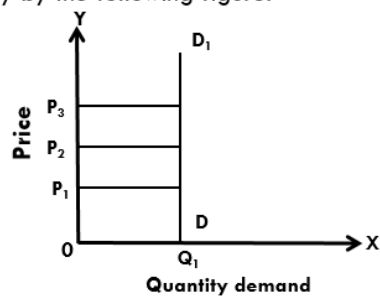
Perfectly elasticity of demand ( $E_p = \infty$ ):

When negligible change in price of a commodity leads to infinite change in quantity demand it is called perfectly elasticity of demand which is denoted by  $E_p = \infty$ . This types of elasticity of demand can not be found in real world. It is clarified by the following figure.



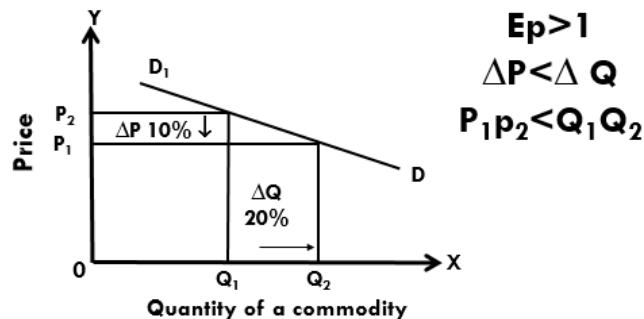
Perfectly Inelastic Demand ( $E_p=0$ )

Quantity demand is remained constant whatever change in price of a commodity, it is called perfectly inelasticity of demand, which is denoted by  $E_p=0$ . This type of price elasticity of demand is only found for basic necessary goods for e.g. demand of Medicine, salt etc. It is clarify by the following figure.



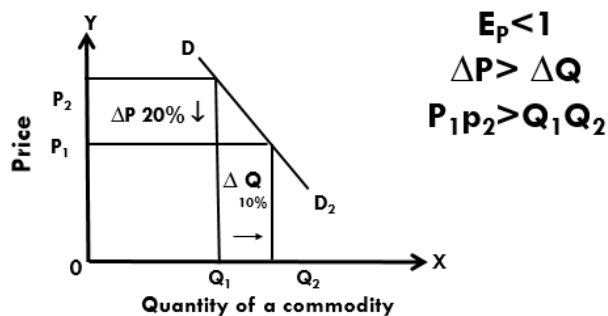
Relatively Elastic Demand ( $E_p > 1$ )

If the percentage change in quantity demand is greater than the percentage change in price of a commodity, it is called relatively elasticity of demand, which is denoted by  $E_p > 1$ . This type of price elasticity of demand is only found for luxurious goods. This type of elasticity of demand can be explained by the following figure.



#### Relatively Inelastic Demand ( $E_p < 1$ )

If the percentage change in quantity demand is less than the percentage change in price of a commodity, it is called relatively inelasticity of demand which is denoted by  $E_p < 1$  it is clarified by the following figure.



#### Unitary Elastic Demand ( $E_p = 1$ )

If the percentage change in quantity demand is just equal to the percentage change in price of a commodity, it is called unitary elasticity of demand, which is denoted by  $E_p = 1$ . It is clarified by the following figure.

