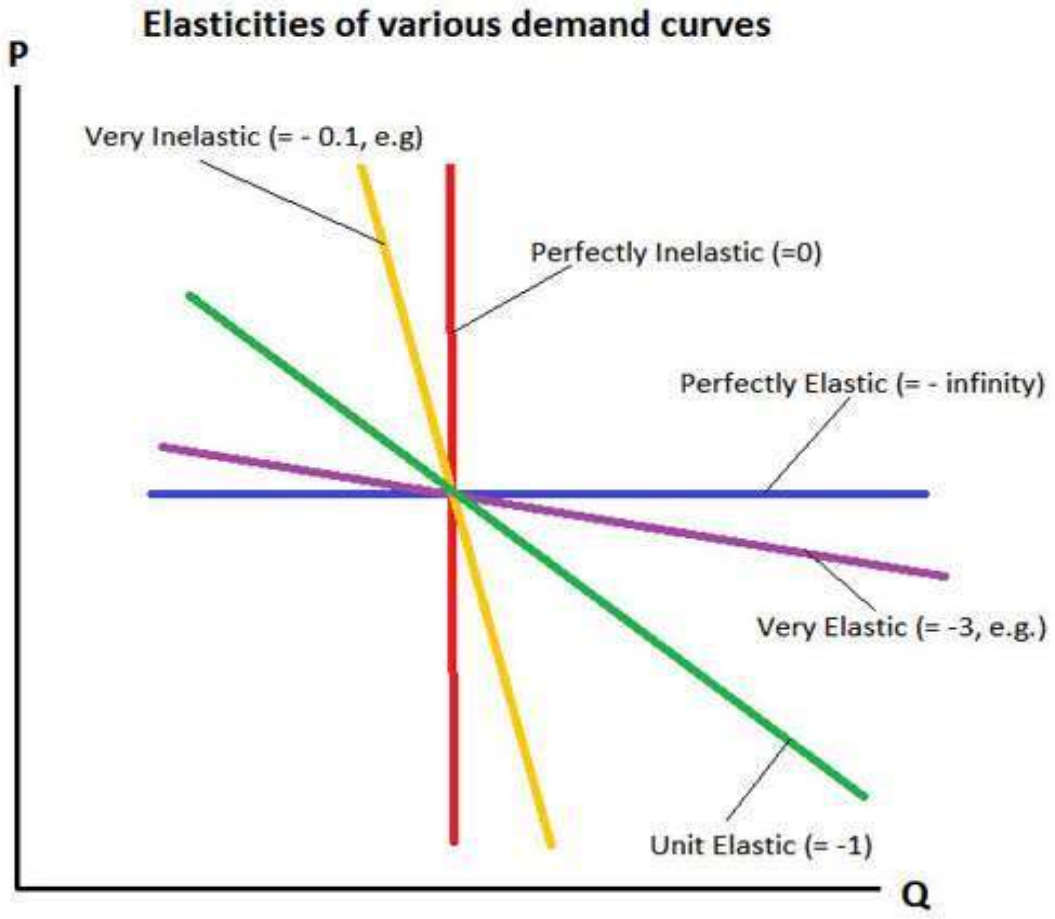
Price elasticity of Demand: The change in the quantity demanded of a product due to change in its price is known as price elasticity of demand. Thus, the sensitiveness or responsiveness of demand to change in price is called price elasticity of demand.

$$E_d = \frac{\text{Percentage change in quantity demanded}}{\text{Percentange change in price}}$$

Types of Elasticity:

Elastic demand $E_d > 1$	Inelastic demand $E_d < 1$	Unit elastic $E_d = 1$	Perfect inelastic $E_d = 0$	Perfect elastic $E_d = \infty$
Percentage change in quantity demand is greater than percentage change in price	Percentage change in quantity demand is smaller than percentage change in price	Percentage change in quantity demand is equal to percentage change in price	Quantity demand is completely unresponsive to changes in price	A small percentage change in price causes an extremely large percentage change in quantity demand



Determinants of price elasticity of demand:

1. ***Number of substitutes:*** More substitutes higher elasticity, fewer substitutes lower elasticity

2. ***Necessities versus Luxurious:*** Luxurious the goods higher the elasticity, for Necessities lower the elasticity

3. ***Percentage of one's budget spend on good:*** the greater the percentage of one's budget that goes to purchase a good, the higher the price elasticity of demand and the smaller the percentage of one's budget that goes to purchase a good, the lower the price elasticity of demand

4. ***Time:*** More time that passes higher the elasticity, less time that passes lower the elasticity.

Cross Elasticity of demand: A measure of the responsiveness of one good to changes in the price of another goods.

$$E_c = \frac{\text{Percentage change in quantity demanded of one good}}{\text{Percentage change in price of another good}}$$

If $E_c > 0 \rightarrow$ Goods are substitutes $E_c < 0 \rightarrow$ Goods are complement

Income elasticity of Demand: A measure of responsiveness of quantity demanded to changes in income

$$E_y = \frac{\text{Percentage change in quantity demanded}}{\text{Percentange change in income}}$$

If $E_y > 0 \rightarrow$ Normal good $E_y < 0 \rightarrow$ Inferior good

Elasticity and Total Revenue:

When demand is elastic	P ↑ TR ↓ and P↓ TR ↑
When demand in inelastic	P ↑ TR ↑ and P↓ TR ↓