

DEMAND

In ordinary language, the word ‘**Demand**’ means **desire**. But mere desire does not constitute demand in economic sense.

Demand is the desire backed by ability to pay and willingness to pay for a commodity.

According to Prof: J Harvey “demand in Economics is the desire to possess something and the willingness and the ability to pay a certain price in order to possess it.”

DETERMINANTS OF DEMAND

Demand for a commodity depends upon a number of factors

1. Price of the Commodity:- Price of the commodity is the most important factor that determines the demand for a commodity. In general, when price of the commodity rises, less will be demanded and when price falls, more will be demanded, thus depicting a negative relationship between them.

2. Price of related goods:- The demand for a commodity is affected not only by its own price but also by the price of related goods. These related goods fall into two categories: Substitutes and Complements.

- If the price of a **substitute** commodity increases, the demand for original commodity will increase. On the other hand, if the price of a substitute commodity falls, the demand for original commodity will decrease. For example, if the price of tea falls, the demand for coffee will decrease.
- In the case of **complementary goods**, a fall in the price of one good results in increased demand for other good. On the other hand, an increase in the price of one good results in a decrease in the demand for other good. For example, if the demand for pen decreases, the demand for ink will also decrease.

3.Income of the Consumer:- Both Income and the Demand for the commodities move in the same direction. If income of the consumer increases demand for the commodity will also increase and if income decreases, demand also decreases.

4. **Tastes and Preferences of the Consumers**:- Taste and Preferences of the consumer may change due to the *influence of advertisements, changes in fashion or due to their desire to imitate their neighbour.* A change in the tastes and preferences of individuals may influence the demand for commodities.

For instance, today more ladies have begun to use jeans. So the demand for jeans have now increased. In the automobile industry there is an increased demand for Sports Utility vehicle. On the other hand, when some goods go out of fashion, they will be demanded less.

5.Nature of the commodity:- Demand for Necessary goods generally remains constant. Demand for Comforts and Luxuries change with the change in their prices. Demand for prestige goods generally remains constsnt. Thus , the nature of commodity dtermines demand.

6. Usefulness of the commodity:- Changes in usefulness cause changes in demand. For example, the demand for coats rises at the beginning of winter because coats are more useful in the winter than in summer. Similarly, the demand for Christmas cards rises in November and December and fall in January. The demand for air conditioners rises each summer and falls afterwards.

7. Changes in Population:- A change in the population of the country may cause change in the demand for various goods and services. With an increase in population, there will be an increased demand for food, clothing and many items. The composition of population also affects demand. Composition of population means the proportion of young and old and children as well as the ratio of men to women. A change in the composition of population has an effect on the nature of demand for different commodities.

8. Distribution of Income and Wealth:- If there is an unequal distribution of income and wealth in the country, demand for comforts and luxuries will be greater. If income is distributed equally, demand for necessities and comforts will be greater.

9. Change in the quantity of money in circulation:- When the money in circulation increases, people will have more purchasing power. Hence demand will increase. Conversely, if money in circulation decreases, people will have less purchasing power and , therefore, demand for goods and services also decreases.

10. Change in climate:- Variations in climate may bring about changes in demand for particular goods. For example, the demand for **woolen** cloths will be heavy during the **winter** season. The demand for **fans, coolers** etc. increases in **summer**. The demand for **umbrellas** and **rain coats** increases in **rains**. During hot **summer** days **ice creams** will have higher demand. During rainy season, ice cream is not so much demanded.

11. Technological Progress:- Inventions and discoveries bring **new things** in the market. As a result, people will not demand older things. For example, Radios replaced Gramaphones; televisions replaced radios.etc.

12. **Consumer's Expectations**:- Consumers' expectations about a further rise or fall in future price will affect the demand for a commodity. If consumers expect a rise in the price of a commodity in the near future, they may purchase large quantity even though there is some rise in the price. When the price of a commodity decreases, people expect a further fall in price and postpone their purchases. Similarly, if consumers believe that their incomes will rise in the near future, they are more inclined to buy more expensive items today. **Credit Card and Installment debt** reflect consumer intentions of making monthly payments out of future income. On the other hand, if consumers are worried about losing their jobs, they are likely to postpone purchase of expensive items.

13. **Advertisement**:- Advertisement will create, maintain and increase the demand for goods. Thus, advertisement influences the demand for goods.

TYPES of DEMAND

Three kinds of demand may be distinguished:
Price Demand, Income Demand, Cross Demand

1. Price Demand:- Price demand refers to the quantities of a commodity or service that a consumer would purchase at a given time in a market at various prices. It is assumed that other things such as consumer's income, his tastes and preferences, prices of related goods etc. remain unchanged.

2.Income Demand:- Income demand refers to various quantities of goods and services which would be purchased by the consumer at various levels of income. Here it is assumed that other things such as price of the commodity, consumer's tastes and preferences, prices of related goods etc. remain unchanged.

3.Cross Demand:- Cross demand means the quantities of a good or service which will be purchased with reference to changes in the price not of this good but of other related goods. These goods are either substitutes or complementary goods. For example, a change in price of tea will affect demand for coffee. Similarly, if horses become cheap, demand for carriages may increase.

DEMAND SCHEDULE

Demand schedule is a table which shows the amounts of a commodity demanded at various prices during a given period.

Price of Apple per Kg	Quantity Demanded per Week
60	1
50	2
40	3
30	4
20	5
10	6

DEMAND CURVE

Demand Curve is the graphical representation of the Demand Schedule showing the negative relationship between price and quantity demanded of the commodity. In other words, a demand curve is the locus of points showing various alternative price- quantity combinations as far as an individual buyer is concerned.

CHANGES IN DEMAND

Changes in Demand occur due to several factors such as changes in the price of the commodity, income of the consumer, tastes and preferences of the consumers, prices of related commodities etc.

We can divide these factors into two categories: Price of the commodity and factors other than price of the commodity.

EXPANSION AND CONTRACTION

Change in demand due to change in price alone is called Expansion and Contraction in Demand. Here, Changes occur along the Demand curve.

SHIFTS IN DEMAND(Increase and Decrease in demand)

Changes in Quantity demanded of a commodity caused by changes in factors other than price is known as shifts in demand. Shifts in Demand can be either Increase or Decrease in demand.

Why Demand Curve Slopes Downward?

A Demand curve generally slopes downwards from left to right. There are certain reasons behind it.

1. Law of Diminishing Marginal Utility:-

Law of Demand is derived from the law of Diminishing Marginal Utility. Law of Diminishing Marginal utility states that when a consumer consumes more of a commodity, every additional unit of that commodity will give him less satisfaction. Therefore, the consumer will buy more only at a lower price. If the price is higher, he will restrict its consumption. For this reason the demand for a commodity increases at a lower price and decreases at a higher price and thus the demand curve slopes downwards.

2.Income Effect:-

When the price of a commodity falls, the real income of the consumer increases. This is because, after the fall in price, the consumer is able to buy the same quantity with a lesser amount than before. The amount they saved can be used for buying some more units of the commodity. This causes the demand curve to slope downwards from left to right.

- 3. Substitution Effect:-

Substitution effect means that when the price of a commodity falls, it becomes cheaper in relation to other commodities(substitutes). Thus, the consumer starts to substitute this commodity in place of other commodities. For eg. If the price of tea decreases, some people may shift their consumption from coffee to tea.

4.Change in the Number of Consumers :-

If the price of a particular commodity falls, some new consumers enter the market and start purchasing the commodity. Already existing consumers also start purchasing more of the commodity

5.Increase in the Number of Uses:-

When the price of a commodity falls , it will be put to more uses. This increases the quantity demanded of a commodity. For eg, when the price of electricity falls, it will be put to more uses like cooking.

Demand Function

The functional relationship between demand and its determinants is called demand function. ie, demand function describes the relationship between quantity demanded of a commodity and various factors determining its demand like *price of the commodity, income of the consumer, tastes and preferences of the consumer, price of related commodities, consumer's expectations* etc.

The demand function of a commodity can be written as : $D=f(P,Y,T,P_s,U)$

where D= Quantity demanded

P= Price of the Commodity

Y= Income of the Consumer

T= Tastes and Preferences of the Consumer

P_s = Price of Substitutes and Complements

U= Consumers' expectations and other factors

LAW OF DEMAND

The Law of demand explains inverse relationship that exists between price and quantity demanded.

The law states that, *other things remaining the same, as price of a commodity increases, its quantity demanded decreases and vice versa.* ie, there is an inverse relationship between price and the quantity demanded. At higher price, lower quantity will be demanded and at lower price higher quantity will be demanded, other things remaining equal.

Assumptions of the Law

1. *Income* of the consumer remains constant.
2. *Tastes and Preferences* of the consumer remains constant.
3. *Price of related goods*(substitutes and complements) remain the same.
4. The commodity has *no close substitutes*.
5. There is *no expectation of change in the price* of the commodity in the near future.
6. The commodity is a *normal commodity*

Exceptions to the Law of demand

Normally, as price increases, demand decreases and as price decreases, demand increases. But there are certain few cases in which the law of demand will not hold good. Following are the exceptions to the Law of Demand.

1. **Giffen's Goods**:- Sir Robert Giffen observed in the Mid-19th century that when the price of bread increased, the low-paid workers in Britain spent more on it since bread was their staple food and they cut on meat.i.e, they substituted bread for meat. This means that the demand for bread increased when its price went up, which is obviously an exception to the Law of Demand.

2.Necessities of Life:- The Law of Demand does not apply to necessary goods. Whatever may be the price, we buy certain quantity of necessary goods like **rice, salt, kerosene, matches, medicine, cooking gas** etc. An increase in price of such goods will not affect its demand.

3.Status Symbol Commodities;- There are certain goods which are purchased because of their status value.eg. *Diamond, Precious stones, Luxury cars, Air Conditioners etc.* These goods are regarded as status symbols of the rich. Whatever be the price of such goods, rich people buy them and display them to the public to earn social distinction.

4.Fear of future shortage(Price expectations):

-In case of a serious shortage is feared(eg. In times of war), *people may buy more even though the price is rising due to the fear of further price rise.* Similarly, when prices are falling, people may demand less, expecting a further price fall. This is very common in stock exchange.

5. Ignorance of the consumers:- *Sometimes the consumer may not know the prices prevailing in the market.* A consumer may buy more quantity at higher prices due to ignorance. Some times, *consumer may feel that high priced commodity is of better quality.* When the price of such goods falls they may feel that its quality also has declined and ,therefore, they do not buy it.

6.Commodities which are out of fashion:- If a commodity goes out of fashion, its demand may fall even when prices are falling.

7.Festivals, Marriages etc.:- In the seasons of festivals, marriage etc. people buy commodities even at a higher price.

8. Brand Loyalty:- If a consumer is loyal to a particular brand of a commodity, he will not like to change the brand even on a change in its price. For example, if a man always uses the Bata footwear, he will continue to use it even if its price increases.

ELASTICITY OF DEMAND

The concept of elasticity of demand has been introduced by Alfred Marshall to measure the change in demand. *Elasticity* means *responsiveness or sensitiveness*.

Elasticity of demand establishes relationship between the quantity demanded of a commodity and its determinants like price, income, price of related commodities etc.

TYPES OF ELASTICITY OF DEMAND

Following are the important elasticities of demand.

1. **Price Elasticity**:- *Price elasticity of demand measures the degree of responsiveness of demand for a commodity to a change in its price. It is measured by using the following formula.*

$ep = \frac{\text{Proportionate change in quantity demanded}}{\text{Proportionate change in Price}}$

2.Income elasticity:-

Income elasticity measures the change in demand in response to change in consumer's income. It is measured by using the following formula.

$ey = \frac{\text{Proportionate change in quantity demanded}}{\text{Proportionate change in income}}$

3. Cross elasticity:- *Cross elasticity measures the change in demand for a commodity due to change in price of another commodity. The commodities may be substitutes or complementaries.*

The following formula may be applied.

$$ec = \frac{\text{Proportionate change in quantity demanded of a commodity A}}{\text{Proportionate change in the price of commodity B}}$$

PRICE ELASTICITY OF DEMAND

Price elasticity of demand refers to the rate of percentage change in quantity demanded of a commodity to a given percentage change in its price.

$ep = \frac{\text{Proportionate change in quantity demanded}}{\text{Proportionate change in Price}}$

or

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

$\frac{\text{Change in Price}}{\text{Original Price}} \times 100$

$$E_p = \frac{\frac{\Delta Q}{Q} \times 100}{\frac{\Delta P}{P} \times 100} = \frac{\Delta Q}{Q} \div \frac{\Delta P}{P}$$

$$= \frac{\Delta Q}{Q} \times \frac{P}{\Delta P} = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

$$\text{Ques, } E_p = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

where, E_p = Price elasticity of demand

Q = Original quantity

P = Original price

ΔQ = change in quantity

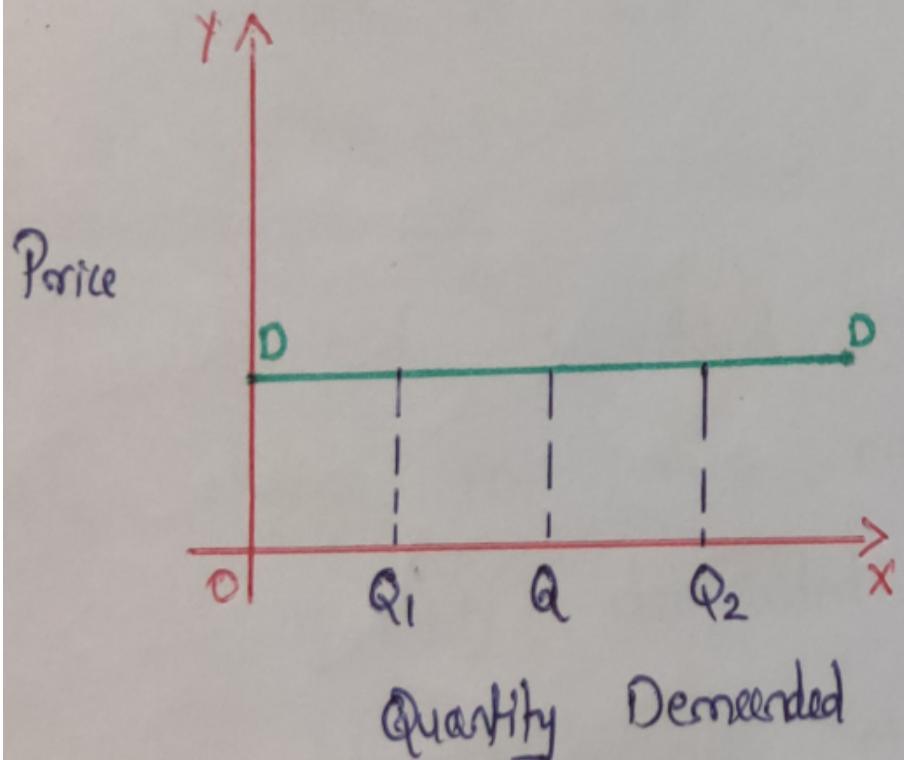
ΔP = change in price.

Degrees of Price Elasticity

On the basis of the degrees of responsiveness of demand to the change in the price, elasticity of demand is generally classified into five categories.

1. Perfectly elastic demand:-

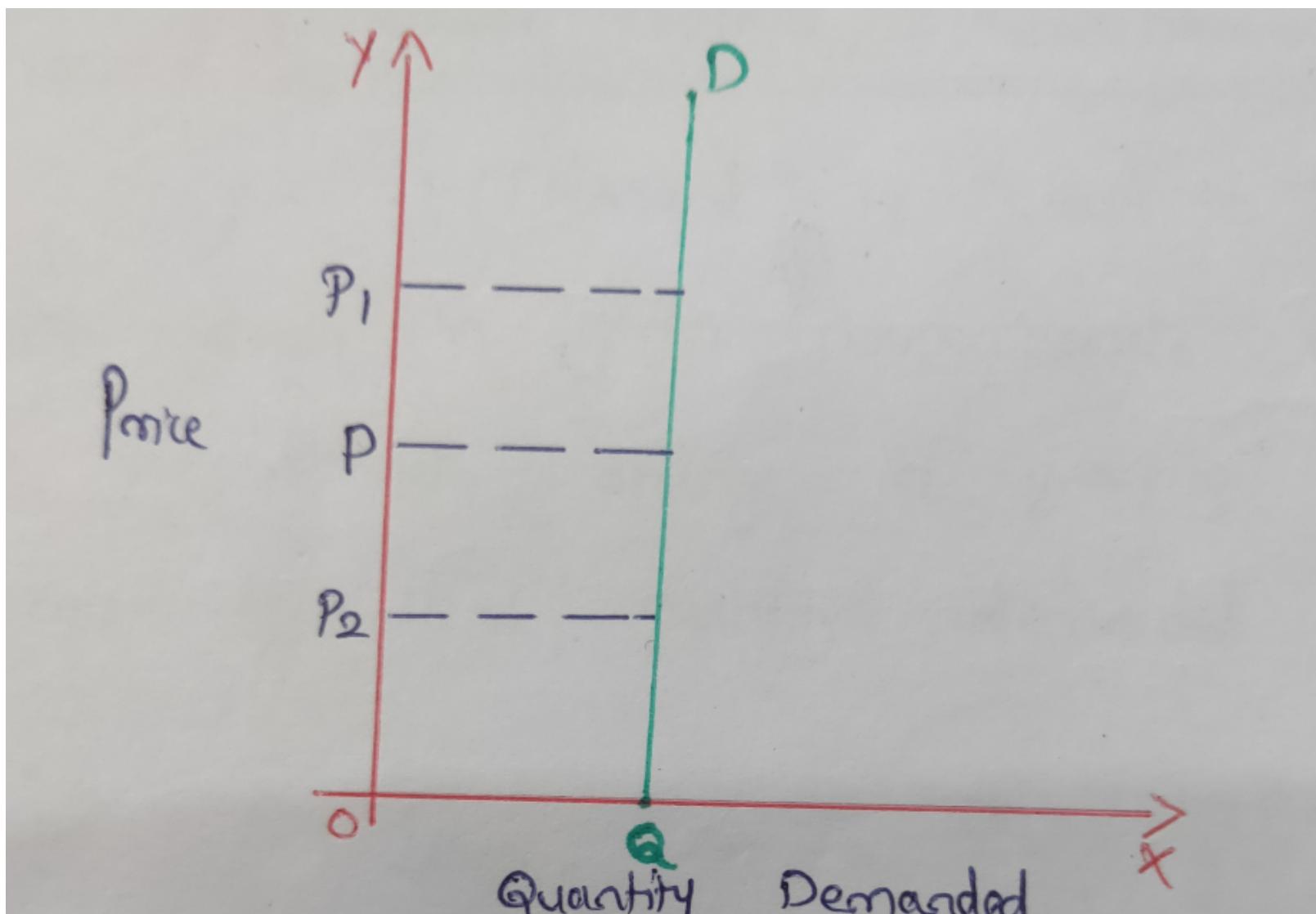
Demand for a commodity is perfectly elastic if a slight change in price causes infinite change in quantity demanded. Perfectly elastic demand curve will be a horizontal straight line parallel to X-axis. This is shown in the following figure.



Perfectly elastic demand ($e = \infty$)

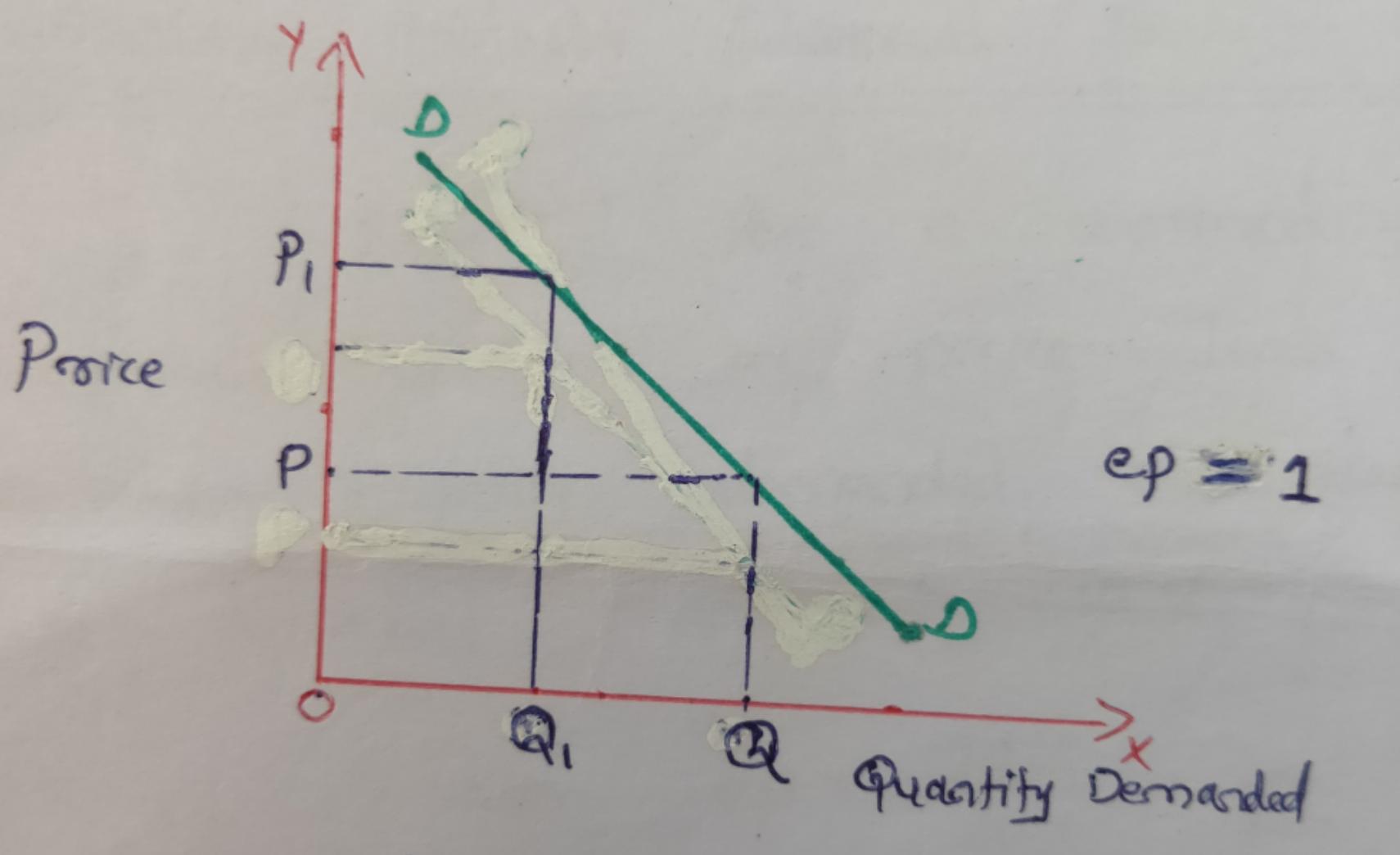
In the figure, the demand curve DD which is a horizontal straight line parallel to the X-axis showing that the slightest fall in the price leads to an infinite change in demand.i.e, $\epsilon_p=\infty$. As per the diagram, at OD price the quantity demanded is OQ. Here, at the same price, demand increases to OQ₂ and decreases to OQ₁.This situation is called perfectly elastic demand.

2. Perfectly Inelastic Demand:- Demand for a commodity is said to be perfectly inelastic if quantity demanded does not change at all in response to change in the price of commodity. Here, the demand curve will be a vertical straight line parallel to 'Y' axis.



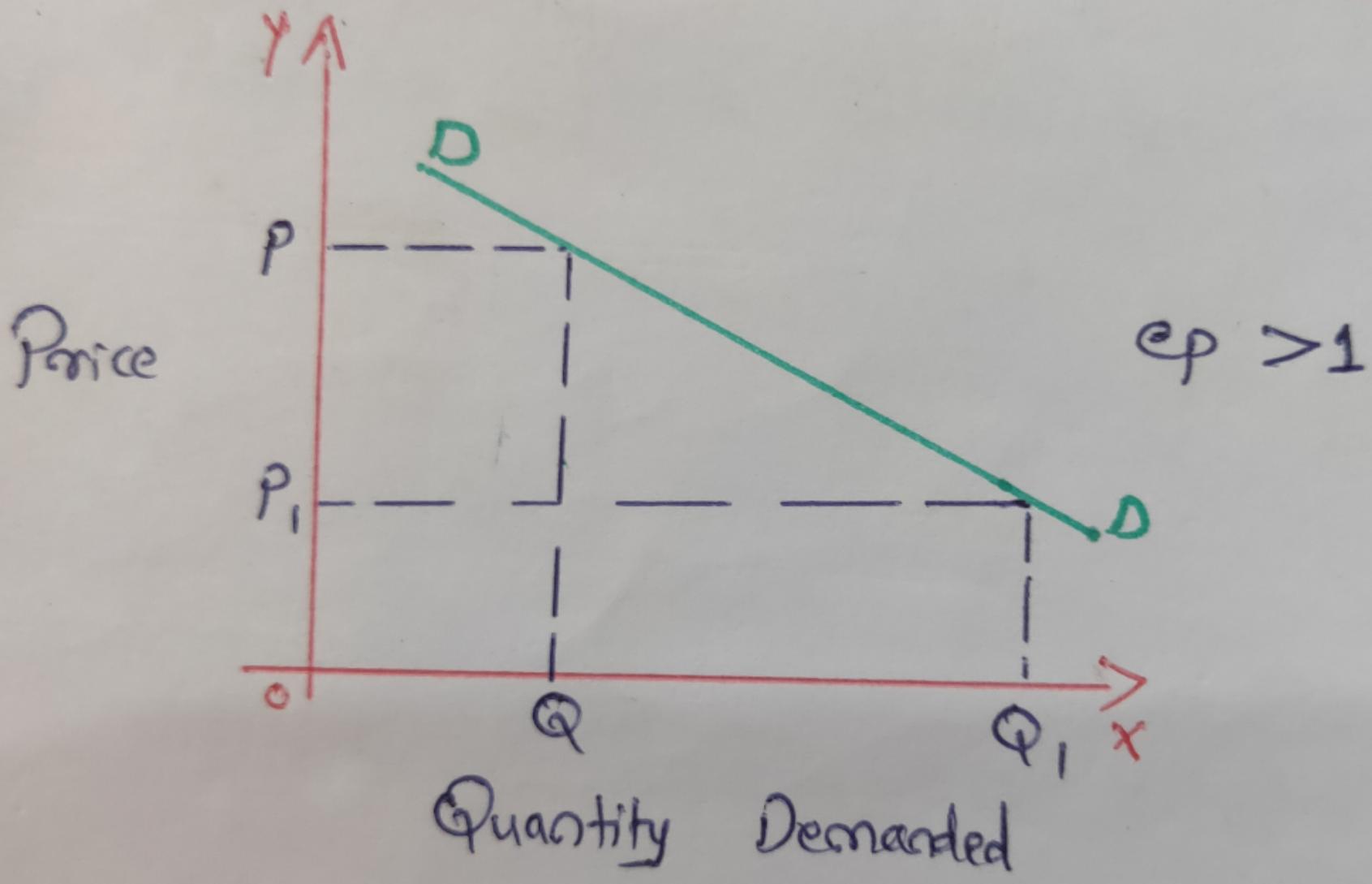
3. **Unitary elastic demand**:- Demand is said to be unitary elastic if a given proportionate change in price causes an equal proportionate change in the quantity demanded. For example, if price changes by 10%, quantity demanded also changes by 10%.

Here, elasticity of demand is equal to 1



4.Relatively Elastic Demand/Elastic Demand/ More Elastic Demand:- Demand is said to be relatively elastic or more elastic when a given proportionate change in price causes a more than proportionate change in quantity demanded. For example, if price changes by 10%, quantity demanded changes by 30%.

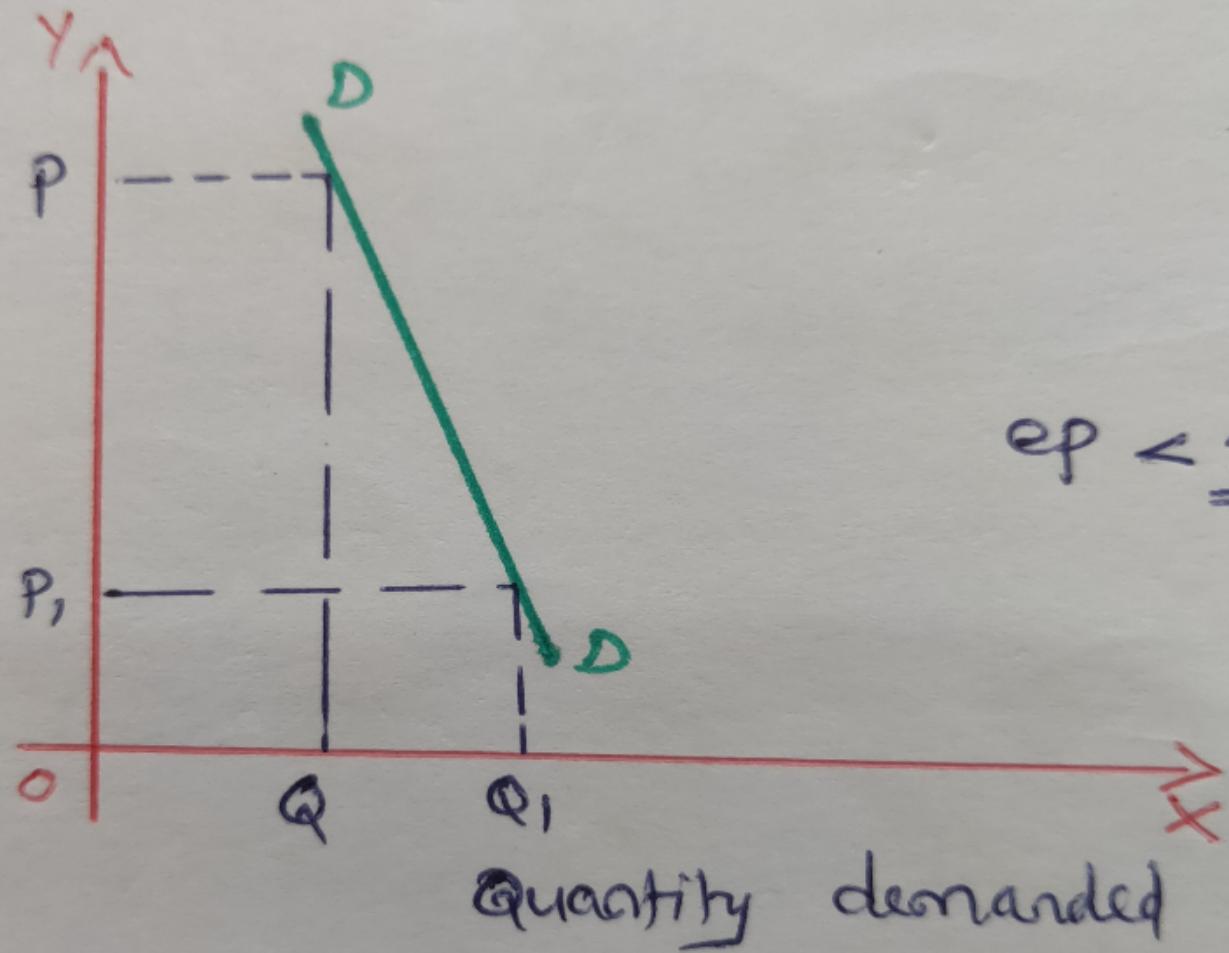
Here, e_p is greater than 1



5. Relatively Inelastic Demand/ Inelastic Demand/ Less Elastic Demand:- Demand for a commodity is inelastic if a given proportionate change in price leads to a less than proportionate change in quantity demanded. For eg, if price changes by 20%, quantity demanded changes by 10%.

Here, elasticity of demand is less than 1

Price



$$e_p < \underline{1}$$

MEASUREMENT OF ELASTICITY OF DEMAND

There are various methods by which we can measure the price elasticity of demand for a given commodity. Important methods are : Proportional or Percentage Method, Total Outlay Method, Point Method and Arc Method

1. Proportional or Percentage Method:-

In this method, elasticity can be measured by using the formula,

$$E_p = \frac{\text{Proportionate Change in quantity demanded}}{\text{Proportionate change in price}}$$

$$\delta p = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

1. Define price elasticity of Demand. A company producing soft drink is selling its product for Rs.22. It sells 1000 units and then increases the price to Rs.24. Now sales fall to 900 units. What is the price elasticity of soft drink? Is the demand elastic or inelastic? Why?

2.a) List out the advantages and disadvantages of Joint Stock Company.

b) Define Cross elasticity of Demand. A Tea manufacturing company was able to sell 8000 kg of Tea when the price of Coffee was Rs.70 per kg. Later, they were able to sell 9000 kg when the price of coffee became Rs.80 per kg. Calculate the Cross elasticity of demand for Tea. Are the Two commodities Substitutes or Complements? Give reason.

3.What are the Basic economic Problems?

4. Explain Production Possibility curve.

(Fifth semester B.Tech degree Exam, December 2021)

2.Expenditure/ Total Outlay Method:- In this method, elasticity of demand is measured by comparing total expenditure on the commodity before and after the price change.

There are three possibilities.

1. When Total Expenditure remains the same before and after the price change, elasticity is equal to unity..... $ep=1$
2. When Total Expenditure increases with a fall in price and decreases with a rise in price, elasticity will be greater than unity..... $ep>1$
3. When Total Expenditure decreases with a fall in price and increases with a rise in price, elasticity will be less than unity.... $ep<1$

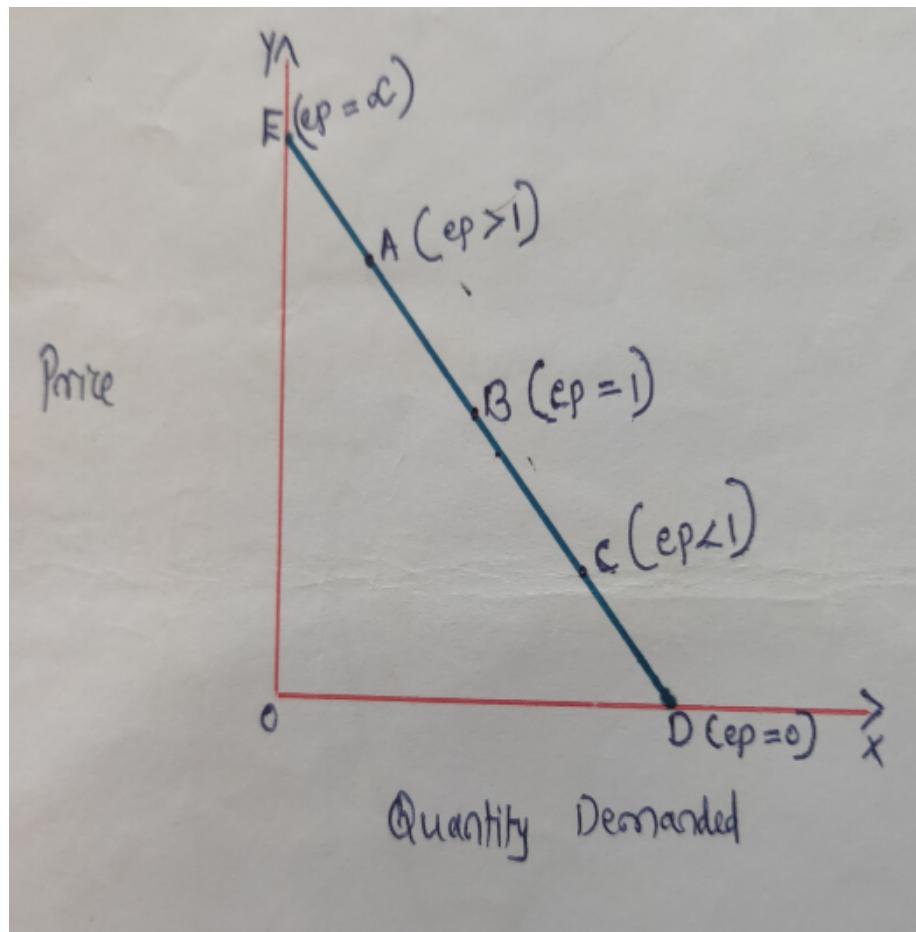
Price(P)	Quantity Demanded(Q)	Total Expenditure(PxQ)
18	3	$18 \times 3 = 54$
15	4	$15 \times 4 = 60$
12	5	$12 \times 5 = 60$
9	6	$9 \times 6 = 54$

3. **Geometric Method/ Point Method/ Straight Line Method**:- Elasticity of Demand may be different at different points on a straight line demand curve. Straight line demand curves are of three types:
- (a) Horizontal Straight Line parallel to “x” axis,
 - (b) vertical straight line parallel to ‘Y’ axis and
 - (c) Straight line moving downwards from left to right.

Straight line moving downwards from left to right:-

For calculating elasticity in this case, the following steps are taken.

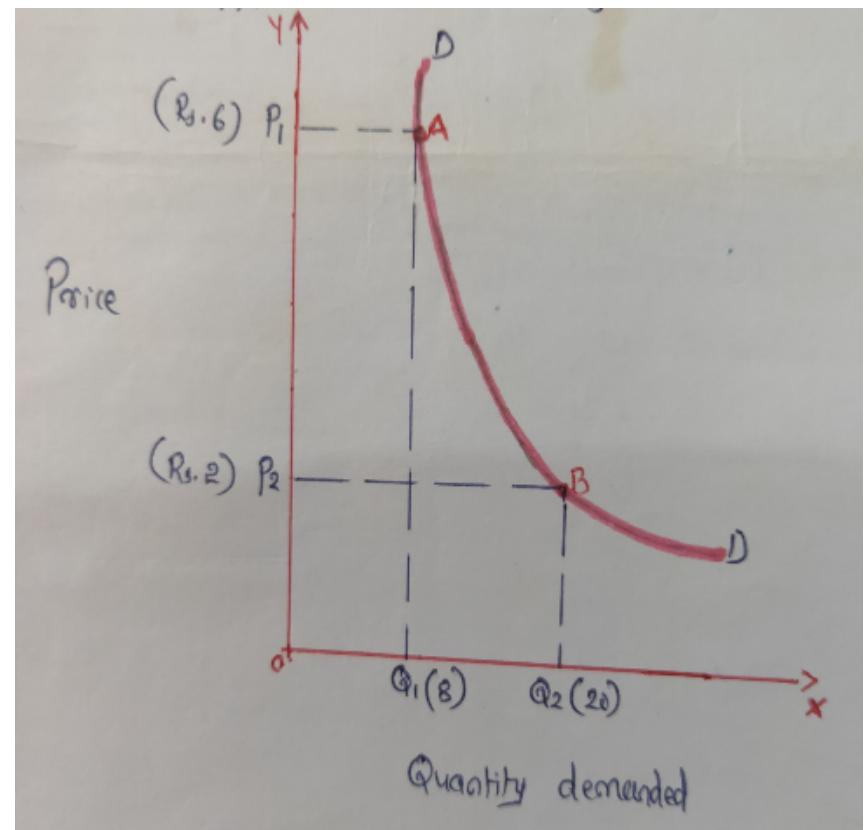
1. Straight line demand curve is first extended both side to join Y-axis at E and X-axis at D.
2. The midpoint of the demand curve(say point B) which divides the demand curve in to two equal portions- upper portion BE and lower portion BD. Point A is located in the upper portion and point C in the lower portion.
3. Elasticity at any point on the straight line demand curve is calculated by dividing lower segment by upper segment.



4. Arc method:- We may come across demand schedules in which there are wide gaps in price as well as in demand. In such a situation of substantial change in price and consequent change in quantity demanded, elasticity cannot be measured at a point on the demand curve. In this case arc method is used to determine elasticity. An 'Arc' is a portion or segment of demand curve.

Arc elasticity is a measure of the average elasticity.i.e, the elasticity at the midpoint of the arc that connects 2 points(A and B) on the demand curve DD in the following figure.

Arc elasticity is a measure of the average elasticity. ie, the elasticity at the midpoint of the arc that connects 2 points(A and B) on the demand curve DD in the following figure.



The following formula is used to measure the elasticity

$$ED = \frac{\Delta Q}{\Delta P} \times \frac{(P_1 + P_2)}{(Q_1 + Q_2)}$$

or

$$\frac{Q_1 - Q_2}{P_1 - P_2} \times \frac{P_1 + P_2}{Q_1 + Q_2}$$

Factors affecting Price Elasticity of Demand

1. Nature of the commodity:- Elasticity depends on whether a commodity is a necessity, comfort or luxury. Generally, necessities of life have inelastic demand and comforts and luxuries have elastic demand.
2. Number of Uses of the commodity:- Certain goods can be put to many uses. For eg. Electricity. Such goods have elastic demand because as the price decreases, they will be put to more uses. If a commodity has only few uses, its demand will be inelastic.

3. Availability of Substitutes:- Goods with substitutes have elastic demand and goods without substitutes have inelastic demand. For example, coffee and tea are substitutes. If the price of tea increases, people may switch over to tea. Thus, substitute goods have elastic demand. If a commodity has no substitutes, its demand will be inelastic. The demand for salt is inelastic mainly due to this reason.

4. Income of Consumers:- Generally, rich people have inelastic demand for goods while poor people have elastic demand.

5. Proportion of Income spent:- If a consumer is spending only a small portion of his total income on the consumption of a commodity, the demand for such commodity will be inelastic. For example, salt, match box etc. On the other hand, if a consumer spends a major part of his income on a commodity, its demand will be elastic.

6. Habit of Consumers:- If a consumer is habitual of a particular product or a particular brand of a product, its demand will be relatively inelastic. For example, the demand for tobacco has proved to be relatively inelastic partly because the smoking habit is very strong and there is no close substitute for tobacco.

7. Postponement of the use of commodity:- If we can postpone the consumption of some commodities to a future date, such commodities will have elastic demand. For example, purchase of T.V, Car etc. can be postponed for next season. Therefore, their demand will be elastic. The commodity, of which, the use cannot be postponed will have relatively inelastic(or inelastic) demand. Examples, medicines, food grains etc.

8. Demand for complementary goods:- Demand for complementary goods depends upon the demand for the main product. If the demand for the main product is elastic, the demand for complementary goods also will be elastic.(eg. Car and petrol). If the demand for the main product is inelastic, the demand for complementary goods also will be inelastic. (eg. Pen and Ink)

9. Distribution of Income and wealth:- If there is unequal distribution of income and wealth in the society, the demand for commodities, in general, will be relatively inelastic. If the distribution of income and wealth in a society is equal, the demand for commodities, in general, will be elastic.

10. Durability of the commodity:- Durable commodities have elastic demand and non-durable commodities have inelastic demand.

11. Range of prices of Commodities:- Generally, cheap goods have inelastic demand and expensive goods have elastic demand.