Demand

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- Demand is the **quantity of a commodity** that a consumer is **willing and able to buy**, at each possible price during a given period of time.
- The definition of demand highlights four essential elements of demands :

(i) Quantity of the commodity.

(ii) Willingness to buy

(iii) Price of the commodity

(iv) Period of time

Demand for a commodity may be either with respect to an individual or to the entire market .

1. Individual demand : (Single Consumer)

- It refers to the quantity of a commodity **that a consumer** is **willing and able** to buy, at each possible price during a given period of time.

2. Market demand : (All Consumer)

- It refers to the quantity of a commodity **that all consumers** is **willing and able** to buy, at each possible price during a given period of time.

Determinants of Demand (Individual Demand)

Demand for a commodity **increases or decreases** due to a **number of factors**. The various factors affecting demand are discussed below :

1. Price of the Given Commodity :

- It is the most **important factor** affecting demand is the price for the given commodity.
- Generally, there **exists an inverse relationship** between **price and quantity demanded.**
- It means, **as price increases**, **quantity demanded falls due to decrease in the satisfaction level of consumers.**

2. Price of Related Goods :

- Related goods are the goods in which change in price of **one good (say, x)** causes a change in the **demand for other good (say, y).**
- Demand for the given commodity is also **affected** by change in prices of the related goods. Related goods are of **two types:**

(i) Substitute Goods : (IMP)

- Substitute goods are those goods which **can be used in place of one another** for satisfaction of a particular want, like tea and coffee.
- **An increase in the price of substitute leads to an increase in the demand for given commodity and vice- versa.**
- **For Eg. If the price of a substitute goods (coke) increase then demand of given goods (Pepsi) will rise .**

(ii) Complementary Goods : (IMP)

- Complementary goods are those goods which are **used together to satisfy a particular want**, like tea and sugar.
- **An increase in the price of Complementary good leads to a decrase in the demand for given commodity and vice- versa.**
- **For Eg.** If the price of **petrol** increase then the demand for **cars** fall as it becomes relatively costlier to use both good together .

3. Income of the Consumer :

- Demand for a commodity is also affected by income of the consumer. However, the effect of change in income on demand **depends on the nature of the commodity** under consideration.

(a) If the given commodity is a **normal good**, then an **increase in income leads to rise in its demand**, while a **decrease in income reduces the demand.**

(b) If the given commodity is an **inferior good**, then an **increase in income reduces the demand**, while a **decrease in income leads to rise in demand.**

4. Tastes and Preferences :

- Tastes and preferences of the consumer **directly influence the demand for a commodity.**
- They include changes in **fashion**, **customs**, **habits** etc.
- If a commodity **is in fashion** or is preferred by the consumers, then demand for such a **commodity rises.**
- On the other hand, demand for a **commodity falls**, if the consumers **have no taste** for that commodity.

Que . Difference between Change in Quantity Demanded Vs Change in Demand ?

Solution :

1. Change in Quantity Demanded :

- Quantity demanded refers to **specific quantity** to be **purchased** against **specific price** of the commodity.
- Whenever demand for the given commodity **changes due to change in its own price**, then such change in demand is known as " **Change in Quantity Demanded** "

2. Change in Demand :

- Whenever demand for the given commodity **changes due to factors other than price**, then such change in demand is known as " **Change in Demand**"

Determinants of Market Demand :

- Market demand is influenced by all the **factors affecting individual demand** for a commodity .

1. Size and Composition of Population :

- Market demand for a commodity is **affected by size of population** in the country .
- **Increase in population raises the market demand**, while **decrease in population reduces the market demand.**

2. Season and Weather :

- The seasonal and weather conditions also **affect the market demand for commodity.**

3. Distribution of Income :

- If income in the country is **equitably distributed** , then **market demand for commoditities will be more.**
- However, if **income distribution is uneven**, i.e. people are either very rich or very poor, then market demand will remain **at lower level.**

Demand Function :

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- Demand function **shows the relationship** between **quantity demanded** for a particular commodity **and the factors** influencing it.
- It can be either with respect to **one consumer (individual demand function)** or to **all the consumers** in the market **(market demand function)**

Individual Demand Function :

- Individual demand function refers to the **functional relationship** between **individual demand** **and** **the factors affecting individual demand.**

It is expressed as : $D_x = f(P_x, P_r, Y, T, F)$

where,

D_x = Demand for Commodity X

P_x = Price of the given Commodity X

P_r = Prices of Related Goods

Y = Income of the Consumer

T = Tastes and Preferences

F = Expectation of Change in Price in Future.

Market Demand Function :

- Market demand function refers to the **functional relationship** between **market demand** **and** **the factor affecting market demand.**

- As mentioned before, **market demand** is affected by all factors **affecting individual demand**. Also affected by **size** **and** **composition of population**, **season** **and** **weather** **and** **distribution of income.**

It is expressed as : $D_x = f(P_x, P_r, Y, T, F, P_0, S, D)$

where,

D_x = Demand for Commodity X

P_x = Price of the given Commodity X

P_r = Prices of Related Goods

Y = Income of the Consumer

T = Tastes and Preferences

F = Expectation of Change in Price in Future.

P_0 = Size and Composition of Population

S = Season and Weather

D = Distribution of Income

Demand Schedule :

- Demand schedule is a **tabular statement** showing various **quantities of a commodity** being demanded **at various levels of price**, **during a given period of time**. It shows the **relationship** between **price of the commodity** **and** **its quantity demanded.**

- A demand schedule can be determined both for **individual buyers** **and** **for the entire market**. So, demand schedule is of two types :

1. Individual Demand Schedule
2. Market Demand Schedule

1. Individual Demand Schedule :

- Individual demand schedule refers to a **tabular statement** showing various **quantities of a commodity** that **a consumer** is willing to buy **at various level of price**, **during a given period of time.**

Price (in Rs.)	Quantity Demanded of commodity X (in units)
5	1
4	2
3	3
2	4
1	5

2. Market Demand Schedule :

- Market demand schedule refers to a **tabular statement** showing showing various **quantities of a commodity** that **all the consumer** willing to buy **at various level of price**, **during a given period of time.**

- It is the **sum of all individual demand** schedules **at each and every price.**

It is expressed as : $D_M = D_A + D_B + ...$

D_M is the market demand and **$D_A + D_B + ...$** are the individual demands of Household A, Household B and so on.

Price (in Rs.)	Individual demand (in units)		Market Demand (in units) ($D_A + D_B$)
	Household A (D_A)	Household B (D_B)	
5	1	2	1 + 2 = 3
4	2	3	2 + 3 = 5
3	3	4	3 + 4 = 7
2	4	5	4 + 5 = 9
1	5	6	5 + 6 = 11

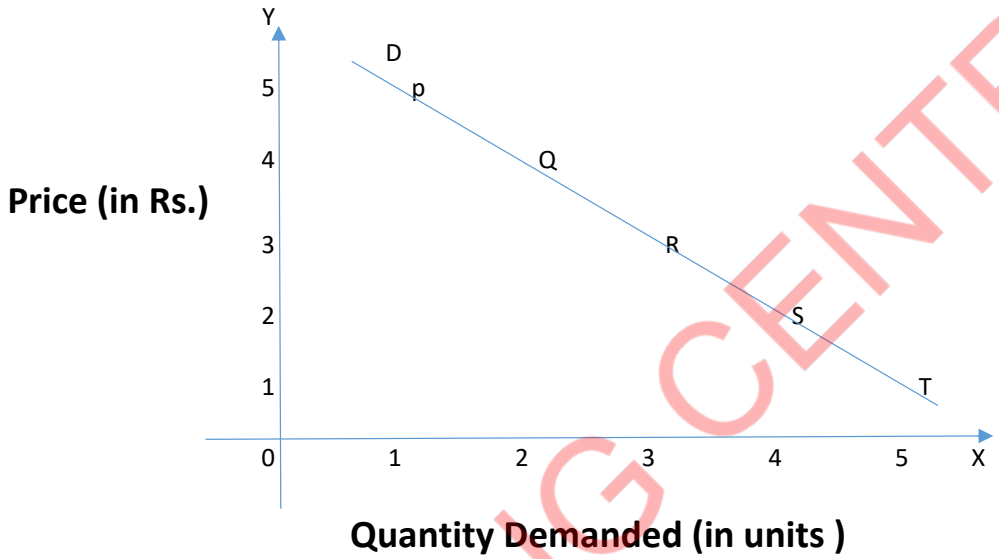
Demand Curve : (IMP)

- Demand Curve is a **graphical representation** of demand schedule .
- It is the **locus of all the points** showing various quantities of a commodity that a consumer is willing to buy at various levels of price, during a given period of time, assuming no change in other factors.
- It shows the **inverse relationship** between the quantity demanded of a commodity with its price, keeping other factor constant.
- It can be drawn for any commodity by plotting each combination of demand schedule on a graph.
- Like demand schedules, demand curves can also be drawn both for individual buyers and for the entire market . So, demand curve is of two types :

(i) Individual Demand Curve
(ii) Market Demand Curve

(i) Individual Demand Curve :

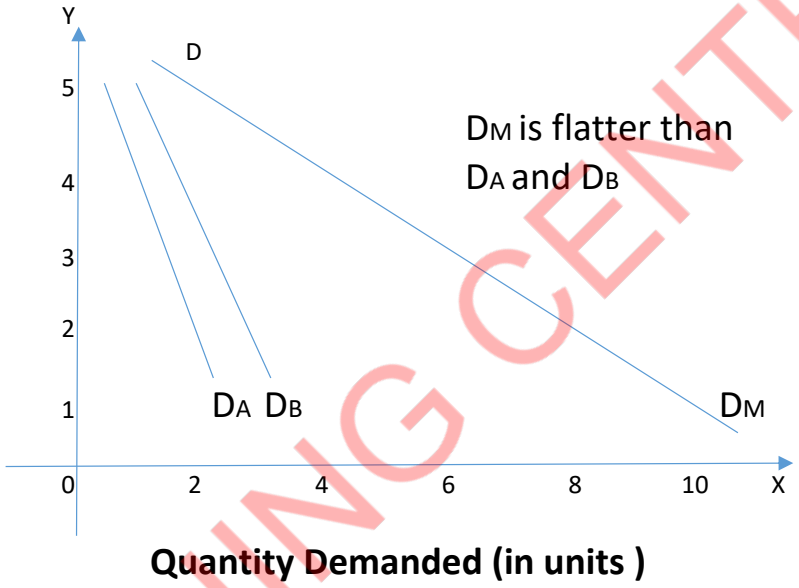
- Individual demand Curve refers to a **graphical representation** of Individual demand schedule .



The demand Curve 'DD' slopes downwards to inverse relationship between price and quantity demanded.

(ii) Market Demand Curve :

- Market demand Curve refers to a **graphical representation** of market demand schedule .
- It is obtained by **horizontal summation** of individual demand curves.



Market Demand Curve is Flatter :

- Market demand curve is **flatter than** the individual demand curve .
- It happens because as price changes, proportionate change in market demand is more than proportionate change in individual demand.

Slope of Demand Curve :

Slopes of Demand Curve = $\frac{\text{Change in Price}}{\text{Change in Quantity}}$

Law of Demand : (IMP)

- Law of demand states the **inverse relationship** between **price and quantity demanded**, keeping other **factors constant** . This law is also known as **' First Law of Purchase'** **(1 Marks)**

Assumptions of Law of Demand :

- While stating the law of demand, we use the phrase ' keeping other **factors constant .**
- **This phrase is used to cover the following assumption on which the law is based :**

1. Prices of substitute goods do not change.
2. Prices of complementary goods remain constant.
3. Income of the consumer remains the same.
4. There is no expectation of change in price in the future.
5. Tastes and preference of the consumer remain the same.

(Fig 3.1)

Q. Reason behind the Operation of Law of Demand ?

Q. Why there is an inverse relationship between Price and Quantity demanded ?

Reason for Law of Demand :

1. Law of Diminishing Marginal Utility :

- Law of diminishing marginal utility states that as we **consume more and more units of a commodity**, the utility derived from each successive unit goes on **decreasing.**
- Demand for a commodity depends on its **utility.**
- If the consumer gets more satisfaction, he will pay more.

2. Substitution Effect :

- Substitution effect refers to substituting **one commodity** in **place of other** when it becomes **relatively cheaper.**
- When **price of the given commodity falls**, it becomes relatively **cheaper** as compared to its substitute (assuming no change in price of substitute).
- As a result, demand for the given commodity rises.

3. Income Effect :

- Income effect refers to **effect on demand** when **real income of the consumer changes** due to **change in price** of the given commodity.
- When **price of the given commodity falls**, it increases the purchasing power (real income) of the consumer.
- As a result, he can purchase more of the given commodity with the same money income.

4. Additional Customers :

- When price of a commodity falls, many new consumers, who were not in a position to buy it earlier due to its high price, starts purchasing it.
- In addition to new customers, old consumers of the commodity starts demanding more due to its reduced price.

5. Different Uses :

- Some commodities like **milk, electricity**, etc. have several uses, some of which are more important than the other.
- When price of such a good (say, milk) increases, it uses get restricted to the most important purpose (say, drinking) and demand for less important uses (like cheese, butter, etc) get reduced.
- However, when the price of such a commodity decreases, the commodity is put to all its uses, whether important or not.

Expectation to Law of Demand :

1. Giffen Goods :

- There are **special kind** of inferior goods on which the **consumer spend a large part of his income and** their **demand rises** with an **increase in price** and **demand falls** with **decrease in price.**

Example :

Cereals like Jowar and bajra falls, the consumer have a tendency to spend less on them and shift on superior cereals like wheat and rice.

2. Status Symbol Goods or Goods of Ostentation :

- The exception relates to certain prestige goods which are used as status symbols.
- Such **goods are demanded only** because their **prices are very high** . If their **prices falls**, they will no longer be considered symbol goods and their **demand will decrease.**

Example :

Diamond, Gold, etc are bought due to prestige .

3. Fear of shortage :

- If the **consumers except a shortage or scarcity of a particular commodity** in the near future, then they would start buying more and more of that commodity in the current period **even if their prices are rising.**

Example :

During emergencies like war, famines etc.

4. Ignorance :

- Consumer may **buy more of a commodity at a higher price** when they are **ignorant of the prevailing prices** of the commodity in the market.

5. Fashion related goods :

- Goods related to **fashion do not follow the law of demand and** their **demand increases** even with a **rise in their prices.**

Example :

Commodities like rice, wheat, salt, medicines etc. are purchased even if their price increase.

Change in Demand

Due to change in Price	Due to change in other factors
Termed as change in **Quantity demanded**	Termed as change in **demand**
Graphically Expressed as **movement along demand curve**	Graphically Expressed as **shift in demand curve**

Downward Movement	Upward Movement
Expansion	**Contraction**

Increase	Decrease

Upward Movement :

- When **price rises**, **quantity demanded falls (Known as contraction in demand)** leading to an **Upward movement** along the same demand curve.

Downward Movement :

- When **price fall**, leads to **increase in quantity demanded (Known as contraction in demand)** leading to an **Upward movement** along the same demand curve.

Expansion in Demand :

- Expansion in demand refers to a **rise in the quantity demanded due to a fall in the price of commodity**, other **factors remaining constant .**

1. It leads to a downward movement along the same demand curve .

2. It is also known as ' **Extension in Demand**' **or** ' **Increase in Quantity Demanded**'.

Price	Demand (units)
20	100
15	150

Contraction in Demand :

- Contraction in demand refers to a **fall in the quantity demanded due to a rise in the price of commodity**, other **factors remaining constant .**

1. It leads to a upward movement along the same demand curve .

2. It is also known as ' **Contraction in Demand**' **or** ' **Decrease in Quantity Demanded**'.

Price	Demand (units)
20	100
25	70

Cross Demand :

- Cross demand refers to the relationship between the demand of a given commodity and the price of related commodities, other things remaining the same.
- Cross demand indicates how much quantity of a given commodity will be demanded at different prices of a related commodity (substitute or complementary)

It can be expressed as : $D_x = f(p_y)$

D_x = Demand for the given commodity.

P_y = Price of the related commodity.

Cross Demand can be either Positive or Negative

- Cross demand is **positive** in case of **substitute goods** as demand for the given commodity varies **directly** with the prices of substitutes goods.
- Cross demand is **negative** in case of **complementary goods** as demand for the given commodity varies **inversely** with the prices of complementary goods.

Changes in Price of Substitute Goods :

- A change (increase or decrease) in the price of substitutes directly affects the demand for a given commodity :

(a) Increase in Price of Substitute Goods :

- When price of substitute goods (say, coffee) rises, demand for the given commodity (say, tea) also rises at its same price.
- It leads to rightward shift in the demand curve of given commodity .

(b) Decrease in Price of Substitute Goods :

- When decrease in price of substitute goods (coffee), demand for the given commodity (tea) also decrease at the same price.
- It shift the demand curve of given commodity toward left .

Changes in Price of Complementary Goods :

- An (increase or decrease) in the prices of Complementary goods inversely affects the demand for a given commodity :

(a) Increase in Price of Complementary Goods :

- When **price** of complementary goods (say, sugar) **rises**, **demand** for the given commodity (say, tea) **falls** at its **same price.**
- It leads to demand curve of given commodity **shift to the left.**

(b) Decrease in Price of Complementary Goods :

- When **decrease in price** of complementary goods (sugar), demand for the given commodity (tea) **increase at the same price.**
- The demand curve of given commodity toward shifts to the right .

Effect on Demand Curve (with change in income)

- A change in **income** causes a **positive change** in demand for **normal goods**, whereas a **negative change** occurs in the case of **inferior goods.**
- So, the **demand curve** of a given commodity is **affected by change in income** in case **normal goods and inferior goods.**

Changes in income (Normal Goods) :

- A change **(increase or decrease)** in the income of consumer directly **affects the demand** for a given commodity :

(a) Increase in Income :

- As **Income rises**, the demand for normal goods (say, T.V) also **rises** at the **same price**.
- It leads to **rightward shift** in the demand curve of normal goods .

(b) Decrease in Income :

- With **fall** in **income**, the demand for normal goods (Tv) **fall** at the **same price**.
- It shift the demand curve of normal goods **toward left** .

Changes in income (Inferior Goods) :

- An **(increase or decrease)** in income **affects the demand inversely**, if the given commodity is an inferior goods.

(a) Increase in Income :

- As **Income increases**, the demand for inferior goods (say, black and white T.V) **falls** at the **same price.**
- It leads to **leftward shift** in the demand curve of inferior goods .

(b) Decrease in Income :

- As **Income decreases**, the demand for **inferior goods** (say, black and white T.V) **rises** at the **same price.**
- It leads to **rightward shift** in the demand curve of inferior goods .

Rightward and Leftward Shift in Demand Curve :

In addition to change in prices of related goods and income of the consumer, the demand curve also shift due to various other factor.

Rightward Shift

Demand curve shifts toward right :

1. Increase in Price of Substitute Goods.
2. Decrease in Price of Complementary Goods.
3. Increase in Income (Normal Goods)
4. Decrease in Income (Inferior Goods)
5. Increase in Population.
6. Tastes in favour of Commodity .
7. Expectation of future increase in price.

Leftward Shift

Demand curve shifts toward Left :

1. Decrease in Price of Substitute Goods.
2. Increase in Price of Complementary Goods.
3. Decrease in Income (Normal Goods)
4. Increase in Income (Inferior Goods)
5. Decrease in Population.
6. Tastes not in favour of Commodity .
7. Expectation of future increase in price.

Kind of Demand

1. Price Demand :

- Price demand refers to a **relationship** between the **price** and **demand** of a commodity, **assuming other factors constant.**
- **It can be shown as $D_x = f(P_x)$, where: D_x = Demand for the given commodity ; f = functional relationship; P_x = Price of the given commodity.**

2. Income Demand :

- Income demand refers to a **relationship** between the **income of consumer** and **the quantity demanded** of a commodity, **assuming other factors constant.**
- **It can be shown as $D_x = f(Y)$, where: D_x = Demand for the given commodity ; f = functional relationship; Y = Income of the consumer.**

3. Cross Demand :

- Cross demand refers to a **relationship** between the **demand** of a given commodity and the **prices** of related commoditities, **assuming other factors constant.**

4. Joint Demand :

- When **two or more goods** are **demanded simultaneously** to **satisfy a particular want**, then such a demand is called joint demand.

For Example :

Demand for sugar, milk and tea leaves is a joint demand.

5. Composite Demand :

- When a commodity can be put in **several uses**, its demand is known as composite demand.

For Example :

Demand for electricity is a composite demand uses like lighting rooms, running the refrigerator, T.V, A.C .

6. Derived Demand :

- Demand for a commodity, which depends on the **demand for other goods**, is known as derived demand.

For Example :

Demand for labour producing cloth is a derived demand as it depends on the demand for cloth.

7. Direct Demand :

- When a commodity **satisfies** the **wants directly**, its demand is termed as direct demand.

For Example :

Demand for clothes, books, food is a direct demand as these items satisfy the want directly.

8. Alternative Demand :

- Demand is known as alternative demand, when it can be satisfied by different alternatives.

For Example :

There are no. of alternative to satisfy the demand for food like chapatti, rice, salad, fruits, burger, pizza.

9. Competitive Demand :

- When **two goods** are close substitutes of each other and **increase in demand** for **one** of them will **decrease the demand** for the **other**, **then the demand for any one of them** is known as competitive demand.

For Example :

Increase in demand for coffee might reduce the demand for tea.