# ANALYSIS OF CONSUMER DEMAND

(i)The basis of consumer demand for a commodity;

**(ii)** The determinants of consumer demand for a product;

(iii)Demand Function and Law of Demand

**(iv)** How equilibrium quantity of demand for a product is determined;

**(v)** How consumers respond to change in the product price, their income, and change in price of related goods – complements and substitutes?

# Meaning of Demand:

- **The term 'demand' means desire, need or want for some thing. In economic sense, however, the term 'demand' means a '*desire for a commodity backed by the ability and willingness to pay for it.*'**

- ***It implies that unless a person has adequate purchasing power or resources and willingness to spend his resources, his desire alone for a commodity would not be considered as his demand.***

- ***For example, if a man wants to buy a car but he does not have sufficient money to pay for it.***
- ***If a rich miserly person wants to buy a car but is not willing to pay for the car.***
- ***But if a man has sufficient money and is willing to pay the price of the car, his desire to buy a car is an effective demand.***

- **A want with *three attributes—desire to buy, ability to pay and willingness to pay—becomes effective demand. Only an effective demand figures in economic analysis and business decisions.***

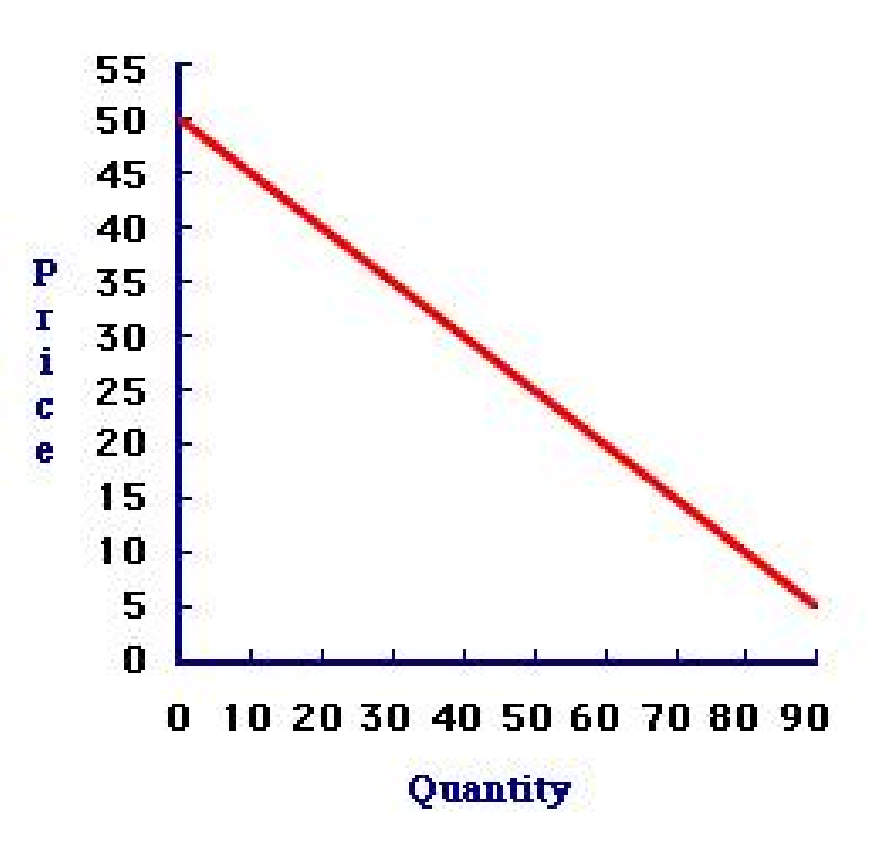
- **In regard to market demand, the term 'demand' for a commodity (i.e., quantity demanded) has always a reference to 'a price', 'a period of time' and 'a place'.**

# The Law of Demand

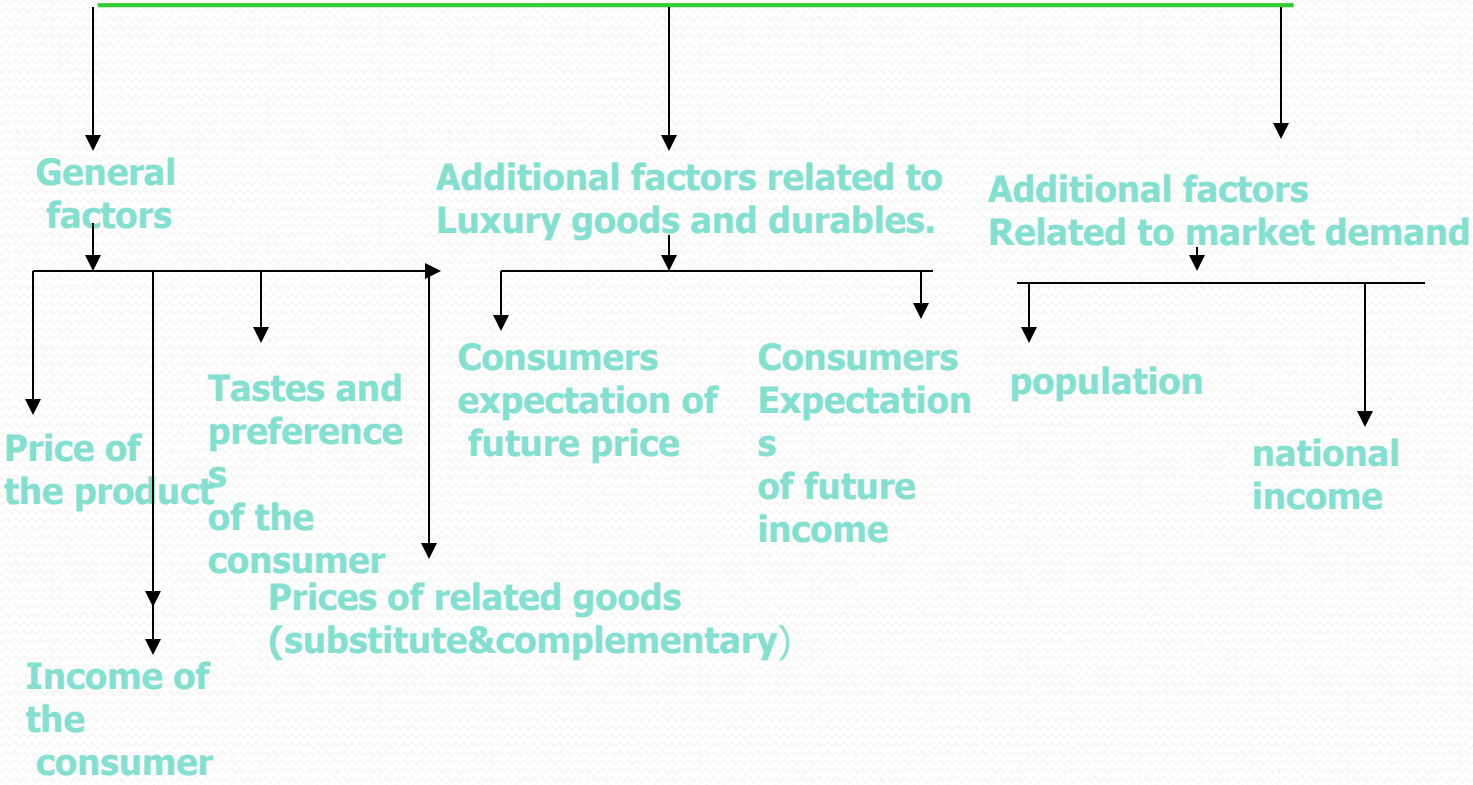
- Ceteris Paribus (Otherthings remaining constant), there is an inverse relationship between price of a commodity and its quantity demanded.
- When a good's price is lower, consumers will buy more of it
- When a good's price is higher, consumers will buy less of it

# Demand Schedule › Demand Curve

| | Price of Stuffed Animals | Quantity of Stuffed Animals |
|---|---|---|
| A | 5 | 90 |
| B | 10 | 80 |
| C | 15 | 70 |
| D | 20 | 60 |
| E | 25 | 50 |
| F | 30 | 40 |
| G | 35 | 30 |
| H | 40 | 20 |
| I | 45 | 10 |
| J | 50 | 0 |



# DETERMINANTS OF DEMAND:

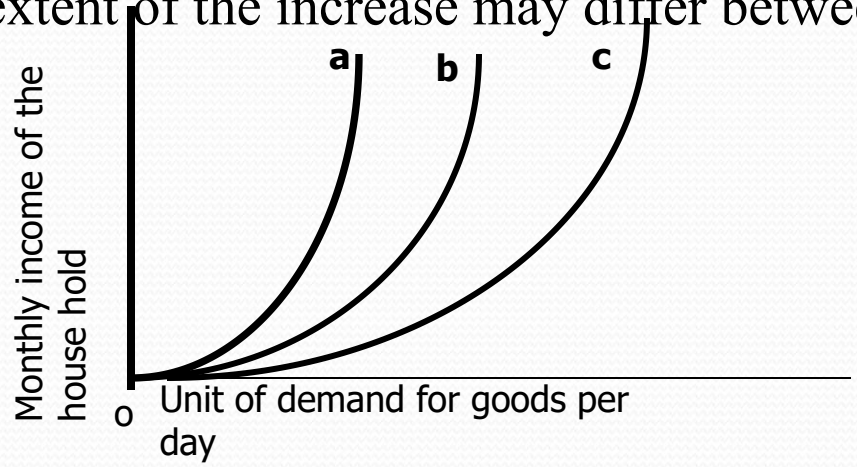


Price of the commodity:

A consumer buys more of a commodity when its price declines and vice versa. but it is different for substitute goods and complementary goods

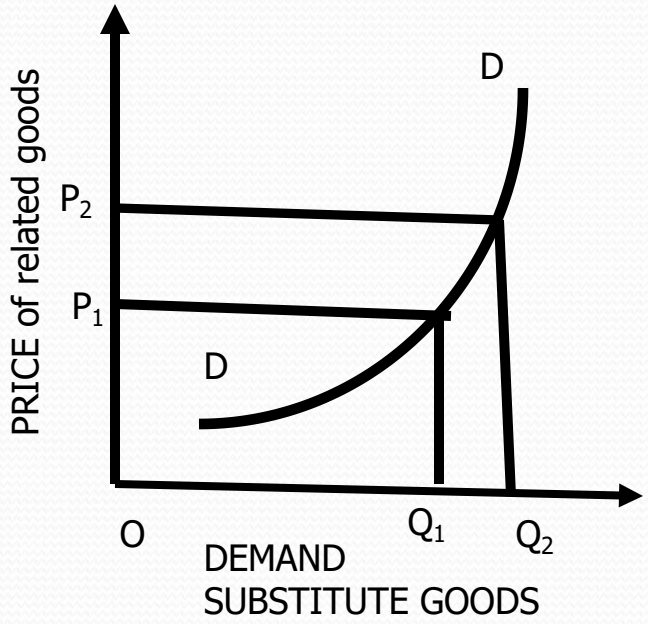
INCOME OF THE CONSUMER:

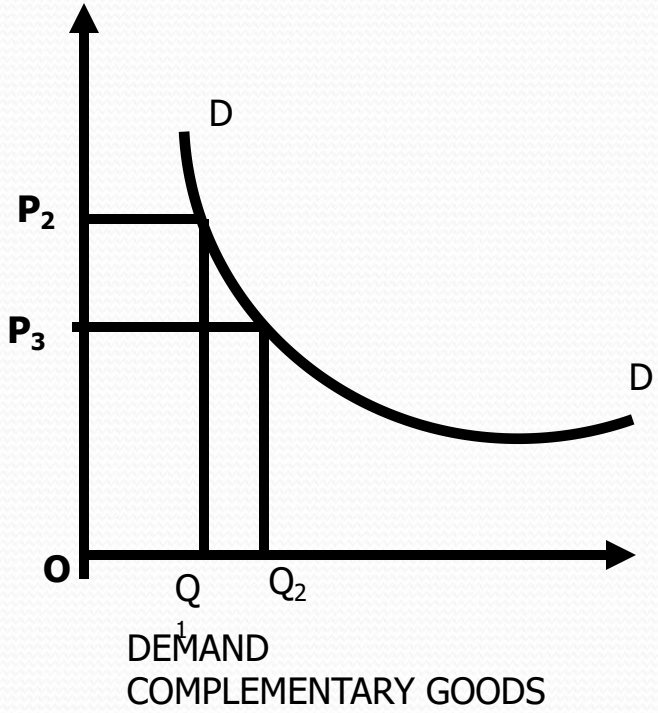
With an increase in income, a household buys increased amount of most of the commodities in his consumption bundle though the extent of the increase may differ between commodities.



## Prices of related goods:

when a change in the price of one commodity influence the demand of the other commodity, we say that the two commodities are interrelated goods. the related commodities are of two types: substitutes,and complements



## TASTE AND PREFERENCE OF THE OF A CONSUMER

The change in taste and preferences of a consumer in favor of a commodity results in greater demand for the commodity, while if this change is against the commodity it results in smaller demand for the commodity.

## CONSUMER'S EXPECTATIONS OF FUTURE PRICE

If the consumer expects future prices of the goods to increase , he would rather like to buy the commodity now than latter, this will increase the demand for the commodity.

## CONSUMER EXPECTATIONS OF FUTURE INCOME

in case the consumer expects a higher income in future,he spends more at present, and there by the demand for the good increases. opposite will be the case ,if he expects lower income in future,

## ADVERTISEMENT OF THE PRODUCT:

Advertisement helps in increasing demand for the product at least four ways

- by informing the potential consumers about the availability of the product
- by showing its superiority over the rival product
- by influencing consumers choice against the rival products
- by setting new fashions changing tastes.

## POPULATION OF THE COUNTRY:

Total domestic demand of a product depends also on the size of the population .the larger the population the larger the demand for the product.

## NATIONAL INCOME:

The higher the national income, the higher the demand for all normal goods and services.

# Income and Demand

- When people's income changes, demand shifts accordingly
  - Normal Goods –
    - Higher income = higher demand
    - Lower income = lower demand
    - When people's income changes, demand shifts accordingly
  - Inferior Goods –
    - Higher income = lower demand
    - Lower income = higher demand

# Exceptions of Demand Law

- Speculative Demand:

In a speculative market (such as the stock market), a rise in the price of a commodity (such as, share) creates an impression among buyers that its price will rise further. So people start buying more of a share when its price rises.

- Snob Appeal or Veblen Good:

People sometimes buy certain commodities like diamonds at high prices not due to their intrinsic worth but for a different reason. The basic object is to display their riches to the other members of the community to which they themselves belong. This is known as 'snob appeal', which induces people to purchase items of conspicuous consumption. Such a commodity is also known as Veblen good (named after the economist Thorstein Veblen) whose demand rises (fails) when its price rises (falls).

# Exceptions of Demand Law

- Using Price as an Index of Quality:

Most consumers do not have the capacity or technical knowledge to examine the physical properties of a product (such as, reliability, durability, economy, etc.,) as in the case of an item such as a motor car or a VCR. So, in the absence of other information, price is taken as an index of quality. Thus, a high-priced car is more valued than a low-priced one.

- Giffen Good:

A 'Giffen good' is a special variety of inferior good. Sir Robert Giffen of Scotland observed in the 19th century (1840s) that poor people spent the major portion of their income on a staple item, viz., potato. If the price of this good rises they will become so poor that they will be found to spend less on other items and buy more potatoes in order to get a minimum diet and keep themselves alive.

For such goods, the demand curve will be upward sloping.

# Exceptions of Demand Law

- Possibility of Future Rise in Prices:

If a consumer anticipates that the price of a commodity will rise in future he will purchase more of that commodity now. The consumer will purchase more even if current price is high.

- Highly Essential Good:

Finally, in case of certain highly essential items such as life-saving drugs, people buy a fixed quantity at all possible price. Heart patients will buy the same quantity of 'Sorbitrate' whether price is high or low. Their response to price change is almost nil.

# Differences

| Basis | Normal Goods | Inferior Goods | Giffen Goods |
|---|---|---|---|
| **Meaning** | These are the goods whose demand increases when there is an increase in the income of consumer. | These are the goods whose demand reduces when there is an increase in the income of consumer. | These are the goods whose demand increases even when there is an increase in the price of the commodity. |
| **Relation** | There is a direct relationship between the income of the consumer and demand for normal goods. | There is an inverse relationship between the income of the consumer and demand for inferior goods. | There is a direct relationship between the price of the commodity and demand for Giffen goods. |
| **Law of Demand** | Normal Goods follow the Law of Demand. It means that there is an inverse relationship between the price of normal goods and its quantity demanded. | Inferior Goods may or may not follow the Law of Demand. It means that there may or may not be an inverse relationship between the price of inferior goods and its quantity demanded. | Giffen Goods does not follow the Law of Demand. It means that even though the price of the commodity increases, the demand for Giffen goods will also increase. |

# DEMAND FUNCTION:

- A mathematical expression of of the relationship between
- quantity demanded of the commodity and its
- determinants is known as the demand function. when this relationship relates to the demand by an individual consumer it is known as individual's demand function

# INDIVIDUAL DEMAND FUNCTION:

- $Q_{DX}$=f(PX,Y,P1……..,PN-1,T,A,EY,EP,u)
- Where:
- $Q_{dx}$: quantity demanded of a product X,
- $P_x$ :price of the product
- Y: level of household income
- $P_1$,……,$P_{n-1}$,price of all the other related products in economy (related products include substitutes and complements)
- T: tastes of the consumer
- A: advertising
- $E_Y$: consumers expected future income
- $E_p$ :consumers expectations about future prices
- u; determinants which are not covered in the list of determinants given above.

# Linear Demand Equations – the demand curve

The data from our demand schedule can easily be plotted on a graph. OR, we could have just plotted the two points of demand we knew before creating the demand schedule.

- The Q-intercept of **600 loaves,** and
- The P-intercept of $12

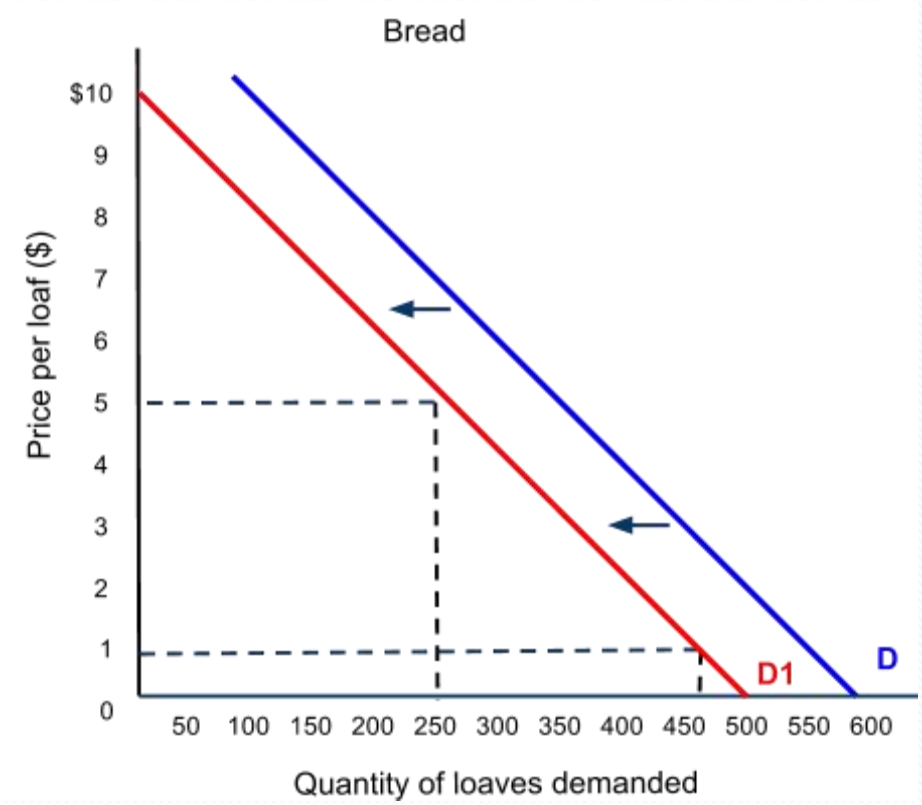

**Notice the following:**

- The demand for bread is inversely related to the price. This reflects the law of demand
- The slope of the curve is negative, this is reflected in the equation by the '-' sign in front of the 'b' variable.
- For every $1 increase in price, Qd decreases by 50 loaves.
- 50 is NOT the slope of demand, however, rather, it is the 'run over rise'. In other words, the 'b' variable tells us the change in quantity resulting from a particular change in price.

# Linear Demand Equations – changes in the 'a' variable

A decrease in demand for bread caused the 'a' variable to decrease:

$$Qd = 500 - 50P$$



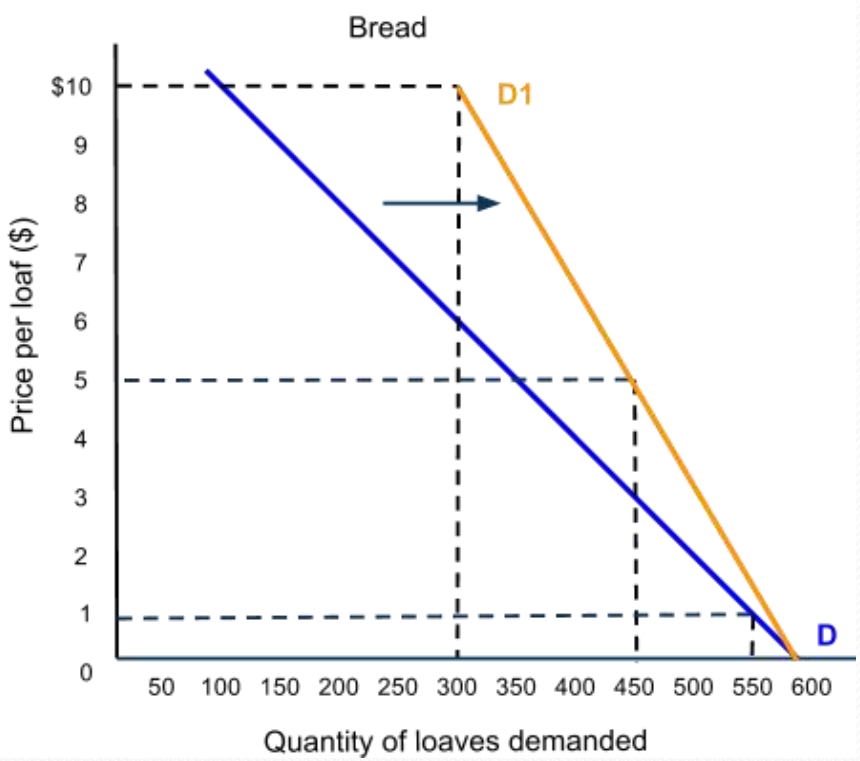

**Notice the following:**

- At each price, 100 fewer loaves are now demanded. In the original graph, 350 loaves were demanded at $5, now only 250 are demanded.
- Demand has decreased because a non-price determinant of demand changed (the price of a substitute decreased, so consumers switched to rice).
- The 'b' variable did not change, so the slope of the demand curve remained the same.
- The P-intercept decreased to $10. Now, at a price of $10, no bread is demanded, whereas before consumers would buy bread up to $12.

# Linear Demand Equations – changes in the 'b' variable

The 'b' variable has decreased. The new demand curve should reflect this change

$$Qd = 600 - 30P$$




**Notice the following:**

- Consumers are less responsive to price changes now.
- As the price rises from $0 to $5 per loaf, now consumers will still demand 450 loaves, whereas in the original graph they would have only demanded 350 loaves.
- Demand for bread has *increased* because there are fewer substitutes in this village.
- The new P-intercept is not visible on the graph, but it can easily be calculated. Set Q to zero and solve for P

$$0 = 600 - 30P \ldots P = 20$$

*Now, at a price of $20, zero loaves will be demanded*

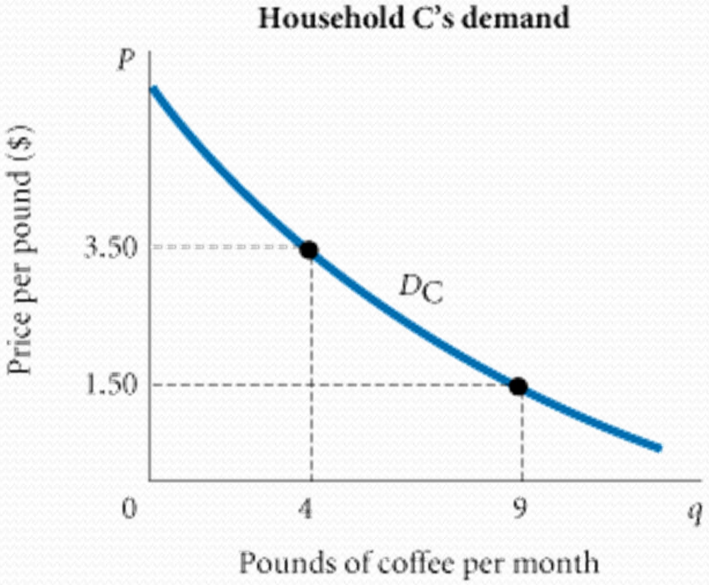
# Changes in Quantity Demanded versus Changes in Demand

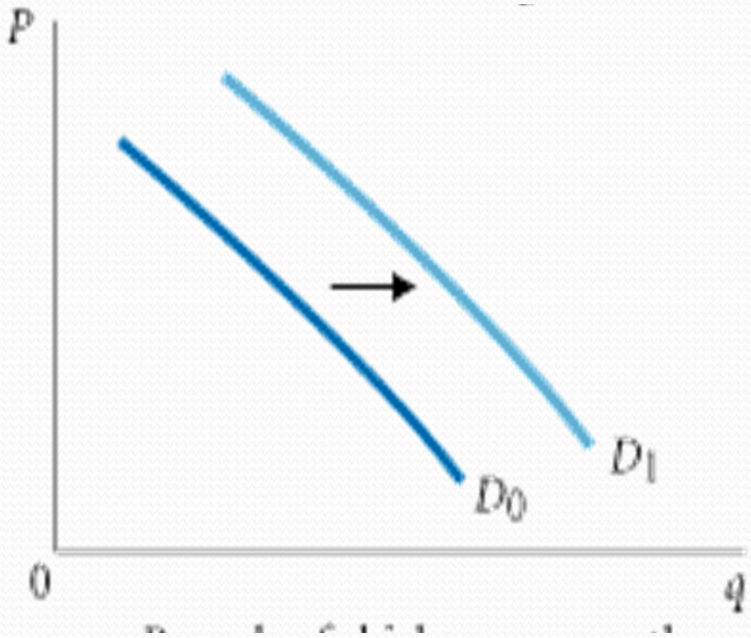
- Changes in the price of a product affect the *quantity demanded* per period.
- Changes in any other factor, such as income or preferences, affect *demand*.
- Thus, we say that an increase in the price of Coca-Cola is likely to cause a decrease in the *quantity of Coca-Cola demanded*. However, we say that an increase in income is likely to cause an increase in the *demand* for most goods.

# Shifts of Demand versus Movement along a Demand Curve

- **shift of a demand curve** The change that takes place in a demand curve corresponding to a new relationship between quantity demanded of a good and price of that good. The shift is brought about by a change in the original conditions.
- **movement along a demand curve** The change in quantity demanded brought about by a change in price.

# Change in Quantity Demand & Change in Demand



(1 Marks)

a) Differentiate between Giffen goods and Inferior goods.

b) How influence of fashion can break the operation of Law of Demand?

c) Discuss any 2 exceptions to Law of Demand.

d) If the price of a good X increases by 20% and the demand for its related good Y declines by 30% then X and Y are (i)Substitutes (ii)Complementaries (iii)Unrelated (iv)None of these

e) Other factors remaining constant if the population of your city increases this will cause

(i)A rightward shift in the demand curve and an increase in price

(ii)A leftward shift in the demand curve and a decrease in price

(iii)A rightward shift in the demand curve and a decrease in price (iV)None of these

f) Which of the following pairs is a substitute? (a)Mobile phone and charger (c) Salt and pepper (b)Wool and cotton (d) Tea and sugar

g) ---------- goods are the goods whose demand is negatively related to income.

(a)Complement (c) Normal (b)Substitute (d) Inferior

h) Movement along the demand curve arises because of change in the ----------

.(a)Consumer's income (c) Taste and preference of the consumer

b) Prices of related goods (d) Price of the good itself

I) Demand function for a commodity X is $Q_X = 10{,}000 - 5P_X$ ($Q_X$ = Quantity demand for the commodity X, $P_X$ = Price of the commodity X). If price of the commodity is ₹ 200 per unit, then elasticity of demand is ----------.

(a) 0.1 (c) 2 (b) 0.13 (d) 2

1. The demand values of starter motor of particular vehicle in thousands during the past 6 years (2011-2016) are summarized in Table.

| Year (X) | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|
| Demand (Y) in thousands | 60 | 72 | 58 | 90 | 82 | 100 |

a) Fit a linear regression to estimate the demand of starter motor in future.
b) Compute the demand of the starter motor for the year 2021.

2. Explain the Law of Demand. [2x6]

(b)From the following information forecast sales for the year 2021 and 2024.

| Year | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| Sales (in 000) | 25 | 32 | 47 | 53 | 70 | 85 |

# THE BASIS OF CONSUMER DEMAND: THE UTILITY

- **Consumers demand a commodity because they derive or expect to derive *utility from the consumption of that commodity. The expected utility from a commodity is the basis of demand for it.***

- ***Though 'utility' is a term of common usage, it has a specific meaning and application in the analysis of consumer demand.***

- ***From consumer's angle, utility is the psychological feeling of satisfaction, pleasure, happiness or well-being, which a consumer derives from the consumption, possession or the use of a commodity.***

# Features of Utility

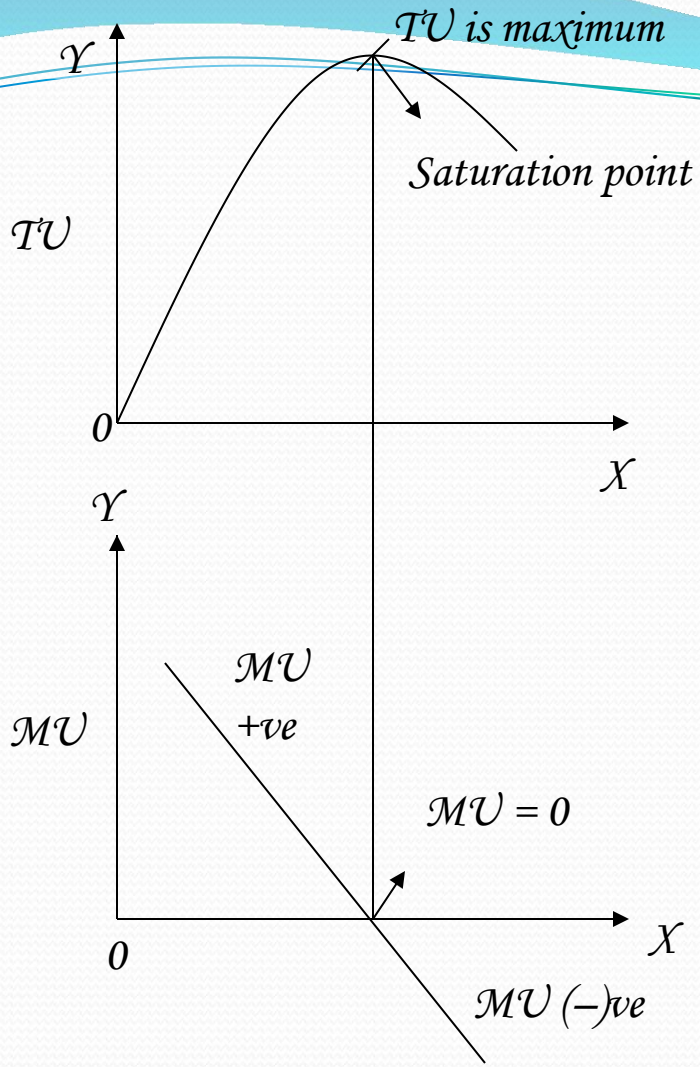
- UTILITY IS SUBJECTIVE: It is subjective because it deals with the mental satisfaction of a man.
- UTILITY IS RELATIVE: Utility of a commodity never remains the same. E.g. Cooler has utility in the summer but not during winter.
- UTILITY IS NOT ESSENTIALLY USEFUL:A commodity having utility need not be useful. Liquor and cigarette are not useful, but to satisfy the want of an addict then they gave utility for him.
- UTILITY IS INDEPENDENT OF MORALITY: Utility has nothing to do with morality.

# Concepts of Utility

- INTIAL UTILITY: The utility derived from the first unit of a commodity is called initial utility. It is always positive.
- TOTAL UTILITY: It is the sum total of utility derived from the consumption of all units of a commodity.
- MARGINAL UTILITY: Marginal means change. It refers to the additional utility obtained due to the consumption of an additional unit of a commodity.
- Marginal utility can be (i) positive (ii) zero (iii) negative.

# EXAMPLE

| UNTIS | TOTAL UTILITY | MARGINAL UTILITY |
|---|---|---|
| 1 | 8 | 8 |
| 2 | 14 | 6 |
| 3 | 18 | 4 |
| 4 | 20 | 2 |
| 5 | 20 | 0 |
| 6 | 18 | -2 |


TU is maximum
Y
Saturation point
TU
0
X
Y
MU
MU
+ve
MU = 0
0
X
MU (–)ve

# Indifference Curve Analysis

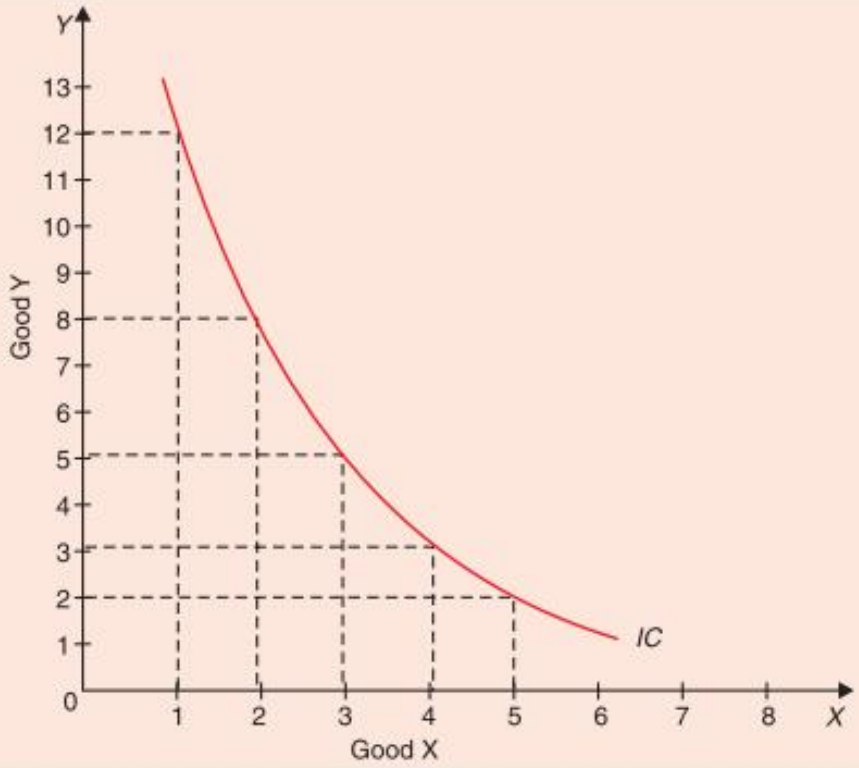
**Ordinal Utility Analysis:**

- The concept of Cardinal Utility was used by Marshal to define Consumer's Equlibrium. Cardinal Utility means consumer could measure the satisfaction derived by the consumption of any goods or services in terms of number and unit of that measurment is Utils or the Money. Where as Ordinal Utility means giving the rank to the utility dervied by the consimption of goods and services. This Concept was given by J.R. Hicks. This is more realstic and better than cardinal utility. This is totally based onIntrospection.

- **Indifference analysis** is an alternative way of explaining consumer choice that does not require an explicit discussion of utility.
- **Indifferent:** the consumer has no preference among the choices.
- **Indifference curve:** a curve showing all the combinations of two goods (or classes of goods) that the consumer is indifferent among.

# Indeference curve

| I | | II | |
|---|---|---|---|
| Good X | Good Y | Good X | Good Y |
| 1 | 12 | 2 | 14 |
| 2 | 8 | 3 | 10 |
| 3 | 5 | 4 | 7 |
| 4 | 3 | 5 | 5 |
| 5 | 2 | 6 | 4 |

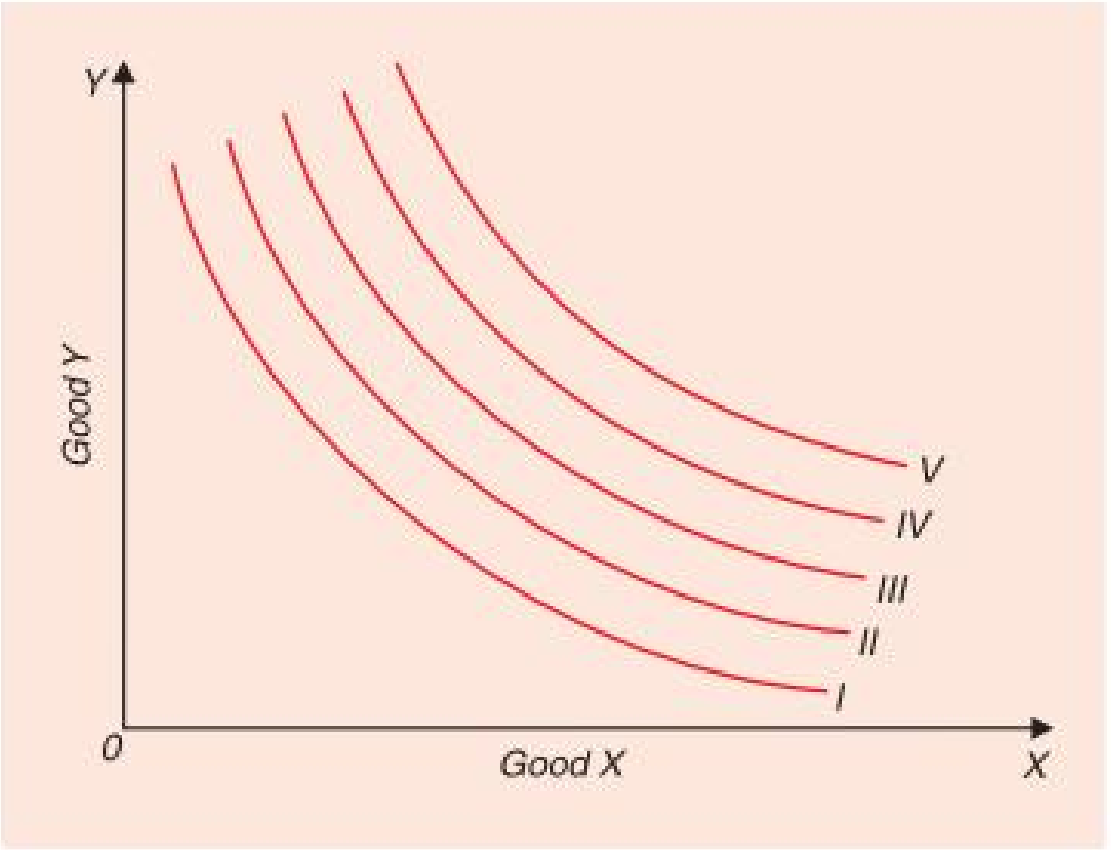


# Assumptions

- Completeness: Clearly able to rank different product
- Consistency: If a consumer prefer A to B in one period then he will not prefer B to A in another period.
- Transitivity: If a consumer prefer A to B and B to C, then he must prefer A to C.
- Diminishing marginal rate of substitution: It is assumed that as more and more units of X are substituted for Y, the consumer will be willing to give up fewer and fewer units of Y for each additional unit of X,

# Indifference Map

A complete description of consumer's tastes and preferences can be represented by an *indifference map* which consists of a set of indifference curves.



# The Marginal Rate of Substitution (*MRS)*

- **An indifference curve is formed by substituting one good for another. The rate at which one good is substituted for another is called *Marginal Rate of Substitution (MRS).***

- ***The MRS refers to the rate at which one commodity can be substituted for another, the level of satisfaction remaining the same.***

- ***The MRS between two commodities X and Y, may be defined as the quantity of X which is required to replace one unit of Y (or quantity of Y required to replace one unit of X) at different combinations of the two goods so that the total utility remains the same.***

| Combination | Good X | Good Y | $MRS_{xy}$ |
|---|---|---|---|
| A | 1 | 12 | 4 |
| B | 2 | 8 | 3 |
| C | 3 | 5 | 2 |
| D | 4 | 3 | 1 |
| E | 5 | 2 | |

## *MRS is a Diminishing Rate:*

- ***The basic postulate of ordinal utility theory is that if a consumer goes on substituting one good for another, the MRSy, x (or MRSx, y) goes on decreasing.***
- ***It means that the quantity of a commodity that a consumer is willing to sacrifice for an additional unit of another commodity goes on decreasing when he goes on substituting one commodity for another.***

## *Why Does MRS Decrease?*

- ***First, the want for a particular good is satiable so that as the consumer has more and more of a good the intensity of his want for that good goes on declining.***
- ***The MRS decreases along the IC curve because, in most cases, no two goods are perfect substitutes for one another.***
- ***In case any two goods are perfect substitutes, the indifference curve will be a straight line with a negative slope showing constant MRS.***

# Properties of Indifference Curve

❑ **Indifference curves have the following four basic properties:**

1. **Indifference curves slope downward from left to right and have a negative slope: Indifference curve being downward sloping means that when the amount of one good in the combination is increased, the amount of the other good is reduced. This must be so if the level of satisfaction is to remain the same on an indifference curve.**

2. **Indifference curves of imperfect substitutes are convex to the origin;**

3. **Indifference curves do not intersect nor are they tangent to one another;**

4. **Upper indifference curves indicate a higher level of satisfaction.**

## Indifference Curves of Perfect Substitutes and Perfect Complements

- The degree of convexity of an indifference curve depends upon the rate of fall in the marginal rate of substitution of X for Y.
- When two goods are perfect substitutes of each other, the indifference curve is a straight line on which marginal rate of substitution remains constant.
- At the extreme, when two goods cannot at all be substituted for each other, that is, when the two goods are perfect complementary goods.

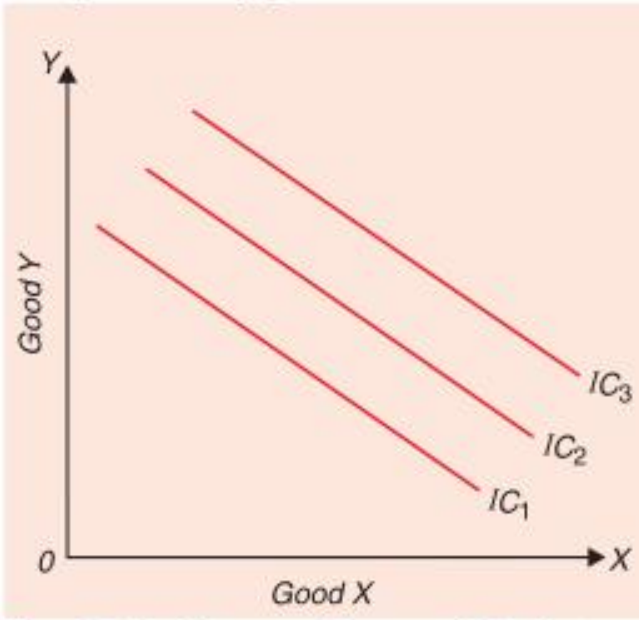



**Fig. 8.7.** *Indifference Curves of Perfect Substitutes*

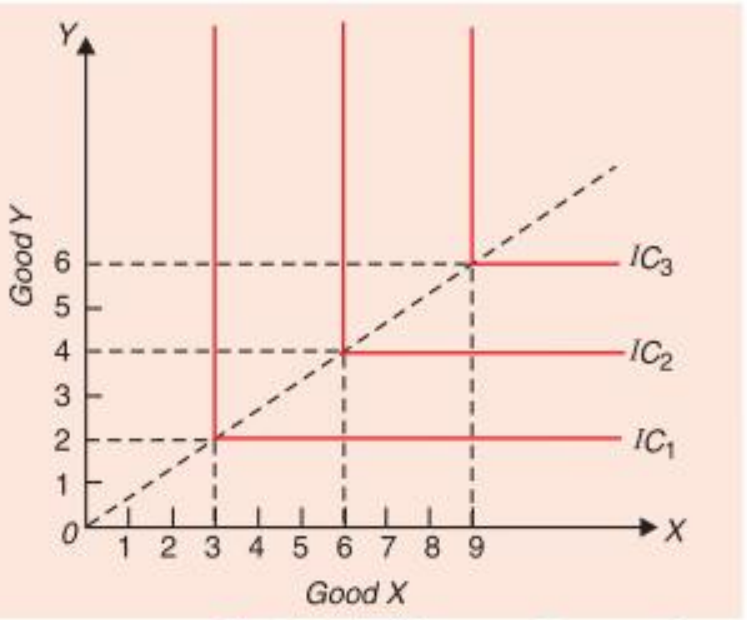



**Fig. 8.8.** *Indifference Curves of Perfect Complements*

# BUDGETARY CONSTRAINTS ON CONSUMER'S CHOICE: LIMITED INCOME AND PRICES

❑ **The indifference map, a utility maximizing consumer would like to reach the highest possible indifference curve on his indifference map. But the consumer has two strong constraints:**

***(i) he has a limited income,***

***(ii) goods have a price and he has to pay the price for the goods. Given the prices, the limitedness of income works as a constraint on how high a consumer can reach on his indifference map. This is known as budgetary constraint. In a two-commodity model, the budgetary constraint may be expressed through a budget equation as***

$$P_x \cdot Q_x + P_y \cdot Q_y = M$$

where $P_x$ and $P_y$ are prices of goods $X$ and $Y$, respectively; $Q_x$ and $Q_y$ are their respective quantities; and $M$ is the consumer's money income.

# CONSUMER'S EQUILIBRIUM: ORDINAL UTILITY APPROACH

**The basic theme of the theory of consumer demand, i.e., how consumer determines the quantities of two goods to maximise his total utility. In other words, the basic issue is how consumer's equilibrium is determined. A consumer attains his equilibrium when he maximizes his total utility, given his income and market prices of the goods and services that he consumes. The ordinal utility approach specifies two conditions for the consumer's equilibrium:**

***(i) Necessary condition, known also as the first order condition, and***

***(ii) Supplementary condition, known also as the second order condition.***

Thus budget line shows all those combinations of two goods which the consumer can buy by spending his given money income on the two goods at their given prices.

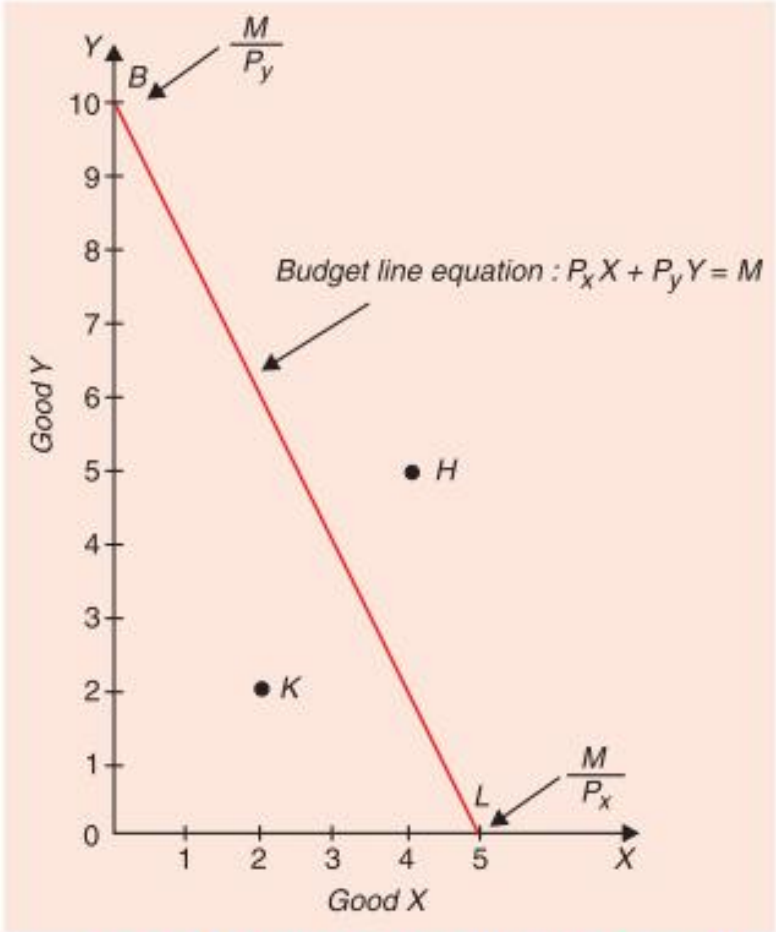



**Fig. 8.14.** *Budget Line or Budget Constraint*

## CONSUMER'S EQUILIBRIUM : MAXIMISING SATISFACTION

*A consumer is said to be in equilibrium when he is buying such a combination of goods as leaves him with no tendency to rearrange his purchases of goods*. He is then in a position of balance in regard to the allocation of his money expenditure among various goods.

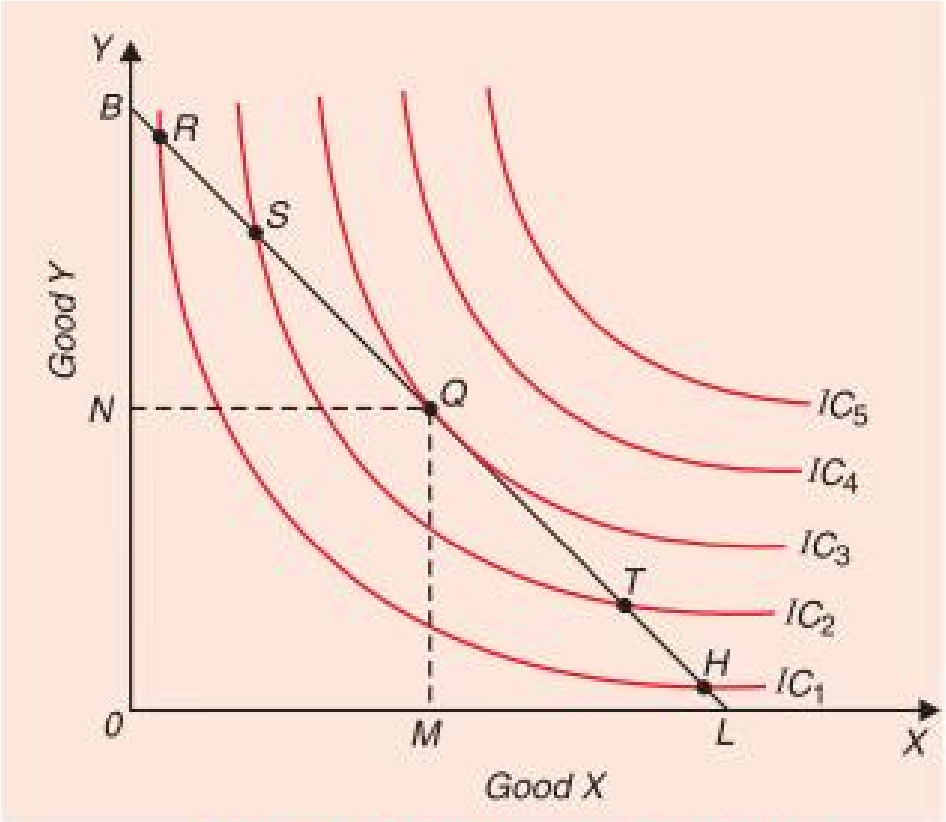



**Fig. 8.19.** *Consumer's Equilibrium*

# Lagrange Multiplier Method

- An alternative to substituting a equality constraint into an objective function as a method for solving optimization problems is the **Lagrange multiplier method**.
- This involves forming a **Lagrangian function** that includes the objective function, the constraint, and a variable called a **Lagrange multiplier**.
- Problems are often easier to solve with the Lagrange multiplier method than with the substitution method.

# Example

- Utility Function is given as $U = xy$

Subject to Budget Constraint: $3x + 6y = 120$

Find the Utlity maximizing combination of commodity x and y.

Sol.: Lagrangean Function $Z = xy + \lambda(120-3x-6y)$

Condition for Utility maximization is:

$\partial Z/\partial x = 0$, $\partial Z/\partial y = 0$ and $\partial Z/\partial \lambda = 0$

Then by solving theses three equations, the value of x and y will be computed and that will be the Unility maximizing combination.

## Example

Let the utility function $U = 3xy^2$

S.t: $120 = 4x + 5y$

Find the optimal combination of x and y so that the utility is maximized.

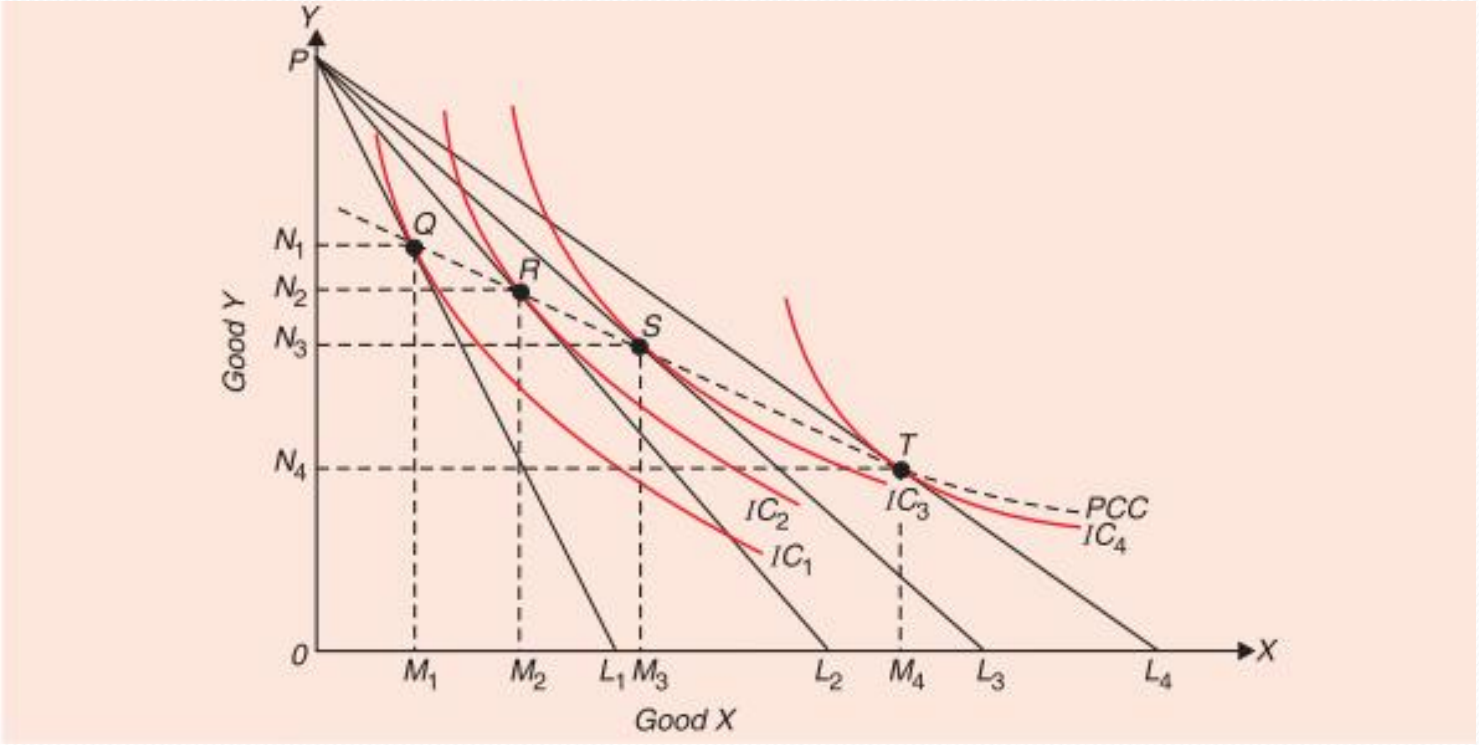
Ans: 10=x. 16=y

## Example

Assume that the utility function is $U = q_1 q_2$, that $p_1$=2 dollar, $p_2$=5 dollar, and that the consumer's income for the period is 100 dollars. Find the optimal combination of $q_1$ and $q_2$ so that the utility is maximized.

# PRICE EFFECT: PRICE CONSUMPTION CURVE

Price consumption curve traces out the price effect. It shows how the changes in price of good X will affect the consumer's purchases of X, price of Y, his tastes and money income remaining unaltered.



# Effects of Change in Prices on Consumption

- **The effects of change in price on consumer behaviour, income remaining constant.**

- **When price of a commodity changes, the slope of the budget line changes, which changes the consumption basket of goods and consumer's equilibrium.**

- **When price of goods changes, a rational consumer adjusts his consumption basket with a view to maximizing his satisfaction under the new price conditions. This change in consumption basket is called *price-effect*.**

- ***Price-effect may be defined as the change in the quantity consumed of a commodity due to change in its price.***

# Income and Substitution Effects of Price Change

- **The change in consumption basket due to change in the price of the goods is the 'price effect'.**

- **The price-effect on the consumption basket consists of two effects:**

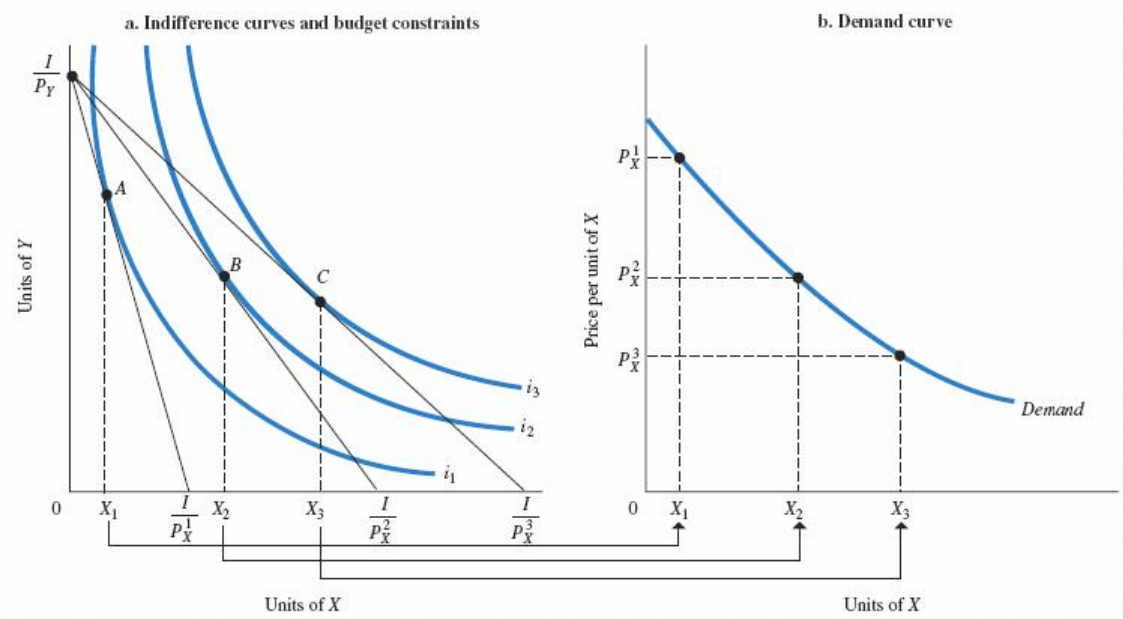
***(i) income-effect, and***

***(ii) substitution-effect.***

- ***The income-effect arises from the change in real income and the purchasing power due to a change in the price of a commodity and the substitution-effect arises due to the consumer's inherent tendency to substitute cheaper goods for the relatively expensive ones.***

# Deriving a Demand Curve from Indifference Curves and Budget Constraints

**FIGURE 6A.4 Deriving a Demand Curve from Indifference Curves and Budget Constraint**




Indifference curves are labeled $i_1$, $i_2$, and $i_3$; budget constraints are shown by the three diagonal lines from $I/P_Y$ to $I/P_X^1$, $I/P_X^2$, and $I/P_X^3$. Lowering the price of *X* from $P_X^1$ to $P_X^2$ and then to $P_X^3$ swivels the budget constraint to the right. At each price, there is a different utility-maximizing combination of *X* and *Y*. Utility is maximized at point *A* on $i_1$, point *B* on $i_2$, and point *C* on $i_3$. Plotting the three prices against the quantities of *X* chosen results in a standard downward-sloping demand curve.

# MEANING OF MARKET DEMAND

❑ ***Market demand can be defined as the sum of all individual demands for a product at a price at a point of time.***

❑ *In other words, market demand refers to the total of individual demands for a product at a price at a point or period of time – referred to daily, weekly,* monthly, annual period, etc. In case of most consumer goods and product inputs, a large number of users demand the product.

❑***The aggregate of individual demands for a product at a given price and at a point of time is known as the market demand for the product.***

❑ **The market demand schedule and market demand curve can be obtained by (*i) adding up individual demand at different prices, and (ii) summing up individual demand functions.***

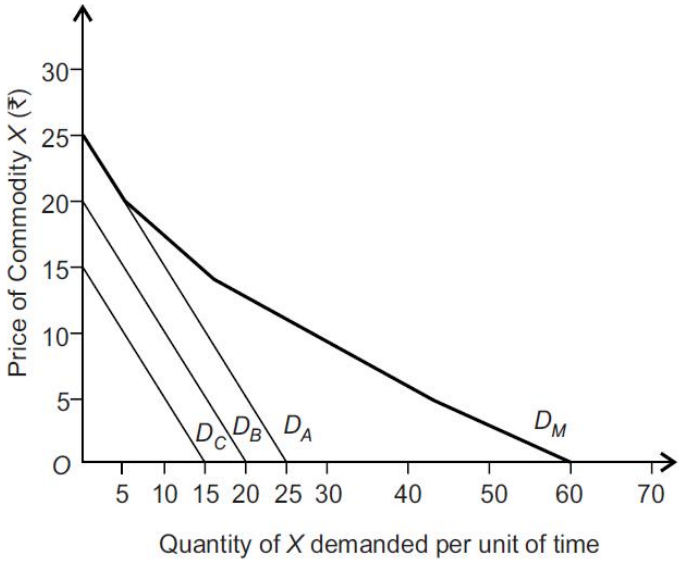
# DERIVATION OF MARKET DEMAND CURVE

❑ ***The market demand curve can be derived by adding up (i) the individual demand schedules, and (ii) the individual demand functions. In this section, we illustrate the derivation of market demand curve by using these two methods.***

**Derivation of Market Demand Curve from Individual Demand Schedules**

| *Price of X (₹)* | *Quantity of X Demanded by* | | | *Market Demand =(A+B+C)* |
|---|---|---|---|---|
| | *A* | *B* | *C* | |
| 25 | 0 | 0 | 0 | 0 |
| 20 | 5 | 0 | 0 | 5 |
| 15 | 10 | 5 | 0 | 15 |
| 10 | 15 | 10 | 5 | 30 |
| 5 | 20 | 15 | 10 | 45 |
| 0 | 25 | 20 | 15 | 60 |

*Price of Commodity X and Quantity Demanded*




*Derivation of Market Demand Curve*

# Question Paper (1 Mark)

1. When the consumer moves on the budget line, he spends (i) His entire money income and purchases the combination of two goods (ii)Less than his money income and purchase the combination of two goods (iii)More than his money income and purchases the combination of two goods (iv) None of these.

2. You have drawn an indifference curve (IC) for two goods X and Y and found that your IC is right-angled. The goods X and Y for you are (i)Perfect substitutes (ii)Perfect complementaries (iii)Unrelated (iv)None of these

3. Why the indifference curve is convex to the origin?

4. Graphically explain why two indiffirence curves cannot intersect eachother?

5. When the income of the consumer increases there is (i) a rightward shift of the budget line (ii) a leftward shift of the budget line (iii) no. Change in the budget line (iv) all of the above

6. At the point of equilibrium the consumer purchases the combination of two goods and spends (i) all his money income (ii) less than his money income (iii) more than his money income (iv) none of the above

7. At the point of consumer equilibrium (i) slope of indifference curve is greater than the slope of the budget line. (ii) slope of the budget line is more than the slope of the indifference curve. (iii) slope of the indifference curve is equal to the slope of the budget line. (iv) none of the above.

# Question Paper (5 Marks)

1. Explain Consumer's Equilibrium with the help of Indifference curves and Budget Line.

2. A consumer has the money income of $45. He spends his entire income on two goods A and B. Price of good A (PA) is $5 per unit and that of good B (PB) is $10. The Marginal Utilities (MUs) of the two goods are given in following table. Find the quantity of two goods consumer has to buy when he wants to maximize the utility.

| Quantity | MUA | MUB |
|---|---|---|
| 1 | 100 | 160 |
| 2 | 80 | 150 |
| 3 | 60 | 120 |
| 4 | 50 | 110 |

- 3.I The following Table shows Thomas Utility from consuming two different food-salad and pastry. The price of a bowl of salad is Rs 3 and a price of a pastry is Rs 2 Fill up the Table.

| QUANTITY | TU | MU | MU/UNIT | TU | MU | MU/UNIT |
|---|---|---|---|---|---|---|
| 1 | | | 15 | | | 20 |
| 2 | | | 10 | | | 10 |
| 3 | | | 9 | | | 6 |
| 4 | | | 6 | | | 5 |
| 5 | | | 5 | | | 4 |
| 6 | | | 3.3 | | | 1 |

- 3.II.If Thomas has Rs 10 to spend on salad and pastry, how many units of each good should he purchase?
- Thomas pocket money has increased from Rs 10 to Rs 18. If he spends only on these two goods, what is optimal consumption bundle?

THANK YOU