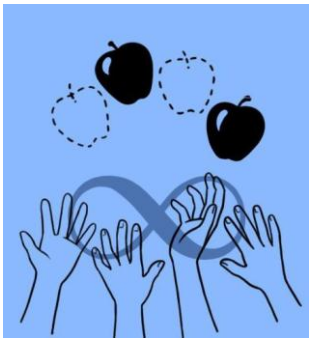
What is economics?

Ans: It is the study of human behaviour in the society, in the process of production, consumption, exchange and distribution of goods and service with available resources.

Why we study Economics?

Ans: The main reason for study of economics can be simplified to a single word " **scarcity "** as we know human wants are more than the available resources. so here is the three major problems in the economy

1} Scarcity of resource
2} Unlimited human wants
3} Alternate use of resource,



Types of Economics:

1 Micro Economics
2 Macro Economics

1 Micro Economics : the term " Micro " has been derived from the Greek word " Mikron", which means 'small'. microeconomics deals with analysis of the behaviour and economic activities of small and individual units of the The economy like a particular consumer, or small family, or a fIrm etc. it is also called price theory

Example: Individual income, individual output, price of a commodity.

2. Macro Economy:

The term " Macro" Has been derived from Greek word 'MAKROS" Which means ' large' . Macroeconomics is that part of economic theory which deal for study the behaviour of an economy as a whole ' full ' , like complete study on India, country level like national income, aggregate supply, aggregate consumption etc, it is also known as ' income and Employment theory '

Two more types of Economics

Basis	Positive	Normative
Meaning	it deals with, what is OR how the economic problem are actually solved	it deals with, what ought to be OR how the economic problem should be solved
Verification	it can be verified with actual data	it cannot be verified with actual data
Aim	its aim to make real description of the economic activity	ITs aim to determine the ideas
suggestion	it is based on Fact and does it is not suggestive	it is based on individual opinion and therefore it is suggestive in nature
example	price in Indian economy are constantly Rising	India should take steps to control rising prices
Tools	Demand and Supply are the main tools of Microeconomics.	Aggregate Demand and Aggregate Supply are the main tools of Macroeconomics.

Basic Assumptions	It assumes all the macro variables are constant like national income, consumption, savings etc.	It assumes that all micro variables are constant like prices of individual products.

Central problem of Economy : {Most Important Question}

As we know, the main reason to study Economics is scarcity, so on this problem central problem arises

The problems are

1. What to produce ?
2. How to produce?
3. For whom to produce

This problem arises due to the following reasons:

1. scarcity of resources.
2. unlimited wants of human
3. Play alternate use of resources

What To Produce?

- Consumer Goods {Directly consumed by consumer}
- Producer Goods { Raw material for manufacturing concern}

We have to make balance in both the goods. if we produce more' consumer goods' then the producer goods will Limited and vice versa because the resources are limited in nature

How To Produce

- Labour Intensive Technique {Production with the help of labor}
- Capital Intensive Technique {Production with the help of machinery}

Production quantity as compared to the machine is less but Employment opportunity increases when we use labor intensive technique for production this also helps in remove unemployment problem but the cost of the product is more and wastage is also more in **labor intensive technique**

Production quantity as compared to labor intensive is more but Employment opportunity is less, in this technique the production quantity increases and raw material also used at the optimum level, but it reduced the employment opportunity is known as **capital intensive technique**

For Whom To Produce

- Personal Distribution
- Functional Distribution

Personal Distribution: The income group person has more power of expenses so producer will produce more goods for this income group , and those person who have less power of expenses, producer will produce less goods for this income group

Functional Distribution : According to work If producer required more resources to produce a goods, then more raw material will be supply to the producer, but if a producer required less resource to produce goods, then less raw material will be provided to the producer.

Production Possibility Curve

Meaning: It is a diagrammatic or graphical representation of alternative production of two types of goods on the basis of given resources and Technology

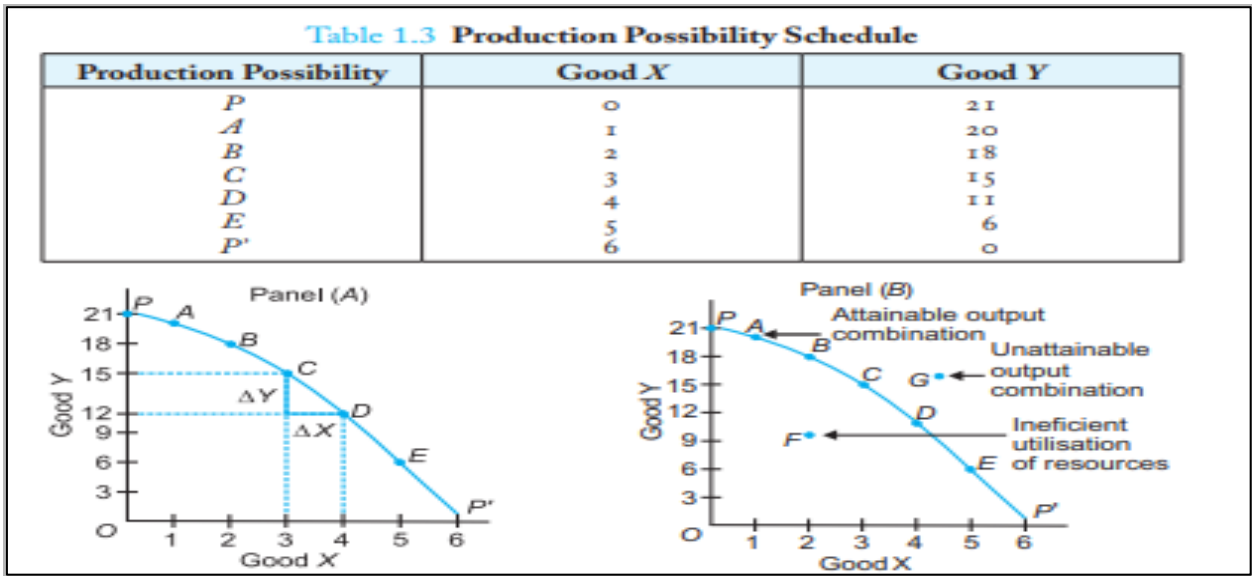
Or

It is a curve which represents an alternative combination of the production of two goods with the given resources and Technology

it is also called as **production possibility Frontier** or **transformation of curv The curve represent 100% utilisation of resources { no wastage}**

Table 1.3 **Production Possibility Schedule**

Production Possibility	Good X	Good Y
P	0	21
A	1	20
B	2	18
C	3	15
D	4	11
E	5	6
P'	6	0



Assumption :

1. Resources use 100% {fully}, also it is fixed in nature
2. Technology University main same { constant}
3. Alternative composition between two goods only

Conclusion:

A. Discovery present same amount of resource use at any point on this curve like A & B points Represent, so quantity use of resources are same but in different combination
B. When the production move from one point to another point one commodity will increase and other commodity will decrease

at point A x- 1 and y- 21

at point B x- 2 and y- 18

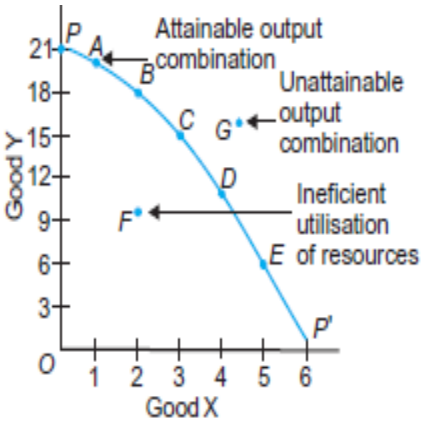
When production shift from A point to B point, we required less Y commodity and more X commodity

Different point on PPC **Total raw material (X + Y) IS 100 KG at every point**

1 Point A,B,C,D,E are the combination of X goods and y goods .This combination use resource at the full level(no wastage)

2 "Point F" tell that, the production of X and Y goods but there is under utilisation of resource for example 80% of total resource

3 " point G" this point is **non feasible region ,As it beyond the capacity of production. if we have 100 kg resource then how we can produce goods for 110 kg raw material goods. we don't have extra 10 kg goods**



Two types of combinations

Attainable
{From A to F all points production combination will be attainable}

Unattainable
{Point G is impossible in the economy to attend that much of output as resources are Insufficient

#**Change in PPC or PPF**

➔ **Shift in PPC**: When there is a change in the availability of resources(increase or decrease) then there is a change in PPC, as resources increase curve shift towards right and as resources decrease curve shift towards left.

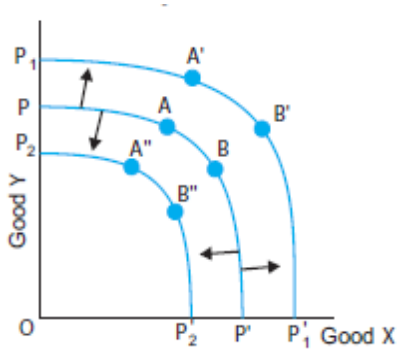
➔ R↑ - Curve shift right side
➔ R↓ - Curve Shift Left Side

➔ **Rotation in PPC:** When there is a change in the production capacity of one commodity and other will remains same , then Total production change and curve rotate from one end point of one good and other good point remain same , **this will happen due to change in technology**

Shift Graph {Due to Change In resources and technology of both goods this will happen}

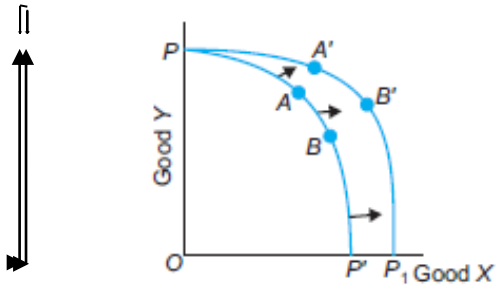
Right - Inc in Resources
Left - Dec in Resources

A- 100 kg
B- 120 kg
C- 80 kg



#Rotation in PPC: Due to change in the technology of one product and remain same the technology of second product we find the rotation in PPC. only one commodity curve change and other commodity remain the same

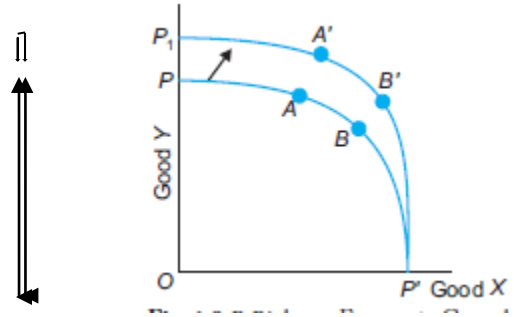
"Change in the technology of product X"



Y increase X constant

Y decrease X constant

"Change in the technology of product Y



Y increase X constant

Y decrease X constant

 # opportunity Cost

The combination of goods of both the type which we foregone to produce or the next best alternative of goods combinations that is foregone by the producer,

So if we produce goods at a combination of "C" { X 60 & Y 40 } ,

then all the best combinations

i.e A,B & D, which producer foregone to produce is known as opportunity cos

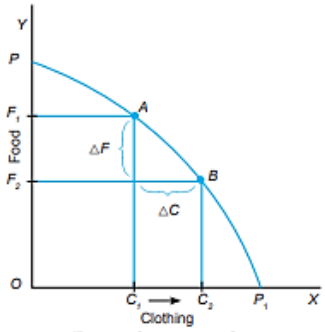


Fig. 1.9 Opportunity Cost

#Marginal Rate of Transformation { MRT } OR Marginal Opportunity Cost {MOC}

It is the number of units of a commodity sacrifice and to gain of one more unit of another commodity.

when the point of production change from one combination to another combination, one commodity sacrifice its raw material to another to increase the production.

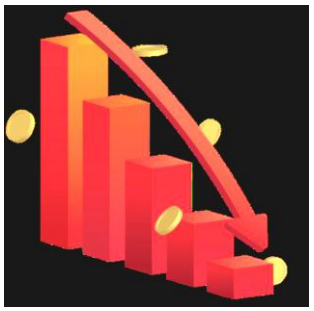
Example A point (60,40) —> B (50,50)

X product sacrifice 10 Qty while Y product increase y 10 Qty

Calculation of MOC or MRT

$$\text{MOC / MRT} = \frac{\text{Change in sacrifice commodity}}{\text{Change on gaining commodity}} = \frac{60-50}{40-50} = \frac{10}{10} \text{(ignore sign)} = 1$$

{Jitana kam x product ka hua , utana y product inc hua}
always same hota esa jaruri nahi hai. It may 3/2 or .5/2 koi bhi ans a sakta hai .



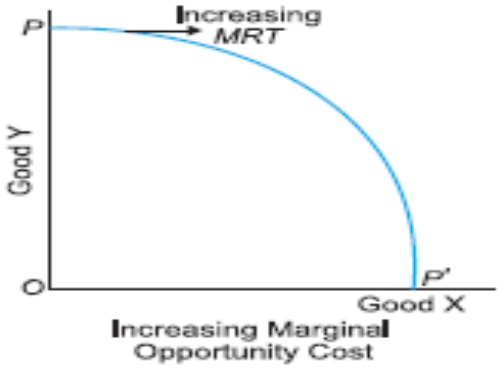
#Characteristics of PPC and PPF

1. PPC slopes downward – As we know there is an inverse relationship between change in the quantity of one commodity respect to change in quantity of another commodity.
Due to limited resources, If you want to increase the production of one kind of commodity then we will have to reduce the production of another commodity. due to this reason, PPC slopes downwards.+

So here 'Y' good sacrifice its quantity towards 'X' goods That's why'X' good production increases from A point to B point. So if production decrease curve goes downward sloping

2. PPC is concave shaped – the shape of PPC is decided by the rate of change in MRT. if the rate of MRT is continuously increasing, we get the curve of PPC is concave to origin

Case	Good X	Good Y	□ X	□ Y	MRT
A	1	20	-	-	-
B	2	18	1	2	2:1
C	3	15	1	3	3:1
D	4	11	1	4	4:1
E	5	6	1	5	5:1
F	6	0	1	6	6:1

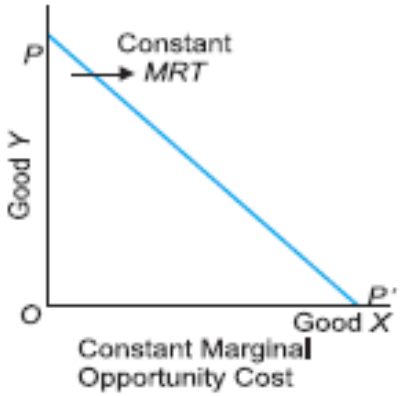


As MRT increase the curve we get is concave shape

Q Can PPC be a straight line ?

Yes, PPC can be a straight line, if the MRT is constant at different production possibility combination

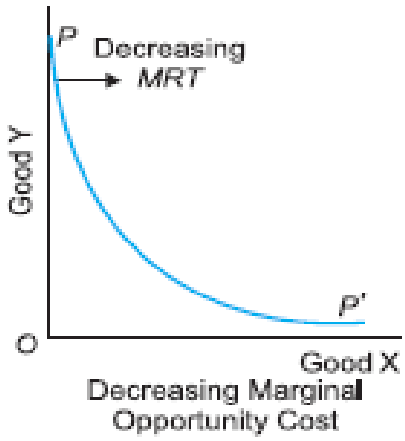
Case	Good X	Good Y	□ X	□ Y	MRT
A	20	10	-	-	-
B	19	11	1	1	1:1
C	18	12	1	1	1:1
D	17	13	1	1	1:1
E	16	14	1	1	1:1
F	15	15	1	1	1:1



Q Can PPC be convex to the origin ?

Ans- Yes, PPC can be convex, if MRT is continuously decreasing, we get PPC in convex shape

Case	Good X	Good Y	□ X	□ Y	MRT
A	20	1	-	-	-
B	18	2	2	1	1:2
C	15	3	3	1	1:3
D	11	4	4	1	1:4
E	6	5	5	1	1:5
F	0	6	6	1	1:6



Unit 1 chapter 2

Consumer Equilibrium

A consumer is one who buys goods and services for satisfaction of his wants. as the resources are limited in relation to unlimited wants, so in this chapter we are going to understand, how does a consumer maximize his satisfaction from the consumption of goods and service

Two Main approaches to study consumer's behaviour and consumer's equilibrium are

1. Cardinal utility approach{ marshall's utility for marginal utility analysis}
2. Ordinal utility approach { indifference curve analysis or hicksian analysis}

Important Terms

1. **Utility :** The level of satisfaction from a commodity or the want satisfying capacity of a commodity after consuming any commodity, how much consumer get satisfaction, that level or capacity of satisfaction is known
   Example: After doing a lot of work, when a person drink water, so how much level of satisfaction given by water to that person is known as utility of a commodity

2. **Total utility(TU):** It is the total of all utility which is derived by the the continuous consumption of each unit of a product.

Total Utility

Units	Utility	Total Utility
1	50	50
2	30	80
3	20	100
4	10	110
5	0	110

3. **Marginal utility {MU}:** It is the additional utility which can be derived by consuming one more unit of same commodity

   or

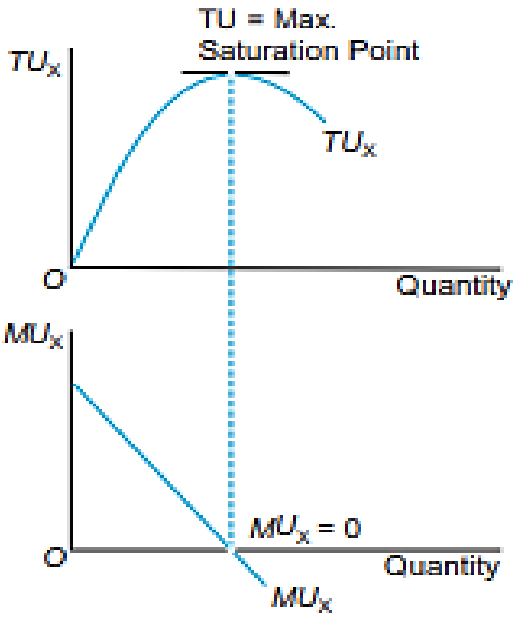
   Change in total utility with respect to per unit more consumption

$$MU_{(N)} = TU_{(n)} - TU_{(n-1)}$$

Same level - lower level

hart represent MU & TU

unit	Utility	Total utility	MU	Comment
1	50	50	50	
2	30	80	30	
3	20	100	20	Its prove that U=MU
4	10	110	10	Tu (Max) > MU (Zero)
5	0	110	0	
6	-10	100	-10—>	Disutility



TU
First increase after satisfy if we continue consume, will read you satisfaction level

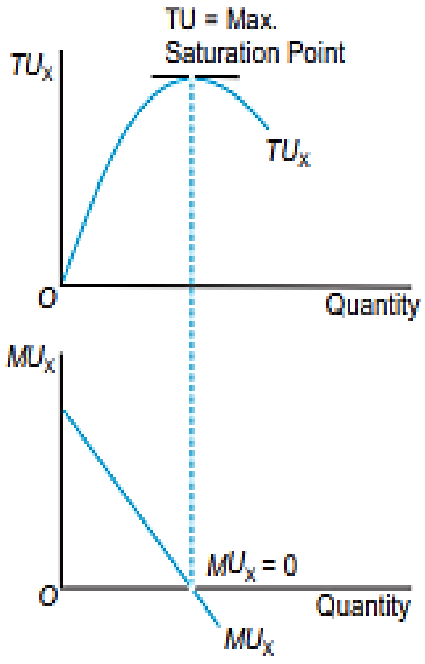
MU
As we continuously consume same thing satisfaction decrease and comes to zero even in negative also

Law of Diminishing Marginal Utility

Meaning : When a consumer, consumer particular commodity continuously, then the utility(satisfaction) derived from each successive unit goes on diminishing { *koi bhi thing Ham continuously consume Karenge to usse milane wala satisfaction kam Hote jaega*}

Assumption of law→

1. Utility can be measured
2. rational consumer { samajhdar consumer}
3. income and price must be constant
4. quantity, quality, size etc of each unit must be constant



unit	Utility	Total utility	MU
1	50	50	50
2	30	80	30
3	20	100	20
4	10	110	10
5	0	110	0
6	-10	100	-10

Cardinal Utility Approach For measurement of Consumer Equilibrium

Meaning: It is the situation where consumer secures maximum satisfaction with minimum budget

Or

The situation when a consumer is having maximum satisfaction with Limited income and has no tendency to change his way of existing expenditure, it is also called as-" Point of Balance "

In class 11th consumer equilibrium can be discussed under two different situations

1. In the case of one commodity consumer consumed
2. in the case of two commodities consumer consumer

In both the case we compare utility with price and find out the best unit at which

marginal of product = price of a product {MU= P}

{Agar Ek product 10 rupaye ka hai and Ham use Bar Bar consume kar rahe hain, To Ham use level Tak consume Karenge jab tak ki product ka marginal product 10 Tak Nahin Aata, 10 se kam marginal product wale product ko Ham consume Nahin Karenge that's why MU=P yah formula banaa}

Consumer equilibrium in case of one commodity

Meaning: When a consumer consume a single type of commodity then he will get equilibrium at the quantity at which the marginal utility of goods is equal to its price.

to find an equilibrium point, consumers compare the price of the given commodity with the satisfaction level of each commodity and when **MUx= Px or MUx / Px = 1**, at this level consumer equilibrium point is derived.

MUx / Px = 1 it is also called MUm { marginal utility of money) { har ek rs per kitana satisfaction milta}

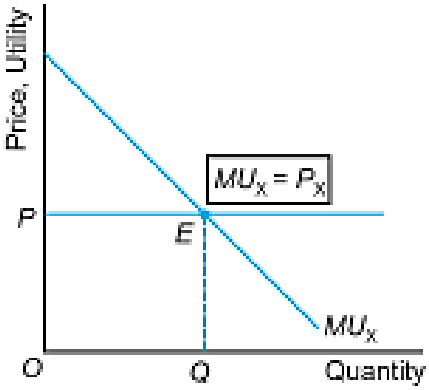
Important Note: When MUm < 1 or 1 rs mai satisfaction 100% se kam raha toh consumer will never but the product.

Assumption:

1 Rational Consumer 2 Continuous Consumption 3 Income and price must be constant

4 Marginal utility of money should be derived

Units	Px	MU	Mu/P=MUm	Remarks
1	10	20	2	MUx > Px, 1rs mai more than 100% satisfaction mil raha h
2	10	16	1.6	Toh hum buy karenge
3	10	10	1	MUx=Px, 1Rs mai 100 % Satisfaction (condition satisfied)
4	10	4	0.4	MUx< Px, means MUm<1 . 1 Rs mai 100% se kam ka
5	10	0	nd	Satisfaction mil raha hai isliye hum yeah level of product
6	10	-6	–	Nahi purchase kareng



Conclusion

1. Consumer consume three unit as, bi consume 3rd unit consumer get 100% satisfaction
2. consumer Never by 4th or 5th for 6th unit as all the unit give less satisfaction than the price level
3. consumer will not stop consuming unit till 2nd, as he got more satisfaction sohi bi mo unit
4. So MUx / Px= MUm = 1 this point is a consumer equilibrium point

Consumer equilibrium in case of two commodity

Meaning: The consumer is said to be in equilibrium at a point of of unit purchase, where the marginal utility of money(MUm) i.e an expenditure on both the goods are equal in per rupees utility(1 Rs) in a symbolic term.

Condition: There are two necessary conditions to attend consumer equilibrium in case of two commodities

1. **The ratio of marginal utility of price is same in case of both the goods**

I.e For X goods MU x / P x = MUm
For Y goods MU y/ P y = MUm

So **MU x / P x = MU y/ P y = MUm —---------- I important condition**

2. **Marginal utility Falls as consumption increases Consumption ↑ MU↓**

This is also known by

1. law of equi marginal utility
2. law of maximum satisfaction
3. Gossen's second law

For Example : Total Income : 60 Rs , Price of X goods 10 RS and Price of Y goods 5 Rs

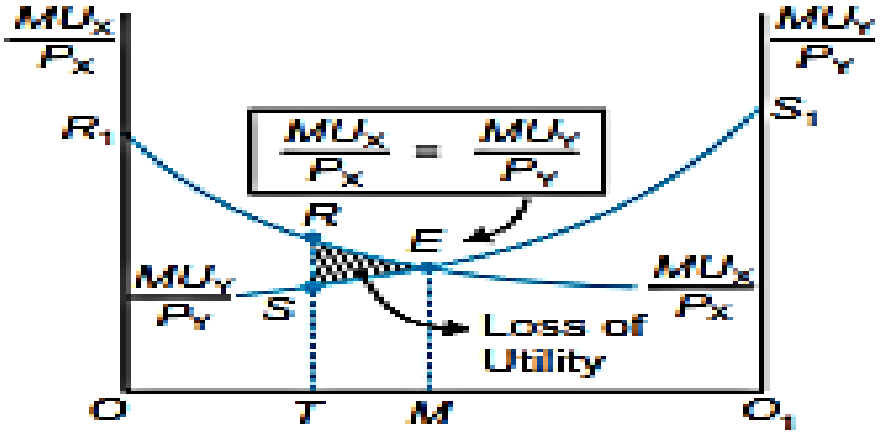
We have to prove both the condition of consumer equilibrium in case of two commodity
Schedule:

Units	MUx	MUy	MUm for x	MUm for Y	Comment (MU x / P x = MU y/ P y = MUm)
1	100	35	10	7	In only 3 cases
2	90	30	9	6	1) 4 Units of X and 1 Units of Y
3	80	25	8	5	2) 5 units of X and 2 Units of Y
4	70	20	7	4	3) 6 Units of X and 3 Units of Y
5	60	15	6	3	
6	50	10	5	2	

Now Check →

Condition 1 : X goods expenses + Y goods expenses = Total Income

10*4	+	5*1	=	45 {15 Rs left so we can buy more means under satisfaction}
10*5	+	5* 2	=	60 (Maximum satisfaction}
10*6	+	5* 3	=	75 {Not possible because we have total income 60 rupees}



Condition 2 : Mu decrease as increase in consumption which is also proved. both MU decrease as consumption of X and Y goods increases.

so hence 5 units of x and two units of bhai gives us maximum satisfaction

Ordinal utility approach: Indifference Curve or Hisksian Analysis

What to Study

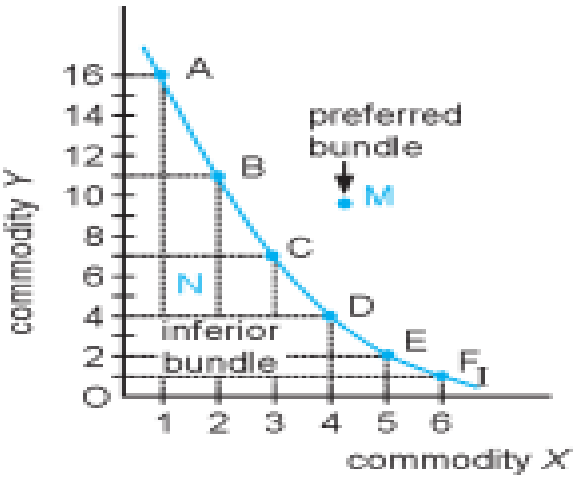
1. Indifference curve on map
2. Indifference properties
3. The budget line on map
4. Properties of budget line
5. Consumer equilibrium with IC and budget line
6. Monotonic preference

Indifference curve:

Meaning: It is a graphical representation of the combination of two goods where the satisfaction level will remain the same at each level of consumption, Search curve is called an indifference curve

OR

It is the alternative combinations of consumption of two types of goods, which gives the same level of satisfaction



Case	"X" Apple	"Y" Banana	MRS*XY* = ^X / ^Y
A	1	16	--------
B	2	11	5Y:1X
C	3	7	4Y:1X
D	4	4	3Y:1X
E	5	2	2Y:1X

All points A, B , C , D, & E Give same level of satisfaction I.e A=B=C=D=E in terms of satisfaction

Indifference Map

When we represent more than 1 indifference curve together that graphical represent in known as Indifference Map

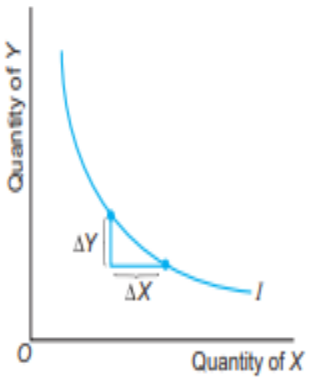
OR

It is a group of indifference curve

Properties of Indifference Curve

(A) IC is convex to the origin

The curve is convex to origin because," MRS is continuously fall down" {Jab marginal rate of substitution continuously come Hota Hai Ek level se dusre level mein main is case mai IC curve convex to origin shape banati hai}



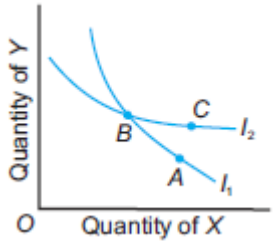
case	Apple(X)	Banana(Y)	□Apple	□Banana	MRS
A	1	15	-	-	-
B	2	10	1	5	5:1
C	3	6	1	4	4:1
D	4	3	1	3	3:1
E	5	1	1	2	2:1

(B). Indifference curve downward slope

Due to inverse relationship between both **the goods** the curve is downward slope.In above schedule we saw ,when Y goods sacrifice his units towards Xgoods unit. They follow inverse relation **Y ↑ X ↓ or Reverse**

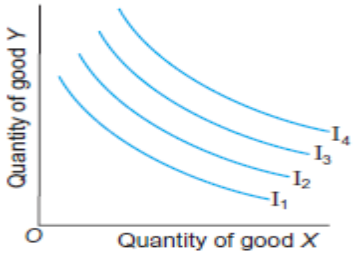
Reason : The unit of good Y is sacrificed for an additional unit of goods X which is known as MRS marginal rate of substitution

(C). Indifference curve can never intersect each other



The two different curves cannot represent the same level of satisfaction that's why they cannot intersect each other . as we know each IC curve has its constant level of satisfaction at all the different combinations so two different level of IC curve never intersect each other
{ Har Ic curve ka satisfaction alag alag Hota Hai isliye yah kabhi bhi 1 point per intersect Nahin Karte Hain.}

(D). Higher level of IC curve gives higher level of satisfaction:



The satisfaction level increases age increase in IC curve that is point

A,B&C satisfaction increases like A > B > C
I.e IC 1 < IC 2 < IC 3 in satisfaction level .

(E). IC parallel to each other:

If there are more than one curve on a graph all curves are parallel to each other, just like in above graph

(F). IC curve never touches both axis:

Because when we talk about two goods combination in indifference curve so there is no combination with "0" unit of any type of good, and if there is no goods having "0" value then curve never touch to the axis

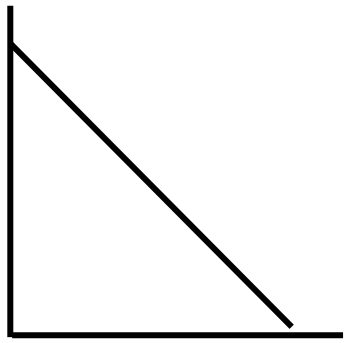
Example: Y 0 unit X 10 units
Y 10 units X 0 unit this combination does not use in IC curve

Budget Line

It is a graphical representation of the different combinations of two types of goods, which represent the same level of satisfaction in each level of output quantity used with given income and price of both goods
{ Yah line represent karti hai different combination of good ko , Jiska satisfaction same hai hi and total expenditure alag-alag combination ka bhi same hai, Yahan per Ham income ko Same mante Hain}

Ie **{PRICE x X QTY x } + {PRICE y X QTY y } = INCOME**

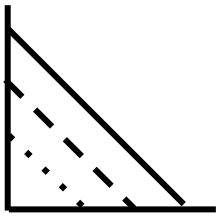
Suppose- a consumer has income of Rs 20 and he want to spend on two commodities that is Apple and banana. Apple price Rs 4 and banana price Rs 2 .c



Case	Apple	Banana	Total
A	0	10	20
B	1	8	20
C	2	6	20
D	3	4	20
E	4	2	20
F	5	0	20

All the point shows total expenses = total income

Budget Map



It is a combination for group of more than one budget line

{ Jab Ek Se Jyada budget line ek hi graph per Banai Jaati Hai hai to use budget map bolate Hain}

Properties of Budget Line

1.Budget line is a straight line: line is straight when MRS is constant at all level of alternative combination.

Case	Apple	Banana	MRS
A	0	10	-
B	1	8	2:1
C	2	6	2:1
D	3	4	2:1
E	4	2	2:1
F	5	0	2:1

Jub bhi MRS equal aega sub level of combination per , tab budgent line stright banegi , income constant hoti isliye bhi yeah line straight hoti hai

2.Budget line always Downward Sloping

Due to inverse relationship of two commodity, budget line Always At downward-sloping,like For consuming 1 more apple we have to sacrifice 2 Bananas according to the above chart

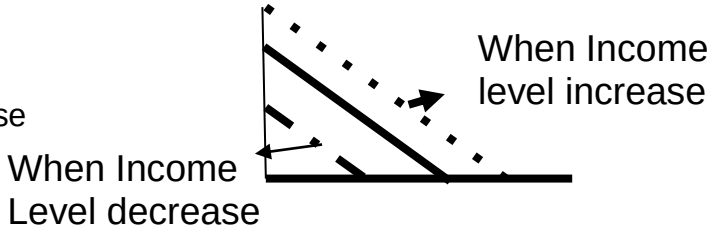
{ inverse relationship ka matlab- commodity ka ek goods kam Hota Hai Tabhi dusri commodity ka ek Goods badhta hai means ek increased to dusra decrease} **Apple ↑ Banana ↓**

Change In Budget Line : There are two conditions when budget line changes

1 Change in the income of consumer	2 change in the price of a goods
Effect- Shift in the budget line	Effect- Rotation in the budget line

1. Shift in budget line:

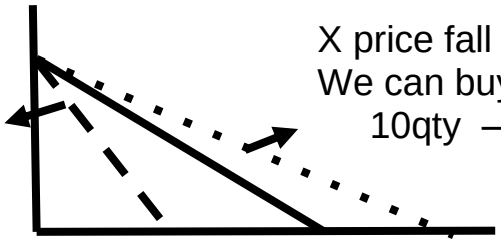
When income is increase budget line shift towards the right side, and when income level decrease budget line shift towards left side



2.When change in the price of goods X or Y Or Both:

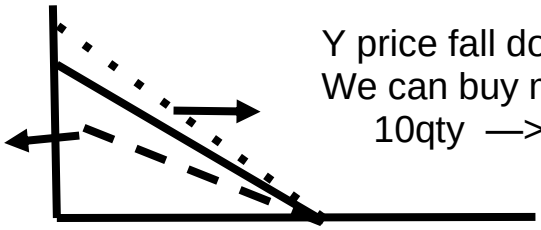
A. When Change In Price of Good X

X price rises UP
We can buy less Qty
10qty —> 5qty



B. When Change In Price of Good Y

Y price rises UP
We can buy less Qty
10qty —> 5qty



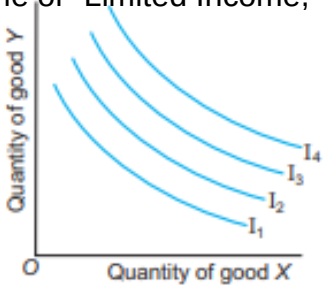
C. When change in both price: when change in the price of both the commodity in that case, There is a shift of budget line

Consumer Equilibrium in Case of 2 Goods : with the help of Indifference Curve and Budget Line

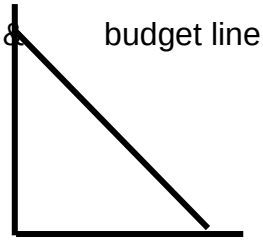
Meaning: A consumer get its equilibrium point Of consumption or situation, where consumer will get maximum satisfaction with his or her Limited income

consumer want maximum satisfaction at minimum or Limited income show with the help of indifference curve and budget line we find the best combination of goods which satisfied both the condition 1 Maximum Satisfaction, 2 Minimum Income or Limited Income,

I.e we have 2 Things indifference curve



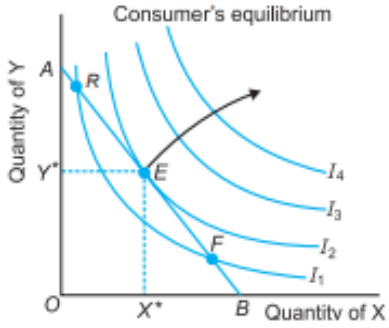
& budget line



Conditions: we have to follow 2 conditions:

1. **MRS continuously Fall**
2. **MRS xy = Px/Py {}.**

Diagram:



Explanation :

1. In the wood diagram A & B is a budget line and three indifference curve that is Indifference map
2. At IC1 -> IC1 is touches the budget line on the point P and Q, which gives same level of satisfaction, but IC1 give lesser level of satisfaction as compared to IC2 Tu& IC3. hence this point P and Q at IC1 are not to be a consumer equilibrium point.
3. At IC3 consumer will get maximum satisfaction as compared to IC1 ,& IC2 you but still this will not be a consumer equilibrium point because this IC3 curve is out of the budget line, consumer has not that much of income.

4. At IC2 Consumer will get more satisfaction as compared to IC1 you and IC2 touches the budget line at point “E”. so point ’E’ will be a consumer equilibrium point.

Conclusion: the budget line is tangent{ touch} to the IC2 , at point “E” , This combination of goods{2.4} will give maximum satisfaction in the given money level

Monotonic Preference : When consumer firstly purchase those item, which gives them maximum satisfaction, that preference is known as monotonic preference,{}