Chapter - 01
Introduction
Micro Economics

* Economics deals with allocation of scares resources among alternative uses to satisfy human wants. Economics is the study of production, Consumption, distribution and Exchange...

* Income Generating activities are Called Economic activities.
* The goods which are priced is Called Economic goods.
* Economic problem arises due to human wants are unlimited but resources are limited, here we face the problem of choice.

Hint * Family Farm, Weaver and Teacher

A family farm may own a plot of land, some grains, farming impliments, may be a pair of bullocks and also the labour services of family members the farm can produce corn, use part of the produce for consumption purpose and procure clothing, Education, Housing and various services in Exchange of the rest of the produce.

Similarly, A Weaver may have some Yarn, some cotton and other instruments required for Weaving cloth. The Weaver can get the goods and services that he wants in Exchange for the cloth

he produces in his farm...

Also, A Teacher in a local school has the skills required to impart Education to the students. The teacher can earn some money by teaching students in a school and use the money for obtaining the goods and services that she wants...

* Concept of an Economy

An Economy is an mechanism (system) through which scares resources are prioritised and organised for the production of goods and services. House hold, Firm, Government, External sectors are the important Economic agence of an Economy...

* Central Problems of an Economy

The problem of choice is also called as Economic problem. The problem of choice arises due to limited resources and unlimited wants. There are 3 types of Economic problem

i) What to Produce ?
ii) How to Produce ?
iii) For Whom to produce ?

What to Produce ?

As resources are limited wants are unlimited an Economy cannot produce Everything

What to produce it is related to the problem of choice of goods and services. In Centrally planned Economy government planners will decide decide what to produce? and always they will produce the goods which is required for poor people. In a market Economy private people will decide what to produce? and always they will produce the goods for rich people and those who are having the capacity to buy. In mixed Economy both the planners and market forces decide what to produce?

How to Produce?

The problem of how produce is relating to choice of technology

There are two types of techniques of production

* Labour Intensive technology - In which more labour is used in production than Capital.

* Capital Intensive technology - In which more Capital is used in production than labour.

In Centrally planned Economy they adopt only labour intensive technology to create Employment opportunity. In market Economy they adopt Capital intensive technology to Earn more profit. In mixed Economy they will adopt both type of technology...

For whom to Produce?

Goods & services is produced in an Economy & Consumed by the human Wants and resources availability vary from region to region the Individual may belongs to Economically bigger section or rich for whom these goods being produced it is related to the problem of distribution. In Centrally planned Economy they produce goods only for poor people those who are not having ability to buy. In market Economy they will produce goods only for rich people those who are having ability to buy...

Organisation of Economic activities

An Economy is a system of resolving Economic problems such as what to produce? How to produce? For whom to produce.

There are three types of Economic system
1. Centrally planned Economy (socialist Economy)
2. Market Economy (Capitalist Economy)
3. Mixed Economy

1) Centrally Planned Economy

Centrally planned Economy is also called as Socialist Economy. Here all the Economic activities are under the Control of Central government rather than private people. Here government takes decision about allocation of

resources in accordance with objectives to attain economic and social welfare.
Ex :- Russia, North Korea, Cuba, china, Vietnam

* Features — They not accept profit, Private people not allowed

* Government play an important role
* Social Welfare is a main Goal
* Government takes decision about allocation of resources
* What to produce, How to produce & For whom to produce decided by Govt
* The government may produce those goods & services which are most useful for its Society (necessary goods)
* Socially most useful techniques is production is adopted in this economy (labour intensive technology)
* Goods will be produced for the poor people
* Profit maximization is not a major consideration
* There is greater importance on the quality of life...

* Market Economy

A Market Economy is also known as Capitalist Economy in which economic decisions are undertaken on the basis of market mechanism by the private people.
Ex:- USA, Japan, UK, Australia

Features

* Private people are the owners of factors of production
* The price is determined by demand & supply
* Profit is the major consideration
* Government is not allowed in economic activities
* Private people will decide what to produce? How to

produce & for whom to produce?

* Here, The producer will produce those goods that are high in demand less in supply in order to get more profit. [Luxurious goods]
* They select least cost combination technology so that they can get more returns with less cost. [Capital intensive technology].
* The producer will produce goods for rich people those who are having ability & buying.

~~Production~~ Pof

* Mixed Economy

It is the co-existence of both private and public sector in the management of economic activities.

Ex:- India, Pakistan etc

Features

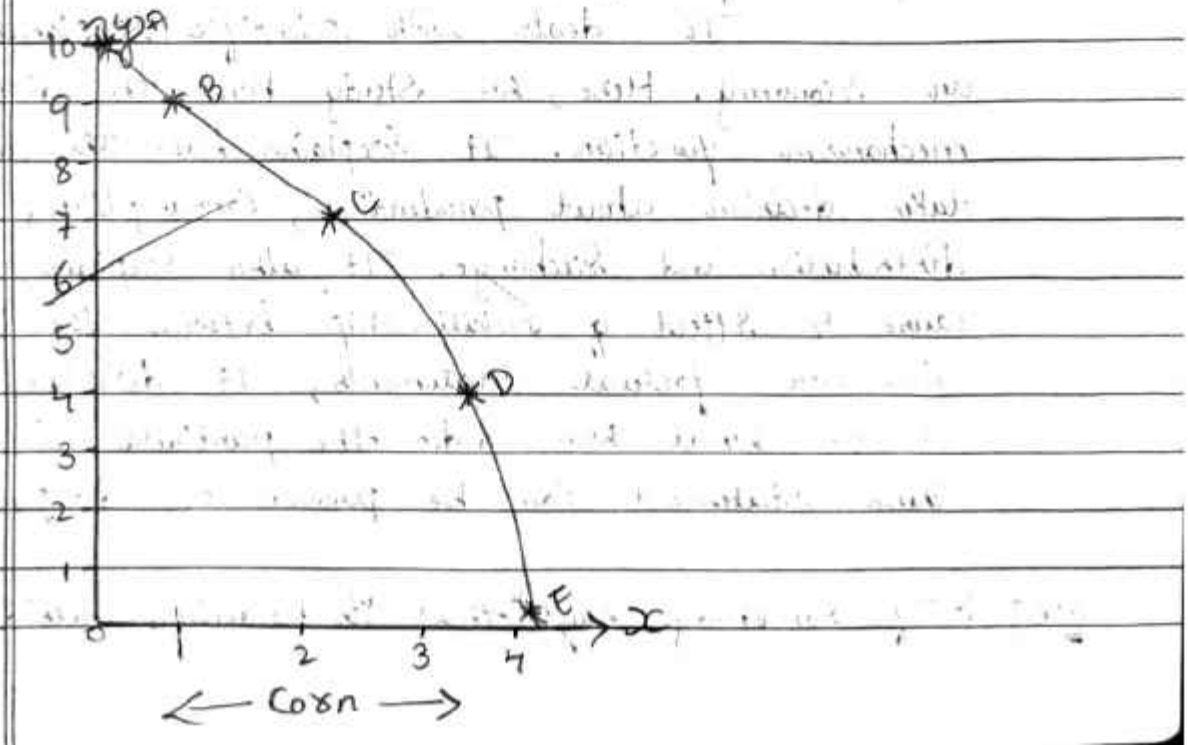
* It is the mixture of both capitalist and socialist economy.
* There is a dual pricing system
* Aim of the govt is social welfare & aim of the private is profit maximization.
* What to produce is solved mainly by Consumer.
* The problem of how to produce is solved based on both profit & social welfare.
* The problem of whom to produce is solved mainly by the ability to pay.

★ Production Possibility Frontier

The scarce resources have alternative usage & every society has to decide how much of each resources to be used in the production of different goods & services. An allocation of scarce resources of economy gives a particular combination of goods & services.

The collection of all possible combination of goods & services that can be produced from a given amount of resources and a given technology is called production possibility set... The graphical representation of production possibility set is called production possibility frontier

Possibility	Corn	Cotton
A	0	10
B	1	9
C	2	7
D	3	4
E	4	0



In the above table & diagram we can observe that if a country uses all its resources to produce cotton it can produce a maximum of 10 units which is shown in combination A. Similarly, if all the resources are used to produce corn, A maximum of four unit of corn. If the resources are used to produce both the goods the combination of B, C, D can be choosen

In the above diagram the combination A to E on the production possibility curve represents that a country can produce both the goods with the help of available resources. Any point on or below the curve represents a combination of corn and cotton that can be produced by a given amount of resources. There is also a cost of having little more of one good in terms of other good that has to be forgon that is known as opportunity cost...

★ Positive Economics

It deals with scientific Explanation of an Economy. Here, We Study how the different mechanism function. It Explains how the Economy takes decision about production, Consumption, distribution and Exchange. It also Explains the Cause & Effect of relationship between two variable. This are factual statements, It discribes what is or what was under the particular circumstances These Statement Can be proven or disproven.

Ex:-) If somebody says that its raining outside the

truth of this statement can be verified.

2) When the tax on tobacco increases there will be reduction in tobacco consumption.

★ Normative Economics

Normative Economics concerned with how the basic economic function should be performed. It describes what should be done, what should not be done, what is good & what is bad for human beings. Normative Economics statements are sometime called as matter of opinion. It cannot be tested or proven.

Ex :- Government should provide basic health care facility to all citizen is a normative economic statement. There is no way to be prove whether Government should provide healthcare or not...

★ Micro and Macro Economics

The word Micro & Macro was introduced by the famous economist "Ragner frisch". The word "Micro" is derived from the greek word "Mikros" which means small. The word macro is derived from the greak word makros which means large.

Micro Economics deals with the small units of Economy. For Example :- A firm, A Consumer.

SURYA Gold

Date Page

Macro Economics deals with the large segment of an Economy. For Example :- National Income, Foreign trade...

8/3/25

Chapter - 02
Theory of Consumer behaviour

* **Introduction :-**

The theory of consumer behaviour studies the behaviour of an individual consumer. The consumer has to decide how to spend his income on a different rule. The likes of the consumers are called preferences and what the consumer can afford to buy depends on prices of the goods and the income of the consumer.

There are 2 different approaches, which explains consumer behaviour

* Cardinal approach
* Ordinal approach

* **Preliminary Notations and assumption :-**

* A consumer consumes only 2 goods
* The two goods refers to good 1 & good 2
* Any combination of the two goods are called as consumption bundle.
* Good 1 quantity is denoted by x_1, good 2 quantity is denoted by x_2
* The price of good 1 is denoted by P_1, The price of good 2 is denoted by P_2.
* The amount of good 1 [x_1] & good 2 [x_2] can be positive or zero

* **Utility :-**

Utility refers to the want satisfying capality of a commodity. Utility is a subjective & it is a expected satisfaction...

* Measures of utility [Types]

* Total utility [TU]

The aggregate of utility obtained from the consumption of fixed quantity of a commodity is called total utility. TU depends on the quantity of the commodity consumed. TUn refers to total utility derived from consuming n units of a commodity.

From :- $TU = V_1 + V_2 + V_3 \text{ --------}$

* Marginal utility :-

Marginal utility is the change in total utility due to consumption of an additional or extra unit of a commodity.

Example :- Suppose 4 bananas gives us 28 unit of total utility and 5 bananas give us 30 unit of total utility then marginal utility is :

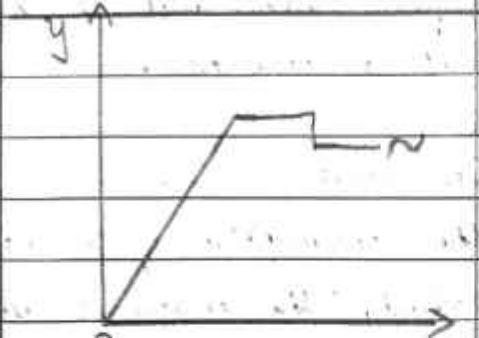
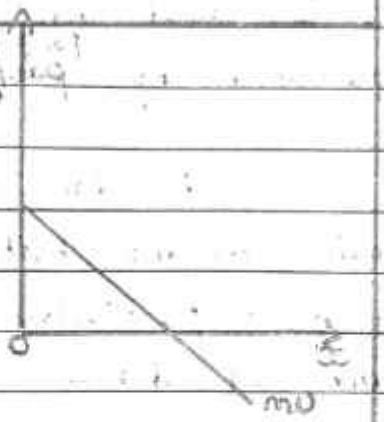
$MU = TUn - TUn-1$

$= 30 - 28$

$MU = 2$

* Difference between TU & MU.

TU	MU
* It is a utility obtained by consuming all the product.	* It is a utility obtained by consuming an additional unit of a Product.
* $TU = V_1 + V_2 + V_3$	* $MU = TU_n - TU_{n-1}$
* In the 1st stage total utility starts to increase	* In the 1st stage marginal utility starts to decrease

*	In the 2nd stage total utility becomes constant	In the 2nd stage ~~total~~ marginal utility becomes zero
*	In the 3rd stage total utility starts to decrease	* In the 3rd stage marginal utility becomes negative
*		

* Coordinar and ordinard approach

There are two basic approachs to study consumer behaviour. The term cordinal and ordinarl we have borrowed from mathematics the numbers 1, 2, 3, 4 etc.... are Coordinal and the ordinarl are I, II, III, IV etc...

Coordinarl approach is also known as utility and approach and it is introduced by alfred Marshall it explains that utility can be measured in terms of numbers.

Example:- An Apple may yield utility of 20 units and ~~may~~ a orgonge may yield 10 units

~~J.R.S~~ J.R Hicks & Allen and others have supported the ordinarl approach according to ordinarl utility Concept utility cannot be measured but it can only been compared [We can give rank]

Ex:- I, II, III, IV Rank

The Law of Diminishing Marginal utility

The famous German Economist Grossen was the first to explain these law. Therefore it is called Grossen's first law. But it was popularised by Professor Alfred marshall.

The law states that " When other things remain constant with the consumption of an additional unit of a particular product, the marginal utility starts to decrease then it becomes zero then it become negative.

Assumption

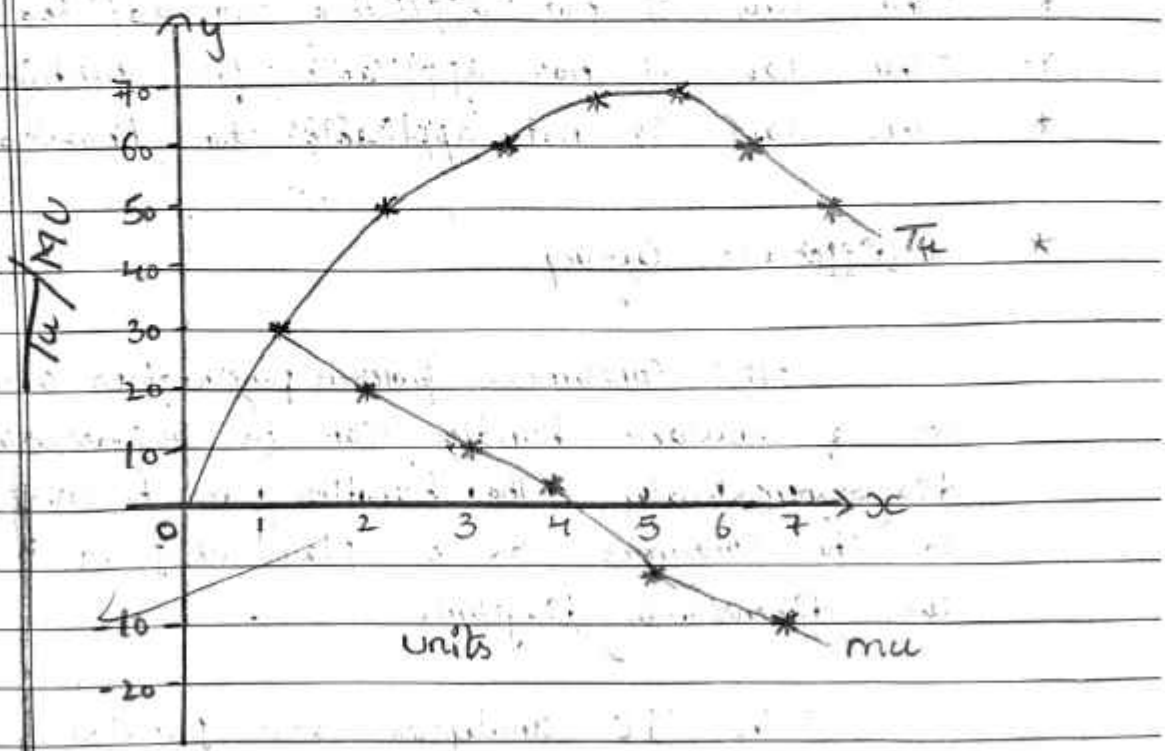
* Utility can be measured in terms of numbers
* The price remains constant
* The taste and preference should remain constant
* Income of consumer is constant
* All the units should be in the same, colour, size, test
* The consumer must be rational
* The unit of commodity should be used continously

The law of TMU can be explained with the help of following table

Units	TU	MU
1	30	30
2	50	20
3	60	10
4	65	5
5	65	0
6	60	-5
7	50	-10

* The above table shows an example of the value of MU & TU derived from the consumption of various amounts of a commodity usually. It is seen that the MU decreases, with increase in consumption of the commodity. TU increases at a diminishing rate. The rate of change in TU due to change in quantity of commodity consumed in a measure of MU. This MU decreases with increase in consumption of a commodity. From 30 to 20, 20 to 10, 10 to 05, 5 to 0, 0 to -5 Soon...

The law of DMU can be explained with the help of following diagram:



In the above diagram 'oy' access represent total utility and marginal utility ox access represent units. Law of DMU states that MU from consuming each additional unit of commodity declines as its consumption increases, while keeping consumption of other commodities constant.

MU becomes zero at a level when TU remains constant. In the above example FU does not change at 5 units of consumption and therefore $MU_5 = 0$. Therefore after TU starts following & MU becomes negative.

* Limitation / Disadvantage
* This law not aplicabally to rare collection as coin, stamps etc.
* This law is not applicable to money.
* The law is not applicable to innovation
* This law is not applicable to precious goods like gold, diamod etc.
* This law is not applicable to addicted people
* This law is not applicable for fashion
* This law is not applicable to knowledge...

* Indifference Curve

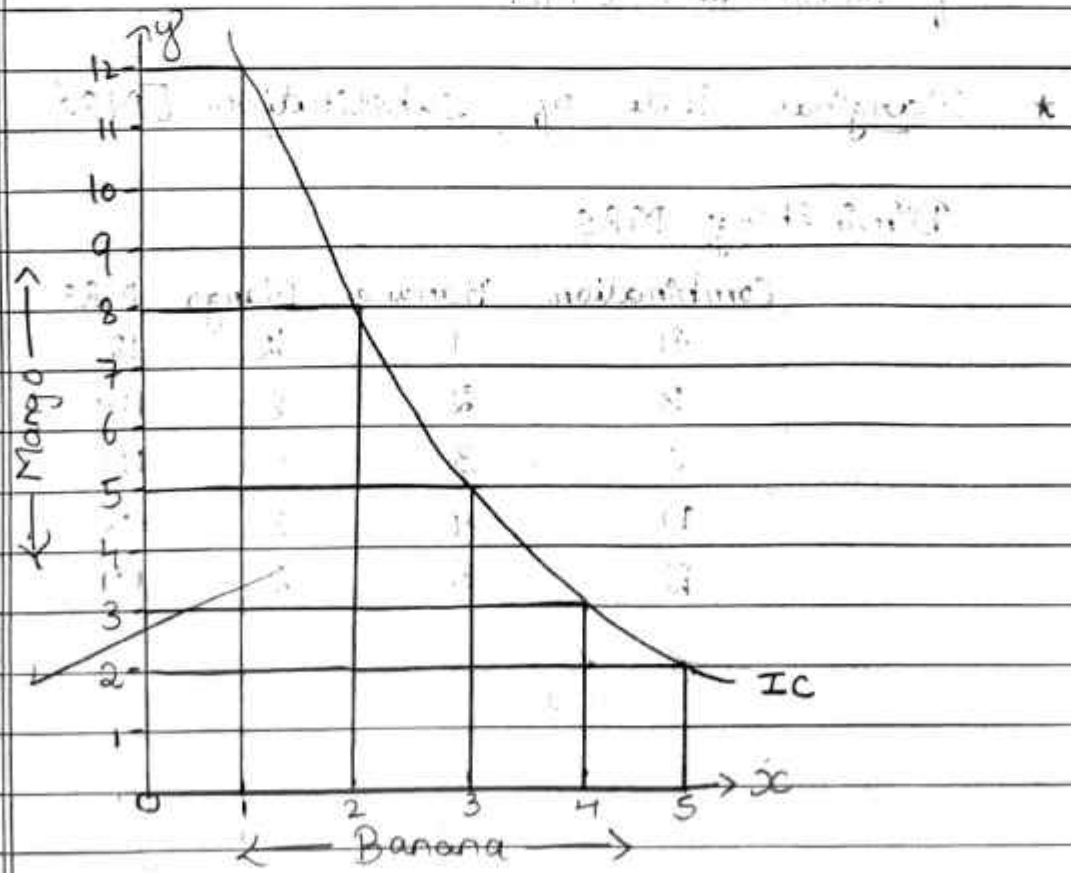
A consumers preferences over the set of available bundles can be represented diagrammaticaly. The bundles can be available to the consumer can be plated as point in the two dimensional diagram.

In IC analysisis was popularised by J. K Hicks Allen there are use to represent the taste & Prefesences of the consumer.

IC shows that the different combination of two products in which consumer will get some level of satisfication.

It can be explained with the help of following table & diagram

Combination	Banana	Mango
A	1	12
B	2	8
C	3	5
D	4	3
E	5	2



In the above diagram & the table the Consumer is set to be indifferent & the different bundles because each point of the bundles given the Consumer Equal utility. In the above

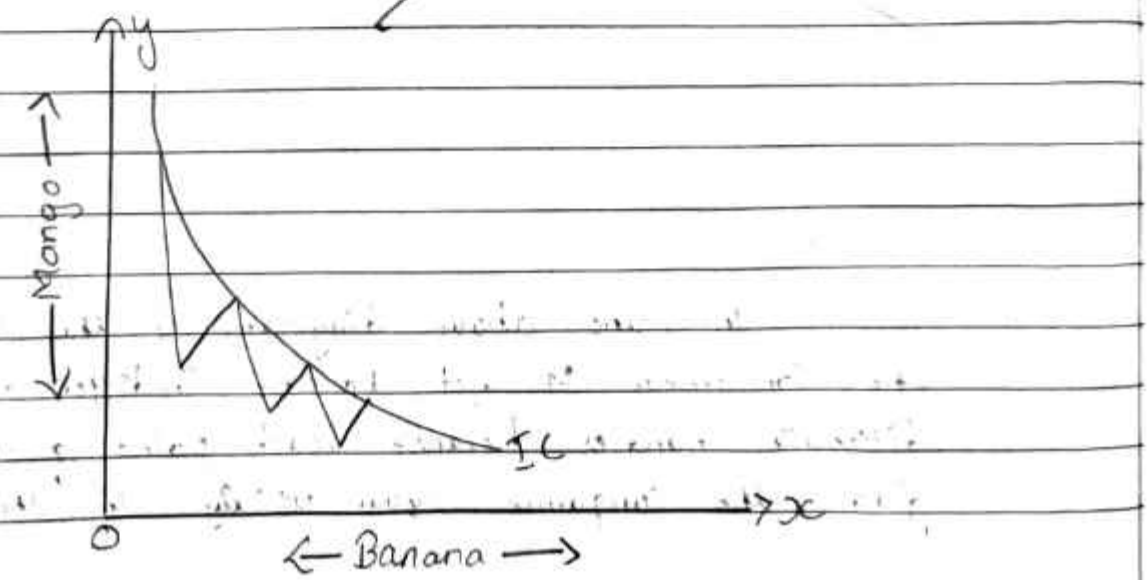
OX axis represent banana, 'OY' axis represent mangoes all the points such as A, B, C, D, E lying on the indifference curve provide the consumer with the same level of satisfication It is clear that when a consumer gets one more banana he as forejo some mangoes therefore indifference curve slow down world.

The amount of mangoes that the consumer as to be forejo in order to get or additional banana to maintain equal level of satisfication is called Marginal rate of substitution [MRS]

* Marginal Rate of Substitution [MRS]

Diminishing MRS

Combination	Banana	Mango	MRS
A	1	12	12
B	2	8	1:4
C	3	5	1:3
D	4	3	1:2
E	5	2	1:1



In the above table, as we increase the quantity of Banana. The quantity of mangoes for each additional banana declines.

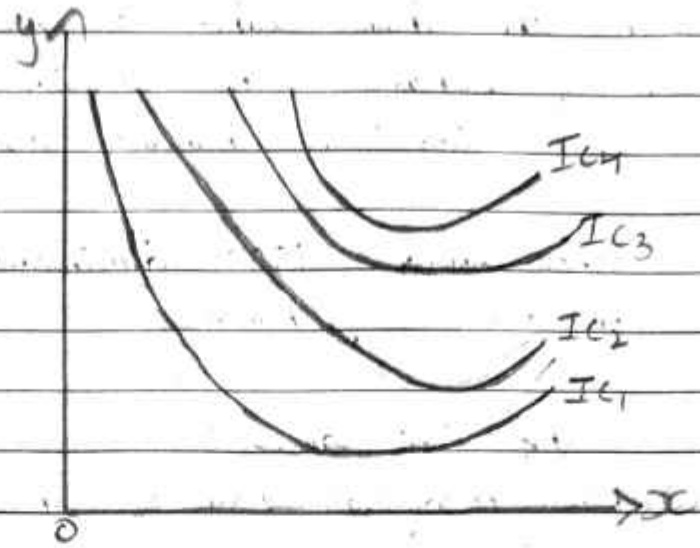
In other words, MRS diminishes with increase in the number of bananas.

The Ic analysis is based on the law of diminishing marginal rate of substitution It means how much of commodity mango the consumer is ready to sacrifice in order to have one additional unit of banana, so that the consumer may be able to get the same level of satisfaction. It is called marginal rate of substitution.

The above diagram shows that the diminishing marginal rate of substitution. If the consumer wants to have an additional unit of banana he has to sacrifice losses & losses unit of mango.

★ Indifference Map :-

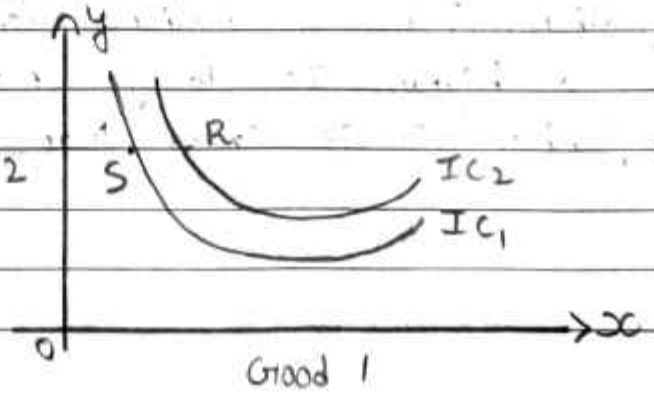
A group or a set of Ic for two commodities showing different levels of satisfication is called indifference map. In the indifference map a higher Ic denotes higher level of satisfication and a lower Ic represents lower level of satisfication. Being a rational consumer always choose a higher Ic to get maximum level of satisfication it is called Monotonic Preferences.



In the above diagram, ox axis represents good & oy axis represents good 2. There are four indifference curves such as IC_1, IC_2, IC_3 & IC_4. IC_4 gives a higher ~~value~~ level of satisfaction compare to curves IC_3, IC_2 & IC_1. IC_2 yield greater amount of satisfication than IC_1 but lower than IC_3. In the same way, IC_3 gives more satisfication than IC_2 but lesser than IC_4. A rational consumer always chooses IC_4 to get maximum level of satisfication is called monotonic preferences.

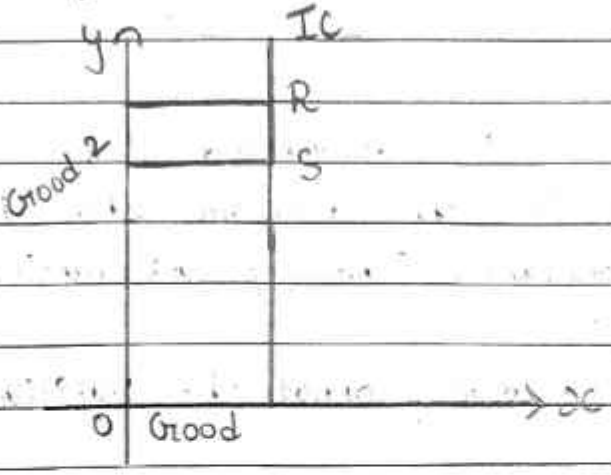
⇒ Properties or Features of Indifference Curve

1. A higher indifference curve represents higher level of satisfication than lower Indifference curve.



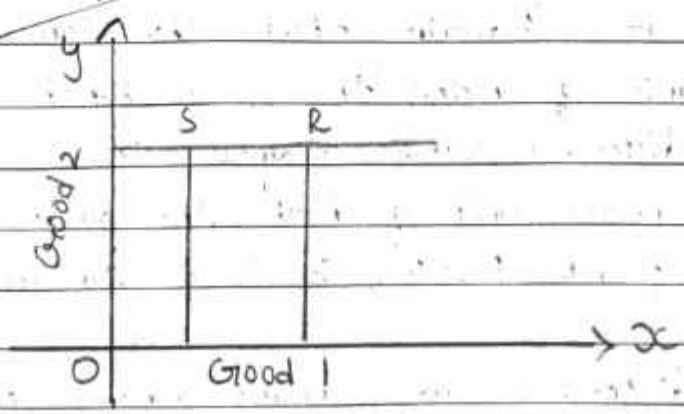
Every Consumer attempt to move to a higher IC provided her / his income & prices of goods permit him. In the above diagram the point 'R' ('S' preference to the point 'S' as it represents greater ip function.

2. An Indifference Curve cannot be a vertical line



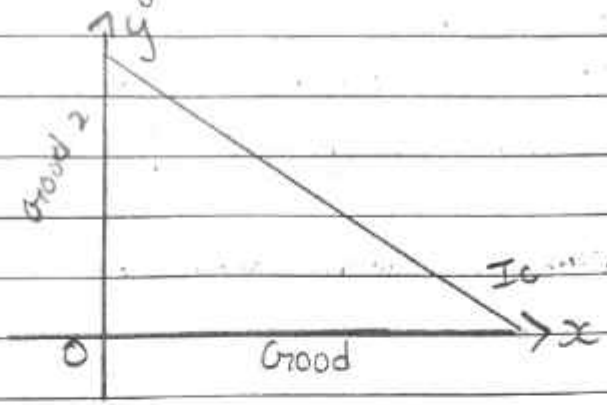
In the above diagram the point 'R' represents greater combination of the commodition than the point 'S'. The Consumer gets more of Good without sacrificing any unit of Good 2 it is unrealistic.

3. An Indifference Curve cannot be a horizontal line



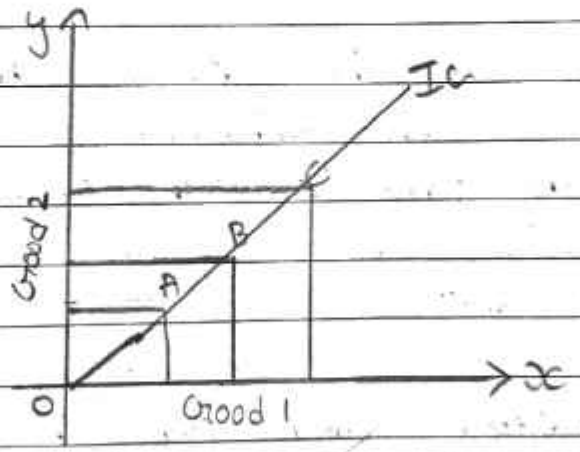
In the above diagram the point 'R' represent greater combination of the commodity than the point 'S'. The Consumer gets more of Good 1 without sacrificing any unit of Good 2 this is realistic...

4. An Indifference Curve cannot be a downward sloping straight line.



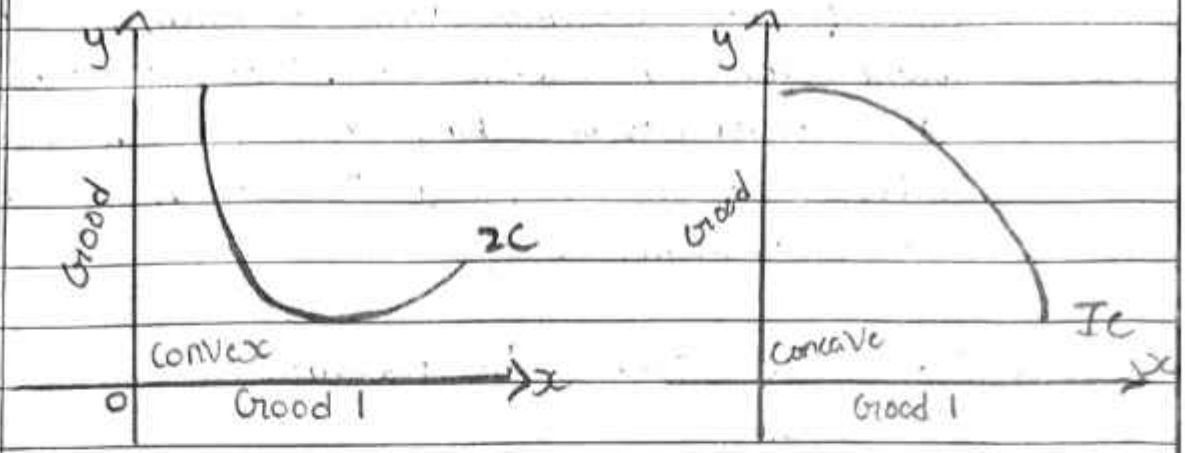
If it is downward sloping straight line as shown in the diagram then MRS will remain constant. This is unrealistic.

5. Indifference Curve cannot be positively sloped.



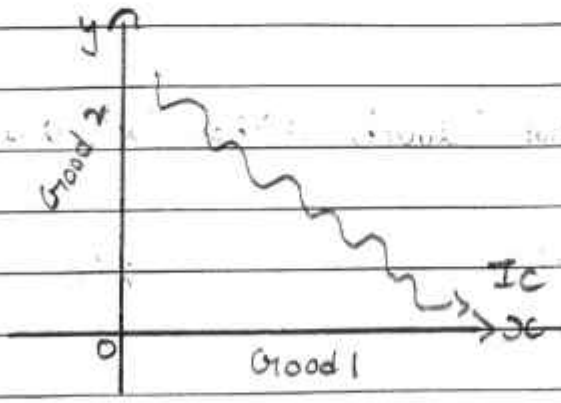
It indicates that the consumer preferences more unit of both the goods which is not possible in indifference curve analysis the consumer is getting more unit of both the goods which moves from point A - B, B - C & so on.

6. An indifference curve must always be convex to the ogive & not concave.



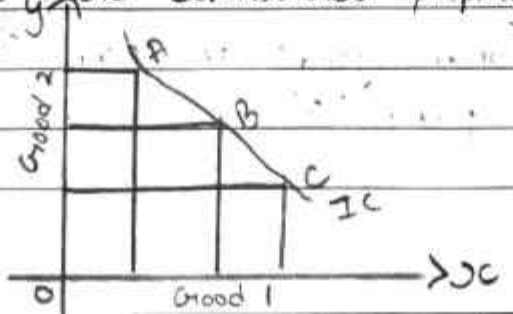
If it is Concave the rate of substitution will be increasing this is unrealistic. If the stock of goods falls our preferences for the remaining units must increase, the MRS must always diminish such a condition is satisfied only when the Ic is Convex to the origin

7. An Indifference Curve Cannot have a bulge



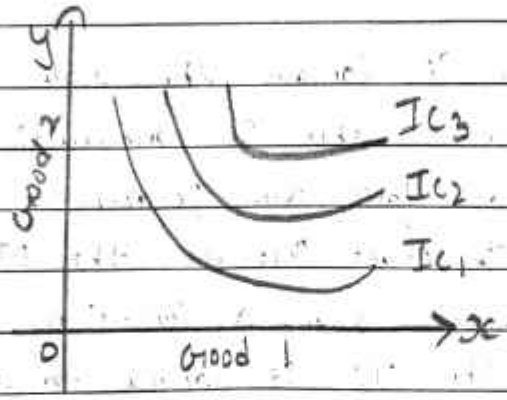
If an Ic as a bulge has shown in the diagram it is clear that the MRS is not diminishing Consistance it means the Consumer is not behaving in a rational manner.

8. The Ic are downwards sloping from left to right



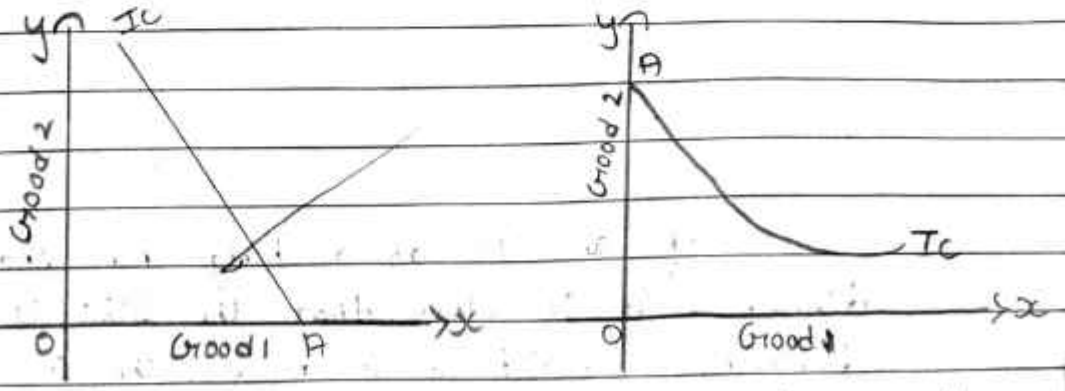
If the consumer has to stay at the same level of satisfication. The quantity of 1good must assume when the quantity of the other good increase. It is clearly in the above diagram.

9. The Ic cannot be paralled



If they paralled the diminishing MRS is the same on all the indifference curve.

10. Ic will not touch either 'x' axis or 'y' axis



It means the Consumer is having only good, & good$_2$ which is not possible under Ic analysis. In the above diagram the Consumer is having only good 1 at point 'A' & only good 2 at point 'B'

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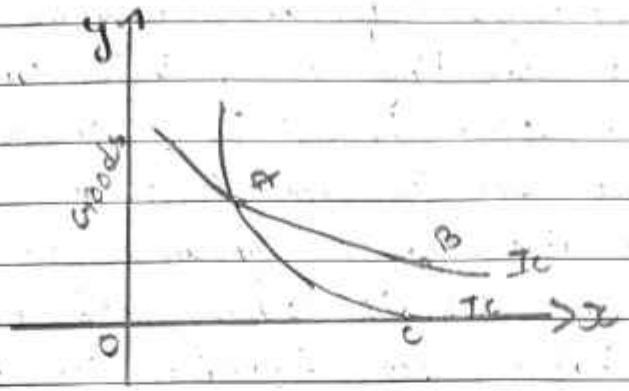
11. IC cannot intersect each other



2IC never intersect each other because their represent two different sets of combination of 2 goods providing an equal level of satisfication The point 'A' reflects equal level of satisfication from the 2 difference Ic which is unrealistic.

★ **Consumer Budget :-**

Each consumer has clear cut preferences of the goods & services that are available in the market. The consumers is the rational person he tries to use his money to drive the maximum satisfication with the limited amount of money, the consumer cannot buy everything. A decision of consume more of one good is also a decision to consume less of some other good. Therefore the consumer must compromise and must choose the most satisfying combination of goods, & services...

umd ★ **Budget Set and Budget line :-**

The Income of consumer is M the price of two goods are P_1 & P_2. If the consumer wants is buy x_1 unit of goods, he has to spend P_1x_1 amount of money if the consumer wants to buy

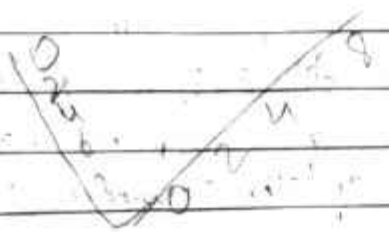
X_2 unit of goods$_2$ he has to spend P_2X_2 amount of money. If the consumer wants to buy the bundle consisting of X_1 & X_2 unit of goods he has to spend $P_1X_1 + P_2X_2$ amount of money. The budget set is the collection of all the bundle available to a consumer at a given level of income It is also called as opportunity set The budget set Equation can be written as:

$$P_1X_1 + P_2X_2 \leq M$$

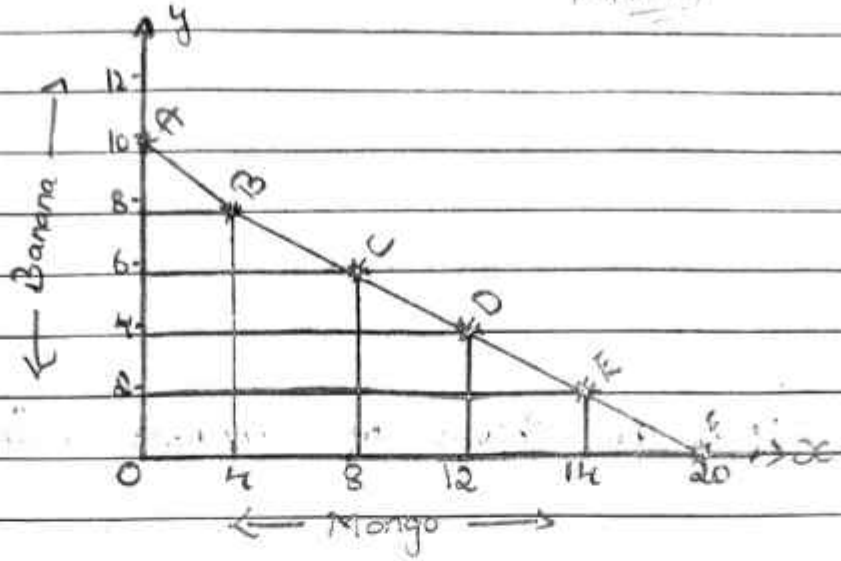
Meaning

For Example, a consumer who has ₹20 & suppose both the goods are priced 25, the bundle that a consumer can buy are (0,0), (0,1) (0,2), (0,3), (0,4), (0,0), (2,0), (3,0), (4,0), (1,1), (1,2), (1,3), (2,1), (2,2), (3,1). Among these bundles (0,4), (1,3), (3,1), (2,2), (4,0) cost Exactly ₹20 other bundles cost less then ₹20.

Combination	Banana (₹10)	Mango (₹5)	Money Spent (₹100)
A	10 x 10 = 100	0 x 5 = 0	100
B	8 x 10 = 80	4 x 5 = 20	100
C	6 x 10 = 60	8 x 5 = 40	100
D	4 x 10 = 40	12 x 5 = 60	100
E	2 x 10 = 20	16 x 5 = 80	100
F	0 x 10 = 10	20 x 5 = 100	100



★ Budget line :-



In the above diagram ox axis represent Mango and oy axis represent Banana. The combination A to F on the budget line are exactly equal to Consumer's Income. When the Consumer wants to buy more of mango he has to give up banana. The budget set consist of all points on or below the straight line having the equation $P_1X_1 + P_2X_2 \leq M$

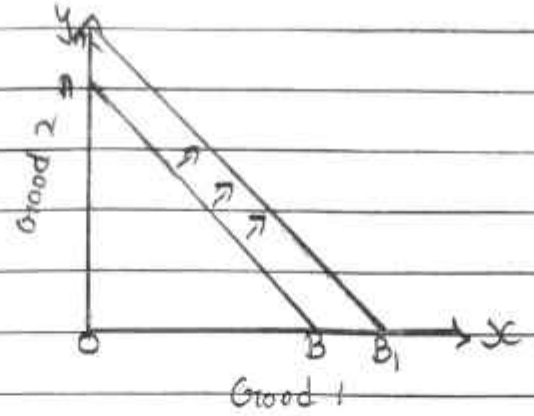
★ Budget Line :-

The combination of the goods that a consumer purchases depend upon the income and purchase of the goods is called budget line. It is also known as price line.

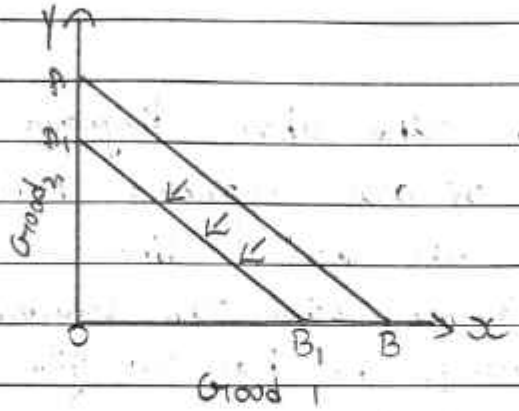
★ Change in Budget Set (Budget line) :-

★ Effect of Change in the Income of a Consumer

a) If Income of Consumer will increase

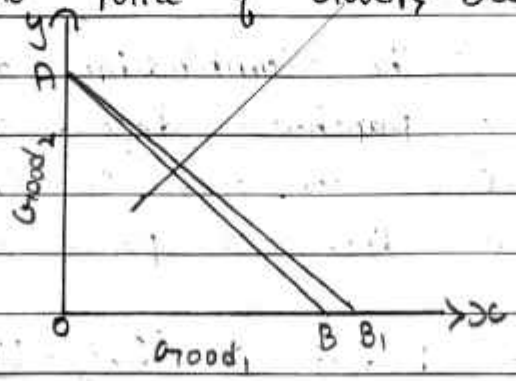


b) If the income of consumer will decrease

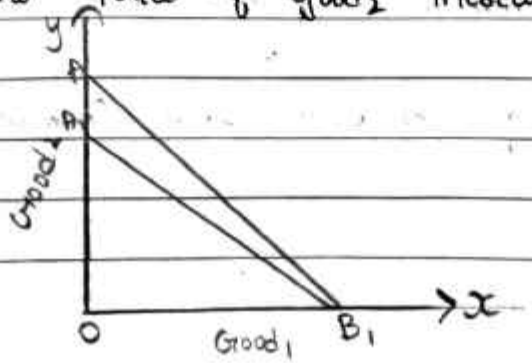


* Effect of change in relative prices

a) If the price of $Good_1$ decreases



b) If the price of $good_2$ increases



★ Derivation of Slope of Budget Line :-

The slope of budget line measures the amount of change in Good$_2$ require for unit of changing Good$_1$ along with the budget line.

It must be the case that

$$P_1x_1 + P_2x_2 = M \rightarrow \text{Eq (1)}$$

$$P_1x_1 + P_2x_2 = M$$

$$P_1(x_1 \Delta x_1) + P_2(x_2, \Delta x_2) = M$$

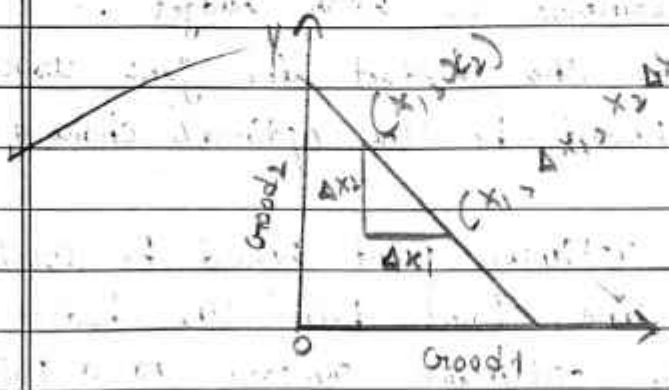
$$P_1x_1 + (P_1\Delta x_1 + P_2x_2 + P_2\Delta x_2 = M \quad \ldots (2)$$

If Cancelled

$$P_1\Delta x_1 + P_2\Delta x_2 = 0$$

By rearranging the term

$$\frac{\Delta x_2}{\Delta x_1} = -\frac{P_1}{P_2}$$



★ Preference of Consumer :-

The budget set consist of all bundles that are available to the consumer. The Consumer can choose consumption bundles from the budget set. It is assured that the consumer choose the consumption bundles on the basis of taste & Preferences over the bundles in the budget set.

Example :- Ranking of bundles available to the Consumer

Bundle	Ranking
(2,2)	First
(1,3) (3,1)	Second
(1,2) (2,1)	Third
(1,1)	Fourth
(0,0) , (0,1)	
(0,2) , (0,3)	Fifth
(0,4), (1,0), (2,0) (4,0)	Sixth

IMP

★ Optimal Choice of Consumer [CONSUMER EQUILIBRIUM POINT :-

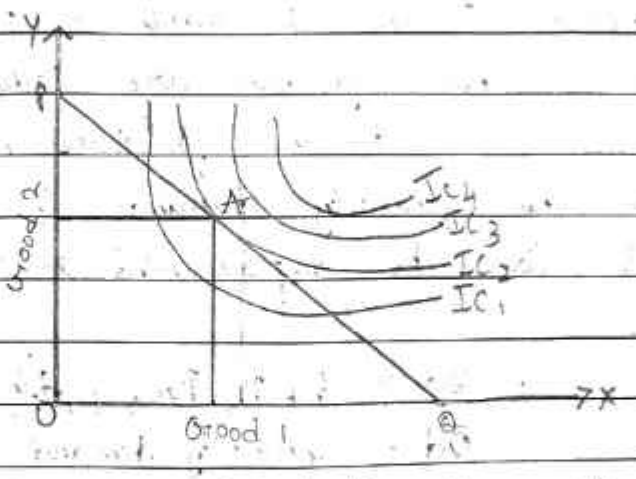
IC represent the choice & priority of the Consumer, the budget line shows the ability to pay in order to achieve consumer Equilibrium. We have to combine IC with budget line. The point at which the budget line just touch one of the IC would be the optimal choice of consumer.

The optimum point would be located on the budget line. Point below the budget line cannot be the optimum compare to a point below the budget line there is always some point on the budget line, which contains more of atleast one of the goods and no less of other good. Thus, the consumer preferences are monotonic.

* **Assumption :-**

* Income of Consumer is constant
* Consumer is the Rational Person.
* Prices of goods & services are constant
* The Consumer are aware of Indifference map
* All the goods are same.

The optimal choice of Consumer can be Explained with the help of following diagram :



In the above diagram, OY axis represent Good$_2$ & OX axis represent Good$_1$. There are four Ic such as Ic_1, Ic_2, Ic_3, Ic_4 & a budget line of PQ A is the only combination that gives the maximum level of satisfaction. All other point that are on or below the budget line gives higher or lower level of satisfaction At point A the Ic just touch the budget line & Equilibrium is achieved at that point.

* **Demand :-**

The quantity of the good that a Consumer purchases in a market at a particular price & time is called demand. The Consumer demand will have

three issues to be fulfill namely :

a) Desire to buy
b) Ability to buy
c) Willingness to buy

★ Demand Function :-

The quantity of the good that the consumer decides to buy depends on the price of the good, the price of the other goods, the consumer's income & taste & preferences of the consumes. These factors are called determinants of demand. The demand function shows the relationship between the quantity demands & its determinants

It can be represented as :-

$$Qd = f[P, Por, Y, t]$$

Qd = quantity demand
P = Price
Por = Price of other goods
Y = income
t = taste & Preference

⇒ Consider any two variable X & Y of a function $y = f(x)$ is a relation between the two variable x & y such that for each value of x there is an unique value of the variable y. y is called dependent variable and x is called Independent variable.

★ Demand Equation :-

$Qd = a - bP$

Qd = quantity demand [Dependent Variable]

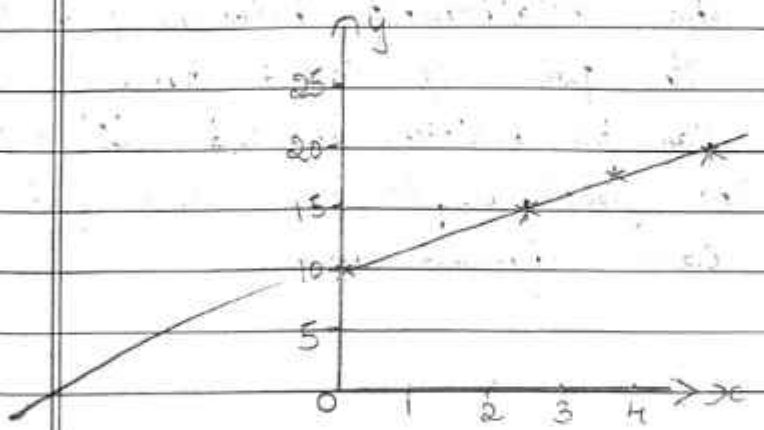
a = Constant

b = Co-efficient

P = Price [Independent variable]

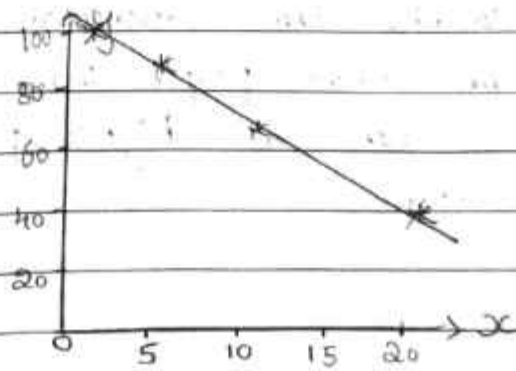
Example 1 :-

Consider for a situation, where x can take the values of 0, 1, 2, 3, & suppose values y are 10, 15, 18, 20 respectively



Example 2 :-

Consider ~~of~~ other situation where x can take the values of 0, 5, 10 & 20 and suppose the values of y are 100, 90, 70, 40 respectively



The functional relationship between two variables can be expressed as following :-

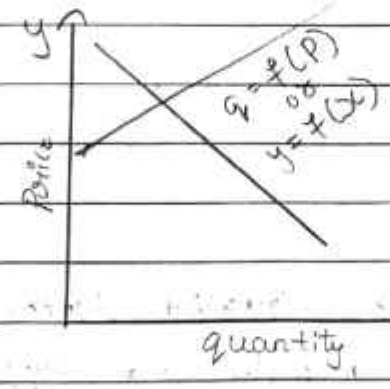
$y = 5 + x$

$y = 50 - x$

In the above diagram Independent variable is measured in horizontal axis & dependent variable is measured is vertical axis. The graph of an increasing function is upward sloping and the graph of decreasing function is downward sloping.

★ **Demand Curve :-**

The relationship between quantity demand and its price is called demand function. It can be written as $Qd = f(P)$ (or) $y = f(x)$. The graphical representation of demand function is called demand curve.



★ **Law of Demand :-**

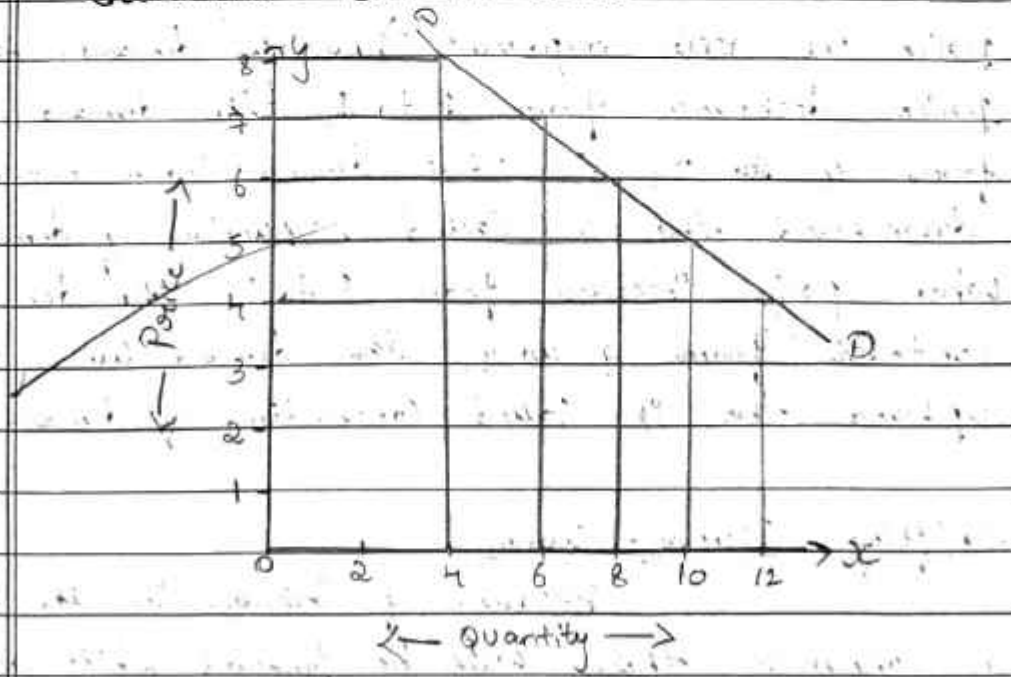
According to Samuelson the law of demand states that people will buy more at less price & less at higher price other things remaining constant.

In other words, when other things remaining constant when the price of product is increasing demand is decreasing, when the price of product is decreasing demand is increasing is called law of demand.

* Individual Demand Schedule

Price	Quantity demand
4	12
5	10
6	8
7	6
8	4

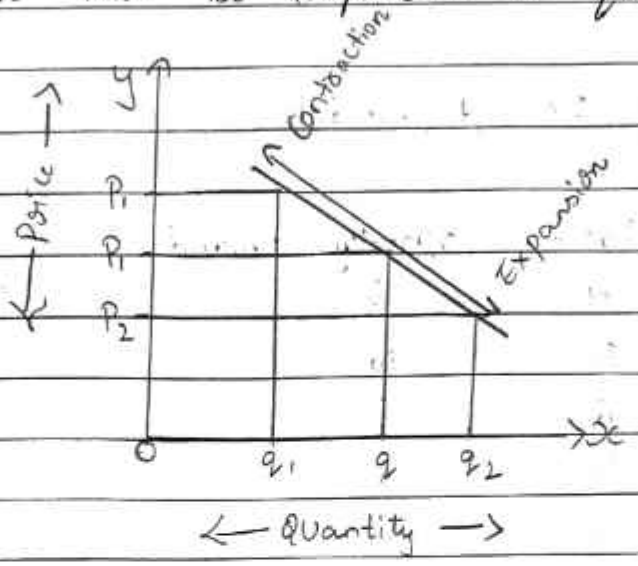
Individual Demand Curve



⇒ Movement along the demand curve and shift in demand curve

★ Movement along the demand Curve :-

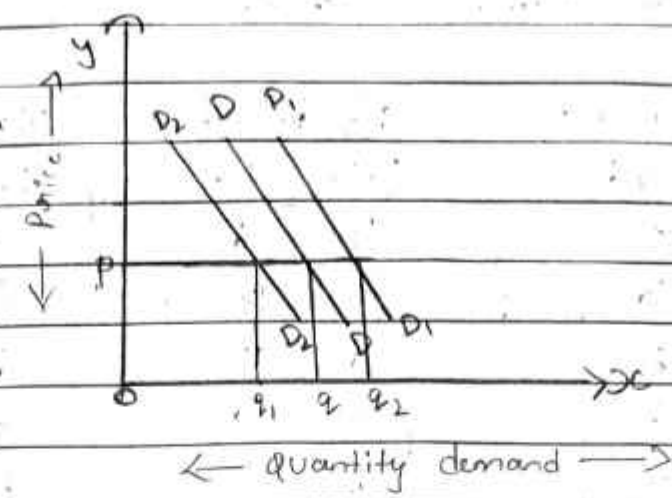
Because of increase in price of the product there will be contraction in quantity demand. Because of decrease in price of the product there will be expansion in quantity demand.



In the above diagram oy axis represent price ox axis represent quantity demand. When price decreases from P to P_1 the demand expand from q to q_2 so that demad Curve move downward this is called expansion of demand. When price increases from P to P_2 the demand contract from q to q_1 the demand Curve move upward this is called contraction of demand.

★ Shifting Demand Curve

Because of increase in the income of Consumer there will be forward shift resulting increasing in the quantity demand. Because of decrease in the income quantity demand decreases resulting backward shift of quantity demand with constant price.



In the above diagram oy axis represent price & ox axis represent quantity demand when the income of consumer is increasing from q to q_2 the demand curve will shift from left to right (DD to D_1D_1). When the income of consumer decreases from q to q_1 the demand curve will shift from right to left (DD to D_2D_2).

* Market Demand

The Market Demand for a good at a particular price is the total demand for all consumer's taken together. The market demand for a good can be derived from the individual demand curve suppose there are two consumers in the market the market demand curve can be explained with the help of following diagrams :-

Market Demand Schedule

A's demand

Price	Qd
4	12
5	10
6	8
7	6
8	4

+

B's demand

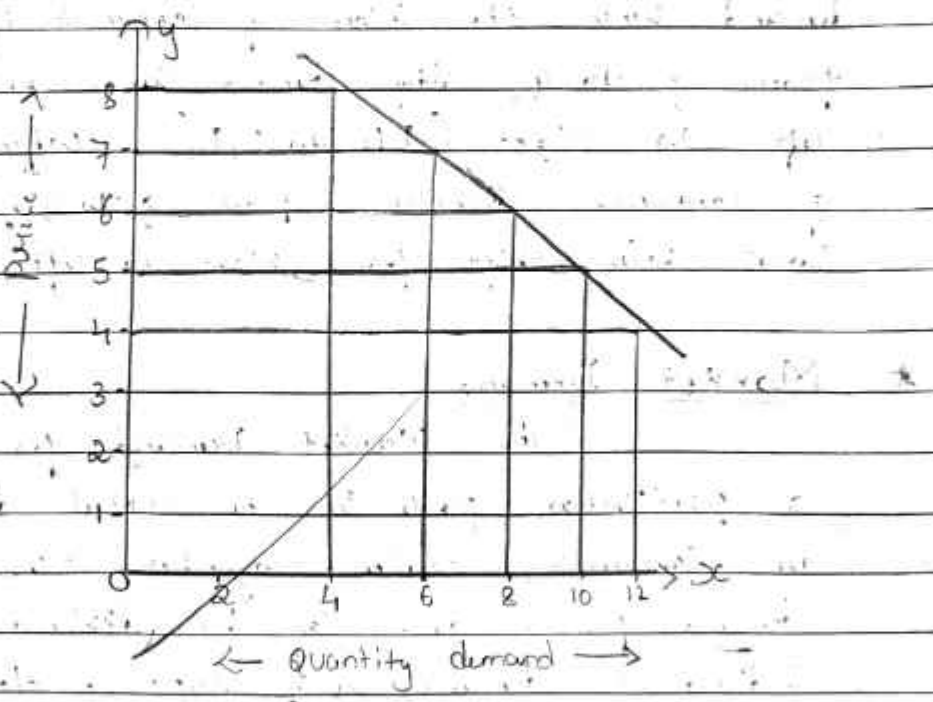
Price	Qd
4	16
5	14
6	12
7	10
8	8

=

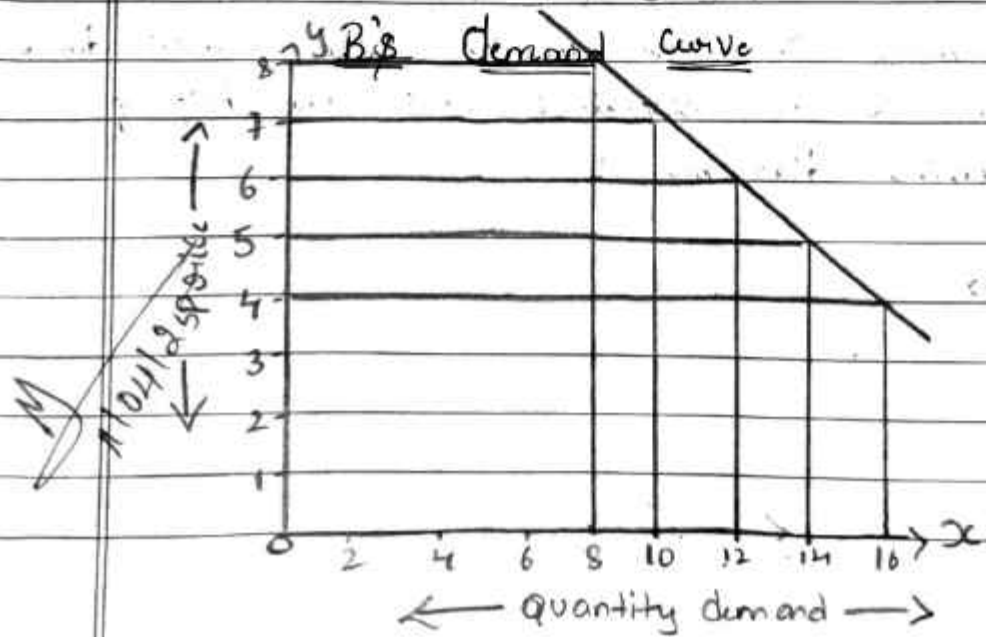
Market demand

Price	Qd
4	28
5	24
6	20
7	16
8	12

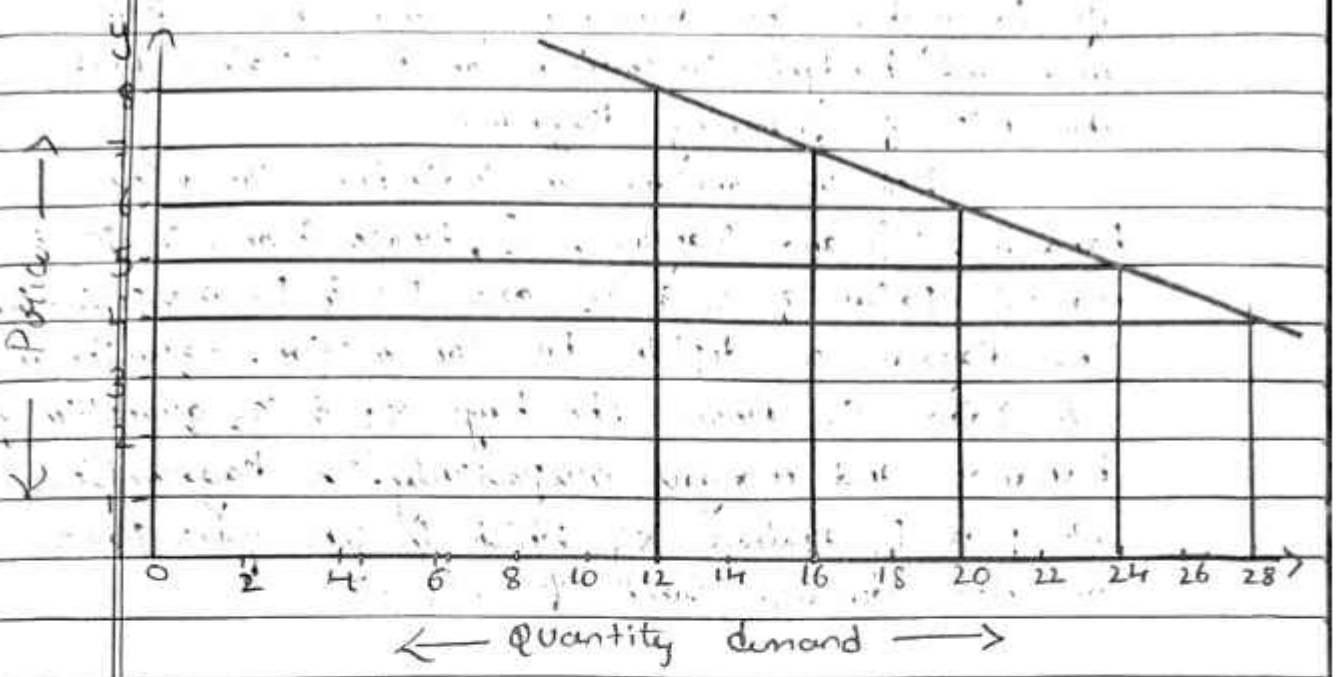
A's demand Curve



B's Demand Curve



Market Demand



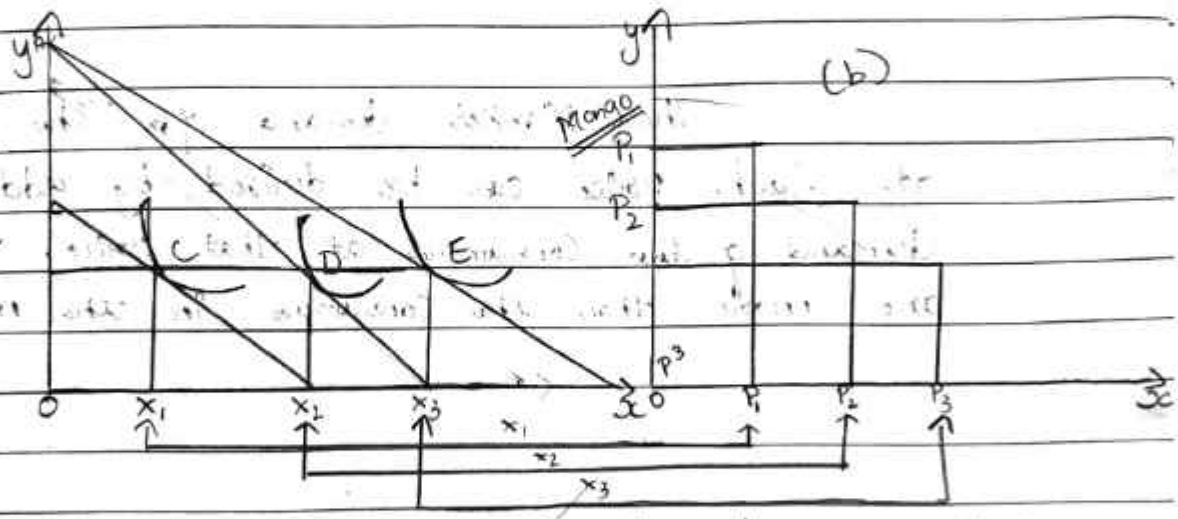
The Market demand for the good at each price can be derived by adding the demand of ~~two~~ Consumers at that price. If there are more than two Consumers in the market

★ Derivation of Demand Curve from indifference curve and budget Constraints.

The Consumer is indifferent on the different bundles because each point of the bundles gives the Consumer equal utility. Such a curve joining all points representing bundles among which the consumer is indifferent is called the indifferent by a Consumer. The graphical representation of the demand function is called the demand curve. The relation between the Consumer's demand for a good and the price of the good is likely to be negative in general.

Therefore, the demand curve slopes downwards from left to right. The deviation of curve from Indifference curve and budget constraints can be Explained with the help of following diagrams.

Let us consider an individual consuming bananas [X_1] and Mangoes [X_2], whose income is M & market Prices of X_1 & X_2 are P'_1 & P'_2 respectively. The diagram (a) depicts his consumption. Equilibrium at Point C, where she buys x_1 & X_2 quantities of bananas and mangoes respectively. In diagram (b), we plot P_1 against x', which is the first point on the demand curve for x_1



Suppose the price of x_1 (Banana) falls from P_1 to P_2 keeping Price of x_2 (mango) & income of Consumer constant; the budget set in diagram (a) expands and new consumption equilibrium is on higher indifference curve at Point D where she buys more of bananas.

Thus, demand for bananas increases as its Price decreases We can Plot P_2 against x_2 in diagram (b) to get the second Point on the demand curve x'_2. Similarly, the Price of bananas may fall further to P_3, resulting in further increase in Consumption of bananas to x_3 & the Consumer moves from Point D to E on a higher indifference curve in diagram (a)

pg is plotted against x_3 which gives us third point on the demand curve.

Therefore, we observe that a decrease in price of bananas results in an increase in quantity of bananas purchased by a consumer who maximizes his utility. Thus the demand curve is negatively sloped...

* Elasticity of Demand

It defines the responsiveness of demand for a good when one of its determinates changes. it can be classified into

* Price Elasticity of demand (PED)
* Income Elasticity of demand (YED)
* Cross Elasticity of demand (CED)

* Price Elasticity of Demand

It is a measure of responsiveness of demand for a good to change in its price

$$PED = \frac{\% \text{ Change in demand for good}}{\% \text{ Change in Price of good}}$$

(OR)

$$Ped = \frac{\Delta q}{\Delta P} \times \frac{P}{q}$$

$$\Delta q = q^1 - q^0$$
$$\Delta P = P^1 - P^0$$

q^1 = Current quantity
q^0 = Initial quantity
P^1 = Current Price
P^0 = Initial Price

Ex:- Suppose the price of onion increases from ₹10 per kg to ₹12 the quantity demand decreases from 10kg to 8kg. Calculate PED

$\Rightarrow$ $Ped = \frac{\Delta q}{\Delta P} \times \frac{P}{q}$ $\quad Ped = \frac{-2}{2} \times \frac{10}{10}$

$\Delta q = q' - q^0$

$= 8 - 10$ $\quad Ped = -1$

$= -2$

$\Delta P = P' - P^0$

$= 12 - 10$

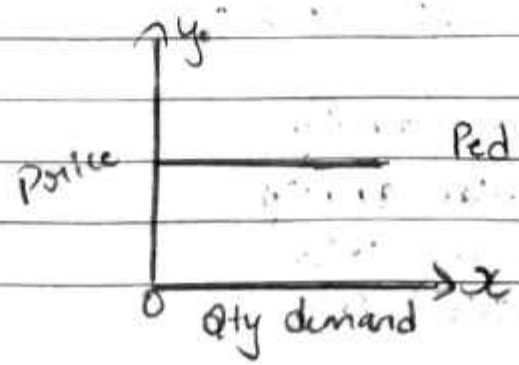
$= 2$

★ Types of Price Elasticity of demand -

1. Perfectly Elastic demand (Ped = ∞)
2. perfectly inElastic demand (Ped = 0)
3. More Elastic or Relatively Elastic Demand (Ped > 1)
4. less Elastic or relatively inElastic Demand (Ped < 1)
5. Equal Elastic or unitary Elastic demand (Ped = 1)

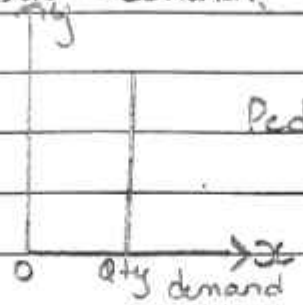
1. Perfectly Elastic Demand (PED ∞)

When the small change in price leads to infinite change in quantity demand is called Perfectly Elastic Demand (PED ∞)



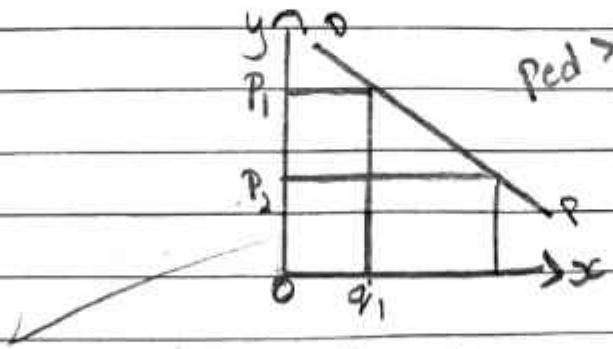
2. Perfectly Inelastic Demand [PId]

When the small or large change in price leads to no change in quantity demand is called perfectly inelastic demand.



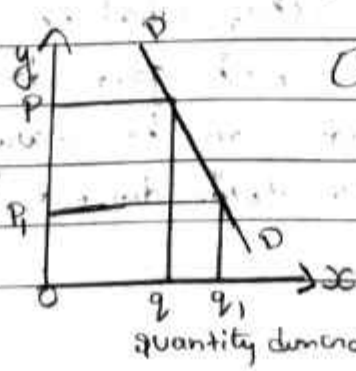
3. More Elastic or Relatively Elastic Demand

When the small change in price leads to greater change in quantity demand is called more elastic demand.



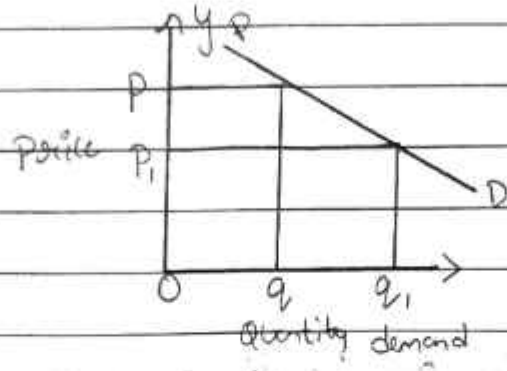
4. Less Elastic Demand

When the large change in price leads to small change in quantity demand is called less Elastic Demand.

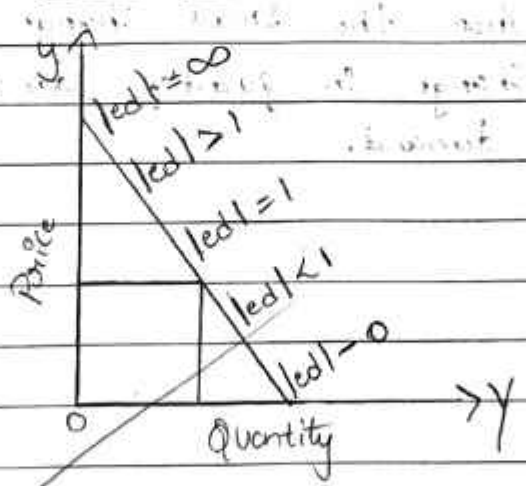


5. Equal Elastic Demand

When the same change in price leads into same change in quantity demand is called Equal Elastic demand.



6mg ★ Elasticity along a linear demand curve



★ Factors determining Price Elasticity of Demand

✱ Nature of Goods :-

In case of necessary goods price elasticity of demand will be zero, whatever change in price the demand for such good doesn't change. Demand for luxurious goods can be vary in response to price changes. So their demand is more elastic.

* Income of the Consumer :-

For People with low income their demand will be more elastic. On the other hand for rich people their demand will be inelastic, because they are ready to buy goods at any price.

* Habits / Taste and preferences :-

When People are habituated to the use of the goods they do not care about change in price in such case demand will be low elastic.

* Availability of substitutes :-

In case of availability of substitutes Price elasticity demand will be elastic and when no substitutes then price elasticity of demand will be inelastic.

* Price of Goods :-

A very high priced goods or A very low priced goods are low elasticity of demand. Minor changes in the price of these goods will not affect their demand.

* Market Awarness :-

If Consumers are aware about market there would be elasticity, If Consumers are ignorant their demand would be inelastic

* Income Elasticity of Demand [YED] :-

It is a responsiveness of demand to a change in income with other thing remaining constant.

$$YED = \frac{\% \text{ Change in demand for a good}}{\% \text{ Change in Income of a consumer}}$$

(OR)

$$YED = \frac{\Delta q}{\Delta y} \times \frac{y}{q}$$

$\Delta q = q' - q_0$ $\quad q' = C.q \quad y' = C.I$

$\Delta y = y' - y_0$ $\quad q^0 = I.q \quad q^0 = I.C$

Example :- Calculate Income YED when Income of Consumer increases from ₹10,000 to ₹12,000 & demand for rice increases from 30kg to 40kg.

$$YED = \frac{\Delta q}{\Delta y} \times \frac{y}{q}$$

$\Delta q = q' - q^0$

$= 40 - 30$

$\boxed{\Delta q = 10}$

$\Delta y = y' - y^0$

$= 12000 - 10,000$

$\boxed{\Delta y = 2000}$

$$YED = \frac{10}{2000} \times \frac{10000}{30}$$

$= 0.005 \times 333.33$

$\boxed{YED = 1.66}$ //

★ Cross Elasticity of Demand

It is defined as the responsiveness as demand for good A to a change in the price of Good B while other things remaining Constant

$$CED = \frac{\%\text{ Change in demand for a good A}}{\%\text{ Change in Price for a good B}}$$

(OR)

$$CED = \frac{\Delta q^A}{\Delta P^B} \times \frac{P^B}{q^A}$$

$$\Delta q^A = q^1 - q^0$$
$$\Delta p^B = p^1 - p^0$$

Example :- When the price of Coffee increases from ₹ 10 to ₹ 12 demand for tea increases from ₹ 60 cups to 80 cups no change in tea price.

$$CED = \frac{\Delta q^A}{\Delta p^B} \times \frac{p^B}{q}$$

$$\Delta q^A = q^1 - q^0$$
$$= 80 - 60$$
$$\boxed{\Delta q^A = 20}$$

$$\Delta P^B = p^1 - p^0$$
$$= 12 - 10$$
$$\boxed{\Delta P^B = 2}$$

$$CED = \frac{20}{2} \times \frac{10}{60}$$

$$CED = 10 \times 0.16$$

$$\boxed{CED = 1.6}$$

★ Relationship between Price Elasticity and change in Expenditure

* At Price P is demand for good is q
* At Price P + ΔP the demand for good is q + Δq
* At Price P the total Expenditure is Pq
* At Price P + ΔP total Expenditure is ~~P + ΔP × q +~~ Δq · P + ΔP * q + Δq

Price	Quantity	Expenditure	PED
70	2	140	PED > 1
60	3	180	
50	4	200	PED = 1
40	5	200	
30	6	180	PED < 1
20	7	140	

23/05/25

Chapter - 03
Production and Cost

Production is the process by which Input are transferred into output. Production is carried out producer or firm. A firm requires different Inputs like land, labour, Capital and organisation etc.
It uses this inputs to produce output in order to acquire inputs a firm has to pay it is called as cost of Production.

★ Production Function

Production function Explains the relationship between input and output under a given technology.
It can be written as :-

$$Qx = f[R, L, K, O \ldots]$$

(OR)

$$Qx = f[L, K]$$

(OR)

$$Qx = f[x_1, x_2]$$

⇒ Total Product
Average Product
Marginal Product

★ **Total Product :-**

It is defined as sum total of output produced by the firm by employing a particular Input. It is represented as TP = ΣMP

★ **Average Product :-**

It refers to per unit of product of Variable factors it represented as

$$AP = \frac{TP}{L}$$

★ **Marginal Product :-**

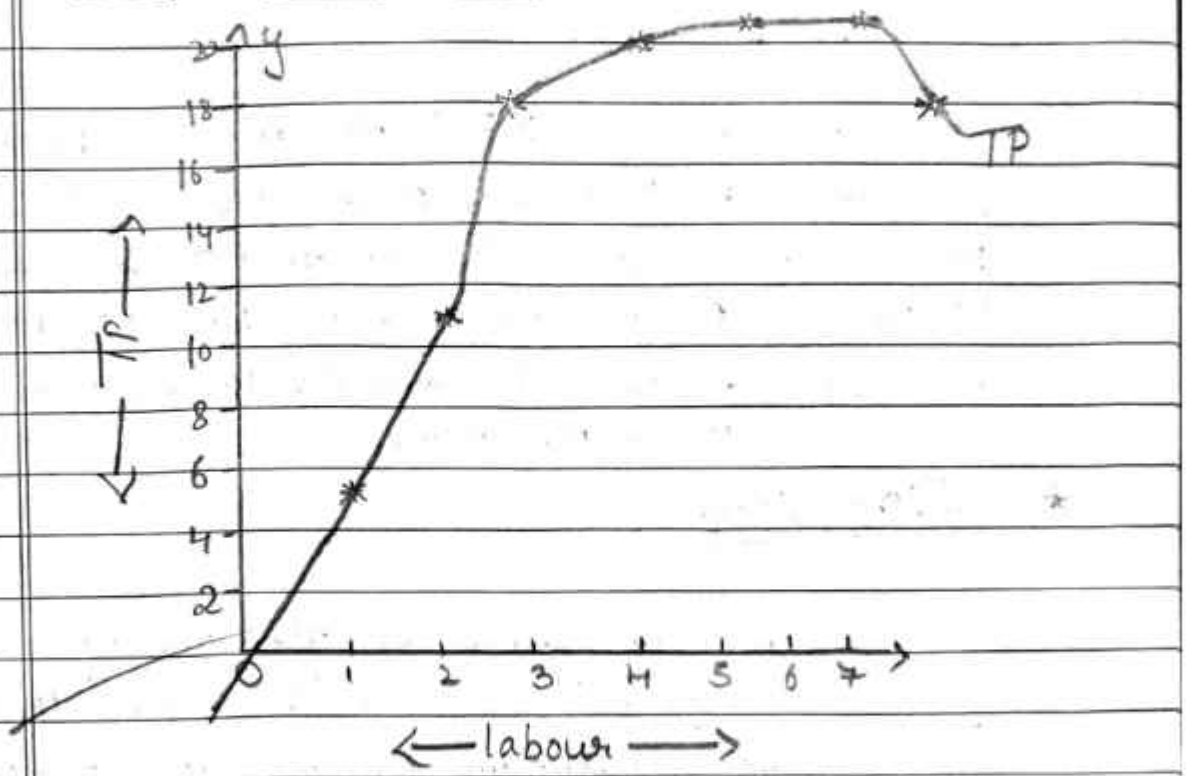
It is defined as the additional output produced by an additional unit of input. It is represented as "MP = TPn - TPn-1"

Labour	TP (MP)+	MP	AP TP/L
1	5	5	5
2	11	6	5.5
3	18	7	6
4	20	2	5
5	21	1	4.2
6	21	0	3.5
7	20	-1	2.5

The above table shows the total Product of labour, marginal product of labour & average product of labour. The total product is also called as total return, The Third Column gives us a numerical Example of marginal product of labour.

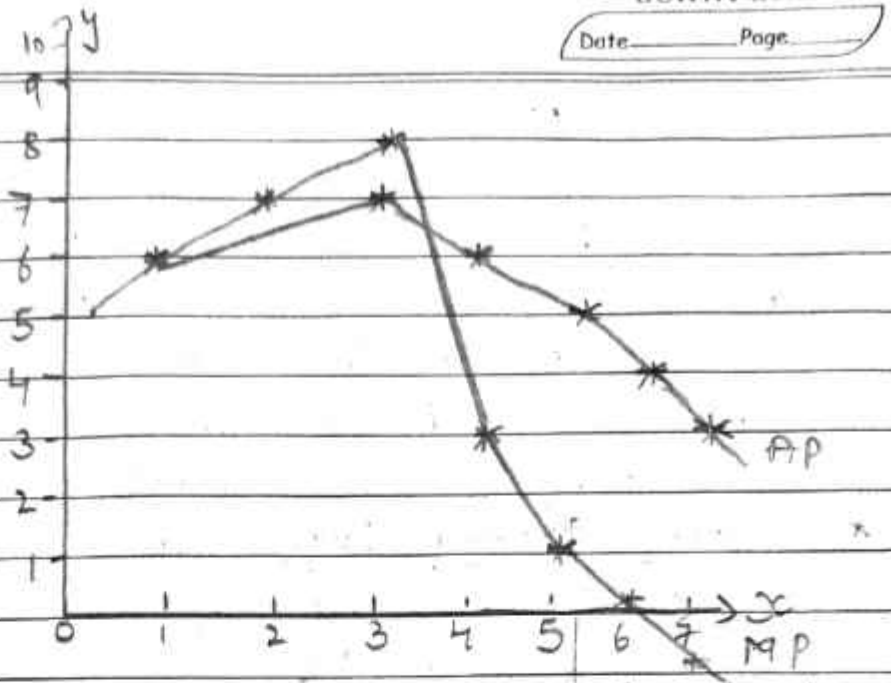
to The Marginal Product of labour. The values in this column obtained by calculating the changes in TP. The Fourth column gives us the numerical example of average product of labour the values in this column is obtained by dividing TP by labour...

★ Total Product Curve



The above diagram shows the total Product Curve for labour, When all other inputs are held Constant. It shows the different output level obtained from different units of labour. We measure the units of labour in ox axis and total level in oy axis with 6th unit of labours, the firm can Produced highest Product [21]

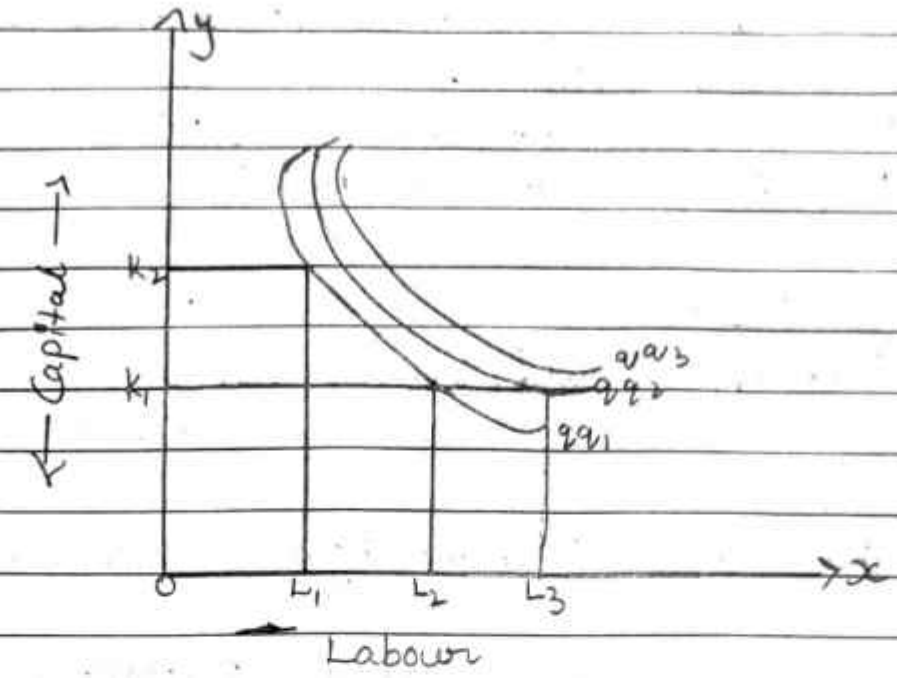
★ Average Product and Marginal Product Curve



In the above MP is the marginal product of labour & AP is average product of labour. As long as AP increases, it must be the case that MP is greater than AP otherwise AP cannot raise. Similarly when AP falls MP as to be less than AP. The MP curve cuts AP curve from the down when AP is maximum.

★ Iso-quent

* ~~An~~ Iso-quent is the set of all possible combination of 2 (two) input that yield same maximum possible level of output.
* Each Iso-quent represent a particular level of output. It is just an alternative way of representing production function.
* The Concept of Iso-quent can be explained with the help of a following diagram :-



In the above diagram Labour is measured in OX axis and Capital is measured in OY axis. Two input Combination (L_1K_2) (L_2K_1) gives us the same level of output $(q - q_1)$. If we fix capital at K_1 & increase the labour to L_3 output increases and it reach a higher Iso-quant $(q - q_2)$. When marginal product are positive with greater amount of one Input the same level of output can be produced only by using lesser amount of the other. Therefore, Iso-quant curve slop down ward from left to right

★ The Law of Variable Proportion

The law states relationship between fixed input (land, capital) & variable input (Labour). In short run the producer is having very less time so he cannot change all the factors of Production. These law can be

Explained with the help of three Stages :-

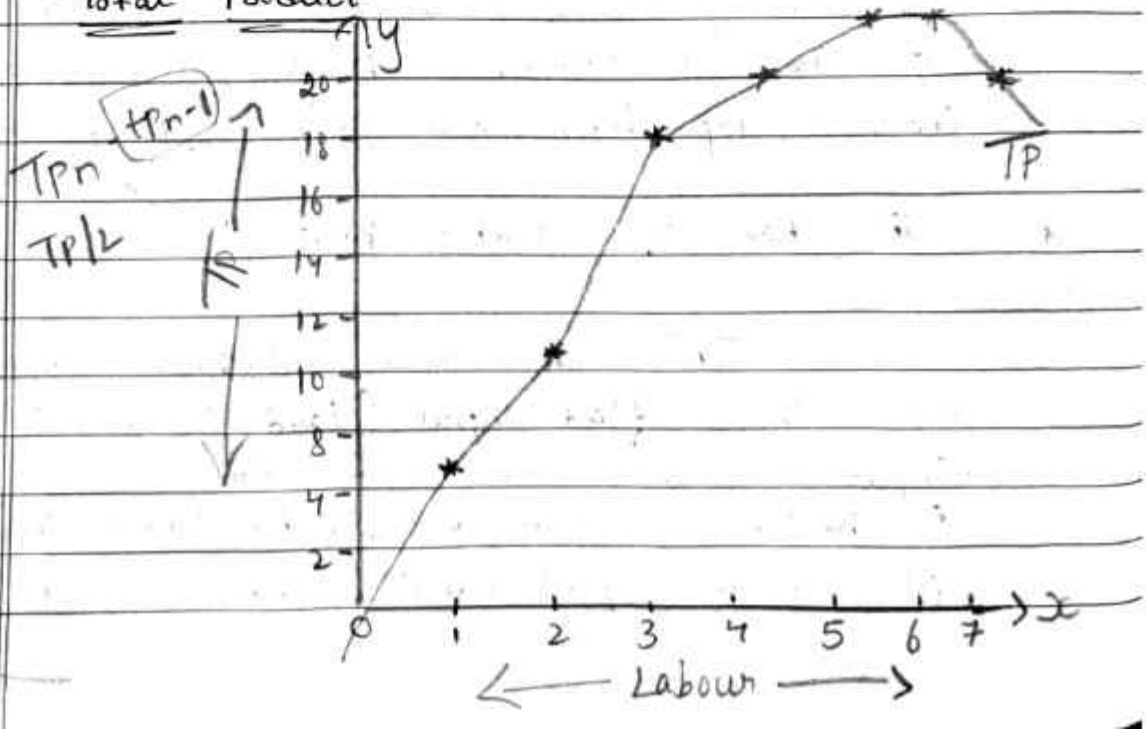
1. Increasing Returns to Scale [IRS]
2. Diminishing Returns Scale [DRS]
3. Negative Returns Scales [NRS]

★ Assumption

* Technology should remain Constant
* All the Units of variable factors are Equally Efficient
* There should be some input Quantity remain Constant
* It is possible to change proportion

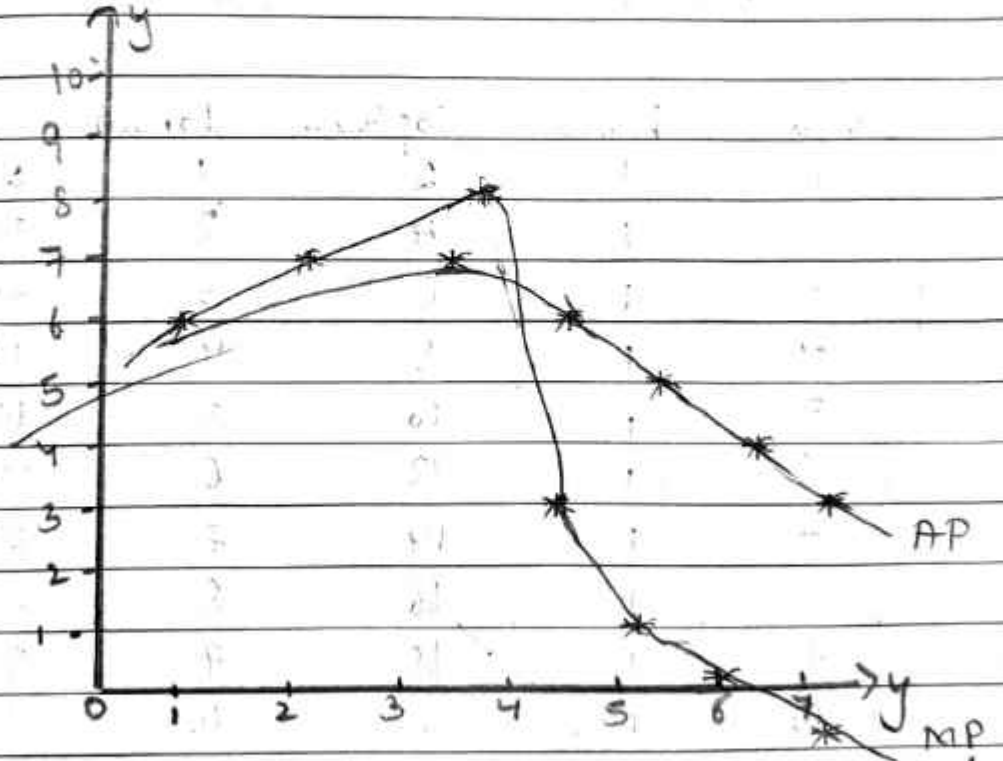
Land	Capital	labour	TP	AP	MP
1	10000	1	5	5	5
1	10000	2	11	5.5	6
1	10000	3	18	6	7
1	10000	4	20	5	2
1	10000	5	21	4.2	1
1	10000	6	21	3.5	0
1	10000	7	20	2.8	-1

★ Total Product



The above diagram shows that the Total Product curve for labour, when all other inputs are held constant. It shows the different output level obtained from different unit of labour. We measure the units of labour in OX axis and total level in OY axis with 6th unit of labour, the firm can produced highest product (21)

★ Marginal Product curve and Average Product



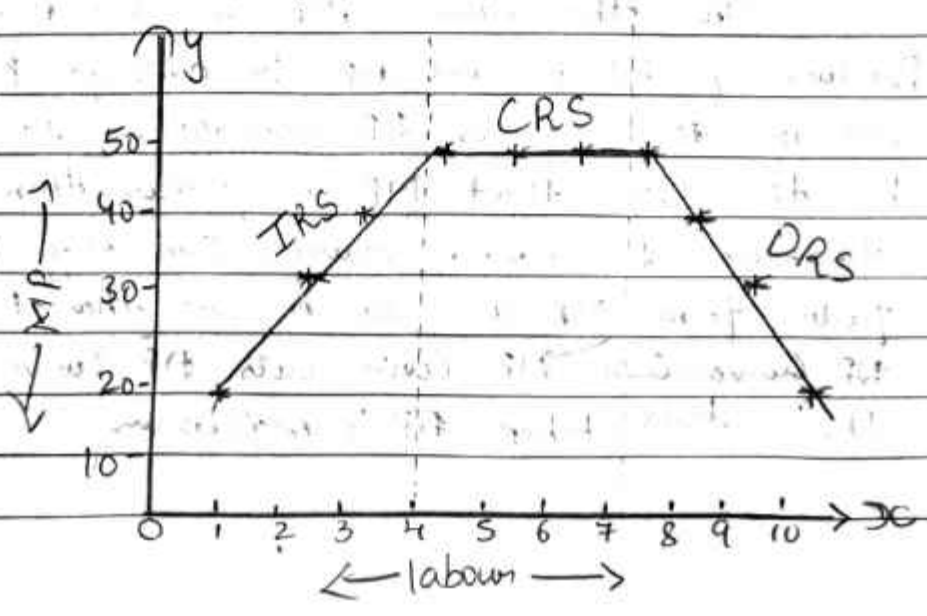
In the above MP is the Marginal Product of labour and AP is average product of labour. As long as AP increases, It must be the case that MP is greater than AP Otherwise AP cannot raise. Similarly when AP falls from MP as to be less than AP. The ~~AP curve cuts~~ MP curve cuts AP curve from the down when AP is maximum

★ The law of Returns to Scale

The law of Returns Scale Explains the relationship between input & output in long run. Here the producer can change all the factors of Production to increase Quantity of Product. There law can be Explained with the help of three stages :-

1) Increasing Returns Scale [IRS]
2) Constant Returns Scale [CRS]
3) Diminishing Returns Scale [DRS]

Units	Land	Capital	Labour	TP	MP
1	1	2	1	20	20
2	1	4	2	50	30
3	1	6	3	90	40
4	1	8	4	140	50
5	1	10	5	190	50
6	1	12	6	240	50
7	1	14	7	290	50
8	1	16	8	330	40
9	1	18	9	360	30
10	1	20	10	380	20



1) Increasing returns scale :-

IRS Hold when a proposition increase in all input result in a increase in output by more than the proposition (100 < 120)

2) Constant returns scale :-

CRS hold when a proposition increase in all input result in a increase in output by same proposition (100 = 100)

3) Dimerishing returns Scale :-

DRS hold when a proposition increase in all input result in a increase in output by less than the proposition (100 > 80)

* Cost :-

The cost can be defined as the expenses incurred in the production of goods & services. The functional relationship between cost of Production & output is called cost function, wh it is represented as C = f(QX)

* Types of cost :-

I Short run cost :-

1) Total fixed cost (TFC)
2) Total variable cost (TVC)
3) Total cost (TC)
4) Average fixed cost (AFC)
5) Average variable cost (AVC)
6) Average cost (AC)
7) Marginal cost (MC)

II Long run cost

1) Long Run Average Cost (LRAC)
2) Long Run Marginal Cost (LRMC)

* Short Run Cost :-

1) Total fixed cost (TFC) :-

It refers to the total money expenses incurred on the fixed factor in short run. TFC remain constant at all levels of output. Therefore TFC curve is horizontal straight line ~~for~~ to OX axis

$$TFC = TC - TVC$$

2) Total Variable cost (TVC) :-

It refers to the total money expenses incurred on the variable factor in short run. TVC increases along with the output. TVC curve starts from the origin and raises sharply in the beginning gradually in the middle and stretch again shortly in the end.

both labour & capital

$$TVC = TC - TFC$$

3) Total cost (TC) :-

It is the aggregate money expenditure incurred by the firm on all the factors to produce a given quantity of output. The TC curve slopes upward from left to right.

both fixed & variable factors

$$TC = TFC + TVC$$

4) Average Fixed Cost [AFC] :-

It is the fixed cost per unit of output. In other words it is average expenses incurred on a single unit of output produced. AFC curve will have a negative slope

$$AFC = AC - AVC$$

or

$$AFC = \frac{TFC}{q+y}$$

5) Average variable Cost [AVC] :-

It is a variable cost for per unit of output. When this cost is represented graphically we get U shaped curve

$$AVC = AC - AFC$$

or

$$AVC = \frac{TVC}{q+y}$$

6) Average Cost (AC) :-

It is the cost per unit of output produced. It is obtained by adding AFC & AVC. If the AC is represented graphically we get U shaped curve

fixed
Variable

$$AC = AFC + AVC$$

OR

$$AC = \frac{TC}{q+y}$$

7) **Marginal Cost (MC) :-**

It is an additional cost incurred to produce an additional output. MC Curve is U Shaped.

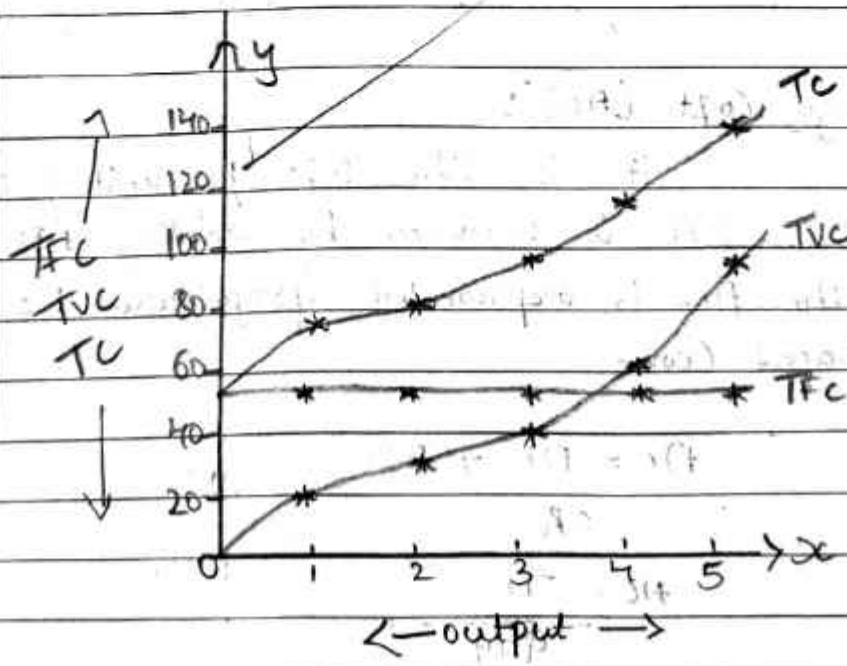
$$MC = TC_n - TC_{n-1}$$

or

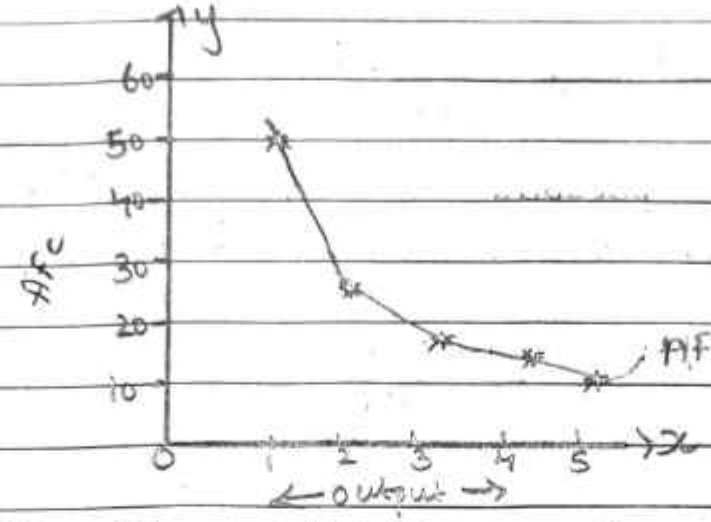
$$MC = \frac{\Delta TC}{\Delta Q}$$

Unit	TFC	TVC	TC	AFC	AVC	AC	MC
1	50	20	70	50	20	70	70
2	50	30	80	25	15	40	10
3	50	40	90	16.66	13.33	29.9	10
4	50	60	110	12.5	15	27.5	20
5	50	90	140	10	18	28	30

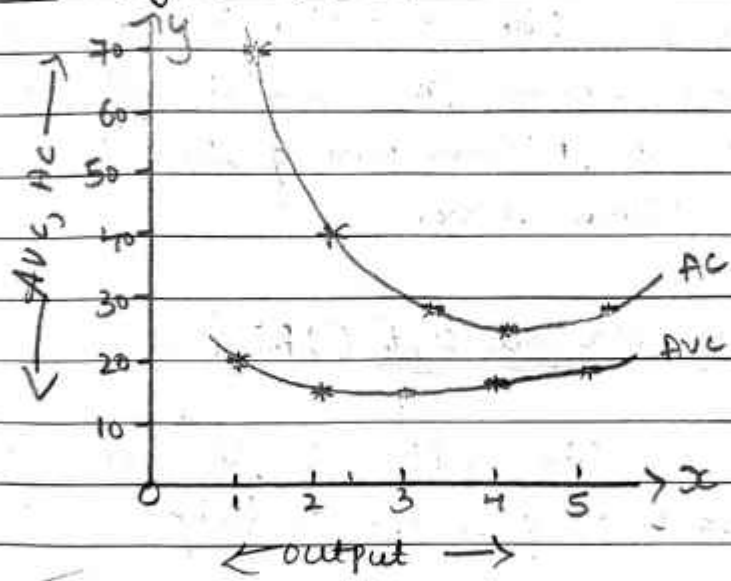
★ TFC, TVC, TC [Diagram]



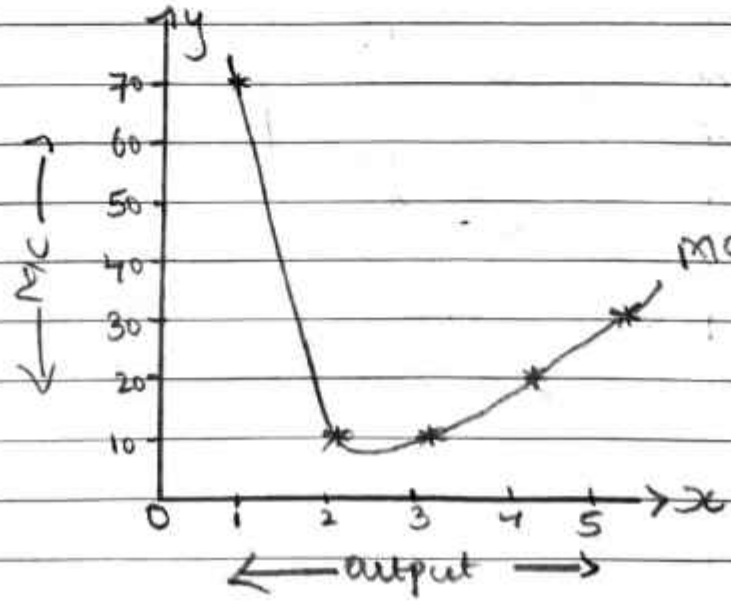
* AFC (Diagram) :-



* AVC Diagram & AC



* MC Diagram :-



★ Long Run Cost :-

1) Long run Average cost [LRAC] :-

The LRAC is the cost for unit of output produced in long run. It is obtained by dividing the total cost by the output produced.

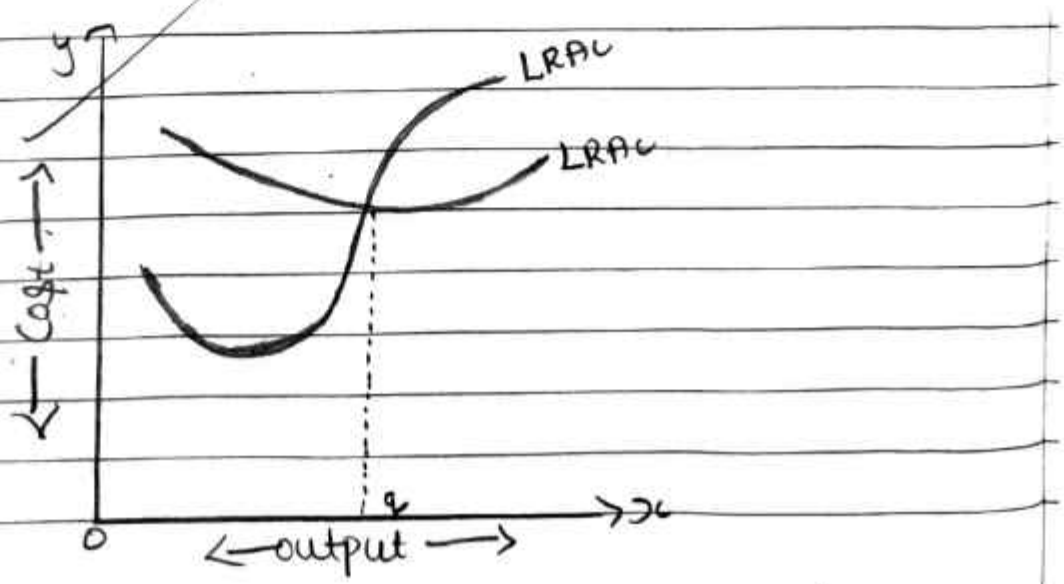
$$LRAC = \frac{\text{Total Cost}}{\text{Quantity}}$$

The LRAC curve is U shaped. It's down wards sloping part explains increasing returns scale & upward raising part explains dimenshing returns scale, At the minimum point of LRAC curve explains constant returns scale.

2) Long run Marginal cost [LRMC] :-

The LRMC is the change in total cost per unit of change in output in long run...

$$LRMC = TC_n - TC_{n-1}$$



In the above diagram oy axis represent cost and ox axis represents output and the above diagram explains the shape of marginal cost curve & Average cost curve in long run. For the first unit of output both LRMC & LRAC are the same. Then as output increases LRAC initially falls after a certain point it raises as long as average cost is falling marginal cost must be less than the average cost. When an average cost is raising marginal cost must be greater than average cost. LRMC curve is a U shaped curve it cuts the LRAC curve from below at the minimum point of LRAC...

19/05/25

Chapter - 04 [Micro Economics]

Theory of Firm Under Perfect Competition

In Economics market refers to an arrangement where buyers and sellers come to meet each other directly or indirectly to buy or sell their products.

* **Requirements of Market**
  * Commodity or Product
  * Buyers & Sellers
  * Price
  * Place

* **Firm and Industry :-**

A firm is a part of Industry where some Economic activity take place.

Industry is a group or firm carrying a type of business

	Firm	Industry
*	A firm is a business Established inside an industry.	* It is a group of firms where some Economic activity takes Place.
*	Existence of only one firm	* There can be a many firm
*	A subsector of business	* A subsector of an Economy

Market Structure

On the basis of time	On the basis of Place	On the basis of Competition
* Short run	* Local	
* Long run	* Regional	
	* National	
	* International	

Perfect Competition	Imperfect Competition
	* Monopoly
	* duopoly
	* oligopoly
	* Monopolistic

* **Perfect Competition :-**

It is a market situation where the large number of buyers and sellers come to meet each other to buy or sell homogenuous product at uniform price.

* **Features of Perfect Competition**
* Large number of buyers & Sellers
* Homogenuous product
* Uniform price
* Free entry & exit
* Good knowledge about the market
* A firm is a price taker not a price maker
* All the sellers are having normal Profit
* There is a free mobility of factors of Production
* Their is a absence of transport Cost.

★ **Revenue :-**

It is a amount received by the firm from the sell of given quantity of goods and services in the market. Revenue can be divided into three types.

1. **Total Revenue :-**

It is a amount received by a firm from the sell of certain number of product. It can be represent as $TR = P \times q$

2. **Average Revenue :-**

It is a amount received by a firm from the sell of a single unit of Product. It can be represented as

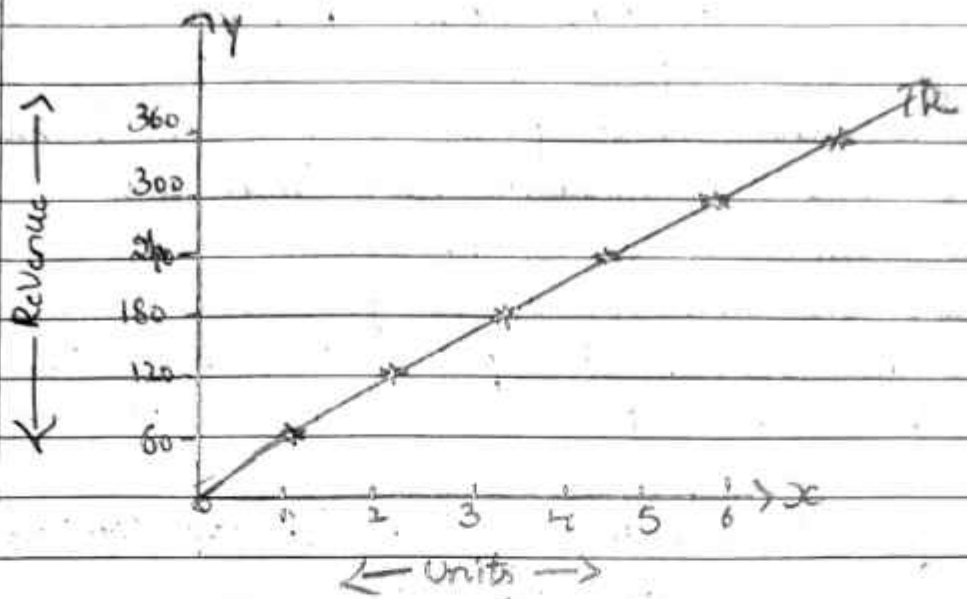
$$AR = \frac{TR}{\text{quantity}}$$

3. **Marginal Revenue :-**

It is the additional amount received by the firm from the sell of an additional unit of Product. It can be represented as

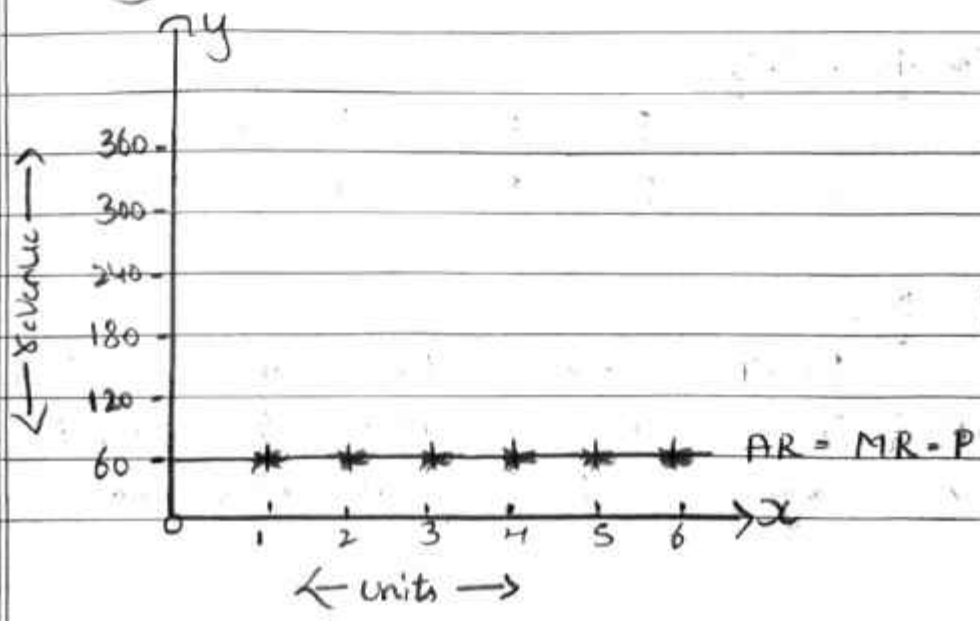
$$MR = TR_n - TR_{n-1}$$

Units	Price	TR	AR	MR
0	60	0	0	0
1	60	60	60	60
2	60	120	60	60
3	60	180	60	60
4	60	240	60	60
5	60	300	60	60
6	60	360	60	60



According to above diagram X axis represent output and Y axis represent revenue. There are 3 observation 1) When the output is the zero the revenue of the firm is also zero. 2) Therefore, the TR curve pass throught the point zero, 2) The TR increases as output increases. The Equation $TR = P \times Q$ is that of a straight line because price is constant. This means that TR curve is an upward sloping straight line. 3) When output is one unit the TR is $P \times 1 = P$

* Average Revenue and Marginal Revenue



In the above diagram OX axis represent output & OY axis represent revenue. Since the market price is fixed at P we obtain a horizontal straight line that cuts Y axis at a height equal to P. The horizontal straight line is also called as price line & marginal revenue curve. The price line shows the relationship between market price and the firms output level

★ **Profit Maximization of Firm (Perfect Competation):-**

The firms profit is denoted by π is defined to be the difference btw total revenue & total cost. ($\pi = TR - TC$).

A firm maximize its profit, it would like to identify the quantity at which its profit is maximum. The following conditions needed for profit by a firm under perfect competition.

1) **Condition I**

The price P must be equal to MC

2) **Condition II**

Marginal cost must be non-decreasing at Q_0

3) **Condition III**

Case 1 $P \geq$ AVC (Long run)

Case 2 $P \geq$ AC (Short run)

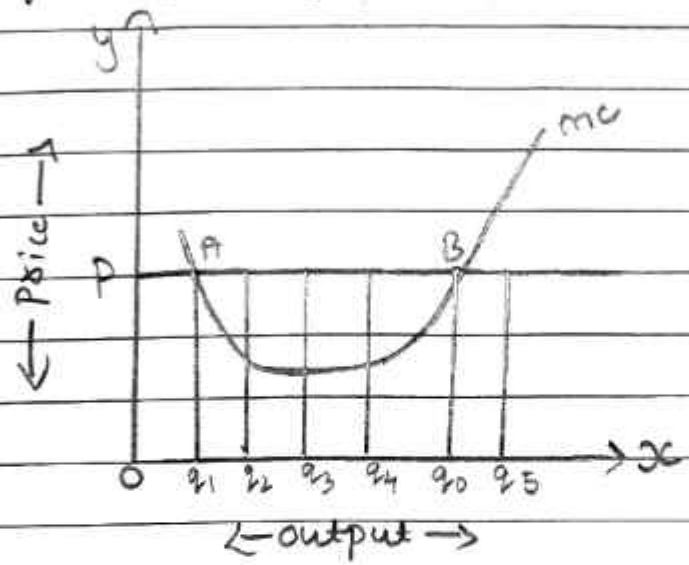
a) **P = MC**

Profit is the difference between TR & TC. Both TR & TC increases as output increases. As long as the change in TR is greater than change in TC

profit will continue to increase.

B) MC must be non-decreasing at q_0 :-

It means that MC curve cannot slop downward at the profit maximizing output level. This can be explained with the help of following diagram.



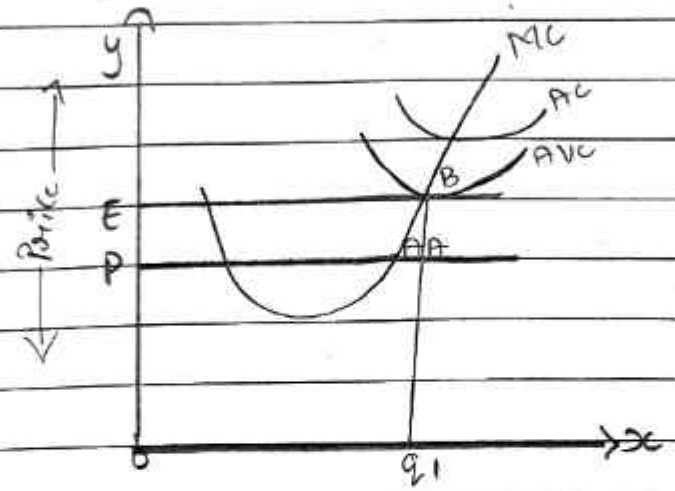
In the above diagram OY axis represent Price & OX axis represents the output.

When the market price is P the output level of a profit maximising firm cannot be a q_1, q_2, q_3, q_4, q_5. At output level q_1 & q_0. the market price is equal to MC. At the output level q_1 the MC curve is downward sloping We Claim that q_1 cannot be a profit maximizing output level. At point the output level q_1 MC Curve is upward sloping we claim that q_0 can be profit maximizing output level of the firm.

Condition III

* **Case 1 :- P > AVC [Long Run]**

Case 1 is arguing that a Perfect Profit maximising firm in the short run will not produce an output level where in the market price is lower than AVC.



In the above diagram we can observe that at the output level q_1 the market price P is lower than AVC we claim human q_1 cannot be profit maximizing output level.

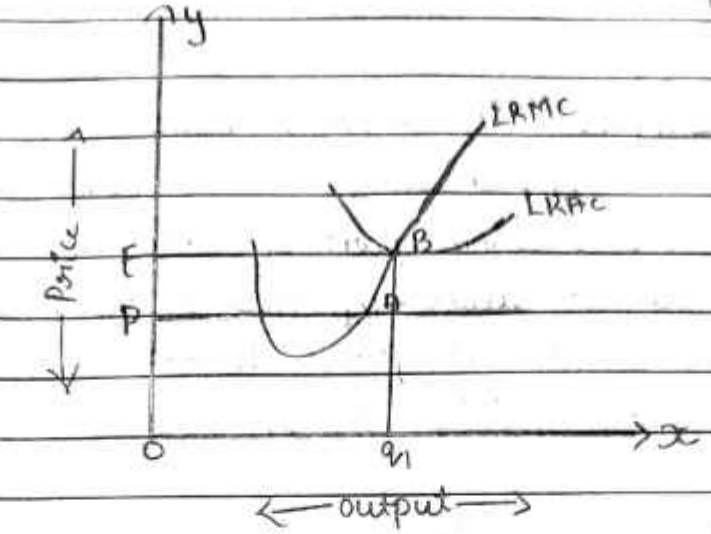
$TR = OPAq_1$

$TC = OEBq_1$

$Loss = PE\ BA$

* **Case 2 :- P > Ac [Short Run]**

Case 2 is arguing that a profit maximizing firm in the long run will not produce an output level where in the market price is lower than the LRAC or Ac.



In the above diagram we can observe that the output level q_1 the market price is P & is lower than the AC we claim that q_1 cant be profit maximization output level

$TR = OPAq_1$

$Tc = OEBq_1$

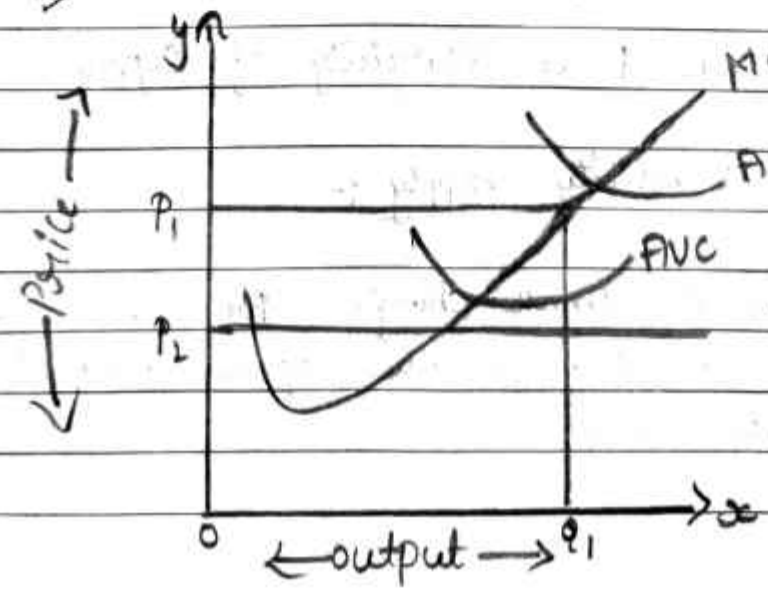
$Loss = PEBA$

Short run supply curve of firm

We shall split this derivation into two parts :

Case 1 = $P > AVC$ (P_1)

Case 2 = $P < AVC$ (P_2)



* **Case 1 :- P > AVC (P_1)**

Suppose the market price is P_1, which existed the minimum of AVC. at price P_1 with SMC on the raising part of SMC curve it leads to the output level q_1 AVC at q_1 does'nt existed the market price P_1 are the three conditions highlighting at q_1

* **Case 2 :- P < AVC (P_2)**

Suppose the market price P_2 which is less than the minimum of AVC, if a profit maximizing produce a positive output in the long run than the market price P_2 must be greater than or equal to AVC when the market price is P_2. The firm produce zero output.

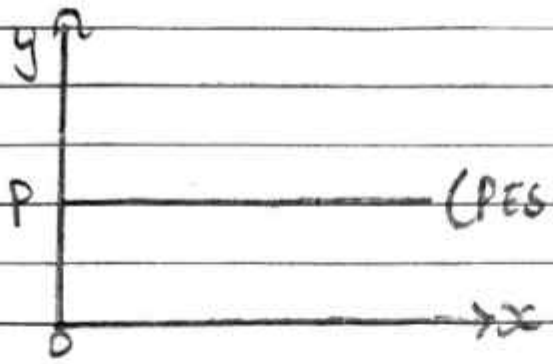
⇒ **Price Elasticity of Supply :-**

It is a responsiveness of supply of goods, when 1 of its determines changes, when other thing remains constant. $\left[PES = \frac{\Delta Qs}{\Delta P} \times \frac{P}{Qs} \right]$

* **Classification Price Elasticity of Supply**

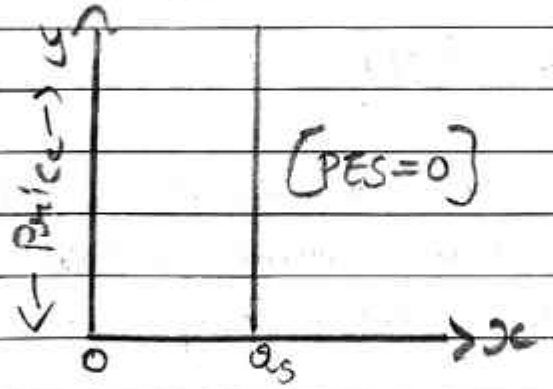
a) **Perfectly Elasticity Supply :-**

When a small changing price leads to infinite changing quantity supply is called perfectly elasticity supply.



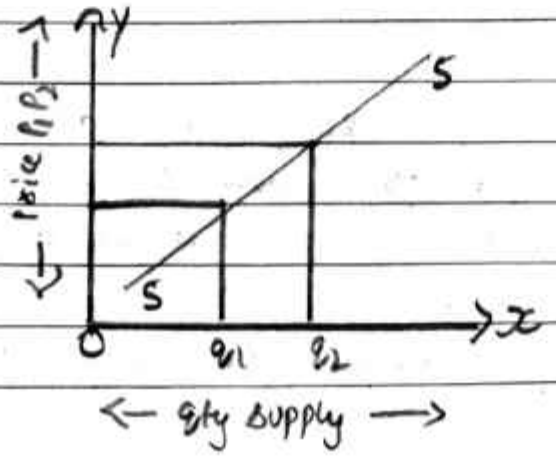
b) Perfectly Inelasticity Supply :-

When a small or large changing price leads to know changing quantity supply is called perfectly inelastic supply.



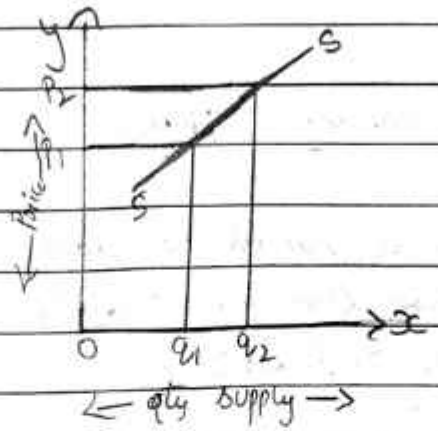
c) More - Elastic Supply :-

When a small changing price leads to greater changing quantity supply is called more elastic supply.



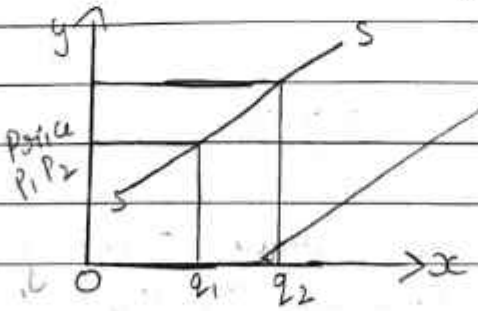
* **Less Elastic Supply :-**

A large Changing price leads to small Changing quantity supply is called less Elastic Supply.



* **Equal Elastic Supply :-**

When the same or Equal Changing price leads to Equal Changing quantity supply is Called Equal Elastici Supply.



* **Opposturnity Cost**

Opposturnity Cost g some activity is the gain for forgive for from the second best alternative activity. In other words, it is to bust alternative Cost g Product.

For Example you have ₹10,000 which you

decide to invest in your family business what is the opportunity cost your action. If you do not invest this money you call either keep it in this house. Safe which will give you zero returns or you can deposit in either Bank. A or Bank B in which you can get an interest at the rate of 20% are 10% respectively. So the maximum benefit that you may get from another alternative activity is the interest from Bank A.

⇒ Shut down Point :-

In the short run the firm continues produce, as long as the price remains the greater than are equal to the minimum of AVC. Therefore along the supply curve as we move down the last price output combination at which the firm produces positive output is the point of minimum AVC where the SMC curve cuts the AVC curve below this there will be know production, This point is the short Shut down point of the firm. However in the long run the Shut down point is the minimum of LRAC curve.

⇒ Normal Profit :-

The minimum level of profit that is needed to keep a firm in the executing in business is defined as normal profit. A firm doesn't may normal profit is not going to continue in business normal profit are therefore

a part of firms for total cost.

In other word the profit level that is just enough to cover explisit cost & opportunity cost of firm is called normal profit. If a firm include both its explistic & opportunities cost in the calculation of total cost, the normal profit becomes that level of profit when total revenue equals to total cost.

* **Break even Point :-**

In the long run the firm does not produce if it earns anything less than the normal profit In the short run however, It may produce even if the profit is less than their level. The point on the supply where at which normal profit is called the break even point of the firm, The point of minimum average cost cost at which the supply curve cut the LRAC curve is therefore the break even point of the firm.

* **Determinants of firm supply curve**

Technological progress :- If the firm uses to factors of production (labour, capital to produce certains goods services. Subsaunl substitutity or organisations innovation by the firm the same level of capital & labour now capital can produces more unit of output. It is excepted that this will be lower than the firms marginal cost at any level of output. Their is a right word or leftward shift of supply curve. Technological progress

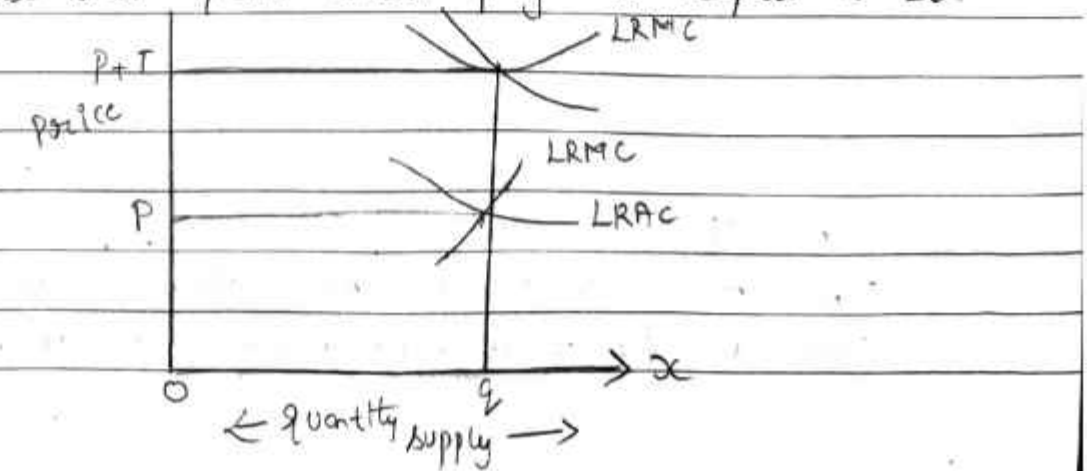
Shift the supply curve to the right.

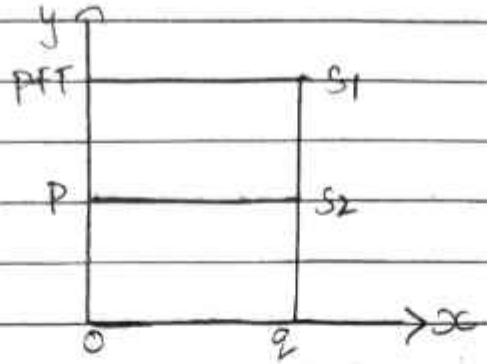
* Input prices :- A change in the prices of factors of production also influences a firm supply curve. If the price of input increases the cost of production is also increases, the consequent increase in the firm of average cost at any level of output accomplished and increase in the firm marginal cost at any level of output there is a leftword or rightword shift of supply curve when the price of input increases the supply curve will shift from right to left...

* Nature of the market
* Claimed condition
* Goals of the firm
* Unit tax

* Impact of unit tax on supply :-

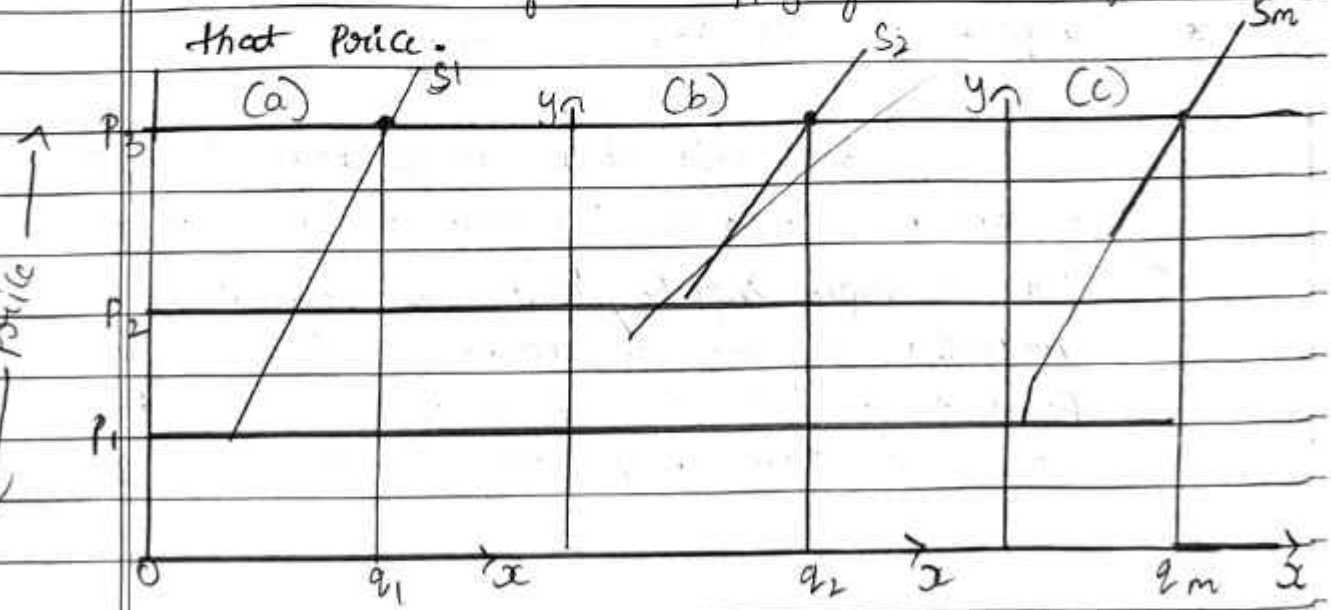
Unit tax is a tax that the government imposes per unit of sale of output for example suppose that the unit tax imposed by the government ₹ 2 if the firm produce & sell 10 unit of goods that total tax this farm must pay is ~~rupees~~ ₹ 20





Market Supply Curve

The market supply curve shows the output level that firm in the market produce in the greater corresponding to different value of market price. For example, there are 3 firm A firm, B firm C in the market suppose the price is ~~at~~ fixed at P then output produced by this firms in the greater will be supply of firm C. So the market supply at price P is the summation of the supply of individual firm at that price.



The +

In the above diagram output is measured in x axis and price is measured in y axis. The diagram

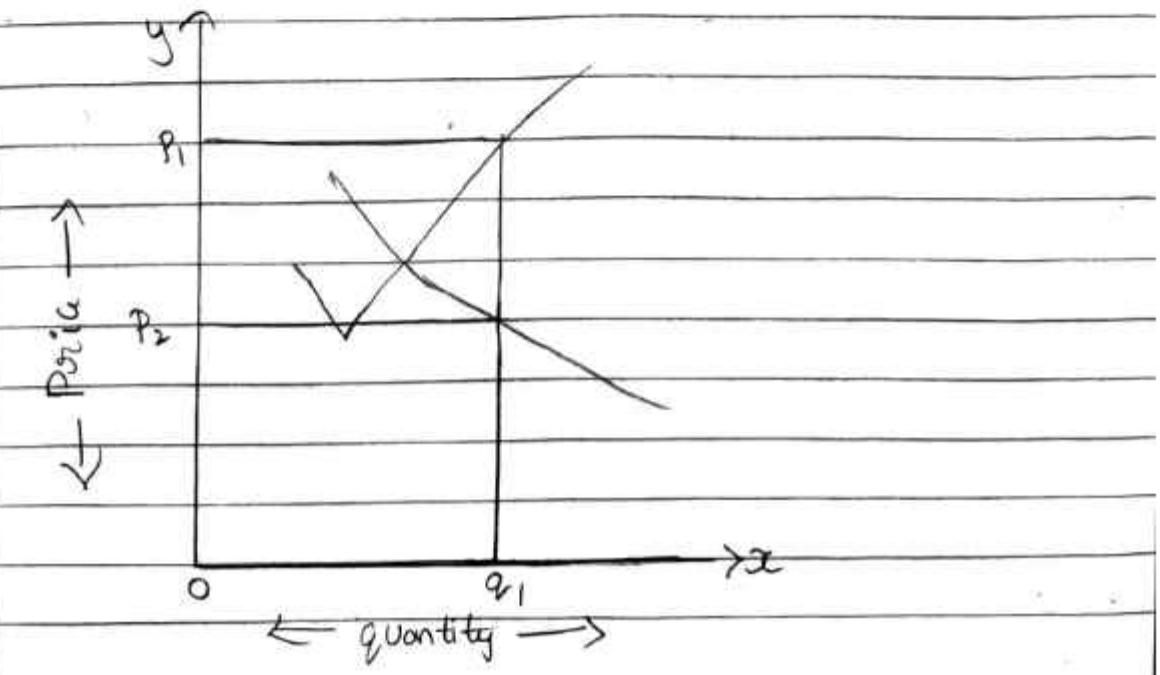
A is supply as firm A, the diagram B is supply firm B, the diagram C is supply of firm C market. When the market price is below the P_1 the firm do not produce the goods. Hence the market supply will be zero. If the market price is greater than or equal to P_1, but less than P_2 only firm A will be produce the goods. In this range the firm A supply & market supply is same. If the market price is greater than or equal to P_2 both the firm will have positive output level. If the market price is P_3 the firm A will be supply as unit of output and firm B will supply q_2 unit of output. So the market supply at P_3 is q_m ...

* **Long run supply curve of a firm**

We shall split the derivation into 2 part

Case 1 : $P > LRAC$ (P_1)

Case 2 : $P < LRAC$ (P_2)

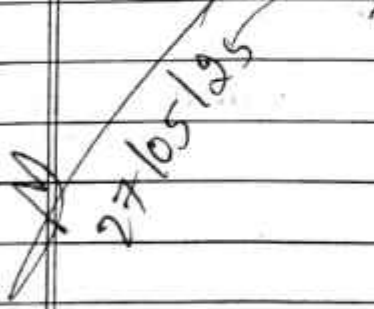


Case 1 :-

Price is greater than are equal to minimum of LRAC in the long run of the price is greater than the minimum of LRAC are or equal to LRAC, the firm will continue to produce & supply some quantity of output.

Case 2 :-

Price is less than the minimum of LRAC, if the price is less than LRAC, at all positive output level LRAC exceeds P_2 that means the firm will not supply positive output when price decreases to P_2, so when the market price is P_2 the firm will produce 0 output.



Chapter - 05

Market Equilibrium [Micro Economics]

An individual demand curve for a Commodity tells us what quantity a Consumer willing to buy at different prices.

An individual supply curve tells us the quantity of a Commodity that a profit maximising firm willing to sell at different prices.

We combine both Consumers and firms behaviour to study market equilibrium.

★ **Equilibrium Excess Demand, Excess Supply**

A Market equilibrium is a situation where the plans of all consumers and firms in the market match. The price at which market reach equilibrium is called equilibrium price.

The quantity bought and sold at equilibrium Price is called equilibrium quantity.

★ **Excess Demand :-**

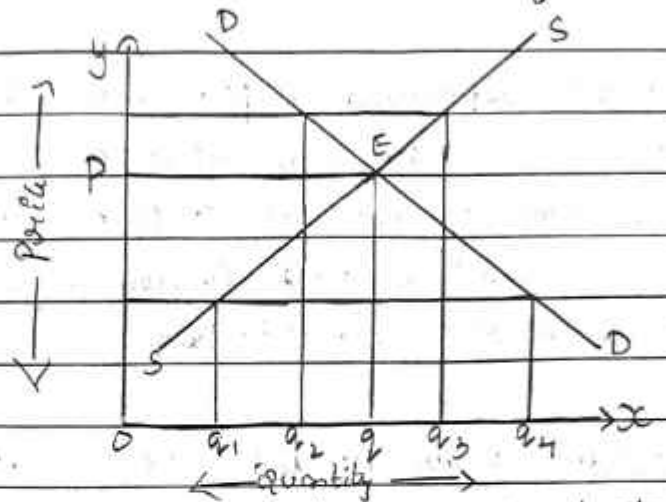
It is a situation where market, demand is more than the market supply there the price of Product increases.

★ **Excess Supply :-**

It is a situation where the market supply is more than market demand. Here, the price of Product decreases.

★ Market Equilibrium :- Fixed number of firm.

Under the perfect competition market is set to be in equilibrium when quantity demand is equal to the quantity supply there which the help of market demand curve and market supply curve will be determined where the market will be in equilibrium when the number of firm is fixed.



In the above diagram SS denotes the supply curve of market and DD denotes the market demand curve for a commodity. The market supply curve SS shows. How much of the commodity firm ~~with~~ wish to supply at different prices. And demand curve DD tells us how much of the commodity the consumer willing to purchase at different prices.

At Point E the market supply curve intersect the market demand curve DD which denotes that quantity demand is equally to quantity supply at any other point either there exists supply and there exists demand up is the equilibrium price & OQ is equilibrium quantity. If the price is P_1 the market supply is q_1 and the market demand q_2 therefore there is a excess demand in the market. If the price P_2 the market supply q_3 will exceed

the market demand q_2 which leads to excess supply in the market.

Problems

1. Suppose the demand and supply curve are given by $QD = 280 - P$ $QS = 150 + P$

a) Find Equilibrium price

b) Find the equilibrium quantity q demand in supply

c) Find the quantity q demand supply when P is greater than equilibrium price

d) Find the quantity and demand & supply seller that equilibrium price

a) $Qd = QS$

$250 - 1P = 150 + 1P$

$250 - 150 = 1P + 1P$

$100 = 2P$

$P = \frac{100}{2} \quad 50$

Equilibrium Price is 50

b) $Qd = 250 - P$ $\qquad$ $QS = 150 - P$

$= 250 - 50$ $\qquad$ $= 150 + 50$

$= 200$ $\qquad$ $= 200$

Equilibrium $Qd = 200$

Equilibrium $QS = 200$

c) If Price is greater than Equilibrium Price

P = 60

Qd = 250 P
= 250 - 60
= 190

QS = 150 + P
= 150 + 60
= 210

Equilibrium Qd = 190
Equilibrium QS = 210

d) If Price is lesser than Equilibrium price

P = 40

Qd = 250 - P
= 250 - 40
= 210

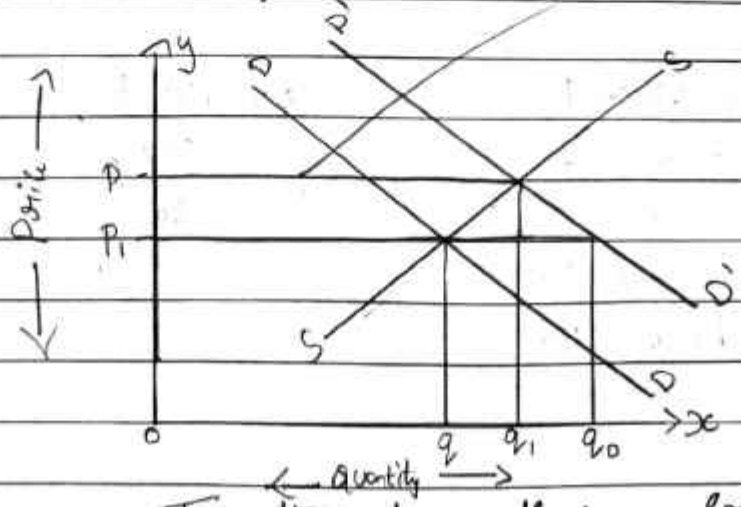
QS = 150 + P
= 150 + 40
= 190

Equilibrium q Qd = 210
Equilibrium q QS = 190

★ Shift in demand and supply curve

i) Shift in demand curve

a) Right Word Shift in demand curve

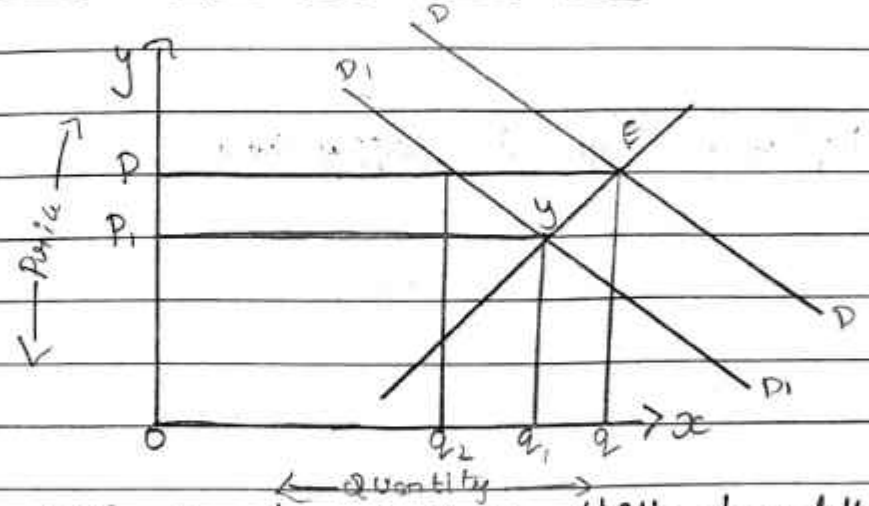


In the above diagram explains that right ward shift q demand curve. There the Essential the Equilibrium point is E. When the market demand

Curve DD and the market supply SS intersect. So that q and P as Equilibrium quantity and price respectively.

Suppose the market demand curve shift to rightward to D_1D_1 with supply curve. Remaining unchanged at SS and shows in the above diagram. This shift indicates that at any price the quantity demand is more than before at price P there is demand in the market equal to q_2. Now the new Equilibrium will be G.

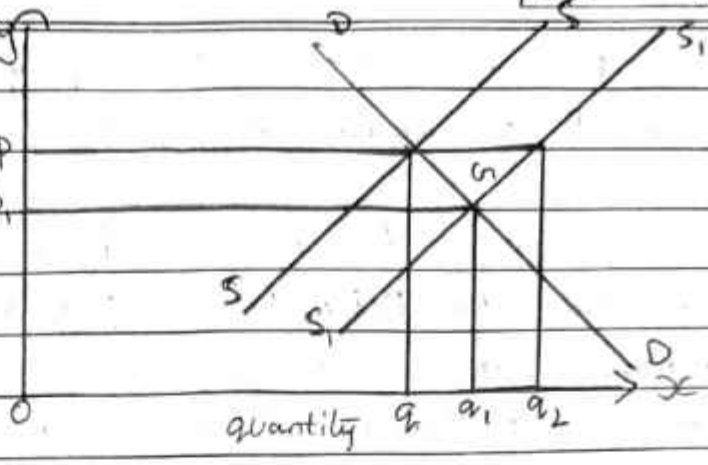
b) Leftward Shift in Demand Curve



If the demand curve shift ~~down~~ leftward to D_1D_1 as shown in the above diagram at any price the quantity demand will be less than before at ~~Essential~~ Equilibrium price P now there will be XS supply in the market. Now the new Equilibrium Print will be G.

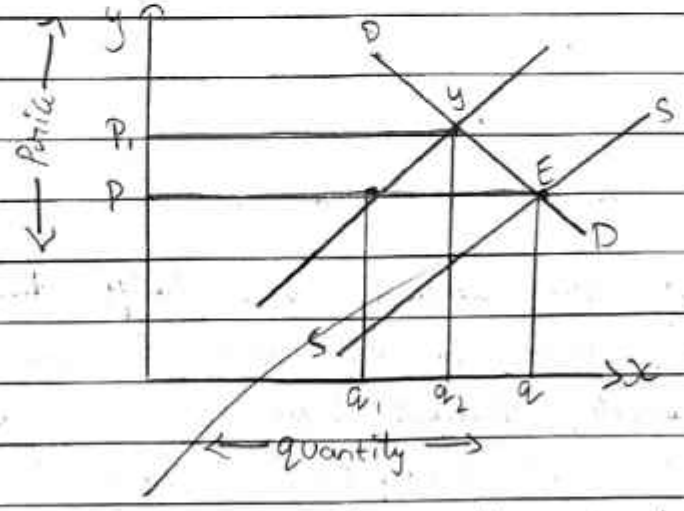
2) Shift in Supply Curve

a) Rightward Shift in Supply Curve



In the above diagram market equilibrium is due to shift in supply in curve to the right. Now the new equilibrium point is G. When the supply curve rightward as shown in the diagram at P their will be excess of supply. that is q_2.

b) Leftward Shift in Supply curve



In the above diagram the market equilibrium Point is E due to the shift in supply curve to the left the equilibrium Point is G. The market supply shift towards S_1S_1 With the demand remain unchange because of the shift at price P their will be excess demand equal to q. In the market the new equilibrium at Point G.

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★ Simaltaneous Shift of demand and supply curve

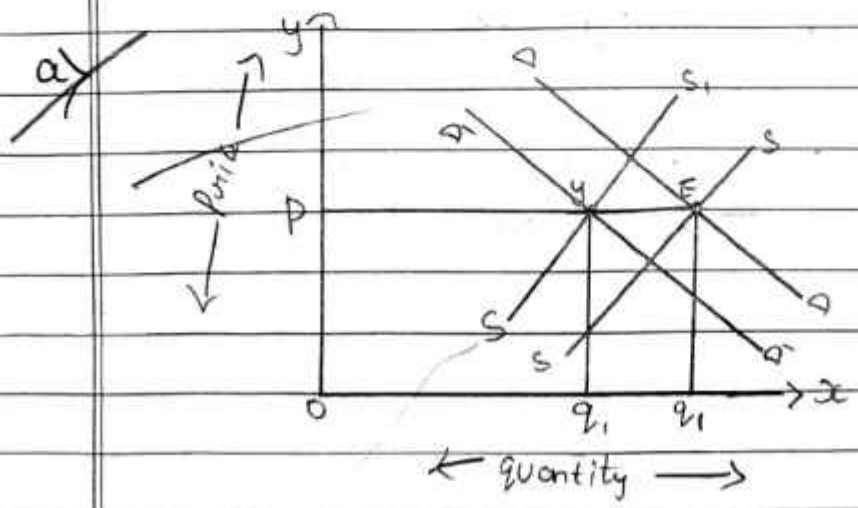
4m or 6m

Simaltaneous Shift can be happen in it possible ways.

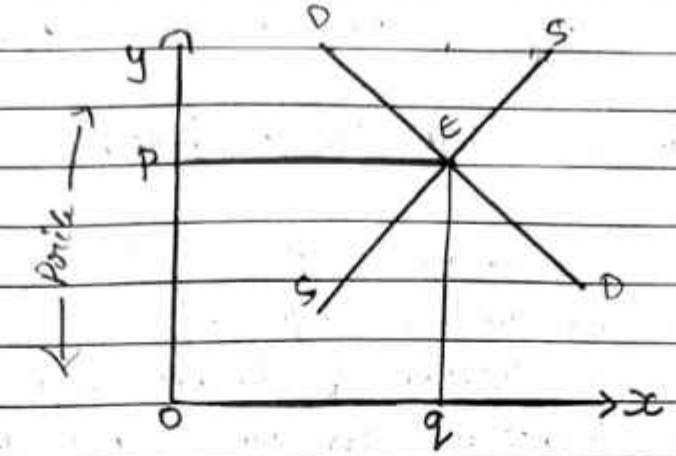
a) Both supply and demand Shift rightward
b) Both supply and demand Shift leftward
c) Supply shift to leftward & demand Shift rightward
d) Supply Shift rightward and demand Shift leftward

Shift in Demand	Shift in Supply	Quantity	Price
Leftward	Leftward	Decreases	May increase / decrease Remain unchanged
Rightward	Rightward	Increases	May increase / decrease Remain unchanged
Leftward	Rightward	May increase / decrease Remain unchanged	Decrease
Rightward	Leftward	May increase / decrease Remain unchanged	Increase

a)

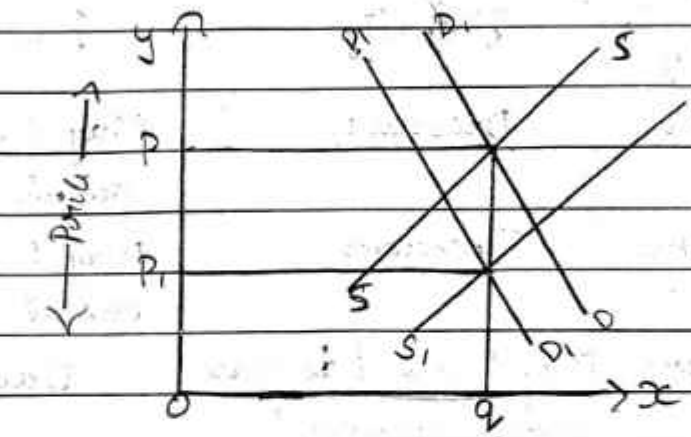


b)



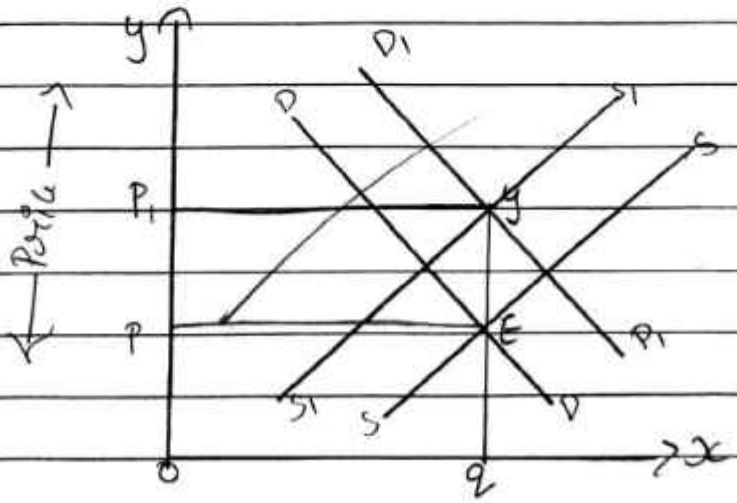
← Quantity →

c)



← Quantity →

d)



← quantity →

Market Equilibrium :- [Free Entry Free Exit]

In perfect competitive market, it is assumed that there will be free entry & exit of the firms. This assumption implies that in equilibrium situation no firm earn super normal profit or incur loss by remaining production.

Let us discuss why there will be no super normal profit or no loss to the firms. Suppose at the pre market price, each firm is earning super normal profit. The possibility of earning super normal profit will attract some new firms. As new firms enter the market, the supply curve shifts rightward. However the demand remains same. This causes market price to fall. As price decreases super normal profit will eventually decrease. At this point with all firms at the market earning normal profit.

Similarly, if the firms are incurring loss at the prevailing price, some firm will exit. These will lead to an increase in price. Then, the profit will increase to the level of normal profit. At this point no firm will want to leave. Since, there will be earning normal profit...

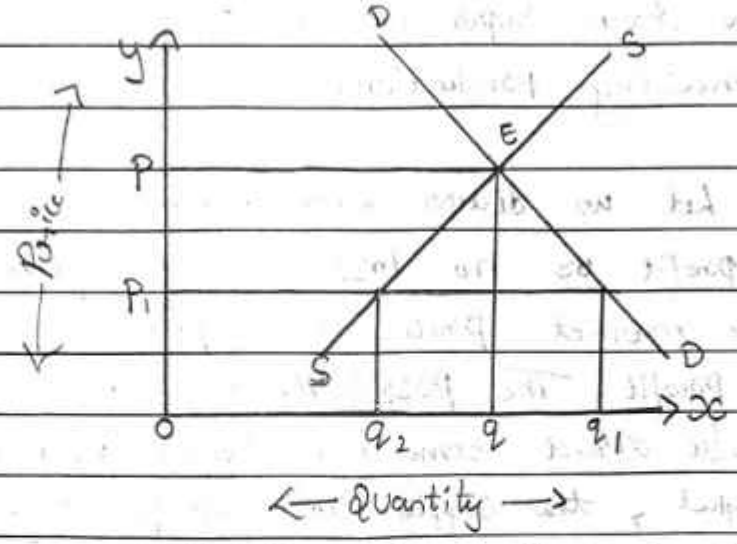
Govt decides

Price Ceiling :- (Less the Eq actual price is price ceiling)

The government imposed upper limit on the price of a good or services is called price ceiling. Price ceiling is generally imposed on necessary items like, rice, wheat, sugar, kerosene. It is fixed below the market price because at market price some section

of the population will not be able to afford these goods.

The price ceiling can be explained with the help of below diagrams.



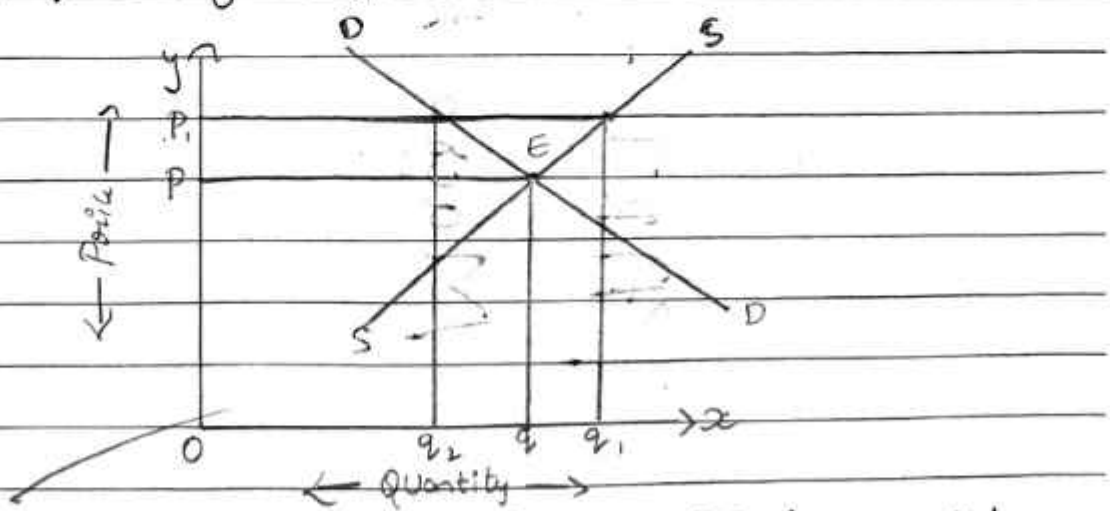
In the above diagram, DD is a market demand curve and SS is the market supply curve P is the equilibrium price and Q is the equilibrium quantity. When the government imposes price ceiling at P, which is lower than equilibrium price, there will be excess demand of q to q_1. There will be scarcity of goods.

Here, through the intention of the government is to help the consumers, it could end up creating shortage of product. In order to solve the scarcity of product, that government may issue ration coupons to the consumers, so that no individual can buy more than a certain amount of a product...

Price Floor :-

The government imposed lower limit on the price that may be charged for a particular goods or services is called price floor. For certain goods & services, fall in price below a level isn't desirable and hence, the government sets minimum prices for these goods & services.

Example :- Agricultural Price support programs and the minimum wage legislation. The government may impose lower limit on the purchase price for some of the agricultural goods and the floor is normally set at a level higher than the market price. The price floor can be explained with the help of following diagram.



In the above diagram, DD is a market demand curve & SS is market supply curve. O is the equilibrium price & q is the equilibrium quantity. When the govt imposes price for at Pf which is higher than equilibrium price, there will be excess supply of q to q1, in order to support producers, the govt needs to buy the excess supply & should take step to find alternative market...

03/06/25

PART - 02

Macro Economics

Chapter - 01

Introduction [Macro Economics]

The term Macro is derived from Greek word "Makros" which means large. In Macro Economics we study the analysises of how the Countries total Production and the level of Employment are related to Price, to interest, Wage Profit & so on.

According to "Samuelson" Macro Economics is the study of behaviour of the Economy as a Whole.

* Nature of Macro Economics
* How to generate & spend the income through the production of goods & services.
* How to allocate human resources & non-human resources.
* How and What Policies regarding Production, Income & Expenditure formulated for the development of an Economy.
* What Policies should be formulated regarding foreign trade

Major Sector of an Economy

* Household Sector
* Production or firm Sector
* Government Sector
* External Sector

* **House hold Sector :-**

A house hold is one of the decision making units. Household consume goods & services produced by the firm they are the owners of land, labours, capital & organisation [Factors of Production]. Household consist of people, this people work in a firm as workers and earn wages. They are the ones work in govt department & earn salaries. The house hold save money, Payment tax to the government. Therefore, The Market in which the firm sale their products could not have been functioning without the demand coming from the household.

* **Producer Sector :-**

A firm or a production sector is also one of the decision making unit there will be ~~producing~~ Producing goods & services which is required for household Sector. Produced goods & services firm by factors of production from household & they will pay reward in the form of rent, wage, interest & Profit.

* **Government Sector :-**

In both develop & developing countries apart from capitalist sector there is a institution of govt [State] The role of government includes framing laws, enforcing them and delivering justice. The State here refers to the government which perform various developmental functions for society. It is undertaken Production

apart from imposing taxes & spending money on buildings, infrastructure, running schools & colleges, Providing health Service etc. These Economic function States that have to be taken into account when we want to discribe the Economy & the country...

* External Sector :-

It can be fourth important Sector of the Economy. Trade with External Sector can be two kinds :-

a) Export -> The domestic country may sale goods to the rest of the country is called Export.

b) Import -> The domestic country may buy from the rest of the country is called import.

* Economic Agents :-

The individual or institution which take our decision are called Economic agents. they can be Consumers, Producers, banks, Co-operation, government etc

* Macro Economics Decision Making :-

The Macro Economics are decisions makers as stated itself or ~~statutory~~ Statutary bodies likes the Reserve bank of India, ~~Sectors~~ Security Exchange board of India & similar institution

* Classical School of thought :-

"Adam Smith, "Wealth of Nation". The Classical School of thoughts says that all the labours who are ready to work will find Employment & all the factors will be working at their full capacity they believed in Laissez faire Policy which means leave the Economic activity

to the market & freedom from government intervision & they were believing in invisible hand, & ~~they were~~ & will ensure equation & full of employment.

★ Emergence of Macro Economics :-

Macro Economics has been separate branch of Economic emerged after the british Economist. J.M Keynes published book "The general theory of employment, interest and money in 1936".

The dominant thinking in Economics before Keynes that was all the labourers who are ready to work will find employment and all the factories will be working at their full capacity. This school of thought is known as classical traditions.

But the great depression of 1929 & the subsequent year saw the output and employment levels in the Europe and north american decrease. It affected other countries of the world as well. Demand for goods in the market was between, many factories were shut workers were thrown out of joy.

In USA from 1929-1933, unemployment rate increase from 3% to 25%. over the same period aggregate output in USA fell by about 33%. These event made Economic think about the function of the Economy in a new way.

Keynes book was an attempt in this direction this ideas for working of an economy gave birth to the subject of Macro Economics.

* **Capitalist Economy :-**

In a capitalist country production activities are mainly carried of by private enterprise. It will also known as market economy. Here all the economics decisions are undertaken on the basis of market economy.

* **Characteristics or Features :-**

* Private individuals are the owners of factors of production.
* Profit is the main goal
* There is least interven of government
* Price mechanism plays a major role
* The price is determined by demand & supply in the market.
* No individual organisation or government is responsible of the production & distribution of goods
* The producers produce those goods which bring more income
* They select capital intensive technology which they can get more returns / profit
* They produce goods for rich people those who are having ability to buy.
* Private play an important role in growth and development of every producer...

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★ Difference between Micro & Macro Economics

Micro Economics	Macro Economics
* The word micro is derived from greek word Mikros	* The word Macro is derived from greek word Makros
* Micro Means Small	* Macro Means large
* Micro Economics study of small unit of an economy	* It studies large unit / segment of an economy
* The slope is Narrow	* The slope is Wider
* The Micro Economics follows Slicing method	* The Macro Economics follows lumping method
* The Micro Economics is Partial equilibrium	* The Macro Economics is General equilibrium
* The Economics agent thinks about his own benefit	* The Economics thinks about welfare of the country
* Micro Economics is Scopic View	* Macro Economics is bird Eye View

20/6/25

Chapter - 02

National Income Accounting [Macro Economics]

According to the National Income Committee of India, National Estimate measures the value of goods & services produce during a given period of time without duplication.

National Income is generally defined as sum total of all the final goods & services produced in a country and net income from foreign in Year.

* Some Basic Conapts of Macro Economics [Factors of National Income]

* **Consumer Goods :-**
These are the goods which are purchased for consumption purpose by consumers.
Example :- Food, Cloth, etc

* **Capital goods :-**
These are the durable goods which are used in the production process.
Example :- Factories, Machinery, tools etc

* **Intermediate Goods :-**
There are the goods used by the other producers as material inputs. These are used as raw materials of Production of other Commodities. These are not final goods.
Example :- Cotton, Sugarcane, etc

4mg

Final Goods :-

The final goods are those goods which are meant for final use & will not pass through any more stages of production. They are called final goods because once they have been sold they pass out of the active economic flow. However, they may undergo transformation by the action of ultimate purchaser.

In fact, many final goods are transformed during their consumption for instance, tea leaves purchased by the consumer are not consumed in that form they are used to make drinkable tea which is consumed. Similarly, most of the items that enter our kitchen are transformed in the process of working. But cooking at home is not an economic activity, even though the product involved undergoes transformation. Home cooked food is not sold in market. However if the same cooking of tea was done in hotel where the cooked product would be sold to customers then the same items are not considered as final goods & would be counted as inputs to which economic value can take place. Thus it is not in the nature of the goods but in the economic nature of its usage that a good becomes a final good. The final goods includes consumer goods & capital goods...

* **Stock & Flow :-**

Stock :- It refers to a quantity existing at a particular point of time.

Example :- Capital, Wealth, foreign exchange reserve, food grain stock, Bank dipogit etc

Flow :- It refers to the additional made to the stock.

Example :- Net investment, salary, import & export National income etc.

* **Depreciation :-**

It refers to the value of Produce which decreases by continuos use. It is a deduction made from the value of gross investment in order to accomodate regular wear & tear of capital goods.

** **Circular Flow of National Income :-**

The circular flow of Income illustrate the process of whereby the national income & expenditure of an economy flow in a circular manner between different sectors it can be explained with the help of simple economy model or two sector model

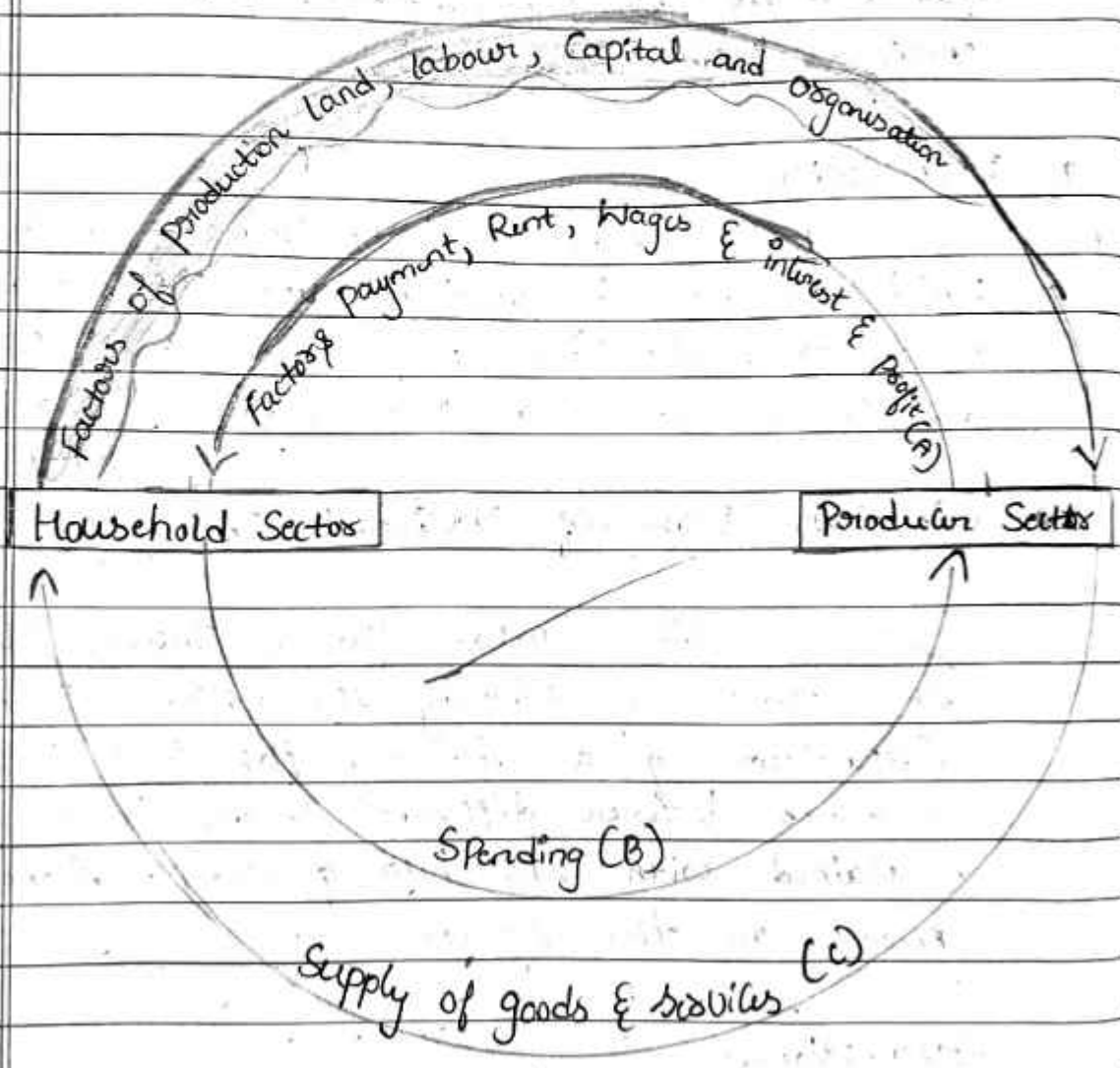
Assumption :-

* There are only two sector in an economy
  a) Household sector
  b) Producer sector [Firm]
* Household are the owner of factors of Production

and firm will buy these factors of Production from household sector.

* Household receive income by selling the factors in the form of rent, wage, interest, Profit
* Firm will sale their entire product to household sector & household sector has to spend money.

The circular flow of Income can be explained with the help of following chart :-



In the above chart household sector supplies factors of Production in the form of land, labour, capital & organisation to producer sector & the producer sector produces goods &

services to household. The supply of goods & services from one sector to another sector is real flow the outer circle shows these flow. Firm pay factors payment such as rent, wages, interest & profit to household sector as a reward for factor services. Household spend this income on buying goods & services produced by the firm, this is money flow the inner circle shows this flow. In the above chart we can calculate national Income at each point namely (A) (B) (C). If we measure the flow at point A by adding same ~~total~~ total of factor payment it will be called income method. If we measure the flow at point B that is aggregate spending on goods & services that is called Expenditure method. If we measure the flow at point C by adding the value of all the goods & services produced in a year that is called Product method...

* Unplanned Accumulation and decummalation of inventories

same for unplanned & planned

In Economics the stock of unsold finished goods, semi-finished goods or raw materials which firm carries from ~~year~~ one year to next year is called as inventory. Inventory is a stock variable.

The value of inventory is higher at end of the year compared to the begin such case inventory increases this is called accumulation of inventory.

If the value of inventory is less at the end of the year compared to the begin such cases inventory decreases this is called decummalation of inventory.

Change in inventories may be planned or unplanned incase of unexpected fall in demand the firm will have unsold stock of goods hence, there will be unplanned accumalation of inventories. If there is unexpected increase in the sale there will be unplanned decumalation of inventories.

Example :- Suppose a firm produce t-shirts for it starts the production with an inventory of 100 t-shirts. It is expected to sale 10000 t-shirts hence, it produces 1000 t-shirts, excepting to keep an inventory of 100 at the end of the year, however, during the sales of t-shirt's unexpectedly low the firm is able to sale only 600 t-shirts this means that the firm is left out with 400 unsold t-shirts the unexpected raises of inventory by 500 will be an example of unplanned accumalation of inventory. In other hand the sale have been more than 1000 we would have unplanned decummalation of inventories. If the sale have been 1050, then not only the production of 1000 t-shirts will be sold the firm will have to sale 50 t-shirts out of the 1000 stock thus 50 unexpected reductioning in inventory is an example for unplanned delumulation...

Stock	Produce	Sale	left out	Unplanned Accumalation
100	1000	600	400+100 = 500	Unplanned Accumalation
100	1000	1050	100 - 50 = 50	Unplanned Accumalation

Planned Accumalation & Decumalation of inventories

Inventory are unsold goods raw materials which a firm one year to next year a plan Change in inventories is a change in the stock of inventories which has accured in a planned way. The planned accumalation & decumalation of inventories are explained with example as follows:-

Example :- Suppose a firm wants to increase the inventory from 100 tshirts to 200 t shirts during the year. Excpting sales of 1000 tshirts during the year, The firm produces 1000 + 100 = 1100 tshirts if the sale are actualy 1000 t shirts the firm ends up with the raise of inventories. The new stock of inventories is 200 tshirts, which was planned by the firm this is planned accumalation of inventories.

on the other hand, If the firm had wanted to reduce inventories from 100 to 50, Then it could produce 1000 - 50 = 950 t-shirts this is because it planned to sale 50 t-shirts out of the inventories of 100 t-shirts then the inventories at the end of the year becomes 100 - 50 = 50, If the sales turn out to be 1000 t-shirts as excepted by firm

the firm will be left out with the so-called this is Planned decumulation of inventories.

Stock	Produced	Sale	Leftout	Planned Accumulation
100	1100	1000	100+100=200	Planned Accumulation
100	950	1000	100-50=50	" " "

* Macro Economic identities

1) Gross Domestic Product (GDP)
   * Gross Domestic Product at Market Price (GDPmp)
   * Gross Domestic Product at Factor Cost (GDPFC)

2) Net Domestic Product (NDP)
   * Net Domestic Product at Market Price (NDPmp)
   * Net Domestic Product at Factor Cost (NDPFC)

3) Gross National Product (GNP)
   * Gross National Product at Market price (GNPMP)
   * Gross National Product at Factor Price (GNPFC)

4) Net National Product (NPS)
   * Net National Produd at Market price (NNPmp)
   * Net National Product at Factor Price (NNPFC)

5) Personal Income (PI)

6) Personal disposable Income (PDI)

7) Per Capita Income (PCI)

8) Nominal National Income (NNI) & Real National Income (RNI)

The Value of goods & services Produced With in a Country

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1) **Gross Domestic Product (GDP) :-**

GDP Measures the aggregate Production of final goods & Services taking Place with in the domestic Economy during a year. But the Whole of it may accrue to the citizen of the country.

$$GDP = C + i + G + [x - m]$$

C = Consumption Expenditure
i = Investment Expenditure
G = Government Consumption & invest Expenditure
x = Export
m = Import

It includes GDPmp and GDPfc

* **Gross Domestic Product at Market Price (GDPmp)**

It is the value of all the final goods & services produced with in a domestic territory of a country measured in a year based on market price.

$$GDPmp = C + i + G + [x - m]$$

* **Gross Domestic Product at Factor Cost (GDPFC)**

It is the gross domestic product at market price's ~~net~~ minise net indirect tax. It measures the money value of output produced by the firms with in the domestic boundries of an country in a year based on factor's Cost.

$$GDPFC = GDmp - NIT$$

NIT = Net Indirect Tax

2) Net Domestic Product (NDP) :-

It is the value of goods & services produced with in a countries boarder minise (Depreciation Cost.)

$$NDP = GDP - DC$$

* Net Domestic Product at Market Price (NDPmp)

It is the net value of all the final goods & services produced with in a countries boarder valued at market price minise depreciation cost.

$$NDPmp = GDP - DC$$

* Net Domestic Product at factor Cost (NDPFc) :-

It is the total value of final goods & services produced within a countries boarder measured at the cost of the factors of Product

$$NDPFC = NDPmp - NIT$$

3) Gross National Product (GNP) :-

It represents the total value of all goods & services produced by the countries residence, regardless of where the Production takes place.

$$GNP = GDP + NFIA$$

NFIA = Net factor income from Abroad

* Gross National Product at Market Price (GNPMP)

It is a measure of a countries total value of goods & services produced by its residence, including income earned from Abroad

at Current market prices.

GNPmp = GDP + NFIA

* Gross National Product at Factor Cost :- (GNPFc)

It represents the total market value of all final goods & services produced by a nation citizens minus net indirect taxes.

GNPFc = GNPmp − NIT

4) Net National Product (NNP) :-

It is the total value of goods & services produced by the countries residents both domestically & abroad minus depreciation.

NNP = GNP − DC

* Net National Product at Market Price (NNPmp) :-

It represents the total market value of goods & services produced by the nation residence, both domestically & abroad minus depreciation.

NNPmp = GNPmp − DC

* Net National Product at Factor Cost (NNPFc) :-

It is the total value of goods & services produced by a nation residence both domestically & abroad minus depreciation based on factor cost.

NNPfc = NNPmp − NIT

5) Personal Income (PI) :-

PI is a part of National Income recieved by the people or household for their standard

of living.

PI = National Income - Undistributed Corporate Profits + Taxes - Social Security Contribution + Transfer payments + Interest on public debt

6) Personal Disposable Income (PDI) :-

PDI are the income received by the particular person after detecting their personal taxes.

PDI = PI - Taxes

7) Per-capita Income (PCI)

PCI is the average Income of a people of a Country

$$PCI = \frac{\text{National Income}}{\text{Total Population}}$$

8) Nominal National Income (NNI) & Real National Income (RNI) :-

* NNI :-

It refers to the national income figure expressed in the prices of Current year in which it is calculated.

* RNI :-

It refers to the National Income figure expressed in terms of base year prices in which it is calculated.

Problem :- Suppose GDPmp of a country in a particular year was ₹3000 crores, net factor income from Abroad (NFIA) was ₹500 crores. The depreciation was ₹450 crore. The value of net indirect tax was ₹300 crore. Complete the following table

Identities	Values (in crore)
GDPmp	
GDPFC	
NDPmp	
NDPFC	
GNPmp	
GNPFC	
NNPmp	
NNPFC	

To find
FC = mp - NIT
Net = GNP - DEP

Solution :-

Identities	Formula	Value (in crores)
GDPmp	GDPmp = C + I + G + (x-m)	3000
GDPFC	GDPFC = GDPmp - NIT	2700
NDPmp	NDPmp = GDPmp - DC	2550
NDPFC	NDPFC = NDPmp + NIT	2250
GNPmp	GNPmp = GDPmp + NFIA	3500
GNPFC	GNPFC = GNPmp - NIT	3200
NNPmp	NNPmp = GNPmp - DC	3050
NNPFC	NNPFC = NNPmp - NIT	2750

★ Methods of Measuring National Income

1) Income Method
2) Expenditure Method
3) Product Method
   a) Final good method, b) Value added method

1) **Income Method :-**

The sum of Final Expenditure in the Economy must be equal to the income received by all the factors of Production. House hold supply the factors of Production and their they recieve income in the forms of wage, rent interest and profit. Under this method national income is obtained by adding the income recieved by all the individual of the country.

$$GDP = Wage + Rent + interest + Profit$$

OR

$$GDP = W + \gamma + i + \pi$$

OR

$$GDP = \sum_{i=1}^{n} W + \sum_{i=1}^{n} \gamma + \sum_{i=1}^{n} i + \sum_{i=1}^{n} \pi$$

Example :- Suppose the income Earned by household in a country by supplying various factors are ~~one by one~~ Wage = 1800 crores, Rent = 1500 crores interest = 800 crores, Profit = 1300 crores

$$GDP = W + \gamma + i + \pi$$
$$= 1800 + 1500 + 800 + 1300$$
$$\boxed{GDP = 5400 \text{ crores}}$$

6m 8 * 2) **Expenditure Method :-**

Expenditure method is the alternative Way to Calculate GDP by looking at the demand side of the products. Here the aggregate value of the output in the Economy by Expenditure method will be Calculated in the following Way

In this method we add the final expenditure that each firm makes. Final expenditure is that part of expenditure which is undertaken not for intermediate purposes. If the baker buys ₹50 worth of wheat from the farmer is considered as intermediate goods & the final expenditure received by the baker ₹200. Then the aggregate value of the output of the economy is ₹200 + 50 = 250
The firm can make the expenditure on the following accounts :-

* The final consumption expenditure on the goods & services which are produced by the firm is denoted by "C".
* The final investment expenditure on capital goods produced by the firm is denoted by "I".
* The expenditure that the govt makes on the final goods & services produced by the firm is denoted by "G".
* The export revenue the firm earn is denoted by "x-m".

$$GDP = \sum_{i=1}^{N} C + \sum_{i=1}^{N} I + \sum_{i=1}^{N} G + \sum_{i=1}^{N} X$$

OR

$$GDP = C_i + I_i + G_i + (x-m)$$

OR

$$GDP = C + I + G + (x-m)$$

★

3) Product Method :-

This method is also known as input output or inventory method. Under this method National income is estimated by aggregating the values of all the final goods & services produced in a country during a year.

a) Final goods Method :-

According to this method, the value of goods & services produced in a different sector is included & the values of all intermediate goods are ignored.

b) Value added method :-

According to this method the value added at each stage of production process is included the difference btw the value of final output & inputs at each stage of production is called the value added method. This can be illustrated with the help of following table :-

Production level	Total Production	Intermediate Goods	Value added
Wheat (Farmer)	500	0	500
Flour (A miller)	800	500	300
Bread (A Baker)	1100	800	300
Retail Shop (Seller)	1300	1100	200
Gross Value (GVA)			1300

6mq ★ All the three methods of Extimating GDP gives us the same [illegible]

The three methods of calculating GDP such as Product or value added method, Expenditure method, Income method gives same answer. This can be explained with the help of following example.

Let us imagine there are two firms x & y. Suppose x uses no raw material & produces Cotton worth of ₹50. x sell its cotton to firm y who uses it to produce cloth. y sale the cloth produce to customers for ₹200

1) Product or Value added method

Here,

Value added = Sales - Intermediate

VAx = 50 - 0 = 50

VAy = 200 - 50 = 150

Value Added = VAx + VAy

= 50 + 150

= 200//

2) Expenditure Method

Under this method GDP is the sum of final Expenditure on goods & services for End use In the above case final Expenditure is Expenditure by Consumer on Cloth so GDP = 200//

3) Income Method

Under this method GDP is obtained by adding factors Payment. Let us imagine firm x, from ₹50 received gives ₹30 has Wages and Keeps ₹20 as Profit. Similarly firm y gives ₹100 as Wages & Keeps ₹50 has Profit. It can be stated in the following table

Particulars	Firm x	Firm y	Total
Wages	30	100	130
Profit	20	50	70
National Income			200

Thus, GDP = Wages + Profit
= 130 + 70
GDP = 200 ₹

Thus, all the 3 methods of estimating GDP gives same answer

* Difficulties in Measuring National Income

1) Transfer Payment (Pension, Unemployment benefit Scholarship etc..)

2) Income From foreign Firm
(IMF is opinion that Income of the foreign firm should be included in the income of the country where it is located)

3) Treatment of Govt Services
[Defence, Administration, Justice etc...]

4) Unpaid Services
[Services of a house wife, NSS Students, Charitable institution, NGO etc...]

5) Income from illegal Activity
[Smuggling, Gambling etc...]

6) Changing General Price level
[Price level also make estimation of national income difficult]

7) Production of Self Consumption
[Farmers do not maintain any account regarding the value of self consumption goods like vegatables, food grains etc...]

8) Problem of Double Counting

9) Lack of reliable data or Proper Data

* Goods and Prices

One implicit assumption while counting national income is that prices of goods & services do not change during the period of time. If the prices change there may be difficulties in comparing GDP. In order to compare the GDP figure of the same country at different point of time we cannot rely on GDP evaluated at the current market prices for comparision we can take real GDP. Real GDP is calculated in a way such that the goods & services are evaluated at some constant set of prices. Nominal GDP on the other hand is simple the value of GDP at the current year prices.

Example:- Suppose a country only produces bread in a year 2000 it had produced ~~1100~~ 1100 unit of bread price was ₹1 GDP at current year price was ₹1000. In 2001 the same country produces 1100 unit of bread the price was ₹15. Nominal GDP in 2001 was ₹1650, real GDP in 2001 was calculated at the price of the year 2000 will be ₹1100

2mg GDP deflator :-

The Ratio of nominal GDP to real GDP is well known Index of Price is known as GDP deflator.

$$\text{GDP deflator} = \frac{\text{GDP}}{\text{gdp}} \times 100$$

$$= \frac{1650}{1100} \times 100$$

$$= 150\%$$

★ Consumer Price Index (CPI)

CPI is a Macro Economic indicator which is designed to measure the Changes over a period of time in the level of Prices of selected goods & Services.

Items	Weight	Base Year (P_0)	Current Year (P_1) Price	$P = \frac{P_1}{P_0} \times 100$	EWP
Food	50	20	30	150	7500
Housing	10	15	20	133.33	133.33
Fuel	10	5	10	200	2000
Cloth	5	10	15	150	7500
others	25	20	40	200	5000
	EW = 100				EWP = 16583

$$CPI = \frac{EWP}{EW}$$

$$= \frac{16583}{100}$$

$$CPI = 165.83\%$$

GDP and Welfare [Limitations of using GDP has an Index of Welfare Country]

GDP is the sum total of value of goods & services created with in the country with a particular year. It get distributed among the people has income except retined earnings. So we considered that higher level of GDP of a country is an Index of greater will being of the people of that country. Welfare of the country means will being of entire population of the country but there are certain limitation using GDP has an index of welfare of the country. They are as follows :-

1. Inequality in the Distribution of National Income :-
Generally the raising GDP will not represent increase in the welfare of the country. If the GDP of country is raising the welfare may not raise. This is because the raise in GDP may be concentrated in the hands of very few individual For remaining the income may infact might have decreased. In such a situation the welfare of the entire country cannot be set said to have improve.

2. Non-Monitary Exchange :-
Some of the activities in a country are not evaluated in terms of money ex :- Services of a house wife, NSS students charitable institution etc...

In India many remote areas, were using barter system this kinds of expenses generally not counted in GDP. Therefore, GDP calculated in standard

manner may not give us a clear indication of Welfare of a country.

3. Harmful Goods :-

National Income doesn't Considers Wheather the goods & Services Produced are use or harmful to the People, Ex :- Cigarette, Gutka, Alchohol Etc ---

4. Manner of Production :-

Welfare also depends on the manner in which goods are produced. If more goods are Produced by Polluting the Environment or by Child labour then Economic Welfare Cannot Increase

5. Externalities :-

An Externality is a Cost or benefit Confessed upon Second or third parties as a result of act of individual production and Consumption. But the Cost or benefit of an Externality Cannot be measured in monitory terms because it is not included in market activities

In other Words, Externality refers to the benefits or the harms a firm or an individual causes to another for which they are not paid. They do not have any market in which they can be bought and sold.

There are two kinds of Externality

a) Positive Externality
b) Negative Externality

For example let us imagine that there is a chemical fertilizer industry. It produces the chemical fertilizers required for agriculture. The output of the industry is taken for counting GDP of an economy. This is Positive Externality.

While carrying out the production the chemical fertilizer industry may also be polluting the near by river. This may cause harm to the people who use the water of the river. Hence, their health will be affected. Pollution also may kill fish and other organism of the river. As a result the fishes man of the river may loose their livelihood. Such harmful effects that the industry is inflicting on others, for which it will not bear any cost or called negative Externality.

2/07/25

Writ a note on Externalities (4m) Q

Ans: 5th Point

Chapter - 03

Money And Banking

Money is commonly accepted as medium of Exchange. Money facilitates the transaction of goods & services. One cannot imagine modern World without money. In the beginning of the civilization human wants are limited in that case Exchange took place through Bratar system. Exchange of of goods for goods is called Bartar System.

★ **Disadvantages of Bartar System**

1. **Lack of Co-incidence of Wants :-**
It suffered from the double Co-incidence of Wants which means two individuals should compliment each other in their requirements in order for the Exchange to happen.
For Example :- Wheat for Rice...

2. **Lack of Common measure of Value :-**
There was a lack of Common measurement, Value of the goods of one item was not always equal to the other item being Exchanged.
For Example :- Exchange for of Rice for the cow

3. **Difficulty in storing the Value :-**
It was difficult to store the items that were obtained from Exchange for

future exchanges as many items persisted

4. **Difficulty in borrowing and lending :-**
It was difficult to make future payments & contractual payments.

★ **Money :-**

Money is anything that is generally accepted as a medium of exchange. also According to FA Walker "Money means what money does".

★ **Functions of Money**

Functions of Money

Primary Function	Secondry Function	Contingent function	Others function
Medium of Exchange	* Standard of differed Payment	* Distribution of national income	* Helps in Making decision
Measure of Value	* Store of Value	* Basis for credit	* Generalising Purchasing
		* Maximisation of the Products & Consumer Satisfaction	Power
		* Liquidity	

1) **Primary Function**

a) **Medium of Exchange :-**
Money serves as a medium of exchange it facilitates exchange through a common medium that

is currency. Money as a medium the two components of transaction namely purchase & Sale can be easily separated.

b) Measure of Value :-

Money serves as a common unit of value. The value of all goods & services can be expressed in terms of money.

2) Secondary Function :-

a. Standard of diffesed payment :-

Diffesed payments are those payments which are paid in future. Money can be used for future payments.

Example :- Salary, loan, interest etc---

b. Store of Value :-

Generally People have tendency to save certain Postion of income in the form of savings to accumalate wealth. Wealth can be easily stored in the form of money without any loss in its value.

Money overcome the shortcoming of bartar system in the following manner :-

* Money solves the problem of double coincidents of wants. Ex :- If a person need wheat in exchange of tea, she must search a person who is ready do trade wheat for tea.

Money made the need for such searches redundent

* In barter system it was very difficult to measure the value of one goods in terms of another
Example :- It was difficult to calculate the value of low in terms of wheat. Money has solved this problem.

* It was very difficult to store goods specially perishable goods for the purpose of value of storage. Money serves this purpose

* The future payments are much difficult to be made in barter system
Example :- A worker working on contract basis could not be paid in terms of file or chair.

Money act as convinient unit of account

Money as a common measure of values and a convinient unit of account. The value of all the goods & services can be expressed in terms of money. As a measure of value, Money performs following functions :-

* The value of all goods & services measured & expressed in the terms of money.
* The price of all goods & services are expressed in money.
* Helps in maintenance of accounts
* It facilitates price mechanism
* It makes goods & services comparable in terms of price.

For instance, When we say that the value

~~For of a book~~
of a book is ₹500 We mean that the book can be exchanged for 500 units of money where a unit of money is Rupee in this case. If the price of a Pencil is ₹5 and that of a Pen is ₹10 We can calculate the relative price of a Pen with respect to a pencil i.e, Pen is worth 10/5 = 2 Pencils.

If prices of all commodities increase in terms of money i.e, there is a general increase in the price level, the value of money in terms of any commodity must have decreased in the sense that a unit of money can now purchase less of any commodity.

★ **Demand for money or motives of Money**

1. Transaction Motive or Transaction demand for money
2. Precautionary motive or Precautionary demand for money
3. Speculative motive or speculative demand for money

1. **Transaction Motive :-**

We require to hold some postion of money in the form of cash to meet our policy expenses. Holding cash to meet policy transaction is called transaction. Demand cash arises because income & the consumption expenditure, usually People ~~or~~ receive income at certain intervals of time, which is to be consumed throughout the period till the next income. Thus, People have a tendency ~~to~~ hold

money in Cash for Various transaction Purpose.

Transaction Motive refers to holding money to carry out transaction of we recieve our income weekly and make Payments on 1st Pay of every week we need not to hold any cash balance throughout the rest of the wek but our Expenditure Pattern. Do not normally match our ~~rece~~ receipt. People learn income at a Point in time & spend it Continously throughout the intervals. The transaction demand for money can be ~~be~~ represented as follows

$$M_t^d = KT$$

K = Positive fraction

T = Transaction

Now let us assume that each rupee change hands twice month. On the first day it is being transferred from Employers Pocket to that of a Workers and some time during the month, it is passing from the Workers hand to the Employers. The number of times a unit of money changes hands during the unit of Period is called Velocity of circulation of money. It can be written as :-

$$V. M^d_t = T$$

2. Precautionary Motive :-

The future is full of uncertainity Sometimes People hold some amount of money for

future Expenses such as medical Expenses Accident, Marriage etc. The demand for money for future Expenses & unExpected Expenses is called Precautionary motive or Precautionary demand for money.

$$m_p^d = f(y)$$

3. Speculative Motive :-

Some People hold cash to invest on bonds, gold & immovable Properties etc. The Speculative demand for money refers to the demand for money that People hold as idle cash balance to Speculate with the aim of Earning Profit.

For instance, the bonds are Papers bearing the Promise of a future Stream of monetary returns over a certain Period of time. These papers are issued by government or firms for borrowing money from the public and they are tradable in the market.

Let us consider the following ~~two~~ - Period bond A firm ~~wishes~~ to raise a loan of Rs. 100 from the Public. It issues a bond that assured Rs. 10 at the End of the first year and Rs. 10 Plus the Principal of Rs. 100 at the End of the Second year. Such a bond is said to have a face Value of Rs. 100, a maturity Period of two years and a Cupon rate of 10% assume that the rate of interest Prevailing on your Saving bank account is Equal to 5 Percent. Naturally you would like to compare the Earning from this

bond with the interest earning of your savings bank account obviously it is bonds, which give best returns & invest on them.

If the rate of interest is very high. Everyone expects it to fall in future and hence anticipate, capital gains from bond-holding. Hence People convest their money into bonds. Thus, the speculative demand for money is low when interest rate comes down, more & more People except it raise. In the future & anticipate capital loss. Thus, they convest their bonds into money giving rise to a high speculative demand for money. Hence speculative demand for money is inversely related to the rate of interest. Therefore, the speculative demand for money can be written as

$$M_S^d = \frac{r_{max} - r}{r - r_{min}}$$

Where, r is the market rate of interest and r max and min are the upper & lower limits of r, both Positive Constants. It clearly states that as r decreases from r_{max} to r_{min}, the value of speculative demand for money decreases from zero to infinity.

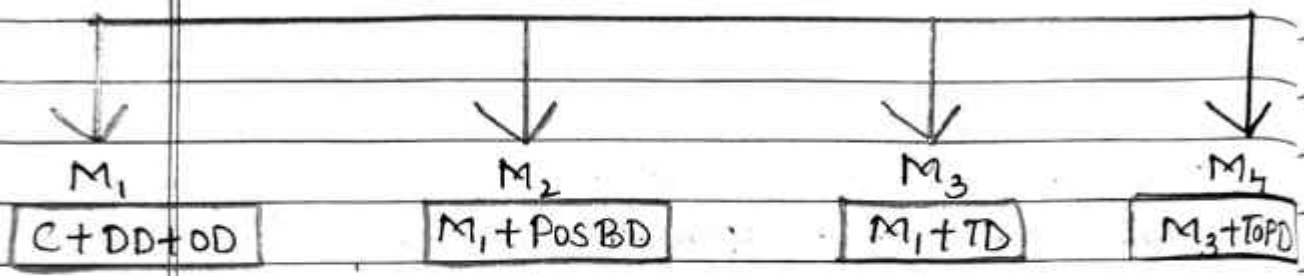
★ Legal Definitions of Money

It refers to the aggregate stock of money. The currency notes or coins held by the People in the country at a Particular Point of time is called supply of money. The stock of money has 2 major components :-

* Currency Components
* Deposit Components

Since, April 1977 RBI has adopted the Concept of money supply that is M_1, M_2, M_3, & M_4

Legal of Money Supply
Measurement of Money Supply



* Money, (M_1)
It includes currency with Public, demand deposit with Commercial bank and other deposit with RBI, It is called as Narrow Money.
$M_1 = C + DD + OD$

* Money, (M_2)
It includes all the components of M_1 and saving deposit with Post office.
$M_2 = M_1 + PosBD$

* Money 3 (M_3)
It includes all the components of M_1 along with the time deposit of all banks
$M_3 = M_1 + TD$

* **Money 4 (M_4)**

It includes all the component of M_3 and total deposit with Post office.

$M_4 + M_3 + TOPD$

M_1 and M_2 are narrow money. M_3 & M_4 are broad money. M_1 is most liquid and easiest for transactions whereas M_4 is least liquid of all M_3 is the most commonly used measure of mover supply and it is also know as aggregate monitory resources.

* **Central Bank of India**

RBI is the highest authority in a country's monitory systems. The RBI was established on April 1st 1935 as per RBI act of 1934, After the Independence, the RBI was nationalised by the government on Jan 1st 1949. It was renamed as Central Bank of India.

Functions of RBI

Traditional Function	Development function	Others function
Monopoly of note issue	* Agricultural Finance	* Research function
Bankers' Bank	* Industrial Finance	* Special function
Government Bank		
Lender of last resort		
Clearing house		
leader of money Market		
Controller of Credit		
Custodian of Foreign Exchange reserve		

1) Traditional Function

* Monopoly of note issue :-
The RBI has solo rights to issue of currency notes of all the denominations such as Rs. 10, Rs. 20, Rs. 50, Rs. 100, Rs. 200, Rs. 500. The government issues coins of all denominations.

* Banker's Bank :-
The activities of all the commercial banks are controlled and managed by RBI. Ex :- Licensing, Branch Expansion etc.
Every commercial bank has to maintain a certain Portion of total deposit with RBI, it helps the commercial banks in the times of financial difficulty.

* Government Bank :-
RBI act as a Banker's bank and advises to the govt. It receives deposits from the govt & advance loans to it.

* lender of last resort :-
RBI helps at the time of financial crisis When commercial banks are not able to get any financial assistance from any source, RBI comes to help Commercial banks.

* Clearing House :-
The RBI is the leader of money market & it controls the activities of different Component of money market such as Commercial banks, financial institutions etc.

* Leader of Money Market :-
The RBI is the leader of money market and it controls the activities of different component of money market such as commercial banks, financial institution, etc...

* Controller Credit :-
It is necessary that the supply of credit and the use of credit should be in the appropriate direction for this purpose. RBI uses various credit control measures such as bank rate, CRR and SLR

* Custodian of foreign Exchange
It is required to maintain reserves like gold, silver and foreign exchange to meet international Payments.

2) Development Function

a) Agricultural Finance :-
The RBI has extending advance and financial assistance to the co-operative credit institutions RRB's, NABARD for the development of agriculture. For this purpose it has set upon agriculture credit department and separate funds for providing medium & long term finance.

b) Industrial Finance :-
The RBI provides credit facilities to both small scale and large scale industries through IFCI, IDBI, ICII, etc...

3) Other Functions :-

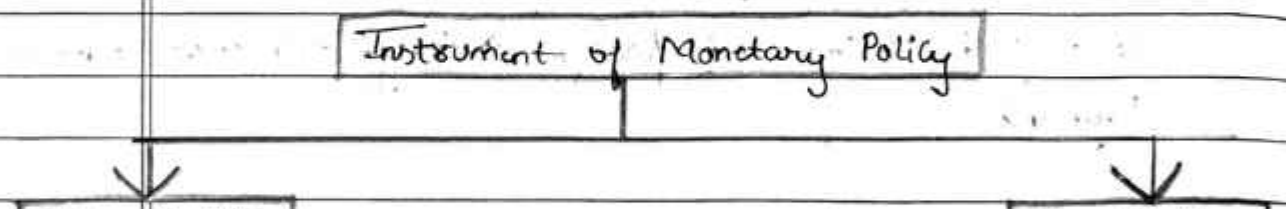
a) Research Function :-

The RBI Collects and Publishers relating to agriculture, Industry, Financial Sector, Export, Import, banking, trends in money & capital market etc...

b) Special Function :-

The RBI Conducts Special debates and seminars on various subjects. It also Provides training facilities to bank staff.

* Instrument of Monitary Policy



* Bank rate
* Cash Reserve Bank
* Statutory liquidity ratio
* Open market operation

* Marginal requirement
* Regulation of consumer credit
* Control through direction
* Credit rationing
* Direct action
* Moral action
* Publicity

1) Quantitative

a) Bank Rate :-

It is the rate of interest charged by RBI

A) Repo-Rate :-

It is the rate of Interest Provided by the RBI to a short period deposit kept by the commercial banks with RBI.

The RBI can influence the money supply by changing the rate at which it gives loans to the commercial banks. This rate is called as bank rate. By increasing the bank loans taken by the commercial banks become more expensive which reduces the reserves held by the commercial banks & hence decreases money supply. A fall in the bank rate can increase the money supply.

B) Cash Reserve Bank :-

It is a certain Percentage of bank deposit which commercial banks are required to keep with RBI.

C) Statutory liquidity Ratio :-

It refers to the ratio of bank deposits which the commercial banks have to maintain a certain Percentage of their total deposits with themselves, in the form of liquid assets as per the directions of RBI.

D) Open Market Operation :-

The open market operation as one of the tools of RBI to control money supply, refers to buying & selling of bonds issued by the govt in the open market. This Purchase & sale is entrusted to the RBI on behalf of the govt.

When RBI buys a govt bond in the open market, it pays for it by giving a cheque. This cheque increases the total amount of reserves in the economy and this increases the money supply. Similarly, selling of bond by RBI to private individuals or institutions leads to reduction in quantity of reserves and money supply.

⇒ There are 2 types of open market operations, they are as follows :-

a) outright :-

outright open market operation are permanent in nature. When the RBI buys the securities, it is without any promise to sell them later. Similarly, when the RBI sells these securities it is without any promise to buy them later. As a result the injection or absorption of the money is of permanent nature.

b) Repo :-

This is another type of operation in which the RBI buys the security with the agreement of purchase at particular date & price. This is called repo. The interest rate at which the money is lent in the way is called repo rate.

Similarly, instead of outright sale of securities. The RBI may sell the securities through an agreement which as a specification about the date & price at which it will be repurchased.

This type of agreement is called Reverse Repo. The rate at which the money is withdrawn in this manner is called the Reverse Repo rate.

The RBI Conducts Repo & Reverse Repo operations of various maturities like overnight, 7days 14 days etc. These types of operations have now become the main tool of monetary Policy of the RBI.

★ Commercial Banks :-

Commercial bank accept deposit from the public and lend out this money to interest earnings investments Projects. The rate of interest offered by the bank to deposit holders is called the borrowing rate & the rate at which lend out their reserves to investors is called the lending rate.

Functions of Commercial Bank

Primary Function

Accept Deposit	lending loan
* Current a/c	* Overdraft
* Savings a/c	* Cash credit
* Fixed Deposit	* loan
* Recurring Deposit	* Discounting Bill

Secondary Function

* Remittance of fund
* Buying & Selling of goods
* Making Payment
* Locker facilities
* Travellers Cheque
* ATM
* Credit & Debit Card

⇒ Primary Function

a) Accepting Deposit :-

i) Current a/c :-

This a/c's are generally maintained by traders & business man. It is also called as demand deposits money from these a/c can be withdrawn any number of time, no interest is paid on these deposit.

ii) Saving a/c :-

People with low income, salary earners generally open these types of accounts - Certain restrictions are imposed on this a/c regarding the no. of withdrawn. Rate of interest on these deposit is low as compared to the fixed deposit.

iii) Fixed Deposit :-

Money in these a/c is deposited for fixed period of time and cannot be withdrawn before the maturity period. The rate of interest is paid on these diposit is higher than the other deposit.

iv) Recurring Deposit :-

Money in these a/c is deposited in monthly installment for a period of one year or more after the completion of last installment the total amount accumulated is paid to be depositor along with interest.

b) Lending Loans

i) Over Draft :-

It is a facility provided by a bank to its current a/c holders. The bank loans such customers to overdraft their a/c's upto certain limits. This facility is generally available to business firms & companies.

ii) Cash Credit :-

It is a type of loan which is given to borrowers against the current assets, shares, stocks & bonds etc...

iii) Loans :-

It is a financial agreement in which credit is provided by a commercial bank through opening separate a/c is called loan a/c. In this method the bank gives a specified sum of money to a person or a firm against some securities.

iv) Discounting Bills :-

The bank deducts a certain amount of discount from the face value of the bill & pay the balance to the person by discounting the bill. This discount deducted by the bank is actually the amount of interest charged by the bank for leriding the money.

* Requirement of reserves act as a limit to money creation (Money creation by the banking system or credit creation by commercial bank)

The process of credit creation begins with banks lending money out of primary deposit. Banks cannot lend the entire primary deposit as they require to maintain a certain proportion of primary deposit in the form of reserves with RBI. After maintaining required reserves the bank can lend the remaining portion of primary deposits. Here banks lend the money and the process of credit creation starts.

* Assumptions :-

i) There are several Banks say A, B, C
ii) Every Bank has to keep 10% of Cash reserves
iii) A new deposit of ₹1000 is made by a customer in Bank A
iv) The People have banking habits
v) The loan amount drawn by the customer of first bank is deposits fully in the second bank & that of the second bank in the third bank & so on.

Balance Sheet of Bank A

Liabilities	Amount	Assets	Amount
Deposits	1000	CRR 10%	100
		loan to MBX	900
Total	1000	Total	1000

Balance Sheet of Bank B

Liabilities	Amount	Assets	Amount
Deposits	900	CRR 10%	90
		loan to MBY	810
Total	~~810~~ 900	Total	~~810~~ 900

Balance Sheet of Bank C

Liabilities	Amount	Asset	Amount
Deposits	810	CRR 10%	81
		Loan to Mr Z	729
Total	810	Total	810

Deposit Multiplier

Banks	Liabilities	Cash reserves	new loan
Bank A	1000	100	900
Bank B	900	90	810
Bank C	810	81	729
All other Bank	7290	729	6561
Total	10000	1000	9000

★ The story of Gold Smith lala on the process of deposit & loan creation by commercial bank :-

Once there was a gold Smith named lala in a village. In this village, People used gold and other precious metals in order to buy goods & services. These metals were acting as money.

People in the village started keeping their gold with lala for safe keeping. In return for keeping their gold, lala issued paper receipts to people of the village and charged a small fee from them. Slowly over time, the paper receipts issued by lala began to circulate as money. This means that instead of giving gold for purchasing wheat, some would pay for wheat or shoes or any other good by giving the paper receipts issued by lala. Thus, the paper receipts started as money since everyone in the village accepted these as a medium of exchange.

SURYA Gold

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Let us imagine, that Lala had 100 Kgs of gold deposited by different People and he had issued receipts corresponding to 100 Kgs of gold. At this time Ramu comes to Lala & asks for a loan of 25 Kgs of gold. Now Lala can decide that Everyone with gold deposits will not come to withdraw their deposists at the same time and so he may give the loan to Mr Ramu and charge him for it. If Lala gives the loan of 25 Kgs of gold, Ram could also pay Mr Ali with these 25 Kgs of gold and Ali could keep the 25 Kgs of gold with Lala in return for a paper receipt. In effect the paper receipts, acting as money, would have increased to 125 Kgs now. It seems that Lala has created money out of thin air. The modern banking system works precisely the way Lala behaves in this example...

28/07/25

Chapter - 04

Determination of Income & Employment

Consumption :-

It means total quantity of goods purchased & used by consumer during a particular period of time. It is represented by :-

$$C = F(Y)$$

Income :-

It refers to the total remuneration received by 4 Factors of Production in the form of Rent, Wage, Interest, Profit. It is represented by :- $Y = C + I$

Saving :-

It is a part of income which is not spend for consumption purpose. It is represented by ->

$$S = Y - C$$

Investment :-

According to Keynes investment always generate new income & employment. Investment means purchase of stock, shares & fixed asset etc...
It is represented by => $I = Y - C$

Equality between Saving & Investment

Keynes defines saving is Excess of income over consumption, Even investment is defined in the same way $S = Y - C$ (1)

$I = Y - C$ (2)

$S = I$

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★ **Aggregate Demand :-**

It refers to the total value of final goods & services which all the sectors of an economy planning to buy at a given level of income during a particular accounting year.

Component of aggregate demand

$$AD = C + I + Gr + (x - m)$$

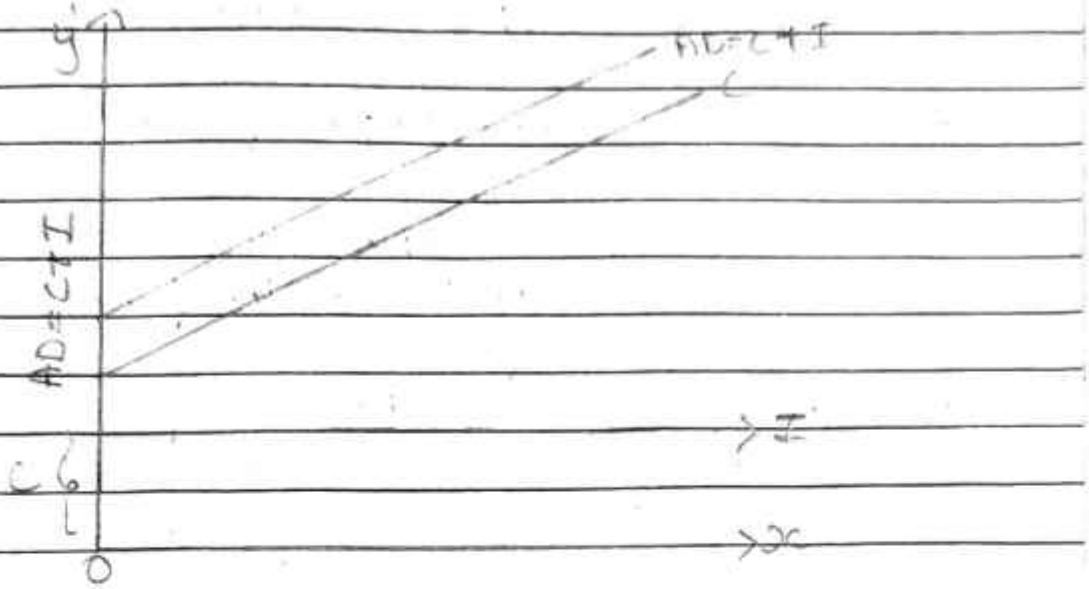
a) Private Consumption Expenditure is represented by C.
b) Investment Expenditure is represented by I
c) Government incures consumption as well as Expenditure represented by Gr
d) The difference blw Export & import is called Net-Export. It is represented by $x - m$

Aggregate Demand in a 2 Sector Model

$$AD = C + I$$

★ **Aggregate Demand Schedual :-**

Income (Y)	Consumption (C)	Investment (I)	AD = C+I
0	40	20	60
100	120	20	140
200	200	20	220
300	280	20	300
400	360	20	380
500	440	20	460
600	520	20	540



With a continous increase in income people will decide to save more money instead of spending that is the reason consumption & expenditure slowly starts to decrease :-

* Positive consumption even when income level is zero always some minimum level of consumption that is called [autonomus consumption].
* Consumption curves stop upwards because consumption increase in income.
* Investment curve is a straight line parallel to x axis as it is assume to be independent of the level of income.
* AD curve has a positive slop which indicates that as income increases AD or aggregate expenditure also increases.

* Aggregate Supply :-
It refers to money value of final goods & services that the producers are willing to supply in an economy in a given period of time.

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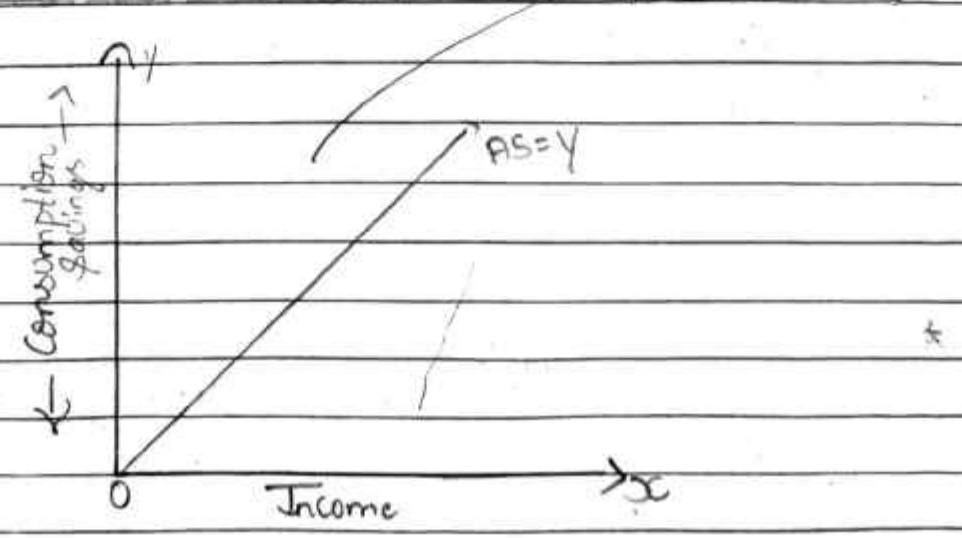
Aggregate Supply = National Income

* As refers total output of goods & services in an economy.
* Value of total output is distributed to factors of production in the form of rent, wages, interest & profit
* The sum total these two factors of incomes at domestic & national level termed as national income. So, As & national income are one & the same thing.

National Income [Y] = Consumption [C] + Savings [S]

★ Aggregate Supply Schedule :-

Income	Consumption	Savings	AS [C+S]
0	40	-40	0
100	120	-20	100
200	200	0	200
300	280	20	300
400	360	40	400
500	440	60	500
600	520	80	600



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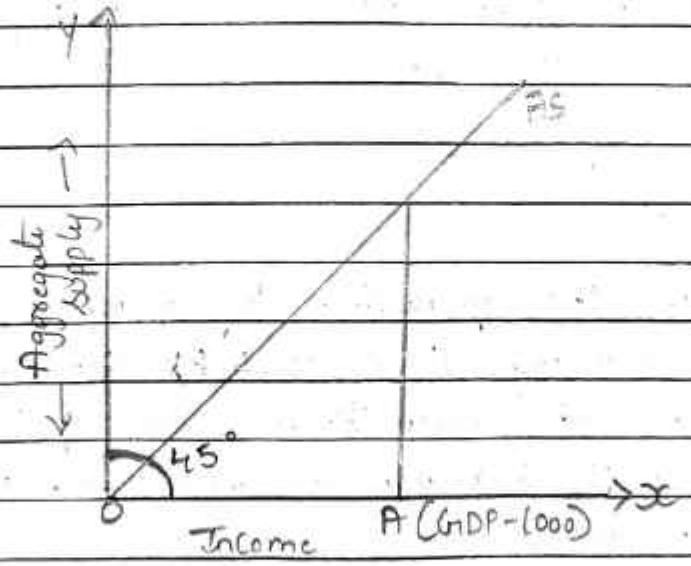
4m ★ **Supply Side of Macro Economic Equilibrium**

In the 1st stage of macro economic Theory we are taking the price level as fixed. Here the aggregate the AS or GNDP is assumed to smoothly move up or down since they are unused resources of all types available. What ever is the level of GNDP, that much will be supplied and the price level has no role to play. In this kind of supply situation is shown by 45° line.



In the above diagram income is measured in ox-axis and aggregate supply is measured in oy axis. If GNDP is AS 1000 at point A. The goods worth of Rs. 1000 is supplied.

★ **Equilibrium :-**

Equilibrium is shown graphically by Putting aggregate demand and supply in the following diagram :-

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6 mark

Effect of Autonomous change in aggregate demand on Income & output

The Equilibrium level of income depends on aggregate demand. Thus AD change the Equilibrium income changes. This can happen in any one combination of the following situation.

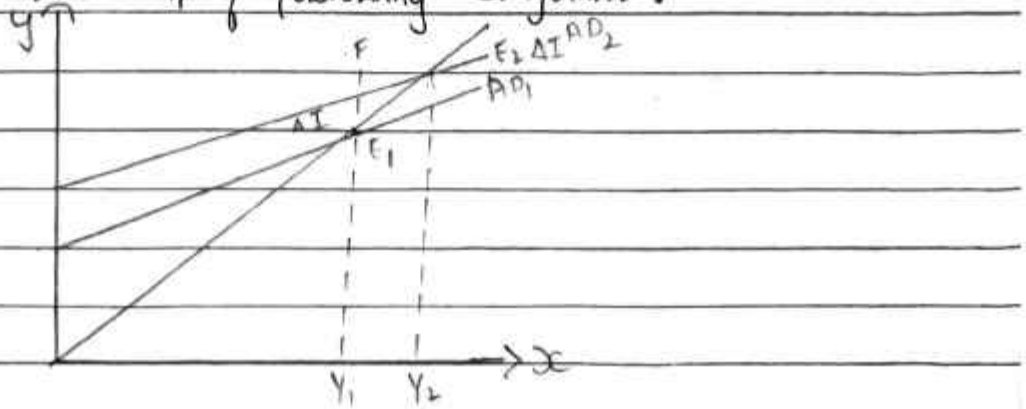
I Change in Consumption :- This can happen due to
a) Change in I (atonomous Consumption)
b) Change in MPC (Marginal Propensitive to Consume)

II Change in Investment :- We have assumed that investment is autonomous. However it just that it does'nt depend on income. There are in number of variable other than income which can affect

a) Availability of Credit ★
Easy availability of credit encourages investment

b) Rate of interest
It is a cost of instable funds at higher interest rate, firm tend to lower investment.

The Effect an autonomous change in aggregate demand on Y & output can be Explain with the help of following diagram :-



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In the above diagram income is measured in ox axis & aggregate demand is measured in oy axis. When autonomous consumption increases the AD I line shift in parallel upward & assume the position AD_2. The value of aggregate demand at output Y_1 in Y_1F_1, which is greater than the value of output Y_1 ever buy an amount E_1F. E_1F measures the amount of excess demand that emerges in the economy as a result of the increase in autonomous expenditure $\bar{I}$. Thus $1E$ is not longer represent the equilibrium. In order to find out new equilibrium in the final goods market we have to see the point where the new AD line intersect the 45° line (AS) it occurs at point E_2 which is therefore the new equilibrium point.

★ Consumption Function :-

Consumption function refers to functional relationship between consumption & national Income

$$C = f(y)$$

(or)

$$C = \bar{C} + Cy$$

Consumption function represent the willigness of household to purchase goods & services at a given level of income during particular time period.

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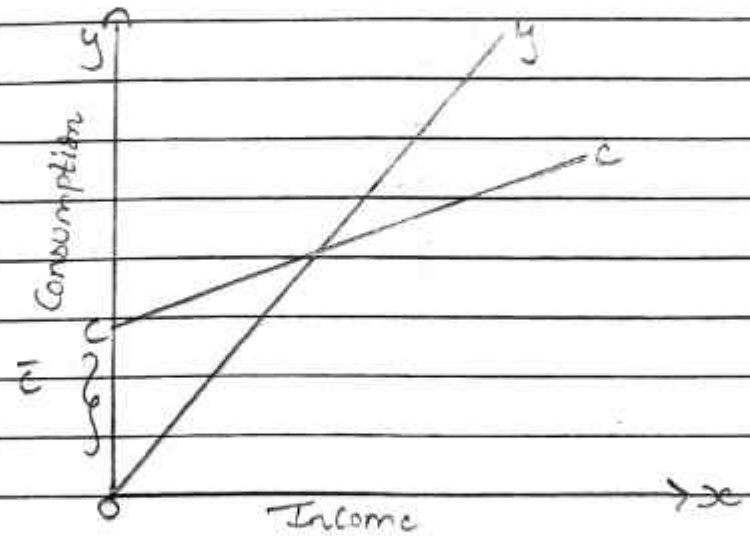
* Consumption Schedule :-

Income	Consumption
0	40
100	120
200	200
300	280
400	360
500	440
600	520



In the above diagram oy axis represent consumption & ox axis represent income the stating point of consumption curve states from on the y axis this implies that there in a $\bar{C}$ level when the national income is 0. The consumption curve is positive slow which indicates that has income increases consumption also income.

* Investment Function :-

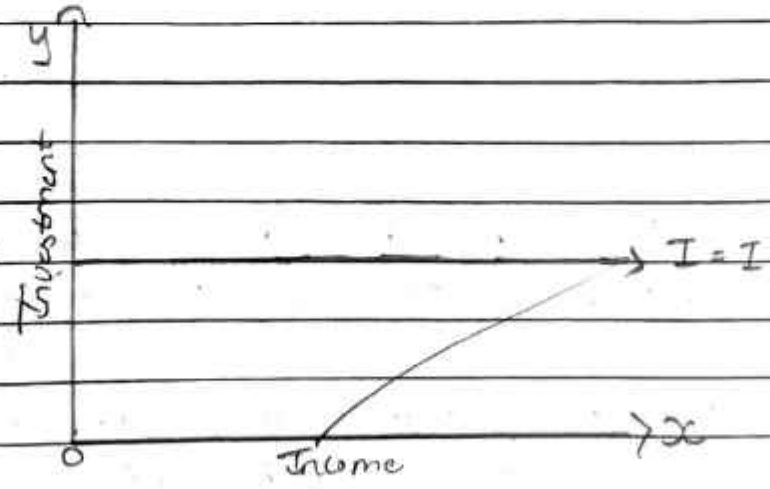
Investment is the addition to the stock of physical capital. Such as machine, building, roads,

that adds to the future productive capacity of the economy & changes in the inventory of Product.

In a two sector model there are a sources of final demand the first is consumption & second is investment, the investment function is shown

* Investment Schedule

Income	Investment
0	20
100	20
200	20
300	20
400	20
500	20
600	20



In the above diagram ox axis represent income oy axis represent investment, investment function is shown as a horizontal line at a height equal to income (ox) axis. In this model $\bar{I}$ is the autonomous investment which means it is same no matter whatever is the level of income.

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★ **Investment :-**

Investment the term investment means Purchased of stock, share, fixed asset etc--

According to Keynes investment refers to addition to the nation physical stock of capital assets like the buildings of new factors machines recipient etc---

★ **Types of Investment**

i) **Private & Public Investment :-**

Private investment is the investment which is undertaken by private people. Ex :- firms & industries.

Public Investment is the investment which made by government to provide social benefit.

ii) **Induad and autonomous Investment :-**

Induced investment to made by the people to change in their income level.

$\bar{I}$ is made by the government to create Economic and social infrastructure of a country.

iii) **Ex-anti and Exposed investment :-**

Ex-anti is the investment which is intended to made it depicts what has to been planned for a particular period of time.

Exposed investment is investment which is actually made, it depicts what has actually happend during period of time.

iv) Gross and Net Investment :-

Gross investment is the total value of asset made.

Net investment is gross investment depreciation.

★ Properties of consumption function [Propensity to Consume]

1) Average Propensitative Consume [APC]

APC refers to ratio of Consumption Expenditure to the corresponding level of income.

$$APC = \frac{C}{y}$$

C = Consumption

y = income

Income	Consumption	APC = C/y
0	40	0
100	120	1.2
200	200	1
300	280	0.93
400	360	0.9
500	440	0.88

2) Marginal Propensitative Consume [MPC]

MPC refers to the ratio of Change in Consumption Expenditure to change in total income $MPC = \frac{\Delta C}{\Delta Y}$

Income	Consumption	ΔC	ΔY	MPC = ΔC/ΔY
0	40	80	100	0.8
100	120	80	100	0.8
200	200	80	100	0.8
300	280	80	100	0.8
400	360	80	100	0.8
500	440	80	100	0.8

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★ Multiplier Mechanism Investment Multiplier

When an investment is done in an economy income increase more than the investment investment multiplier refers to ratio of change income due to change in investment. It is denoted by $K = \frac{\Delta Y}{\Delta I}$

ΔY = Change in income

ΔI = Change in investment

Suppose govt invested Rs. 50 cr in a road project to generate employment & income in the economy as a result income increase by Rs. 200 cr

We have multiplier $K = \frac{200}{50} = 4$

Which means every Rs 1 is invested in economy will generate income of 4

★ Multiplier Process or Working

The operation of multiplier can be explain with the help of following example :-

Suppose there is increase in investment of Rs. 100 cr which results in ~~construction~~ construction of new building This will increase, The income of Builders, labour etc. By Rs. 100 cr. Now with given MPC 0.5 i.e, They will together consume & spend ₹ 100 cr × 0.5 = ₹ 50 cr on consumption goods. The producer of this consumer goods will have increase of Rs. 50 cr and ~~they~~ ther we spend off their increased income on some other good. This process will go on with each goods increases as half of increase income will spend & process will

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come to end. When additional consumption will fall to 2.30.

Period	Investment	Income	Consumption	Saving leakage
0	100	10	50	50
1	100	50	25	25
2	100	25	12.5	12.5
3	100	12.5	6.25	6.25
4	100	6.25	3.12	3.12
5	100	3.12	1.56	1.56

$$K = \frac{1}{1 - MPC}$$

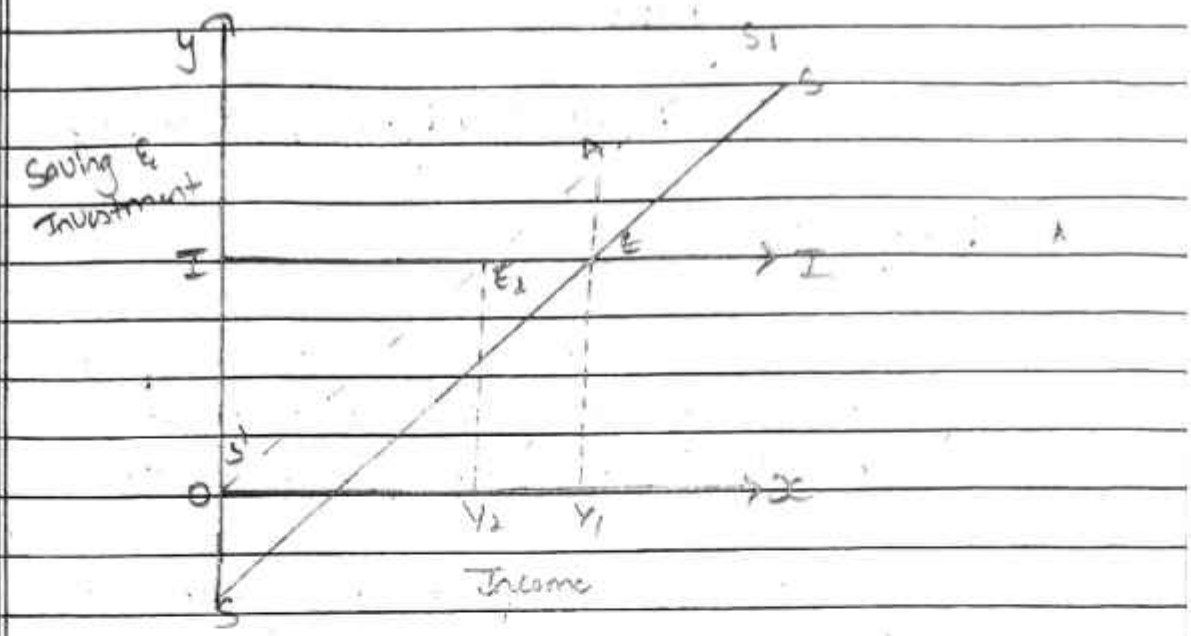
$$K = \frac{1}{1 - 0.5}$$

$$K = \frac{1}{0.5}$$

$$\boxed{K = 2}$$

★ Paradox of thrift

Paradox of thrift is refer to situation which people tend to save more money there by leading to a fall in saving of the economy. In other words when everyone increases saving income proposition i.e ---, MPS, they will aggregate form as consumption decreases, This will further lead to a decrease in employment & income level & final level this will reduce the total saving for the economy.



In the above diagram OX axis represent income & OY axis represent saving & investment In initial, saving curve is SS & investment curve is II. Economy attains equilibrium at point E and equilibrium level of income in OY. Now suppose the society decides to become thrift by reducing consumption expenditure by increases saving by AE than EA as a result saving curve shift towards upward to S_1S_1 intersecting investment curve II at point E_2...

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Chapter - 05

Government Budget & Economy

* Budget :-

The word budget is derived from the french word "bougette" which means a leather bag containing financial papers.

Budget is a financial statement of expected revenue and expenditure of the government for the coming financial year.

In other words, the budget is a annual financial statement of the government consisting of receipts and payments for the upcoming financial year.

* Types of Budget

a) Surplus / Favourable Budget :-

If the expected revenue of the government exceeds its expected expenditure in a year then it is known as surplus or favourable budget. Usually, the government of developed country plan for surplus budget.

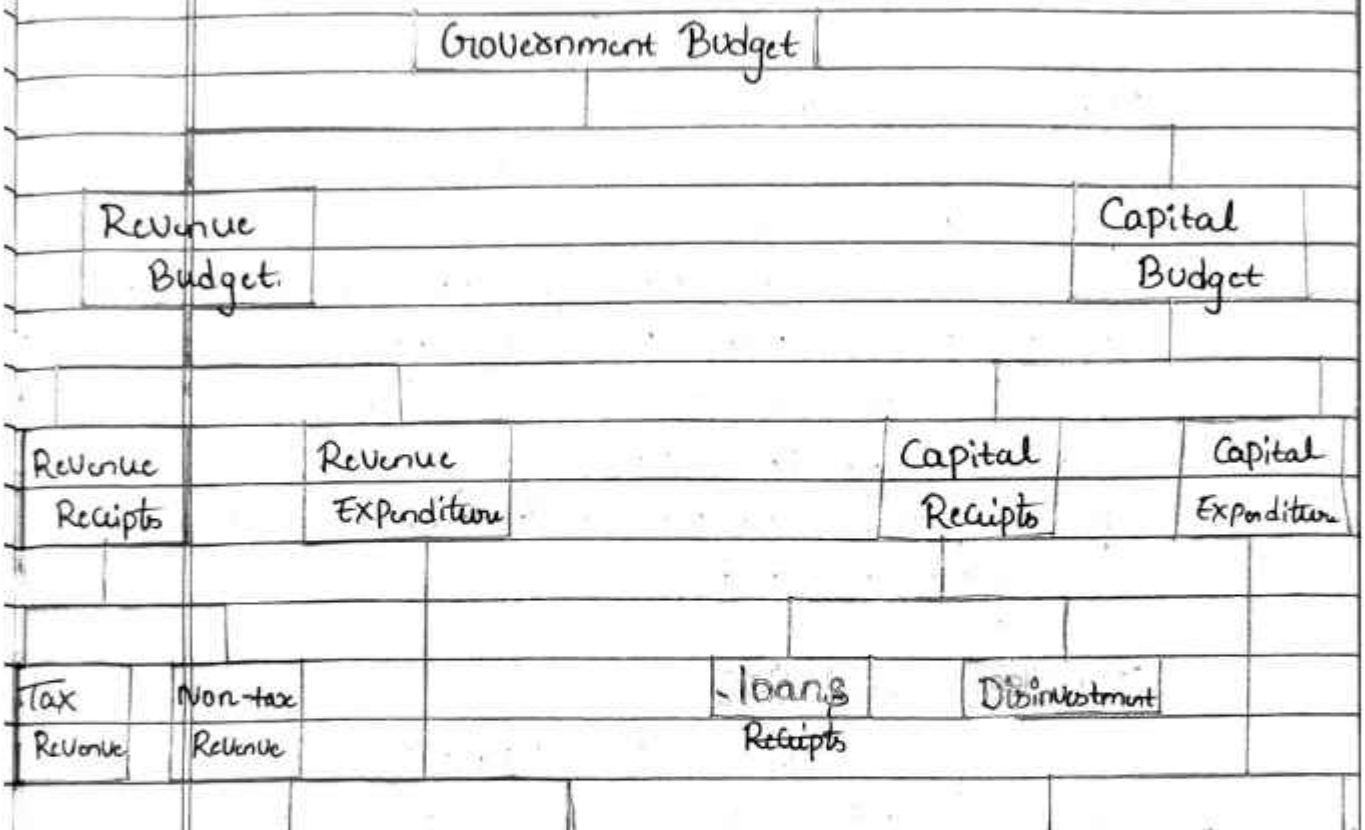
b) Deficit or Unfavourable budget :-

If the expenditure of the govt exceeds its expected revenue in a year it is known as Deficit / unfavourable budget. Usually, the govt of developing country plan for deficit budget.

c) Budget Balanced Budget :-

If the Excepted revenue of the government equals to the Excepted Expenditure in a year is known as Balanced Budget.

★ Components of Government Budget



★ Revenue Budget [Revenue a/c]

The Revenue budget shows the current receipt of the government and the Expenditure that can be met from these receipt.

a) Revenue Receipts

Revenue receipt are the receipt of the govt which cannot be reclaimed at non-redeemable from the govt. They are divided into tax & non tax revenue.

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i) Tax Revenue :-

It can be divided into

* Direct tax - Income tax & Corporate tax
* InDirect tax - Excised duties, Costume, duties and GST, other taxes like Wealth tax, gift tax have never brought in large amt of revenue & thus have been referred as paper tax.

ii) Non - Tax Revenue :-

Non tax revenue of Central govt of mainly consist of interest receipt on account of loans by the Central government, dividend, Profits on investment made by the govt, fees, fine, Penalties & other receipt for services rendered by the govt, Cash grants - in aid from foreign countries & international organisation are also included.

b) Revenue Expenditure :-

It is the expenditure incurred for Purposes other than the creation of Physical or financial assets of the Central government.

For ex :- interest payments & the debt incurred by the govt and grants given to State government and other parties etc. It is classified into Planned revenue expenditure & non planned revenue Expenditure.

i) Planned Revenue Expenditure :-

Planned revenue expenditure relates to Central Plans (5 years Plans) and Central assistance for State & Union territory Plans.

ii) Non Planned Revenue Expenditure :-

It is more important component of revenue Expenditure, it Covers a vast range of general Economic & Social Services of the government. The main items of non-Planned Expenditure are interest payments, defence services, subsidies, Salary & Pensions.

★ Capital Budget [alc]

The budget is an alc of an asset as well as liabilities of Central government, which takes into consideration Changes into capital. It Consist of Capital receipts & Capital Expenditure of the government. This shows the capital requirement of the govt & the pattern of their financing.

a) Capital Receipts :-

All those receipt of the govt which excate liability are reduced financial assets are turned as Capital receipts. The main items of Capital receipts are loans raised by the govt from the public which are called market borrowing, borrowing by the govt from the reserve bank & commercial banks & other financial institutions, loans received from the foreign govt & international organisation, & the recovery of loans granted by the Central govt, other items include Small Savings, Provident funds & net receipt obtained from the Sale of Shares in public Sector Undertakings this is refer to as PSU [Public Sector Undertaking] disinvestment.

b) Capital Expenditure :-

It is the expenditure of govt which includes the expenditure incurred in creation of Physical & financial assets or reduction in financial liabilities. This includes the expenditure on the acquisition of land, building, machinery, equipment, investment in shares & loans, advances by the Central govt to State & union territory, Public Sector undertakings & other Parties. It can be classified into planned Capital Expenditure & non Planned Capital Expenditure

i) Planned Capital Expenditure

It relates to Central Plans & Central assistance for State & union territory Plans.

Ex :- investment in shares, advances in loans

ii) Non Planned Capital Expenditure

It covers various General, Social & Economic Services Provided by the govt.

Ex :- Education, health care services etc..

* Fiscal Deficit :-

Fiscal deficit gives borrowings requirements of the government.

Fiscal deficit is difference between govt total expenditure & its total receipt excluding borrowing. The fiscal deficit will have to be financial through borrowings. Thus it indicates that total borrowing requirement of govt from all sources.

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Fiscal deficit = Net borrowings at home + borrowing from RBI + borrowing from foreign

The net borrowing at home includes that directly borrowing from public through debt instrument & indirectly from commercial bank.

The Gross fiscal deficit is a very important variable in judging the financial health of the public sector & the stability of economy. From the way gross fiscal deficit is measured as given below.

Fiscal Deficit = Revenue deficit + Capital Expenditure - non debt creating capital receipt

A large share of revenue deficit in fiscal deficit indicates that a large part of borrowing is used to met its consumption expenditure needs rather than investment.

Imp ★ Does Public debt impose a burden?

Borrowing of the govt from public or firm and from foreign is called public debt. Budgetary deficit must be financed by either taxation, borrowings or printing money. If govt continues to borrow year to year, it leads to accumulation of debt & the govt has to pay more & more interest by borrowing. The govt transfer the burden of reduced consumption on future generation. The tax will be levied on the young generation, that as just entered the work force

and whose disposal income will go down and hence consumption. Thus national saving would fall further, govt borrowings from the people reduces the saving available to private sector.

* Adverse effect on productivity & investment
* Burden on younger generation
* Lower the private investment
* Leads to the drain of national wealth

* Recardian Equivalence

David Recardo said that in the phase of high dificit People save more it is called Equivalence because the taxation & borrowing are equivalent means of financing expenditure. When the government increases spending by borrowing today which will be repaid by taxes in the future. It will have the same impact on the economy as an increase in govt expenditure that is financed by tax increase today.

It has been argued that when a govt reduces taxation & runs a budget deficit, consumers respond to their after tax income by spending more. It is possible this People are short sighted & do not understand the implication of budget deficit. They may not realize that at a some point in the future the govt will have to raise taxes to pay off debt & interest.

A counter argument is that consumers are forward looking they will understand that borrowing today means higher taxes in future. They would increase savings now which will fully offset the increased govt dissaving so that national saving do not change. This view is called Ricardian Equivalence.

★ Deficit Reduction :-

Government deficit can be reduced by an increase in taxes or reduction in expenditure.

a) There has also been an attempt to raise receipt through the sale of shares in public sector undertaking (PSU)

b) The Major Problem is towards reduction in govt expenditure. This could be achieved through making govt activities, more effective through better planning of Programmes & better administration

c) A recent study by the Planning Commission has estimated that to transfer 1 rupee to the poor People, govt spend ₹ 365 in the form of subsidy Showing the cash transfer would lead to increase the welfare. The other way is to change the scope of the govt by withdrawing from some of the areas where it operated before.

d) Cutting back govt Programme in vital areas like agriculture Education. Health, Poverty alleviation

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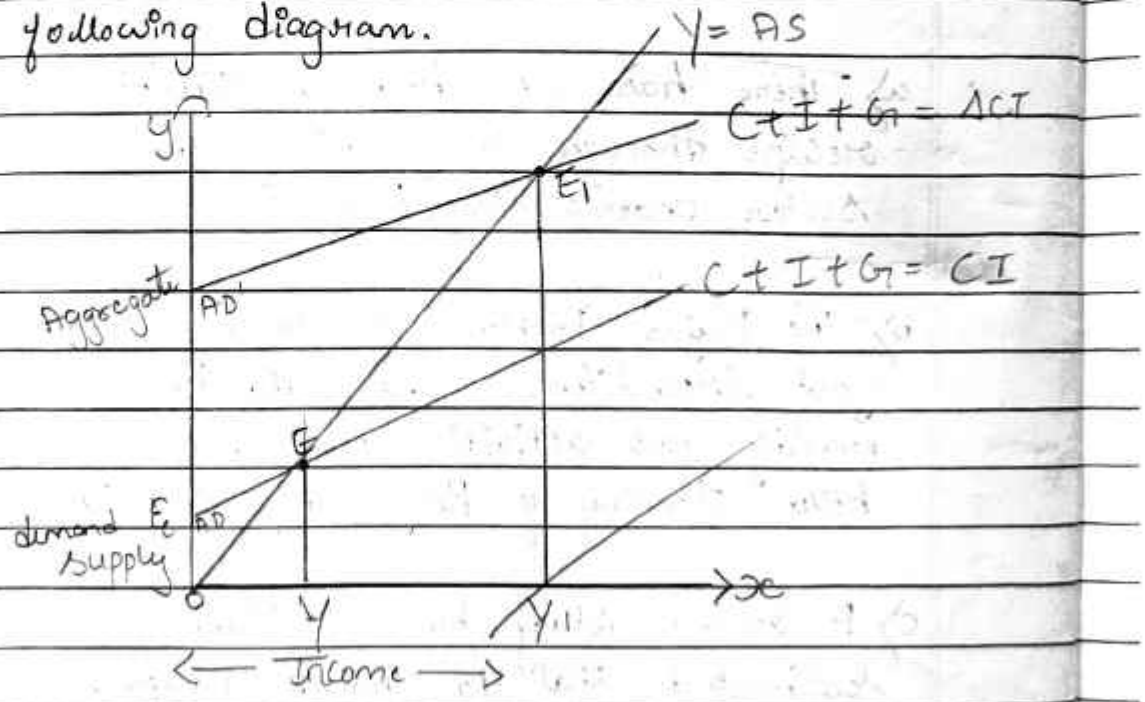
Etc would adversly affect the Economy. It must be noted that larger deficit do not always signify a more need of Expending fiscal Policy.

★ Impact of Changes in Taxes on Consumption and output.

We know that a decrease in tax increase disposable income at each level of income. This shift the aggregate Expenditure Schedule upwards by a fraction C (Consumption) of the decrease in taxes. This can be shown in the following diagram.



In the above diagram OX measure income and OY axis measures AD & AS. It is very clear that when the tax increases, the disposable income reduces from OY_1 to OY which leads to decrease in the level of aggregate demand. The AD_1 curve shift downward & with decrease in AD_1 the level of income also decreases as shown in the above diagram.

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★ GST : one nation, one tax, one market
GST is the single comprehensive.

Indirect tax, introduced from 1/7/2017, on supply of goods & services, right from the manufacture / service provider to the consumer. It is a destination based consumption tax with facility of Input tax credit in the supply chain. It is applicable throughout the country with one rate of one type of goods/ service. It has amalgamated a large no. of Central & State taxes. It has replaced large no. of taxes on goods & services levied on Production / sale of goods or provision of service.

GST has replaced various type of taxes/ Cesses levied by the Central / State / UT Govts. Some of the major taxes that were levied by Center were Central Excise duty, Service tax, Central Sales tax. The major State taxes were VAT / Sales tax, Entry tax, Luxuary tax, octroi, Entertainment tax, Taxes on advertisement, taxes on lottery / betting / Gambling, State & Cesses on goods etc. These have been submitted in GST. The Petroleum Products have been kept out of GST for the first time being but with Passage of time they will get subsumed in GST, State govt will continue to levy VAT on alcholic liquor for human consumption. Tobacco & Tobacco products will attract both GST & Central Excise duty. Under GST there are six standard rates applied i.e, 0%, 3%, 5%, 12%, 18%, & 28% on supply of all goods & services across the country.

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GST is the biggest tax reform in the Country Since Independence. The 101th Constitution Amendment Act received assent of the President of India on 8 September 2016. The amendment introduced Article 246A in the Constitution Gross Empowering parliament and legislatures of States to make laws with reference to goods & Services tax imposed by the Union & the States. There after CGST Act, UT GST Act, and ~~SGST~~ SGST Acts were Enacted for GST...

GST is simplified the multiplicity of taxes on goods & Services. The laws, Procedures & rates of taxes across the Country are Standardised It has facilitated the freedom of movement of goods & Services & created a Common market in the Country. It is aimed at reducing the Cost of business Operations & Cascading Effect of various taxes on Consumers. It has also reduced the overall Cost of Production, which will make Indian Products / Services more competitive on the domestic & International markets.

GST will also result into higher Economic growth at GDP is Excepted to rise by about 2% Compliance will also be Easier as all tax Payment related Services like registration, returns, Payments are available online through a Common Portal www.gst.gov.in. It has Expanded the tax base, introduced higher transparency in the taxation System, reduced human interface between taxpayer & Govt & its

furthering case of doing business.

★ Fiscal Policy

It refers to the study of Public revenue, Public Expenditure and Public borrowing at the govt in an Economy.

According to Asther Smithies Fiscal Policy is an Policy under the which the govt uses it Expenditure & revenue Programme to Produce desirable Effects & to avoid undesirable Effect on the national income, output & Employment.

* Objective of fiscal Policy

1) To Encourage Saving & Investment
2) To reduce regional disparity
3) To reduce Poverty & unEmployement
4) Mobilisation of resource to finance development Project
5) To achieve Price Stability
6) To achieve the growth of Public Sector
7) Implimentation of LPG
8) optimum utilisation of resources.

★ Instrument of fiscal Policy

1. **Public Expenditure :-**

It refers to the Expenditure Encurred by the govt for the promotion of Economic & Social welfare of the People.

Ex :- development of industry, irrigation, infrastructure, public health etc...

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Public Expenditure includes the following activities

a) Participation in material Production
b) Provision of social welfare
c) Maintainance of law & order

2. **Public Revenue :-**

It refers to the income learned by the govt from both tax & non-tax revenue.

a) Tax Revenue -> Excise duties, Wealth tax
b) Non tax revenue -> fees, Penality

3. **Public Debt :-**

It refers to the borrowings of the govt to met budget dificit. It is used to control inflation & d

4. **Deficit Financing :-**

It is a Policy of Estimation of Excessive Expenditure by the govt over its revenue. In brief it refers to higher Expenditure over receipt...

* **Budget Deficit :-**

It refers to excess of budgetary Expenditure over its budget receipt.

Budget deficit = Total Expenditure - Total revenue

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★ Types of Budget Deficit

1) Revenue Deficit :-

It refers to the excess of government's revenue expenditure, over its revenue receipt. ★

Revenue deficit = Revenue Expenditure − Revenue Receipt

2) Fiscal Deficit :-

It is the difference between government total expenditure & it total receipt's excluding borrowing.

Fiscal Deficit = Total Expenditure − Revenue + Non debt

3) Primary deficit :-

It refers to the excess of fiscal deficit over Interest Payment.

Or

It is fiscal deficit − The Interest Payment

Primary deficit = fiscal deficit − Interest Payment

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Unit - 5

Open Economy

* **Open Economy:-**
It is an economy which has economic relations & with other countries related to trade & services, financial assets, inflow & outflow & foreign direct investment etc.

Closed Economy:-
It is an economy which doesn't interact with the economy of any other country. It restricts import & export.

* **Linkages of Open Economy:-**
An open economy is that economy which interact with other countries in the world through various channels. An open economy is said to be one that trade with other nation in goods & services & most often also in financial assets. For example Indian can consume products which are produced around the world & some of the products from India are exported to other countries. In reality most modern economies are following the open economic system.

There are three ways in which these linkages are established:

1) output market linkage (Product)
2) Financial market linkage
3) Labour market linkage (Factor)

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1) Output Market Linkage :-
A country can trade in goods & services with other countries. This widens widens in the choice in the sense that consumer & producer can choose the domestic & foreign goods.

2) Financial Market
An economy can buy financial assets like shares, stock, bond etc from other countries. This gives investores the opportunity to choose between domestic & foreign assets.

3) Labour Market Linkage
The producer can choose where to locate their production centres & workers that is to choose location of industries. There are various migration law which restrict the movment of Labours between the countries.

* Advantages of OPen Economy

* Vident Consumer Choice :- In Open economy Consumer will get Variety of goods & services in Varcity of quantity. Exc :- BMW, Benz, Indian automobiles etc...

* Increased competation & lower Price :- Open economy will Provide the no. of competatores who Provide Variety of Products at lower Price.

* Expanding market on Consumer basis :- Open economy helps companies firm's networks to develop in International level

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* Global Investment Opportunity :- The Open Economy Expand the opportunity for investing capital in World Wide.

* Economic Growth :- It helps to the growth of an Economy by Enhancing foreign Capital, better technology, Providing Qualitative goods & Services etc...

* Basic Conapt of Trade

It refers to the Exchange of goods & Services between two individuals or nations

Types of Trade :-

1) Domestic Trade :-
It is an internal trade & When the goods & Services are Exchanged with in the geographical area of a Country is known as domestic trade.

2) Foreign Trade or international Trade :-
It refers to the trade between different Countries.
Ex :- Import & Export

The Concept of international trade can be classified into three types

* Uni lateral trade :-
It is a trade imposed on one nation by the other nation. It is benefited to develop Countries.

* Bilateral Trade :- It is a system of trading between

two countries or two group of countries for their mutual advantages.

* Multilateral Trade :- It is a system of trading between three or more group of countries

Imp for HOT

★ Balance of Trade [BOT] :

Balance of trade is the difference between the value of ~~Export~~ visible Export & the value of visible import [goods] of a country in a given period of time. Export of goods is entered as a credit item, Import of goods is entered as a debit item in Balance of trade. There are three types are there in BOT :-

1) Surplus or favourable balance of trade :-
If the value of visible Export is more than the value of visible import is known as surplus balance of trade.

2) Deficit or unfavourable balance of trade :-
If the value of visible import is more than the value of visible Export is known as Deficit or unfavourable balance of trade.

3) Balanced Balance of trade :-
If the value of visible Export is equal to the value of visible import is known as balanced Balance of trade.

Conclusion :- BOT is narrow concept & may not show international Economic Position of an Economy. It

gives partial picture of international transaction and it is less reliable.

★ Balance of Payment [BOP]:

It refers to the difference between value of visible & invisible items of export & import in a given period of time. There are three types of BOP :-

1) Surplus or favourable BOP :-
When the value of visible & invisible items of export is more than the value of import is called surplus Balance of Payment.

2) Deficit or unfavourable BOP :-
The value of visible & invisible items of import is more than the value of export is called deficit BOP.

3) Balanced Balance of Payment
When the value of visible & Invisible export are equal to the value of import is called balanced balance of Payment.

Structure of BOP

- Current a/c
  - * Trade in goods (visible)
  - * Trade in services (Invisible)
  - * Transfer Payment
- Capital a/c
- Official reserve a/c

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* Current a/c :-

It deals with the import & export of goods & services and transfer payment. It consist of three sub groups :

a. Trade in goods :- Includes export & import of goods

b. Trade in services :- Includes, Banking, insurance, tourism, interest on investment, gift & donation etc..

c. Transfer Payment :- It is the receipt which the residence of a country get for free without have to provide any goods & services in return.

* Capital a/c :-

It deals with the payment of debt & claim. It includes capital transaction such as borrowing and lending of loans, repayment of loans, sales & purchases of assets from foreign countries etc---

* Official Reserve a/c :-

The official reserve a/c of a country indicates change in countries reserve assets during a year. It is the form of foreign country currency, gold & special drawing rights etc...

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★ Component of Current a/c

Current a/c

- Trade in goods
  - Export of goods
  - Import of goods
- Trade in services
  - Net factors Income
    - Net income from compensation of Employees
    - Net investment income
  - Net non factors Income
    - Shipping, banking insurance, tourism, Software services
- Transfer Payments
  - Gifts
  - Remittance
  - Grants

★ Component of Capital a/c

Capital a/c

- Investments
  - Direct Investments
    - FDI, Equity, Reinvested Earnings and other direct capital flows.
  - Portfolio Investments
    - FII
    - Offshore funds
- External Borrowings
  - External Commercial Borrowings
  - Short term Debt
- External Assistance
  - Grant aid
  - Inter governmental multilateral and Bilateral loans

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* Foreign Exchange Market :-

It is the market in which national currency are traded for one another. The rate at which the price of one currency is determined in terms of another is called the exchange rate or foreign exchange rate (Forex rate)

* Demand for foreign Exchange :-

* The Demand for foreign exchange arises due to various reasons such as Purchase in goods in abroad, sending gift to abroad, Purchase in financial assets of a certain foreign countries etc...

* A rise in price foreign exchange (the cost in terms of rupee) of Purchasing a foreign good. This reduces demand for imports & hence the demand for foreign exchange also decreases.

* Supply of foreign exchange

1. The supply of foreign exchange arises due to the inflow of foreign currency flows into the home country. The reasons are Exports by a country lead to the inflow of foreign exchange, foreigner send gifts or make transfers & assets of a home country are brought by the foreigner.

2. A rise in the price of foreign exchange will reduce the foreigners cost (in terms of US dollar)

While Purchasing Products from India other thing remaining constant.

* **Determination of the Exchange rate**

Flexible Exchange rate

* It is also known as float in Exchange rate
* Under this system, the Exchange rate is determined by market forces of demand and supply
* In a completely flexible system, the central banks do not interven in forex market.
* When the price of domestic currency (rupee) in the terms of foreign currency (dollar) decreases it is called the depreciation of domestic currency.
* When the price of domestic currency (rupee) in the terms of foreign currency (dollar) increases it is called the appreciation of domestic currency.
* In a flexible Exchange rate regime the market determine the currency Exchange rate.

* **Merits of Flexible Exchange Rate**

1. No need to maintain international reserve

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2. Free movement of capital
3. Automatic Correction of BOP

* Demerits of Flexible Exchange Rate

1. It leads to the fluctuation of exchange rate
2. It may encourages uncertainity
3. It creates international liquidity Problem.

★ Fixed Exchange Rate

1. In this system the government fixes the exchange the rate of a Particular level

Devaluation :- It makes the domestic currency cheapes for foreigners by fixing a higher exchange rate than the current one

Revaluation :- When the government decreases the exchange rate (thereby, making domestic currency costlier) in a fixed exchange rate system.

Merits of Fixed Exchange Rate

1. Absence of uncertainity and risk
2. Absence of speculation & depreciation
3. It will not create liquidity Problem

Demerits of Fixed Exchange Rate

1. It requires large quantity of resources
2. Inadequate reserves gives rise to speculation
3. Aggressive buying of one currency foreign the govt to revaluate the currency.

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★ Managed Floating Exchange Rate :-

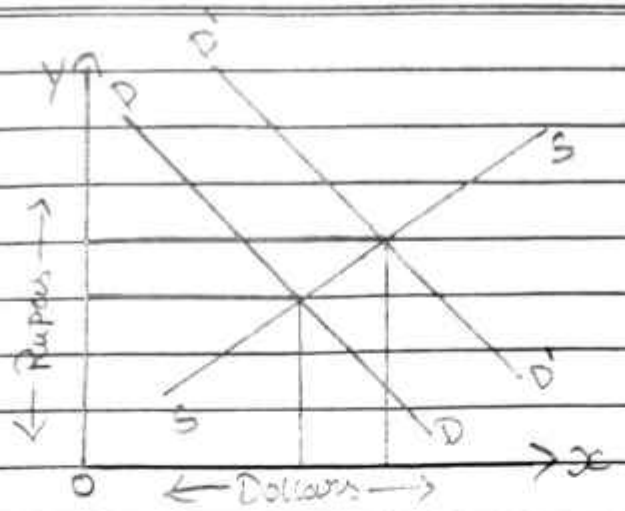
It is the mixture of the flexible exchange rate & fixed exchange rate system. It is also called as dirty floating. Under this system Central banks introduced to buy and sell foreign currency in an attempt to moderate exchange rate movement upon where they fell that such a action are appropriate

★ Effect of an increasing demand for Imports in foreign exchange market :

Foreign Exchange market is the market, in which currency are trade for one another. The major Participate in foreign exchange market are commercial bank foreign exchange brokers and other authorised dealer and monetary authorities.

Foreign exchange rate is the price of one currency in terms of another currency. Different countries have different methods of determining their currency's exchange rate. It can be determined through flexible exchange rate, fixed exchange rate or managed floating exchange rate.

The flexible exchange rate is determined by the market forces of demand and supply. The exchange rate is determined at that point where the demand curve intersects with the supply curve. This can be explained with the help of following diagram :-

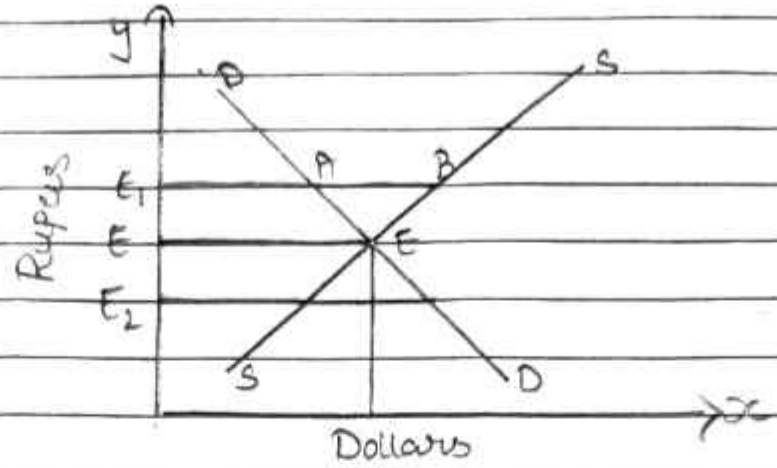


The increase in demand for imports, result in the change in the exchange rate. The initial exchange rate is even equals to 70, which means that we need to exchange ₹ 70. for dollar. The new equilibrium, the exchange rate becomes $E_2 = 80$ which means that we need to pay more rupees for a dollar.

The increase in the price of dollar due to rise in demand for imports indicate that the value of rupees in terms of dollars has fallen & the value of dollars in terms of rupees has increased.

★ Foreign Exchange Market with fixed exchange rate

Under fixed exchange rate system, the government decides the exchange rate at a particular level. The foreign exchange market with fixed exchange rate can be explained with the help of following diagram :-



In the above diagram the market ~~demand~~ determined exchange rate is e where demand and supply curve intersect. However, if the government wants to encourage more exports for which it needs to make rupee cheaper for foreigners it would do so by fixing a higher exchange rate say ₹ 80 per dollar. Thus, the new exchange rate set by the government is e_1 where e_1 is greater than e. At this exchange rate, supply of dollars exceeds the demand for dollars. The RBI intervenes to purchase the dollar for rupees in the foreign exchange market in order to absorb this excess supply which has been marked as AB in the diagram.

Thus by interfering, the government can maintain any exchange rate at a level E_2 they would have to withdraw dollars from its past holds of dollar, If the government fails to do so, it will encourage black market transactions.

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★ **Gold Standard :-**

The gold standard was pricing from 1872 - 1914. All the currencies were defined in terms of gold indeed some where actually made of gold. Each participants country committed to guarantee of free convertability of its currency into gold at a fixed price. That means a domestic country which was free convertable at fixed prices into another asset acceptable in the national payments. This also make possible for each currency to be convertable into all others at a fixed price - Exchange rate were determined by its worth in form of gold.

For example :- If one unit currency a was worth, one gram of gold. one unit of currency b was worth two gram of gold. Currency b would be worth twice, as much as currency a Economic ~~growth~~ agents would directly convert. one unit of currency b into two unit of currency a without having two first buy gold & then sell it. The rate would fluctuate at upper and lower limit this limits been said by cost of melting : Shipping & coining between the two currency. To Maintain the official parity Each country need an adequate stock of gold reserves All countries on the gold standard had stable Exchange rate.

The Purchasing power parity [PPP] theory is used to make long run predictions about Exchange rate in a flexible Exchange rate system According to [PPP] theory, as long as there are

barriers to trade like tariffs [taxes on trade] and quotas (quantitative limits on imports) Exchange rates should Eventually adjust so that the same Product will Cost, the same Whether in rupees in India or dollars in the ~~USA~~ US, Yen in Japan and so on, Except for differences in transportation. Over the long run, therefore Exchange rates between any two national Currencies adjust to reflect differences in the Price levels in the two Countries.

If a Shirt Costs 10 dollars in the US and ₹500 in India, the rupee dollar Exchange rate should be ₹50. To See Why at any rate higher than ₹50, Say ₹60, it Costs ₹600 per Shirt in the US but only ₹500 in India. In that Case, all foreign ~~Countries~~ Customers would buy Shirts from India. Similarly, any Exchange rate below ₹50 per dollar will Send all the Shirt business to the US.

~~Suppose~~ Suppose that Prices in India rise by a ~~20~~ percent While prices in the US rise by 50%. Indian Shirts would now Cost ₹600 per Shirt While American Shirts Cost 15 dollars per Shirts. For these Price to be Equivalent, 15 dollars must be Worth ₹40. The dollar therefore has depreciated.

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★ Project Oriented Question :-

1. Name the ~~Currie~~ Currencies of any five Countries of the following :-

USA, UK, Germany, Japan, China, Agentina, UAE, Bangladesh, Russia

Countries	Currency
USA	US Dollars
UK	British Pound
Germany	Euro
Japan	Japanese Yen
China	Chinese Yuan
Agentina	Argentina Peso
UAE	UAE Dirham
Bangladesh	Bangladeshitaka
Russia	Russian Ruble

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Revision

Micro		Macro	
Lesson -> 1	6M	Lesson -> 1	15M
Lesson -> 2	20M	Lesson -> 2	17M
Lesson -> 3	10M	Lesson -> 3	12M
Lesson -> 4	11M	Lesson -> 4	8M
Lesson -> 5	10M	Lesson -> 5	10M
		Lesson -> 6	12M
57 Marks		64 Marks	

Macro

* Chapter - 2 (POQ)

1. Value Added + Intermediate goods = Total Product

Production	TP	Int good	Value goods
W(f)	800	0	800
F(AM)	1100	800	300
B(B)	1500	1100	400
Rs(S)	2000	1500	500
			2000

* Chapter - 3 (POQ)

1) Govt, 2016 November 8th (Demonitization)
2) Corruption black money, terrorism, avoiding tax
3) 500, 100 (cancelled) 100, 200, 500, 2000, 20, 50, 10 (introduced)
4) Advantages = (corruption, blackmoney, taxation, saving)
5) Disadvantages = long queue in ATM & Bank, Availability of the notes

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* Chapter - 4 (POQ)

Y	C	I	C+I = AD	AS = Y
0	5	10	15	0
10	10	10	20	10
20	15	10	25	20
30	20	10	30	30
40	25	10	35	40
50	30	10	40	50

Equilibrium is AD & AS is same

* Chapter - 5 (POQ)

Monthly income for your family surplus, object or balance

SB = I↑ E↓

DB = I↓ E↑

BB = I = E

* Chapter - 6 (POQ)

Currency of the country

USA - dollar

UK - Pound

Germany - Euro

Japan - Yen

China - Yuan

Argentina - Peso

UAE - dirham

Bangla - Taka

Russia - Ruble

Brazil - Real