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MODULE - I

Basic concepts and Demand and Supply Analysis

A>Basic or Central Economic Problems:

1. What goods and services shall be produced and in what quantities?

Every society may face similar problem of choice; however, the priorities may be different. In less developed economies the choice may be between production of food crops and manufacture of bicycles. In advanced economies the choice may be between building more shopping malls or producing more cars.

2. How shall goods and services be produced?

It is related to the method by which these are to be produced? Once the goods to be produced are decided, there is a problem of how to produce them. What tools are needed, how much land and how many workers are needed. There are many different ways of making things. For example, clothes can be produced by employing more labor and less machines or more machines and less labor. If goods and services are produced by employing more of labor and less of capital, it is known as labor intensive method of production. If goods and services are produced by employing more of capital (machinery etc.), it is called capital intensive method of production.

3. For Whom goods and services are to be produced?

Who is to enjoy and get the benefit of the goods and services produced? It is not possible to satisfy everyone's want due to scarcity, so it must be decided to whose wants are to be satisfied. Should the economy produce more of food crops or more of computers? Whose needs are to be addressed, the poorer people or the richer people? Should everybody get equal share of the total goods and services produced, even if some people may need more than others? All these decisions refer to the distribution of income and wealth in the society

Scarcity v/s Choice

Scarcity means that resources are not available in the required quantity to satisfy all the wants and needs.

Since we face Scarcity, people have to make choice between goods and services.

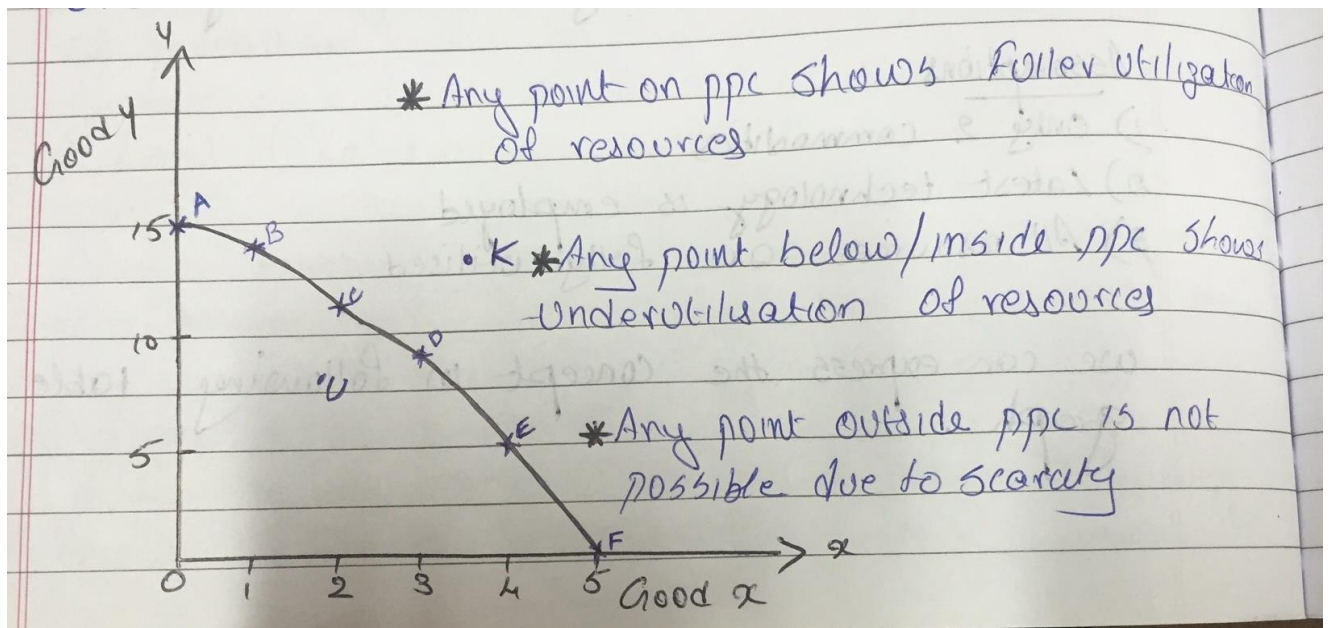
B>PRODUCTION POSSIBILITY CURVE/FRONTIER

- PPC or PPF shows the various combinations of two commodities that can be produced with latest technology available and within given resources utilized fully and efficiently.

Assumptions

- Only 2 commodities
- Latest technology
- Fuller utilization of resources

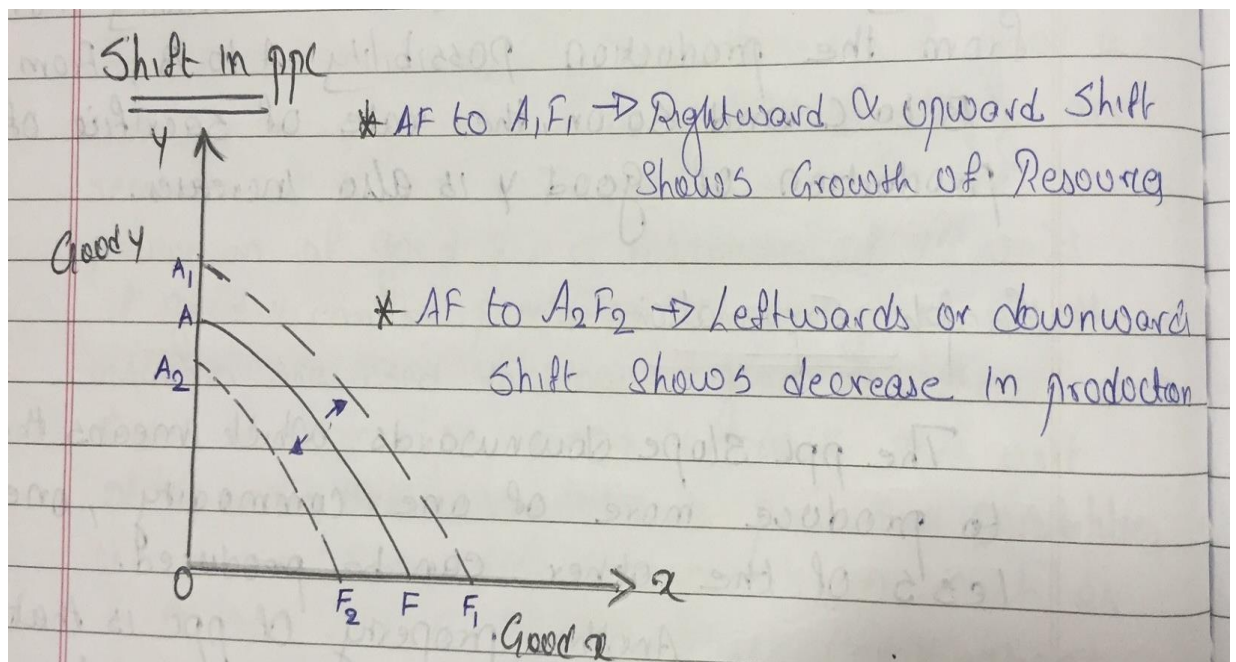
Production Possibilities	Good X	Good Y
A	0	15
B	1	14
C	2	12
D	3	9
E	4	5
F	5	0



- PPC is downward slopping curve and concave in shape shows resources are transferred from one use to other use, that's why it is known as transformation curve.
- It is also known as production boundary or production frontier

Shift in PPC

Shift in PPC shows technological growth in the economy



C>Marginal Analysis

Marginal means 'Additional'

Marginal analysis is concerned with finding out the change in the total arising because of one additional unit.

Marginal Utility Theory

Basic Concepts

Utility

The want satisfying capacity of a commodity is known as utility. It is expressed in Utils. It is put forward by Bernoulli.

Total Utility (TU)

TU refers to the total satisfaction derived by the consumer from the consumption of a given quantity of a commodity

Marginal Utility (MU)

MU refers to the additional utility derived by the consumer from the consumption of an additional unit of a commodity

$$MU = TU_n - TU_{n-1}$$

$$MU = \frac{d(TU)}{d(Q)}$$

Assumption > Rationality (max utility within limited income)

Law of Diminishing Marginal Utility Theory (DMU) / Theory of Consumer Behavior

Theory has been developed by Prof. Alfred Marshall. The consumer will maximize total utility when he allocates his income among various commodities in such a way that the marginal utility of the last rupee spent on each commodity is equal.

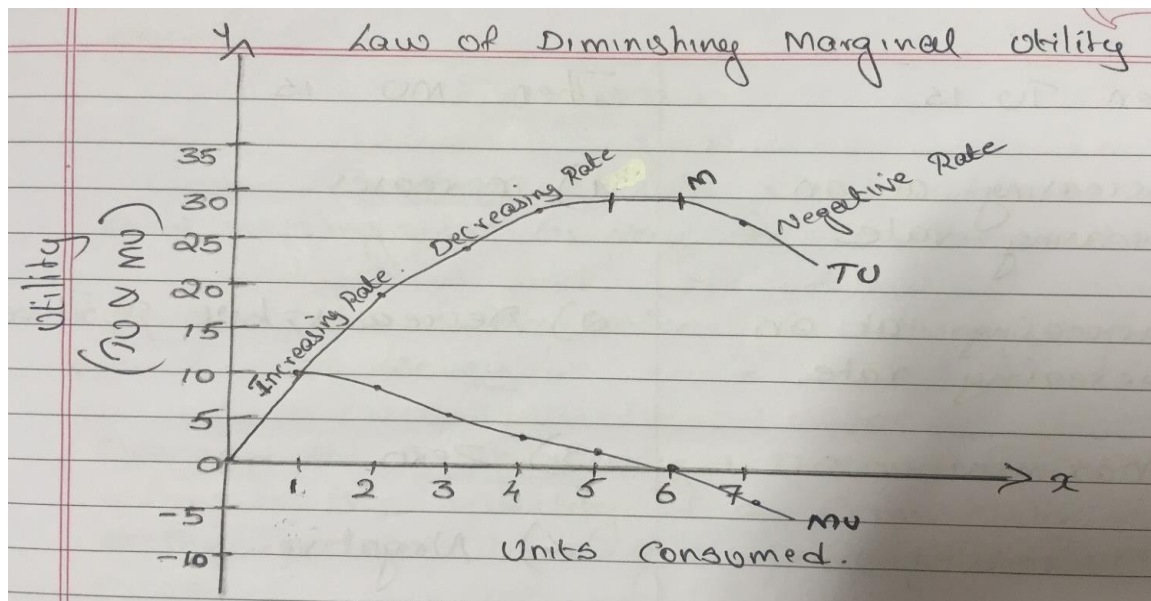
Assumptions of the Theory

- Rationality
- Commodities should be homogenous and normal
- No time gap between the consumption of goods
- No change in taste and preferences
- No change in price of the commodity

Statement of Theory

As the consumer consumes more and more units of a same good, the additional utility (MU) from each additional unit goes on decreasing.

Units Consumed	TU	MU
0	0	0
1	10	10
2	18	8
3	24	6
4	27	3
5	29	2
6	29	0
7	27	-2



STAGE 1 > Increasing Returns

- TU, MU increases at an increasing rate

Stage 2 > Diminishing Returns

- MU starts falling
- TU increases at a diminishing rate
- At the end of second stage, MU reaches zero and TU reaches at its maximum (Point M)

Stage 3 > Negative Returns

- After point M, MU becomes negative
- TU starts falling

NOTE: TU moves according to M

Demand

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

Price is the value of a thing expressed in terms of money.

Demand for a commodity: it refers to the Quantity of a commodity demanded in the market in a given period of time at a given price.

Determinants of Demand / Factors affecting Demand

1. **Price of the commodity:** When you visit a market to buy a commodity, you go to a seller of that commodity and ask for its price first. If you think that the price is reasonable, you buy the required quantity of the commodity. On the other hand, if the price is higher in your opinion, you may not buy or buy less quantity of it. Generally, we are willing to buy more quantity of a commodity at a lower price and less of it at a higher price, if all other factors determining demand remain constant.
2. **Price of related goods:** The demand for a commodity is also influenced by the prices of its related goods. Related goods can be of two types: (a) substitute goods (b) complementary goods. Substitute goods are those goods which can easily be used in place of each other. Example of substitute goods are coke and pepsi, tea and coffee etc. If price of coffee increases, people will demand more of tea and thus demand for tea will increase. If price of coffee falls, people will demand more of coffee and thus demand for tea will fall. So, the demand for a commodity is directly related to the price of its substitute goods.
On the other hand, complementary goods are those goods which are used together in satisfying a particular want. Examples of complementary goods are car and petrol, ball pen and refill etc. If we have a car, we also require petrol to run it. Imagine, if price of petrol rises, what will happen to the demand for car? Demand for car will decrease. If the price of one of them increases, the demand for other good will decrease and if price of one of them falls, the demand for the other will increase. So, the demand for a commodity is inversely related to the price of its complementary goods.
3. **Income of the buyer:** The demand for a commodity also depends on the income of the buyer. When your income increases, you are likely to spend more on purchase of some goods such as fruits, full cream milk, butter etc. Such goods are normal goods. Normal goods are those goods whose demand increases with the increase in income. So, the demand for normal goods is directly related to the income of the buyer. But there are some goods whose demand decreases when income of the buyer increases, such as jowar, bajra, toned milk etc. These goods are called inferior goods, so, the demand for inferior goods is inversely related to the income of the buyer.

4. **Tastes, preferences and fashion** Tastes, preference and fashion are important factors which affect the demand for a commodity. For example, if Monika prefers jeans and tops in comparison to salwar.
5. Other factors like: Government Policy, Technology, Consumer expectations etc.

Demand Function

It shows the functional relationship between the demand for a commodity and factors affecting demand is called demand function.

$$\mathbf{D_n = f (P_n, P_1...P_{n-1}, Y, T, E, H, G \dots U)}$$

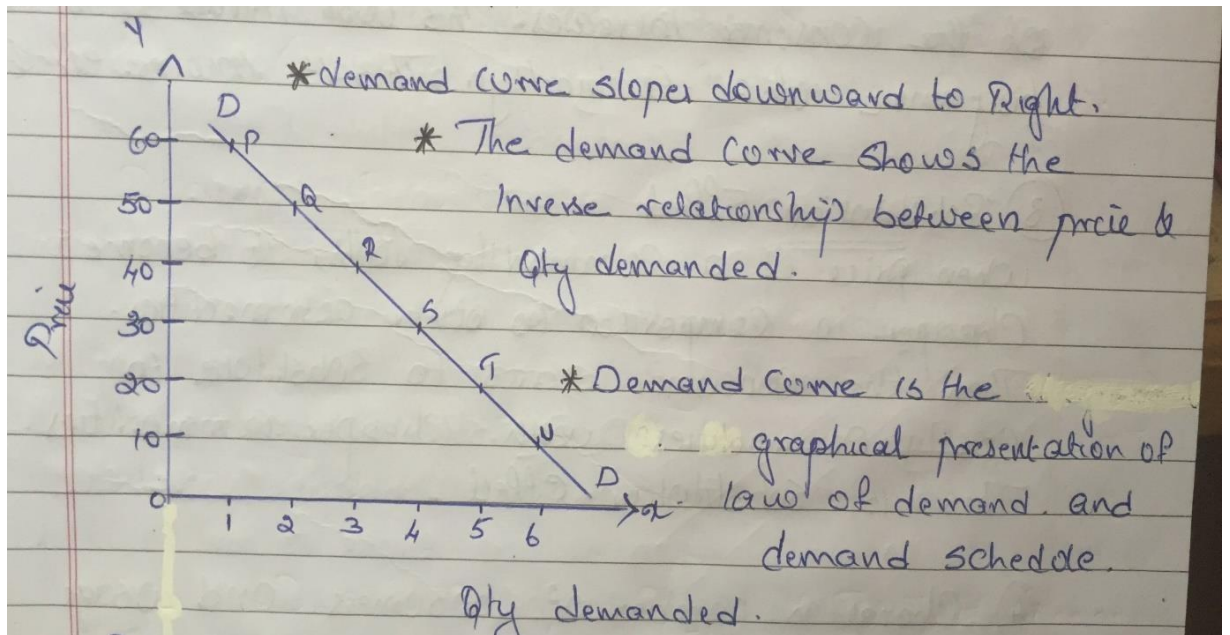
Statement of Law

“Other things remains constant, the quantity demanded of a commodity increases when it's price falls and decreases when it's price rises”

Demand Schedule

- It is the table that shows different quantities of a commodity that would be demanded at different prices.

Price of Apple (Per Kg)	Quantity Demanded (Kg)
60	1
50	2
40	3
30	4
20	5
10	6



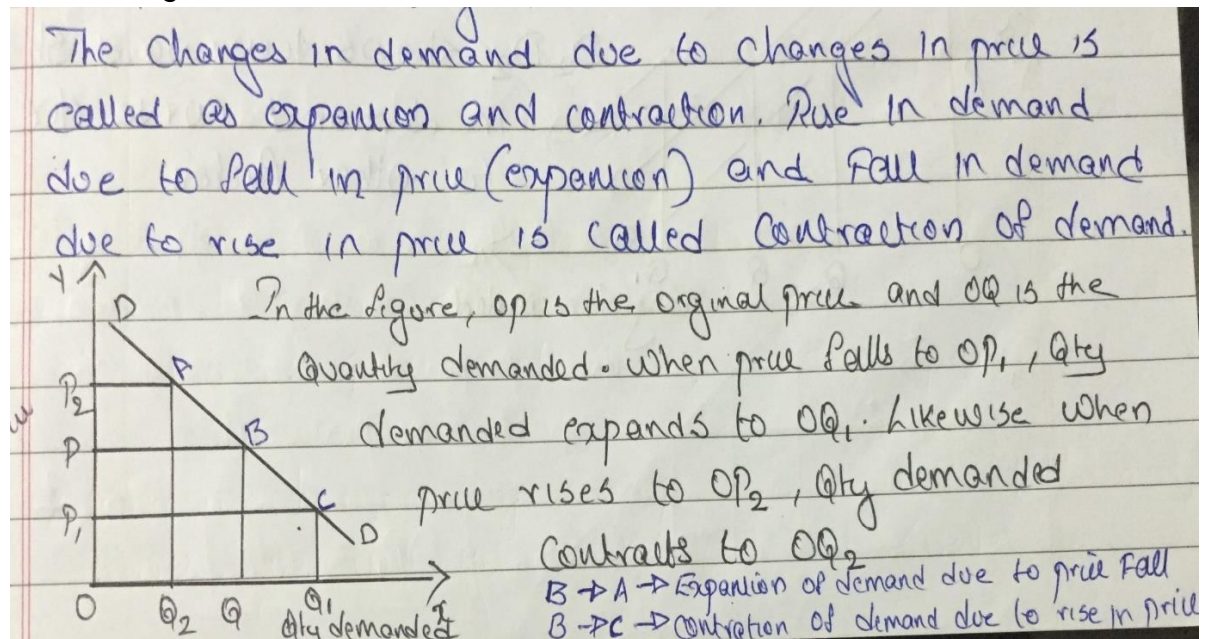
Exceptions to Law of Demand

- Inferior Goods
- Luxury Goods
- Lifesaving Goods
- Basic Necessities

Types of changes in demand

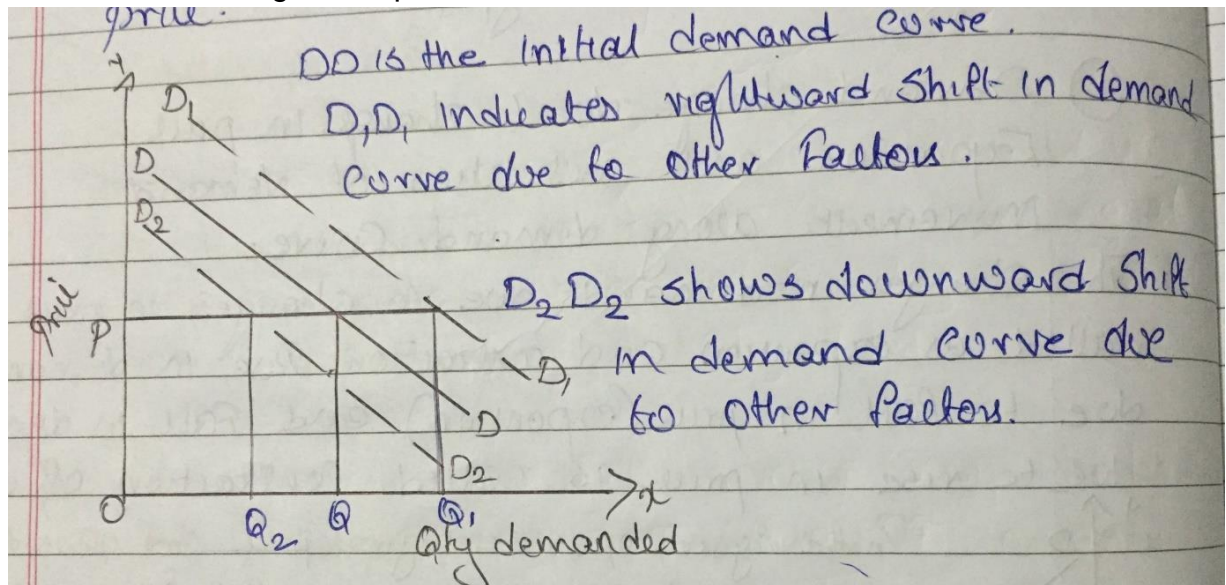
1. Change in demand due to change in price – Expansion and Contraction of Demand – Movement along demand curve

Price changes and other factors remains constant



2. Change in demand due to factors other than price – Increase and Decrease in demand – Shift in demand curve

Other factors changes and price remains constant



Elasticity of Demand

- It refers to the degree of responsiveness change in qty demanded of a commodity due to change in price or any other factors.
- It was put forward by Alfred Marshall
- 3 Types of elasticity of demand
 - ✓ Price Elasticity
 - ✓ Income Elasticity
 - ✓ Cross Elasticity

Price Elasticity of Demand

- It refers to the degree of responsiveness change in qty demanded of a commodity due to change in price.

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

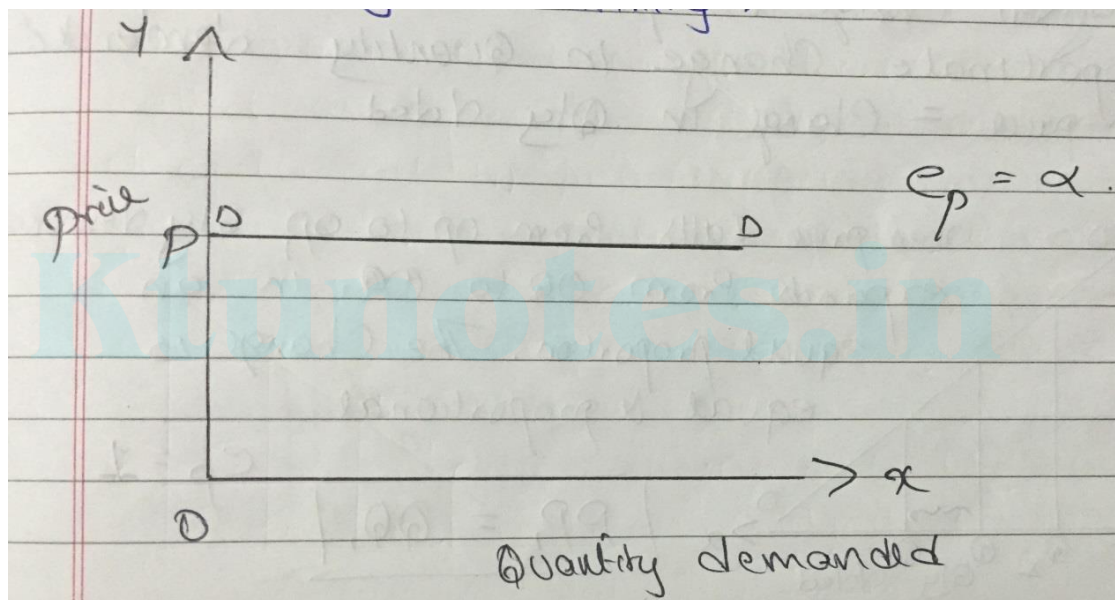
ΔQ → Change in Qty
 ΔP → Change in price
 P → Initial price
 Q → Initial Qty.

Types of price elasticities of Demand

1. Perfectly elastic demand
2. Perfectly inelastic demand
3. Unit elastic demand / Unitary elastic demand
4. Elastic demand / More elastic demand
5. Inelastic demand / Less elastic demand

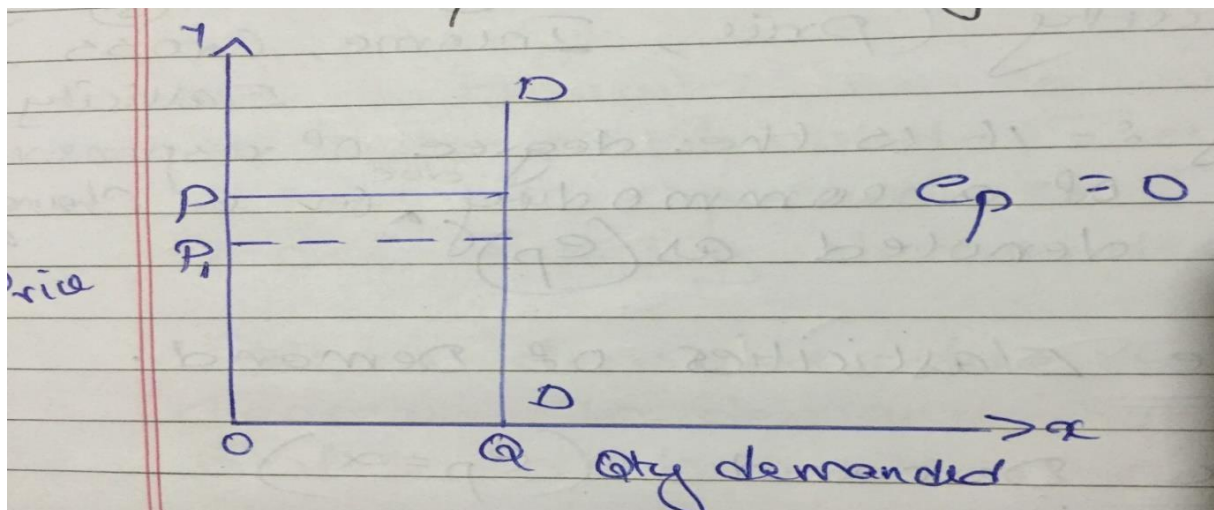
Perfectly Elastic Demand

- With a small change in price there would be an infinite change in qty demanded.
- Demand curve would be a horizontal straight line parallel to x - axis
- In this case price elasticity would be infinity



Perfectly Inelastic Demand

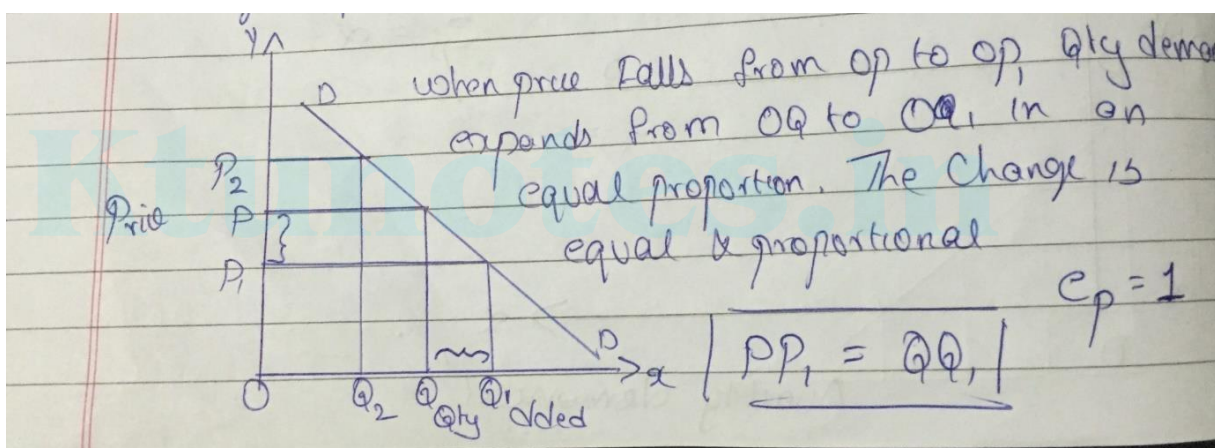
- With a small change in price there would be no change in qty demanded.
- Demand curve would be a vertical straight line parallel to Y - axis
- In this case price elasticity would be Zero



Unit Elastic Demand/Unitary Elastic Demand

With a given change in price there would be an equal and proportionate change in qty demanded for the commodity

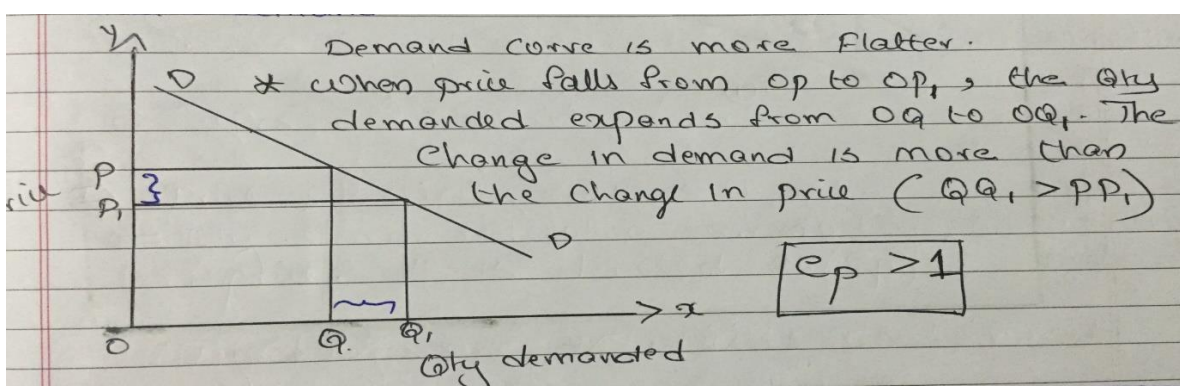
$$e_p = 1$$



More elastic demand/ Elastic demand

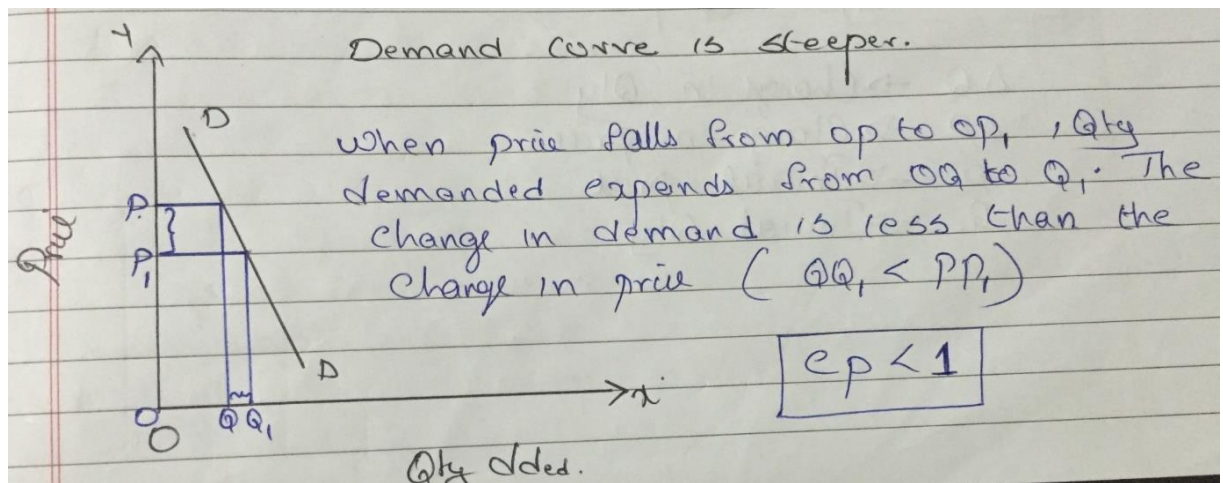
- With a given change in price there would be a more than proportionate change in qty demanded of the commodity.

$$E_p > 1$$



Inelastic demand / Less Elastic demand

With a given change in price there would be a less than proportionate change in qty demanded of the commodity.



2. Income Elasticity of Demand

It is the degree of responsiveness change in qty demanded of a commodity due to change in income of the consumer

3. Cross elasticity of demand

It is the degree of responsiveness change in qty demanded of one commodity due to change in the price of the other commodity

Supply

Supply refers to the quantities of a commodity which a seller offers for sale at a particular price in a given period of time.

It refers to the desired qty of commodity that the seller offer for sale in the market.

Factors affecting Supply

- Price of the commodity (P rises SS rises)
- Goals of the firm
- Price of other commodities
- Price of factors of production
- State of technology
- Natural factors
- Taxation
- Expected change in price

- Availability of transportation and communication

Supply function

It shows the functional relationship between supply and factors affecting the supply

$$S_n = f(P_n, P_{n-1}, P_{n-2}, \dots, P_{n-10}, G_f, T, E, G_t, N, \dots, U)$$

Law of Supply

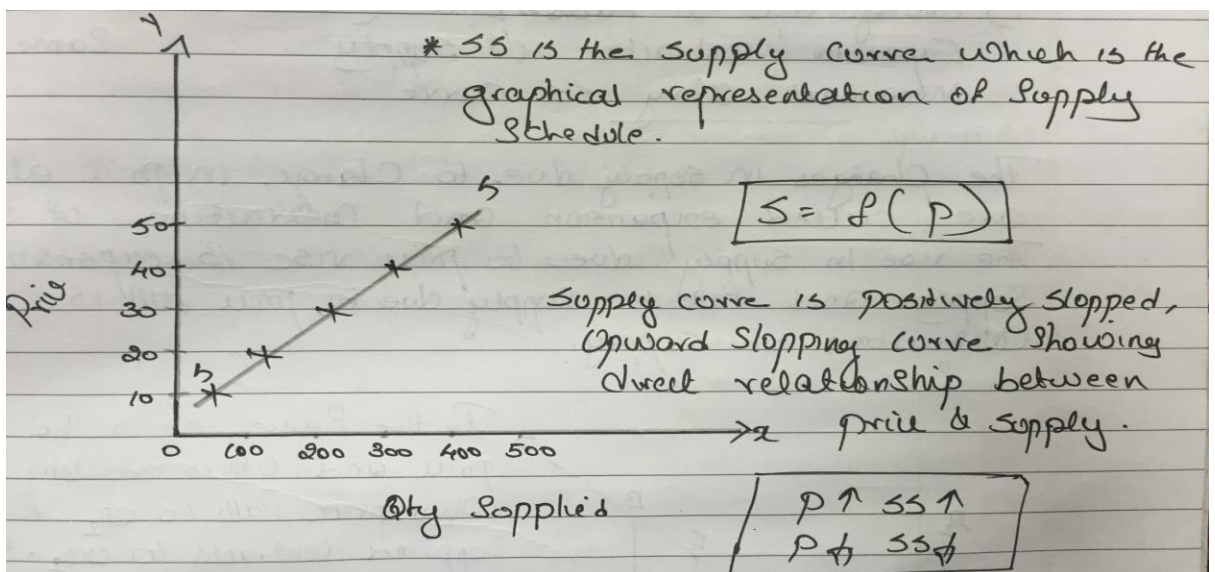
‘Other things remains constant, the quantity supplied increases with rise in price of the commodity and quantity supplied decreases with fall in the price of the commodity’

Supply Schedule

It is a table shows the amounts of a commodity supplied at a given period of time at various prices

Price of the commodity	Quantity Supplied
50	400
40	300
30	200
20	100
10	50

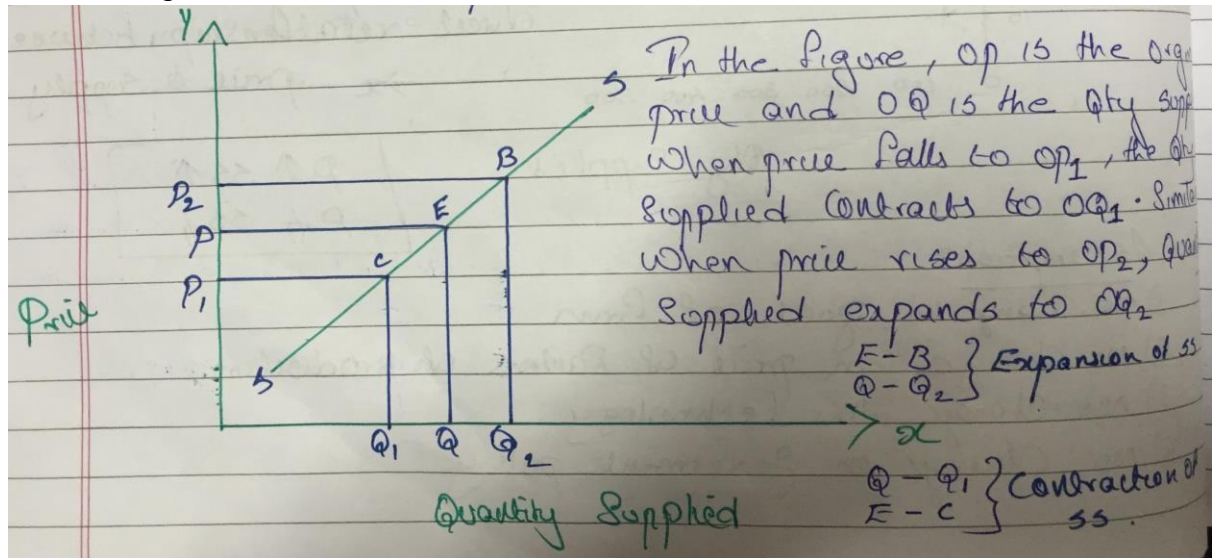
Supply Curve



Two types of changes in Supply

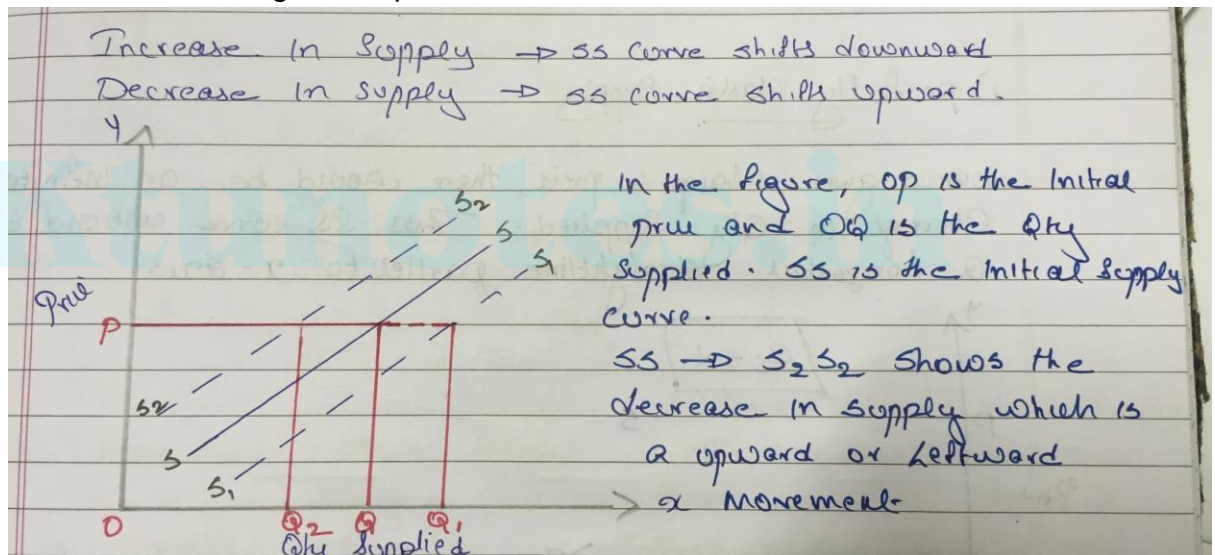
1. Change in supply due to change in price – Expansion and Contraction of supply – Movement along supply curve

Price changes other factors remains the same



2. Change in supply due to factors other than price – Increase and Decrease in supply – Shift in supply curve

Other factors changes and price remains the same



Elasticity of Supply (Es)

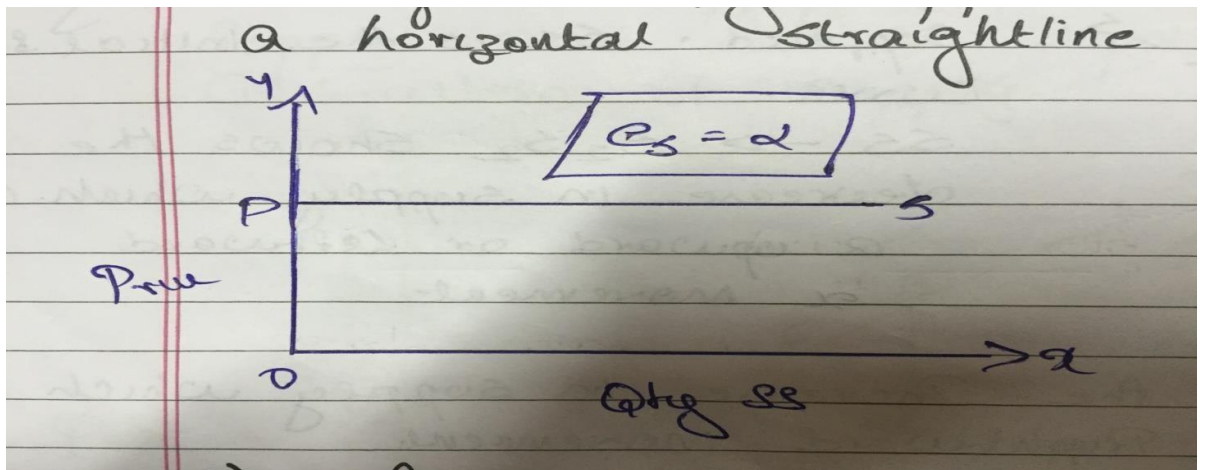
- It refers to the degree of responsiveness change in qty supplied of a commodity due to change in price or any other factors.

We have only price elasticity under Elasticity of Supply (Es)

1. Perfectly elastic supply
2. Perfectly inelastic supply
3. Unit elastic supply / Unitary elastic supply
4. Elastic supply / More elastic supply
5. Inelastic supply / Less elastic supply

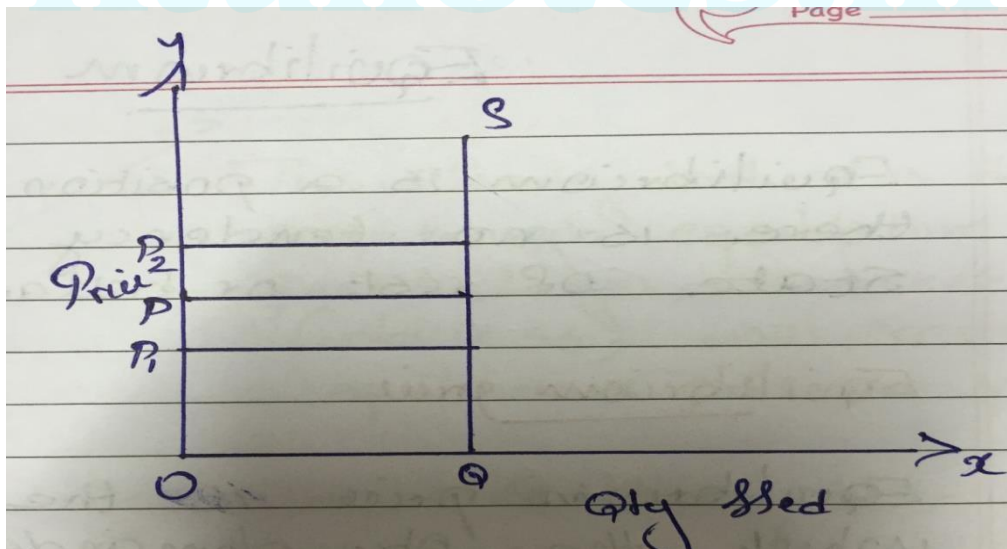
Perfectly elastic supply

- With a small change in price there would be an infinite change in qty supplied.
- Supply curve would be a horizontal straight line parallel to x - axis
- In this case price elasticity would be infinity



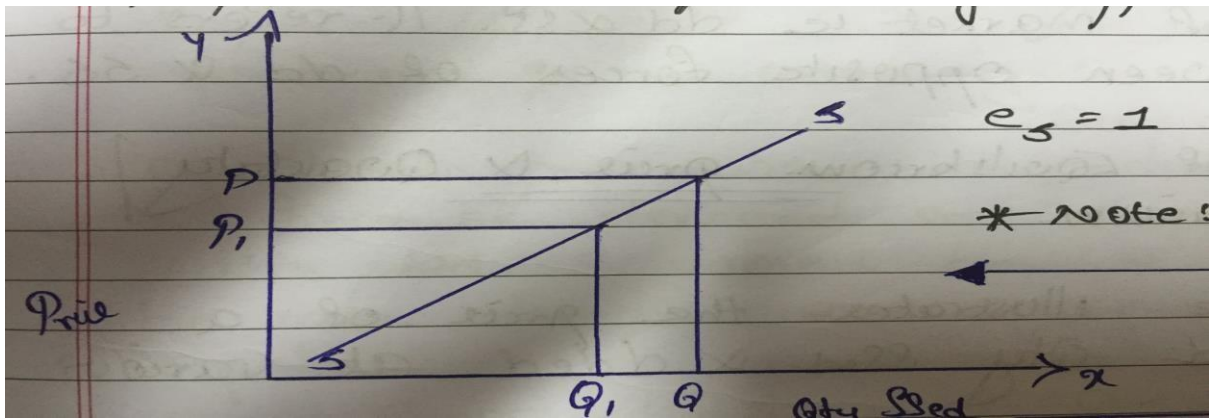
2. Perfectly Inelastic supply

- With a small change in price there would be no change in qty supplied.
- Supply curve would be a vertical straight line parallel to Y - axis
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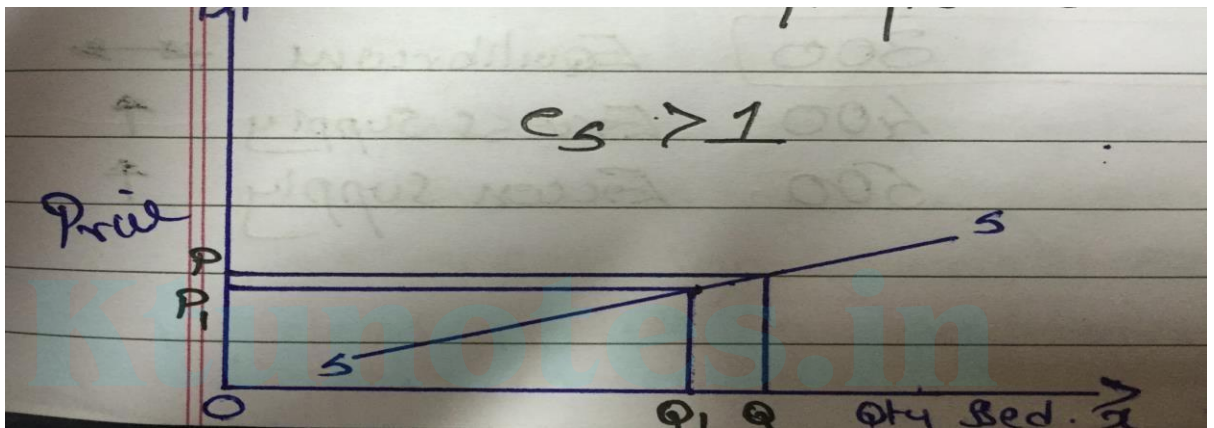
3. Unit elastic supply / Unitary elastic supply

- With a given change in price there would be an equal and proportionate change in qty supplied for the commodity
- $e_s = 1$



4. Elastic supply / More elastic supply

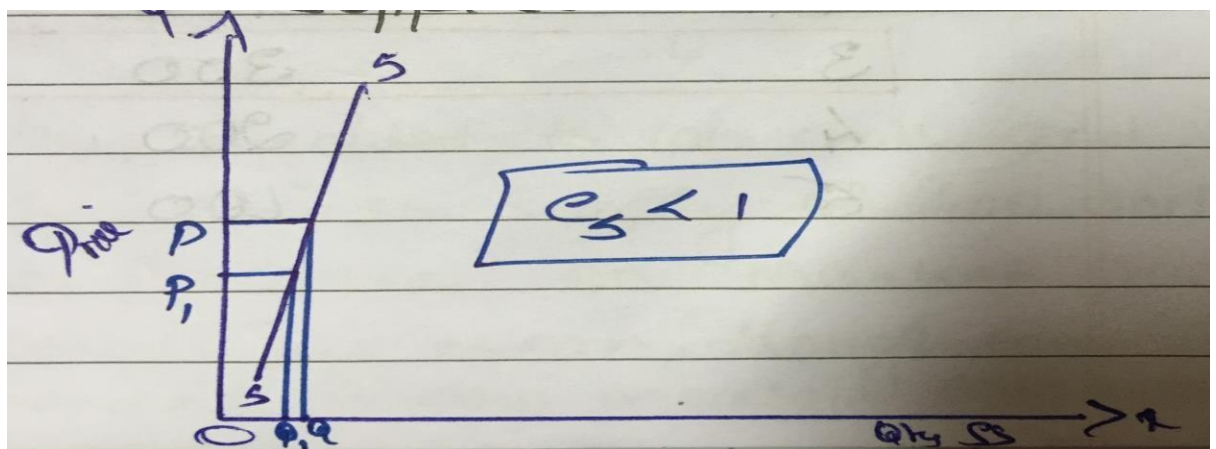
With a given change in price there would be a more than proportionate change in qty supplied of the commodity.



5. Inelastic supply / Less elastic supply

With a given change in price there would be a less than proportionate change in qty supplied of the commodity.

$$E_s < 1$$



Market Equilibrium

Equilibrium is a position or situation from which there is no tendency to change. It is a state of balance or rest.

Equilibrium Price

It is the price at which qty demanded of a commodity equals to the quantity supplied of the commodity

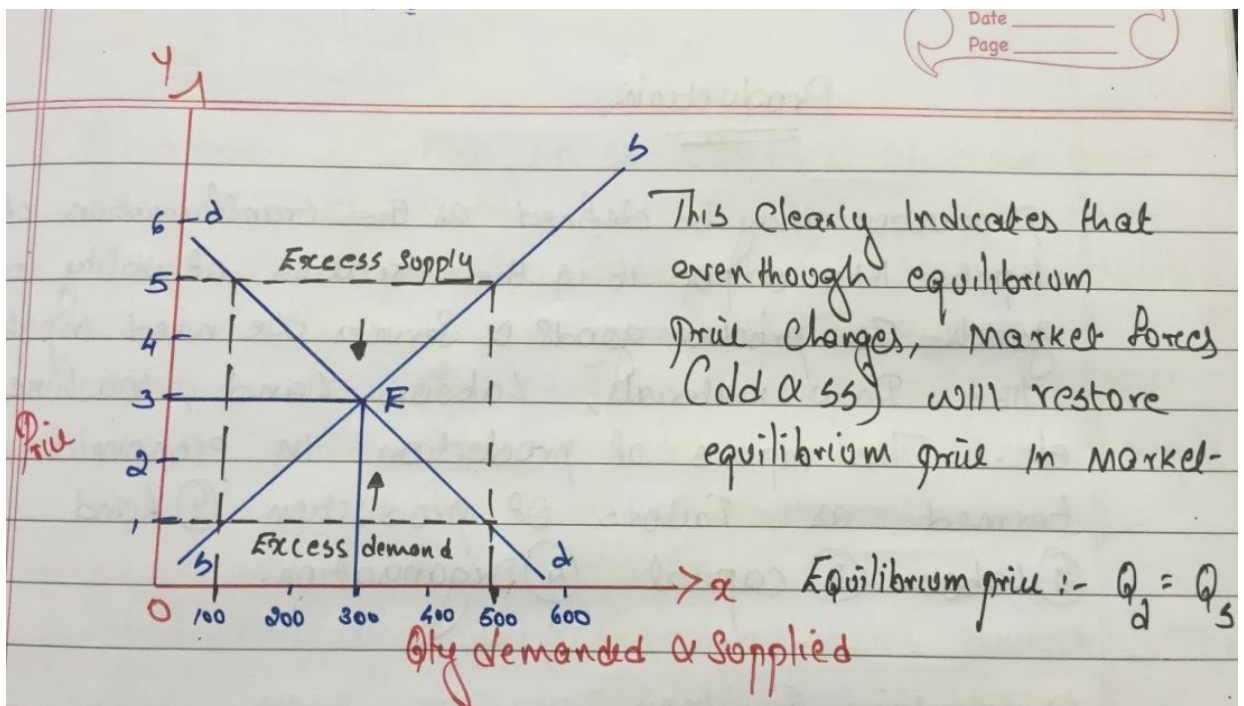
$$Q_d = Q_s$$

Thus demand and supply is known as Invisible hands of the market

Market Equilibrium Schedule (Price and Quantity)

<u>Price</u>	<u>Qty Demanded</u>	<u>Qty Supplied</u>	<u>Market situation</u>
1	500	100	Excess DD
2	400	200	Excess DD
3	300	300	Equilibrium
4	200	400	Excess SS
5	100	500	Excess SS

Market Equilibrium Diagram



MEANING OF FIRM

Definition of firm

A firm is the small business unit involved in producing the profit. Business (company, enterprise or firm) is a legally recognized organization designed to provide goods or services, or both, to consumers, businesses and governmental entities. Businesses are predominant in capitalist economies. Most businesses are privately owned. A business is typically formed to earn profit that will increase the wealth of its owners and grow the business itself. The owners and operators of a business have as one of their main objectives the receipt or generation of a financial return in exchange for work and acceptance of risk. Notable exceptions include cooperative enterprises and state-owned enterprises. Businesses can also be formed not-for-profit or be state-owned.

Types of firms

1. Sole proprietorship:

A sole proprietorship is a business owned by one person. The owner may operate on his or her own or may employ others. The owner of the business has personal liability of the debts incurred by the business.

2. Partnership

A partnership is a form of business in which two or more people operate for the common goal which is often making profit. In most forms of partnerships, each partner has personal liability of the debts incurred by the business. There are three typical classifications of partnerships: general partnerships, limited partnerships, and limited liability partnerships.

3. Corporation:

A corporation is either a limited or unlimited liability entity that has a separate legal personality from its members. A corporation can be organized for-profit or not-for-profit. A corporation is owned by multiple shareholders and is overseen by a board of directors, which hires the business's managerial staff. In addition to privately owned corporate models, there are state-owned corporate models.

4. Cooperative:

Often referred to as a "co-op", a cooperative is a limited liability entity that can organize for-profit or not-for-profit. A cooperative differs from a corporation in that it has members, as opposed to shareholders, who share decision-making authority. Cooperatives are typically classified as either consumer cooperatives or worker cooperatives. Cooperatives are fundamental to the ideology of economic democracy.

GOALS/OBJECTIVES OF FIRMS:

Conventional theory of firm assumes profit maximization is the sole objective of business firms. But recent researches on this issue reveal that the objectives the firms pursue are more than one. Some important objectives, other than profit maximization are:

- (a) Maximization of the sales revenue
- (b) Maximization of firm 's growth rate
- (c) Maximization of Managers utility function
- (d) Making satisfactory rate of Profit
- (e) Long run Survival of the firm
- (f) Entry-prevention and risk-avoidance

>Consumer surplus

Consumer surplus is derived whenever the price a consumer actually pays is less than they are prepared to pay. A demand curve indicates what price consumers are prepared to pay for a hypothetical quantity of a good, based on their expectation of private benefit.

>Producer surplus

Producer surplus is the additional private benefit to producers, in terms of profit, gained when the price they receive in the market is more than the minimum they would be prepared to supply for. In other words, they received a reward that more than covers their costs of production.

>Deadweight Loss

It is the loss of economic efficiency in terms of utility for consumers/producers such that the optimal or allocative efficiency is not achieved.

Description: Deadweight loss can be stated as the loss of total welfare or the social surplus due to reasons like taxes or subsidies, price ceilings or floors, externalities and monopoly pricing. It is the excess burden created due to loss of benefit to the participants in trade which are individuals as consumers, producers or the government.

Example: if a certain tax is imposed on the producer for each unit of the good he sells, it is likely that the new equilibrium price that is settled for the transaction will be higher and therefore some burden of this will be passed on to the consumer.

This will lead to reduced trade from both sides. The loss of welfare attributed to the shift from earlier to this less efficient market mechanism is called the deadweight loss of taxation. This leads to wastage or underutilization of resources due to inefficient market outcomes.

Model University Exam

- a) A consumer purchased 10 units of a product in the month of June. At the same price he purchases 15 units of the same product in the month of July. Give four reasons for this increase in demand. (6marks)
- b) What is price elasticity of demand? Suppose elasticity of demand of a product is 2. If the price of the product increases by 10 percentage at what percentage its demand will decrease? (4 marks)
4. a) How is equilibrium price of a commodity determined? (4marks)

1. Comment on the nature of elasticity from the following data

- i) $E_p=1$ ii) $E_p=0$ iii) $E_p=2$ iv) $E_p=.85$ (4 marks)

B. State and explain the law of variable proportions (6 marks)

2. A) What is price elasticity of demand? (4marks)

B) Explain the market equilibrium concept using a schedule and diagram (6 marks)

1. a. Explain the concept of equilibrium. (4)
- b. write notes about the following
- i. Elasticity of demand (3)

- a) With the help of a figure demonstrate the relationship between total and marginal utility.
- (5) 2 a) Mention the relevance of the concept of scarcity in business economics.
- (5) b) Mark the point on a graph of the PPC, showing underutilization of resources. Using the PPC, explain the concept of trade off.
- a) What is a PPC? Explain opportunity cost concept using Production Possibility Curve.
- b) (6) 2 b) Calculate marginal utility from the following data.
- | X | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | TU |
|---|----|----|----|----|----|----|----|----|----|
| | 10 | 18 | 25 | 30 | 33 | 35 | 35 | 30 | |
- c)
- (6) 2. a) Define PPC and draw a PPC. Is it always concave to the origin. If yes what is the reason?
- (6) c) What is utility? "Utility is not usefulness' Explain the statement with examples. (4)
- a) What is a production possibility curve? With the help of a production possibility curve, explain i) Underutilization of resources ii) Full employment of resources
- (6) b) How will you use a production possibility curve to explain opportunity cost?
- (4) 2. a) What is marginal utility? Suppose a consumer consumes more and more apples. What happens to his marginal utility and total utility? Substantiate your answer with the help of a schedule and diagram.
- (8) b) A product may be useful or harmful but it may possess utility. Do you agree? If yes give reason. (2)

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