

CH-5 Supply

1. what is supply

- Supply refers to the quantity of a commodity which producers are willing to produce and offer for sale at a particular price during a particular period of time.

2. Explain the factors affecting supply

- i) Price of the given commodity:

- Price of a given commodity and its supply are directly related.
- It means that with an increase in price, quantity supply also increases and with decrease in price, quantity supply decreases.
- It happens because at higher prices, there are greater chances of making profit. It induces the firm to offer more for sale in the market.

ii) Goals of the producers:

The goals of the producer may be profit maximisation or sales maximisation or risk minimisation.

Generally supply of a commodity increases only at higher price as it fulfills the object of profit maximisation.

However, firms are willing to supply more even at those prices, which do not maximise their profit. The objective of such firm is to maximise sale by capturing large market.

iii) Input price (price of factors of production):

- when the amount payable to FOP and cost of inputs increases, the cost of production also increases. This decreases the profitability. as a result, seller reduces the supply of the commodity.
- On the other hand, decrease in the price of factors of production or inputs, increases the supply due to fall in the cost of production and rise in profit margin.

iv) Price of related commodities:

Price of related commodities

- As resources has alternative uses, the quantity supply of a commodity depends not only on its price, but also on the price of other related commodities (substitutes goods)
- Increase in the price of some substitute goods makes more profitable to shift its limited resources from the production of given commodity to the production of other related goods.
- e.g.: Increase in the price of substitute goods rise will induce the farmer to use land for cultivation of rice in place of wheat the given commodity wheat.

v) Techniques of production:

- Advanced and improved technology reduces the COP, which increases the profit margin & it induces the seller to increase the supply.
- On the other hand, technological degradation or complex or outdated technology will increase the COP and it will lead to decrease in supply.

iv) Expectations about ^{FUTURE} prices :

- If seller expect the a rise in price in near future , then at present market supply will reduce in order to raise supply in future at higher prices.
- on the other hand, if the seller fear that the prices will fall in the future, then they will increase the present supply to avoid losses in future.

3) Explain Supply function.

Supply function shows a functional relationship between supply and its factors.

$$S = f(P, G, C, P_r, T_E)$$

where,

$$P = -$$

1) Explain law of Supply:

Statement :

The law of supply states that "higher the price , higher will be the quantity supplied and lower the price , lower will be the quantity supplied", assuming other factors remaining constant.

Assumptions :

- i) Goals of the firm should remain constant.
- ii) Techniques of production should remain constant.
- iii) cost of input should remain constant.
- iv) Price of related commodities should

remain constant,
etc.

- Supply Schedule. :

It refers to tabular representation of law of supply.

It is of two types:

A] Individual supply schedule.

It refers to a tabular representation of various quantities which are supplied at various prices by an individual.

P	SS
10	100
20	200
30	300

B] Market supply schedule :

It refers to a tabular representation of various quantities which are supplied at various prices by all the individuals in the market.

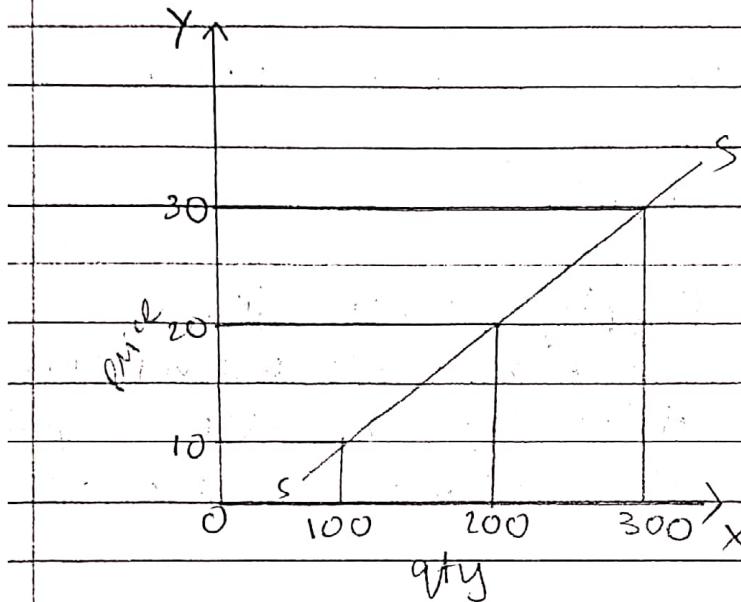
P	SSA	SSBB	Market SS
10	100	200	300
20	200	300	500
30	300	400	700

- Supply curve :

It is a graphical representation of law of supply.

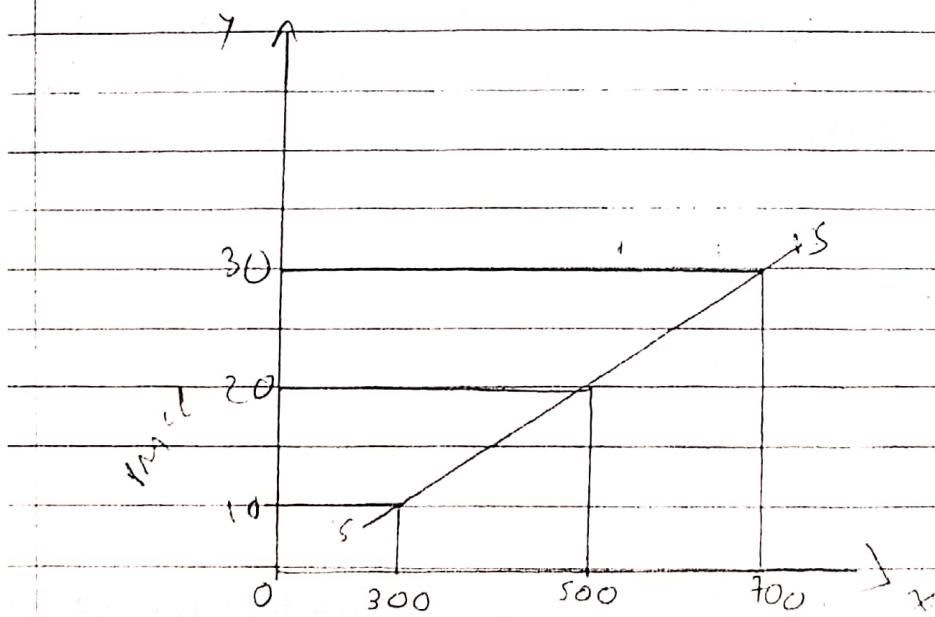
A) Individual supply curve:

It refers to a graphical representation of various quantities which are supplied at various prices by an individual.



B) Market supply curve:

It refers to a graphical representation of various quantities which are supplied at various prices by all individuals in market.



Thus, it shows that price & supply will have direct relationship.

5) Explain time period and supply.

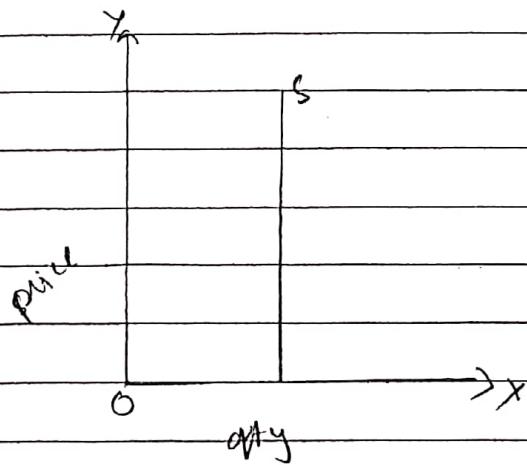
The supply of a commodity cannot be changed overnight. It takes time to change the supply.

From the view point of supply, time has been broadly divided into three periods:

i) Market period (very short period):

Market period refers to a very short period in which supply cannot be changed in response to the change in demand.

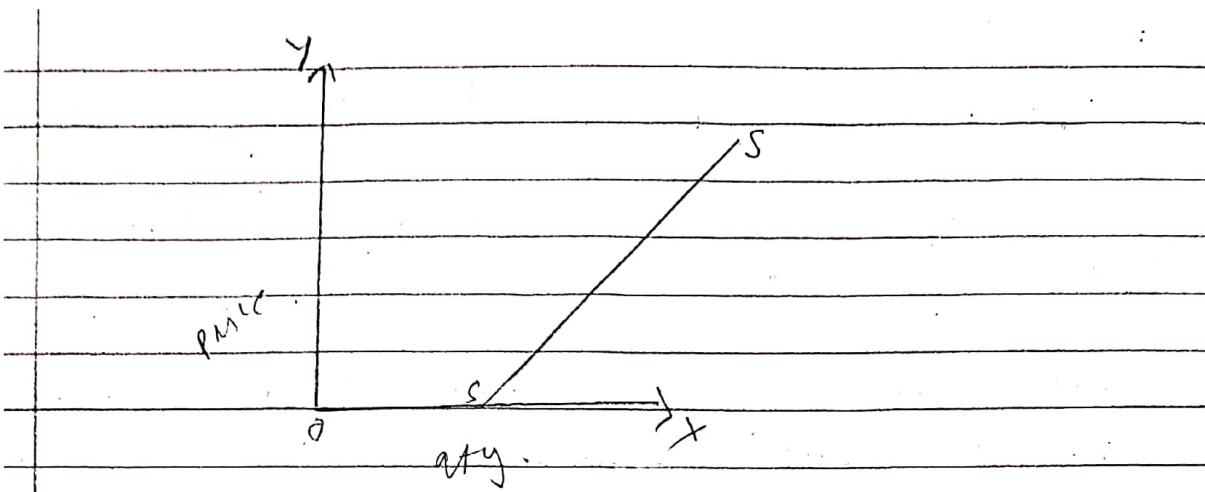
So, in market period, supply is limited, like in case of perishable goods (fruits, milk, etc.). Therefore, the supply curve is a straight line parallel to X -axis i.e. perfectly inelastic as shown in the figure.



ii) Short period

Short period refers to a period in which supply can be changed by change in only variable factors.

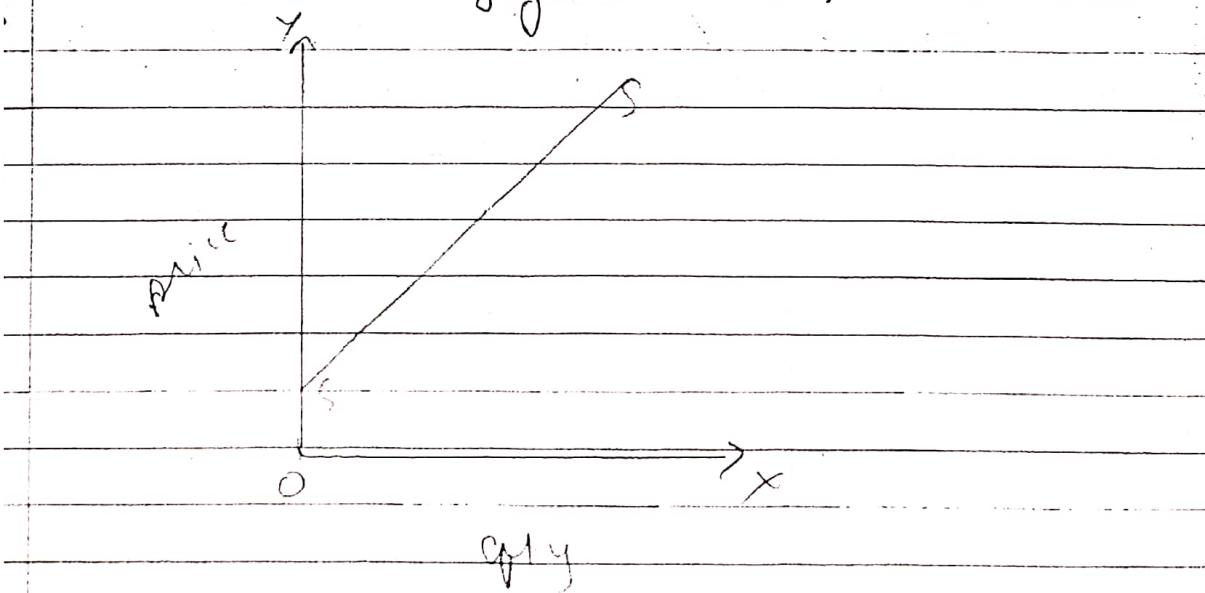
The supply is less responsive to change in demand. The supply curve is less elastic and shown in the figure.



iii) long period:

long period refers to period in which supply can change by change in all the factors of production.

Therefore, supply becomes more responsive to changes in demand, supply curve is highly elastic.



iv) very long period:

very long period refers to a period in which there is an ~~an~~ infinite change in supply due to new firm entering into the market, innovation, better techⁿ of production, etc. Therefore S.S. curve is perfectly elastic ~~are~~ parallel to x-axis.

5) Explain exception to the law of supply.

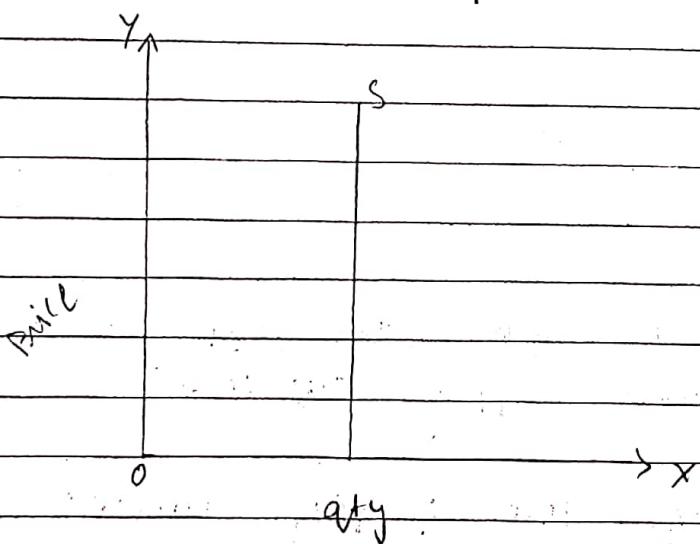
i) Vertical supply curve:

There are certain commodities the supply of which cannot be increased or decreased at all.

Thus, in case of rare goods such as sy
classical painting, rare postage stamps
old coins, the supply is fixed.

In some other cases, the supply may be fixed in the short run and it can be increased in long run only, e.g.: wheat and other
cereals agricultural products.

In such cases the supply curve will be a vertical line parallel to Y-axis.



ii) Backward sloping supply curve:

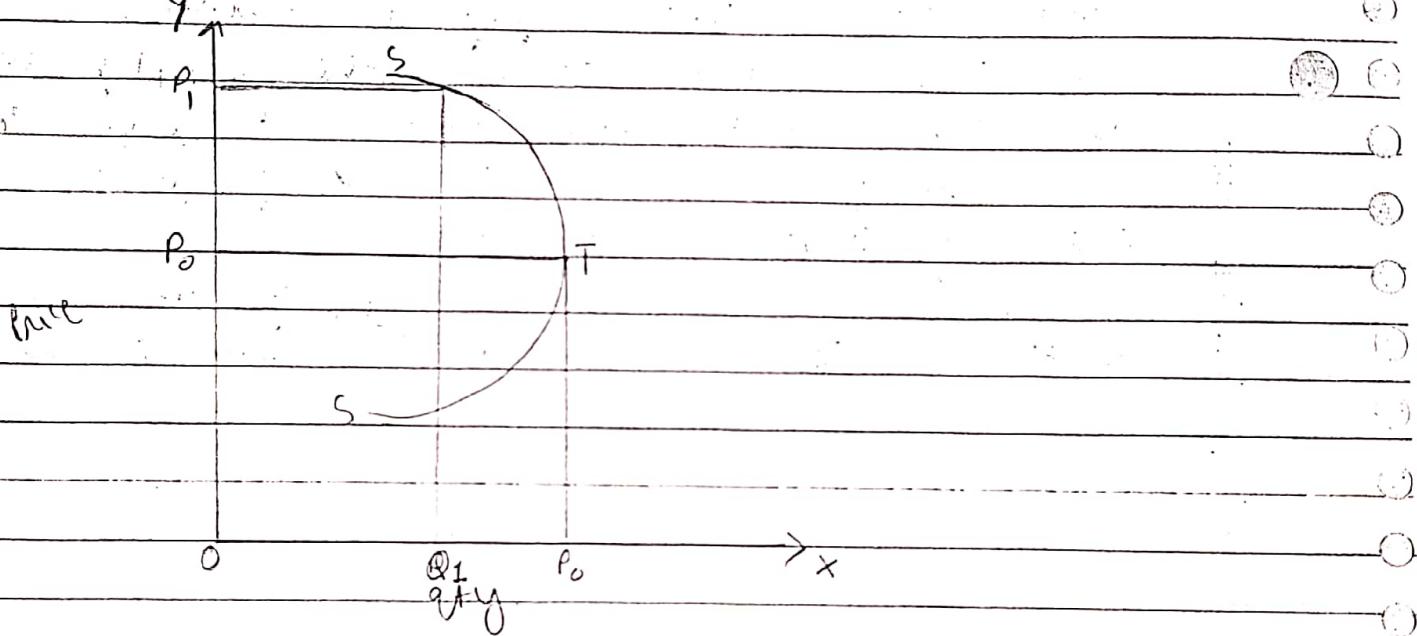
In certain cases, a part of the supply curve may have a backward slope.

This would mean that a small quantity would be offered at a higher price than at a lower price.

This type of backward sloping curve may occur in case of labour supply.

As wage rate increases, the worker

work more hours so as to earn more income. He prefers labour to leisure. At a very high rate the worker may be willing to work for few hours so as to enjoy more leisure. At very high wage rate, the worker prefers leisure to work as he may never earned enough money.



Explain movement along the supply curve and shift ~~along~~ the supply curve.

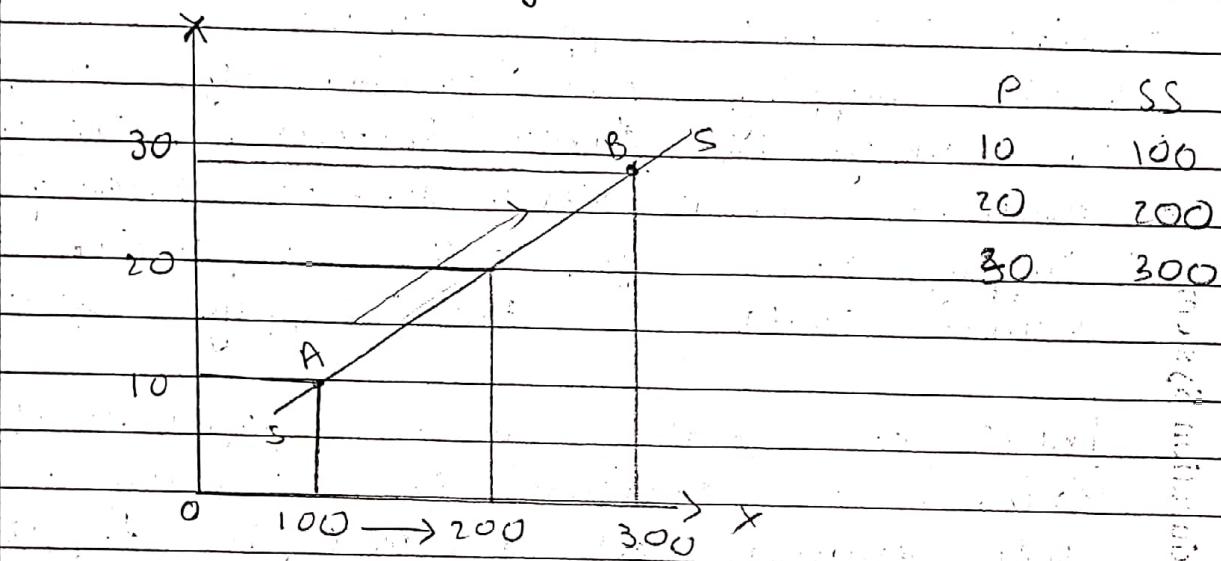
Movement along the supply curve: when the quantity supplied of a commodity changes due to changes in its own price, keeping other factors constant is known as change in quantity supplied. It is graphically expressed as movement along the same supply curve.

There can either be a downward movement known as contraction in supply or an upward movement known as expansion in supply along the same supply curve.

A] Expansion in supply:

It refers to a rise in quantity supplied due to increase in price of the commodity other factors remaining constant.

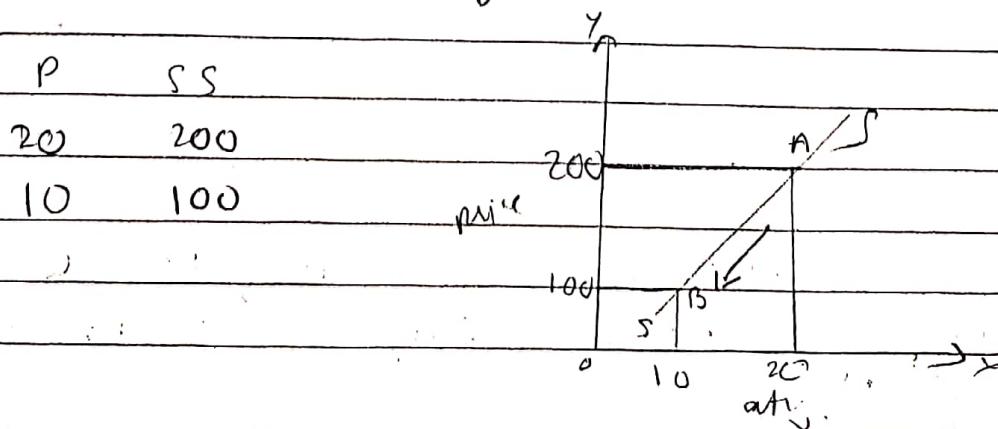
It leads to an upward movement along the same supply curve.



From the above schedule and diagram quantity supplied rises from 100 to 200, with an increase in the price from 10 to 20 resulting in an upward movement from A to B along the same supply curve SS.

B] Contraction in supply

It refers to a fall in quantity supplied due to fall in its price, keeping other factors constant. It leads to a downward movement along the same supply curve.



from the above schedule and diagram,

quantity supplied decreases from 200 to 100 with a fall in price from 20 to 10.

resulting into downward movement along the same supply curve.

-Shift in the supply curve:

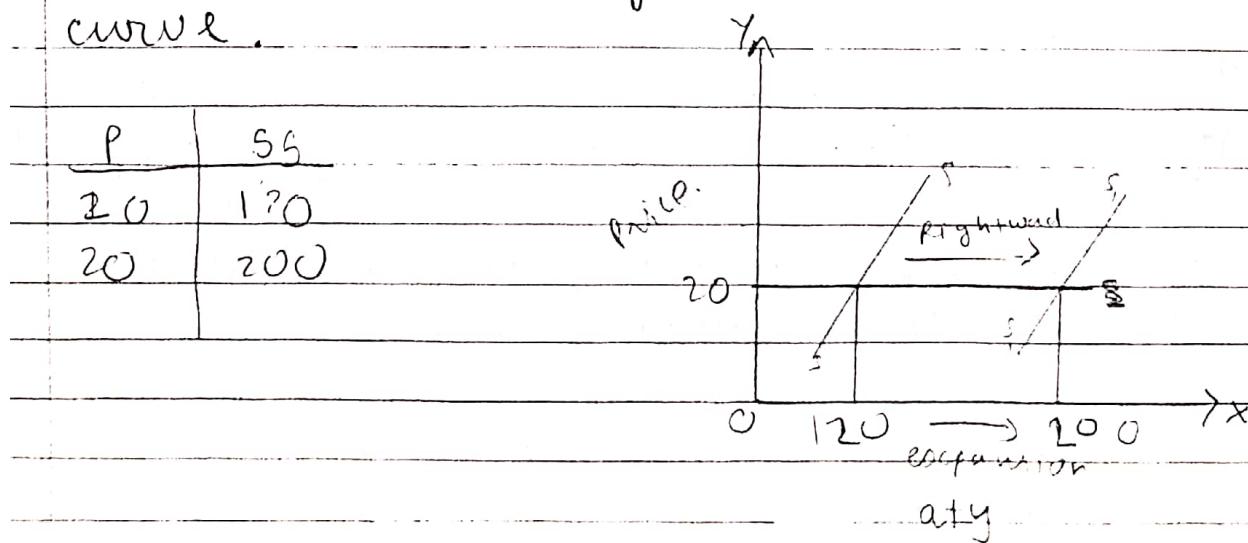
When supply of a commodity changes due to change in other factors, price remaining constant, it is known as change in supply. It is graphically expressed as move shift in the supply curve.

There can either be a rightward shift known as increase in supply or leftward shift known as decrease in supply.

A) Increase in supply:

It refers to a rise in the supply of commodity due to positive change in other factors than the own price of a commodity.

It leads to a rightward shift in supply curve.



From the above schedule and diagram,

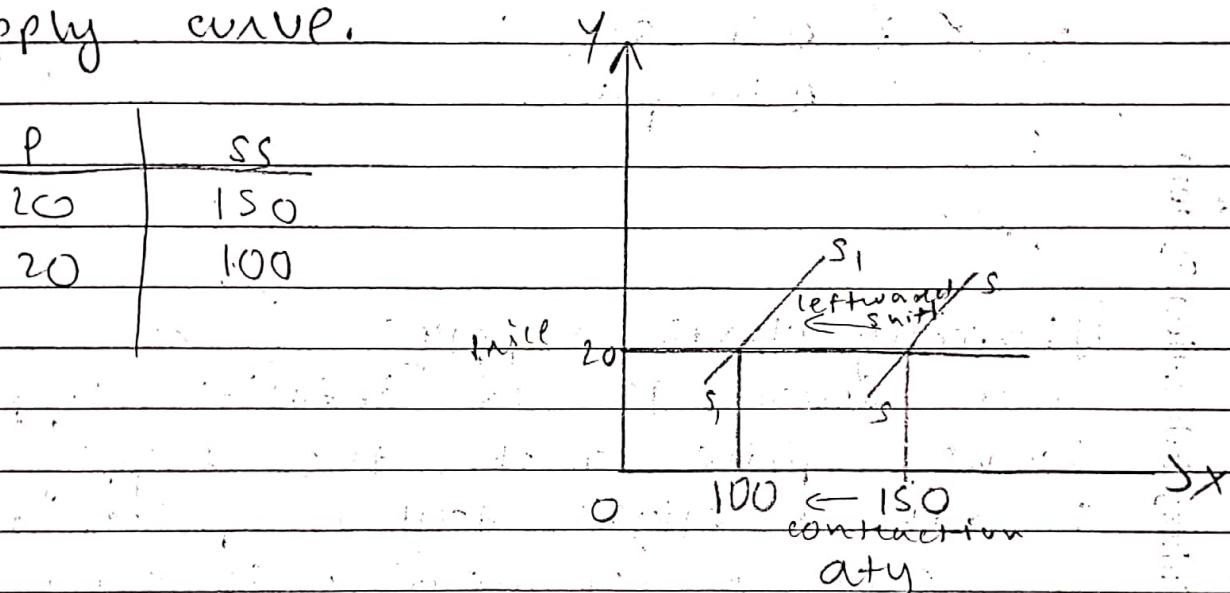
supply increases from 120 to 200 at the

same price of ₹ 20, resulting in a rightward shift of the supply curve from S_1 to S_2 .

B] Decrease in supply:

It refers to a fall in the supply of a commodity due to negative change in other factors than the own price of the commodity.

It leads to a leftward shift in the supply curve.



From the above schedule and curve, supply fall from 150 to 100 at the same price of ₹ 20, resulting in a leftward shift in the supply curve.

- 8) Difference between movement along the SS curve.
- i) shift in SS curve.
- 9) Different between Δ in qty SS and Δ in SS.
- 10) Different B/W expansion in SS and decrease in SS.
- 11) Different between contraction in SS curve and decrease in SS.

Refer Ch - 7

Explain price elasticity of supply and its types:

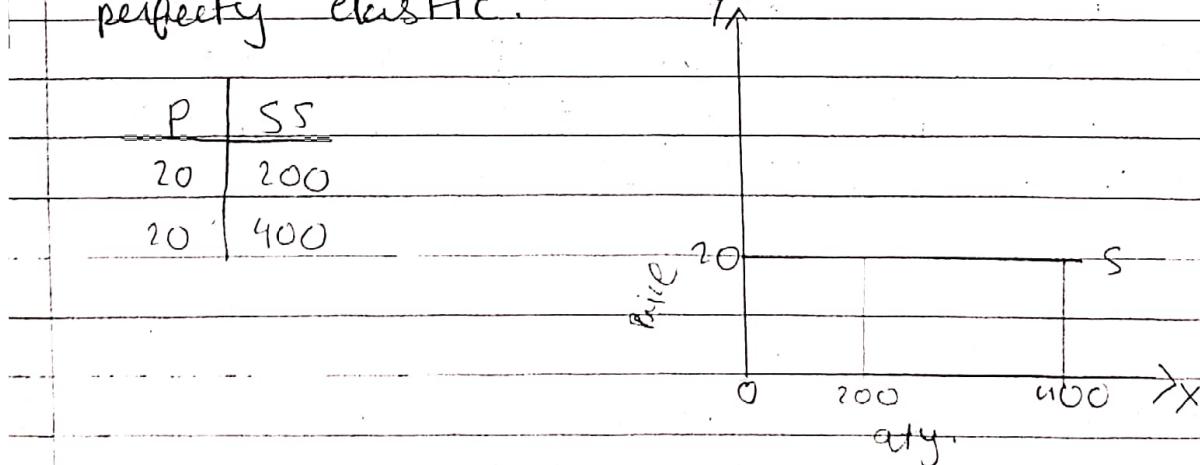
Price elasticity of supply refers to degree of responsiveness of supply of commodity with respect to change in price of such commodity.

$$e_s = \frac{\% \Delta \text{ in qts ss}}{\% \Delta \text{ in price}}$$

Types:

1] Perfectly elastic supply: $e_s = \infty$

when there is an infinite supply at a same price and the supply becomes 0 with a slight fall in price, then supply of such a commodity is said to be perfectly elastic.



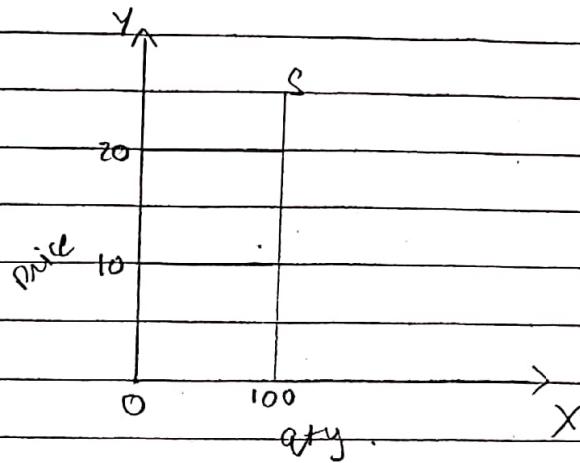
The supply curve is a horizontal straight line parallel to x-axis.

2] Perfectly inelastic supply: $e_s = 0$

when the supply does not change with change in price, then supply of such a commodity is said to be perfectly

inelastic.

P	SS
20	100
10	100

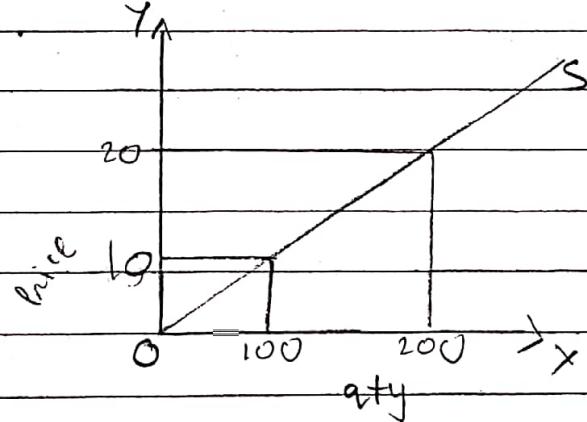


The supply curve is a vertical straight line parallel to Y-axis.

3] Unitary elastic supply: $es = 1$

when percentage change in quantity supplied is equal to percentage change in price, then supply for such a commodity is said to be unitary elastic.

P	SS
10	100
20	200

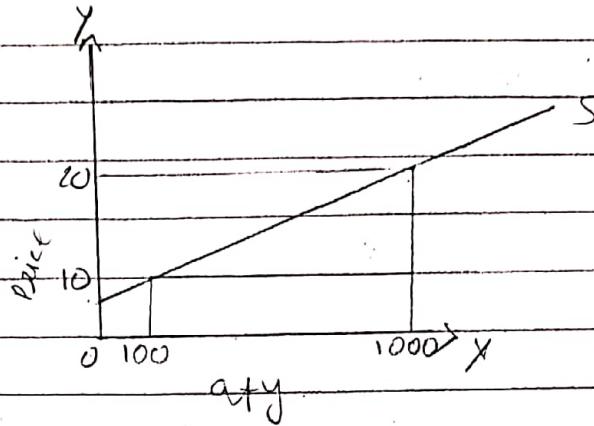


The supply curve is a straight line passing through the origin.

4] Relatively elastic supply: $es > 1$

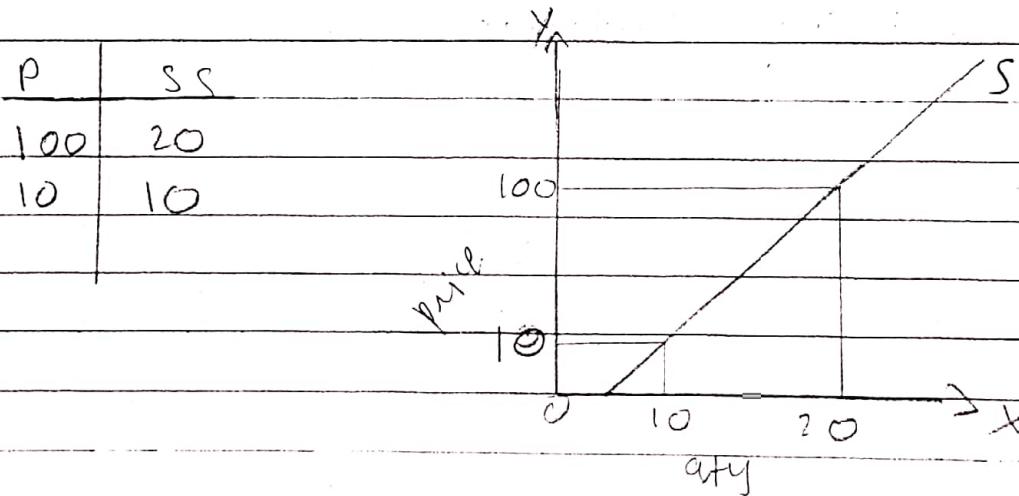
when percentage change in quantity supplied is more than the percentage change in price, then supply for such a commodity is said to be relatively elastic.

P	SS
20	1000
10	100



The supply curve has an intercept on the Y-axis:

- 5] Relatively inelastic supply: $e_s < 1$ when the percentage change in quantity supplied is less than percentage change in price, then supply for such commodity is said to be less elastic.



The supply curve has an intercept on X-axis.

- 3) Explain the factors affecting elasticity of supply:

- I) Nature of the commodity:

Durable goods like furniture, TV, etc have elastic supply, as they can wait to be stored and their supply can be changed.

according to changes in their price.

- On the other hand, perishable goods like fruits, etc. have inelastic supply because they cannot be stored and have to be disposed off within a short period, irrespective of their prices.

2] Cost of production:

If cost of production rises ~~repeatedly~~ rapidly with increase in output, then there is less incentive to increase the supply with increase in price. In such a case, supply will be inelastic.

- However, if cost of production increases slowly with increase in output then supply will increase with a rise in price. In this case supply will be elastic.

3] Time period:

- In the market period, supply of a commodity is perfectly inelastic as supply cannot be changed immediately with change in price. In the short period, supply is inelastic as firm can change supply only by changing variable factors.

In the long period supply is elastic as all the factors can be changed.

- In the very long period supply is perfectly elastic.

4] Techⁿ of production:

Supply is generally elastic for a commodity which involves simple techⁿ of production.

- However, supply is inelastic for the commodities

which involves complex tech' of prod'

5] Nature of Inputs:

If raw materials and factors of prod' are of general nature and are easily available, the supply will be ~~too~~ elastic as supply can be easily changed with change in price.

- On the other hand if inputs used are of specific nature or specialised nature, the supply is inelastic.

6] Natural factor:

The commodities whose production depends on natural factors such as weather, rain, etc. have inelastic supply.

- On the other hand, if production does not depend on natural factors, the supply is elastic.

14) Explain percentage method of elasticity of supply.

- According to this method, elasticity is measured as the ratio of % Δ in qty supplied to % Δ in price.

$$es = \frac{\text{percentage change in quantity supplied}}{\text{percentage change in price}}$$

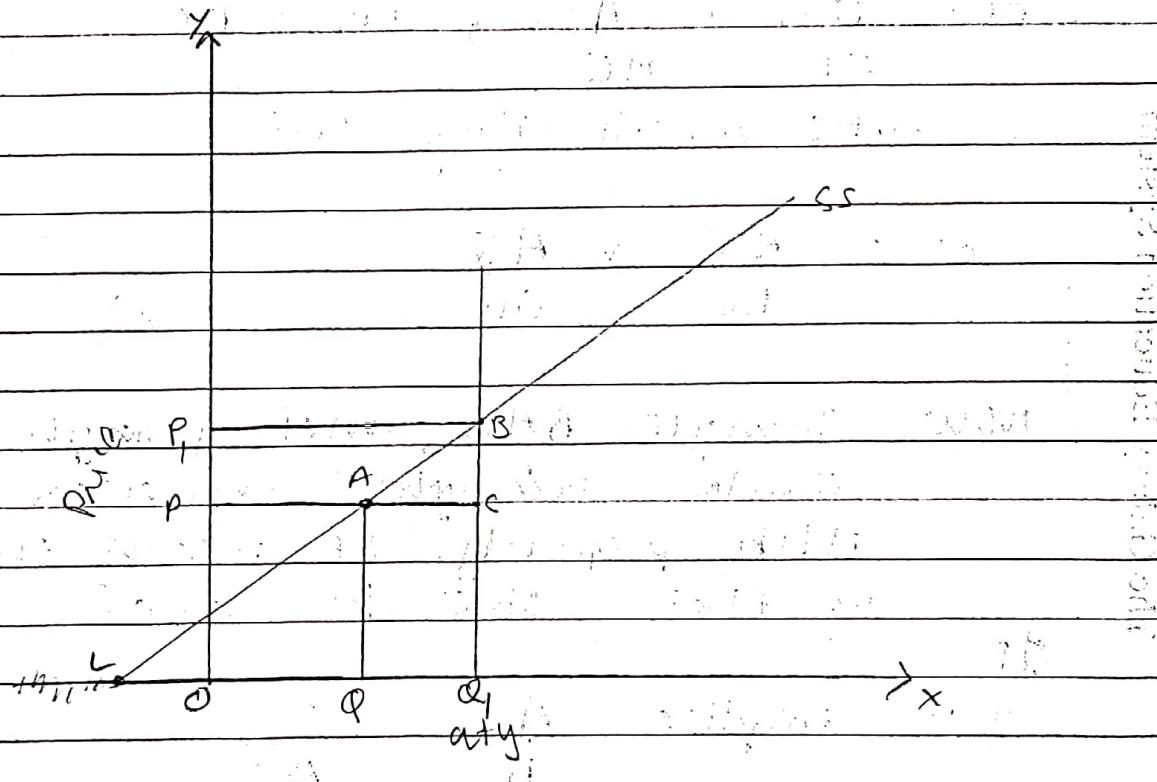
In terms of symbols we can write

$$es = \frac{\frac{\Delta Q}{Q} \times 100}{\frac{\Delta P}{P} \times 100}$$

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

5) Explain the geometric method of elasticity of supply. or Point method or Arc method.

- According to geometric method, elasticity is measured at a given point on supply curve.



The measurement of elasticity of supply for the supply curve SS at point A is explained below:

- At point A, the price is OP and quantity supplied is OQ.

- When the price rises to O₁P₁, quantity supplied also rises to O₁Q₁.

- The supply curve is extended beyond the Y-axis to the X-axis so that it meets the extended X-axis at point L.

- Now at point A, elasticity of supply is equal to :

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

From the diagram $AQ = QC_1$,
 $AP_1 = PP_1$
 $P = OP$
 $Q = OQ$

$$es = \frac{QCL}{PP} \times \frac{OP}{OQ} \quad \text{--- (D)}$$

$$\text{BUT, } QD_1 = AC, PD_1 > BC \\ CP = AQ.$$

~~Subs~~ substituting this

$$\text{CS} = \frac{AC}{BC} \times \frac{AQ}{OQ} \dots \dots \dots \quad (2)$$

Now, Triangle BAC and Triangle ALQ are similar triangles on account of AAA property. It means that ratio of their sides be equal.

Act

$$\text{This implies } \frac{AC}{BC} = \frac{LQ}{AQ} \quad \dots \quad (3)$$

Substituting the value of (3) in (2)

$$C_S = \frac{LQ}{AQ} \times \frac{AQ}{OQ}$$

FOR

simply $\text{eq} = \frac{LQ}{OQ}$ = intercept on x-axis
 at y ss at that price.

- Cases of geometric method:

1) Highly elastic supply:

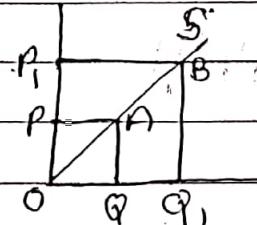
A supply curve, which passes through the Y-axis and meets the extended X-axis at some point i.e. L, the supply is highly elastic.

$$es = \frac{LQ}{OQ} \text{ and } LQ > OQ, \text{ refer previous diagram}$$

2) Unitary elastic supply:

If the straight line supply curve passes through the origin, then elasticity of supply is equal to 1.

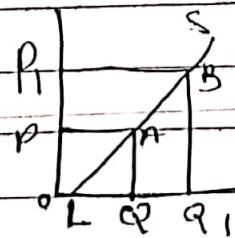
$$es = \frac{OQ}{OQ} = 1$$



3) Less elastic supply:

If supply curve meets the X-axis at some point say L, the supply is inelastic

$$es = \frac{LQ}{OQ} \text{ and } LQ < OQ$$



Explain Difference Between Stock & Supply

Stock

Supply

Stock refers to total quantity of commodity which is available with the producer at a particular period of time.

- It refers to the quantity which a producer is willing to offer for sell.

- Stock is measured at a particular period of time.
- Supply is measured during a given period of time.
- Stock is larger than supply.
- Supply is a part of stock.