LESSON 13

MARKET EQUILIBRIUM

Meaning of Equilibrium -

The word equilibrium is derived from the word, acquilibrium which means state of balance.

Prof. Stigler- "An equilibrium is a position in which there is no net tendency to move, we say net tendency to emphasize the fact, that it is not necessarily a state of sudden inertia but, may instead represent the cancellation of powerful forces."

Prof. J.K. Mehta - "The meaning of equilibrium is the position of rest where there is lack of change".

Prof. Boulding has explained -"Static equilibrium as mechanical analogy may be found in a ball rolling at a constant speed or better still of a forest in equilibrium where tree sprouts, grows or dies but, where the composition of a forest as a whole remains unchanged."

To conclude it can be said that the meaning of equilibrium is not rigidity. It refers to movement with no change.

Market Equilibrium –

Market Equilibrium is a situation of the market in which demand for a commodity in the market is equal to its supply at a particular price.

Thus, it is evident that when equality is established between the supply and demand of a commodity i.e. Market Equilibrium thus refers to condition when total demand is equal to total supply and there is no excess or shortage of a commodity in a market. Equilibrium is the condition which once achieved tends to persist in time. Market equilibrium that is also called the general theory of price determination or demand and supply theory of price determination. Marshall assumed that the price of commodity is neither determined by its demand (utility) nor by its supply (production cost) but is determined by the forces of demand and supply.

Price determination can be understood with the help of following factors:-

(A) Demand :

Why does a consumer make a demand of a commodity? Why is he ready to pay a price of a commodity? And what is the maximum price he can pay? On analyzing these questions it is evident that a commodity is demanded because of its utility i.e. the power of a commodity to satisfy wants. A consumer desires a commodity to fulfill his want, and for that he is ready to give away money, which is the price of a commodity. He is ready to give more price for a good which has more utility and less price for a good having less utility. The above analysis specifies that the price of a good cannot be more than its marginal utility.

The price at which a consumer is ready to buy a specific amount of a good is called Demand Price. The demand for a good at different prices is different for each consumer. Every consumer has a demand schedule. The sum of all the individual demand schedules is called Market Demand schedule which shows the quantity demanded at different prices.

Table 13.1 Market Demand Schedule

Price of goods (Rs.)	Demand of various Consumers (in units)			Total Market Demand
	A	B	C	
5	6	8	11	25
10	5	7	10	22
15	4	6	8	18
20	3	5	7	15
25	2	3	4	9
30	1	2	3	6

Explanation -

The above table shows that with the rise in price of a good the quantity demanded by different consumers decreases. For instance there are three consumers in the market whose demand is depicted in the table 13.1

on analyzing the table it can be said that with the rise in price, market demand decreases.

Total Market Demand Curve

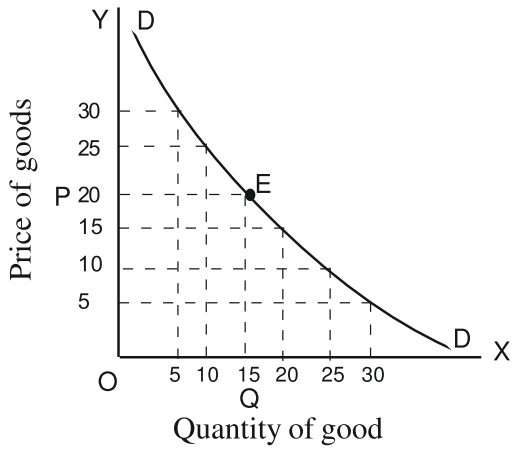

Figure 13.1

Explanation of the Figure:-

In the above Figure 13.1 on OX axis the quantity of a good is shown and on OY axis the price of a good. The sum total of all consumer demand is depicted by demand curve DD, where at price OP the quantity demanded is OQ. With rise in price, the quantity demanded decreases, the negative slope of demand curve depicts the inverse relationship of price and quantity demanded in the market.

(B) Supply :

What will be the price of a good? Why is a good supplied? What price will be charged of a good supplied? On analyzing the above questions, it is evident that a producer bears cost to produce a good. He charges price for supply of good. In short run a producer cannot take price less than, the marginal cost of a good. In the long run, the price should be equal to the average variable cost otherwise he will stop the production. Hence, marginal cost depicts the minimum level of the price of a good. Supply schedule in table 13.2 shows the quantity supplied of a commodity at each price for a given period of time by producer.

The sum of all individual supply schedule gives a market supply schedule.

Table 13.2 Market supply schedule

Price of goods (₹)	Supply by different producers			Market supply
	A	B	C	
5	0	1	1	2
10	0	2	3	5
15	1	3	5	9
20	3	5	7	15
25	5	8	10	23
30	8	10	13	31

Explanations of the table

It is assumed that there are three producers in the market. The above schedule shows that with rise in price the supply of goods by different producers increases. The total of all the individual supply gives market supply An increase in price leads to increase in supply of the commodity. There is direct relationship between the price and supply of a commodity.

Total Market Supply Curve

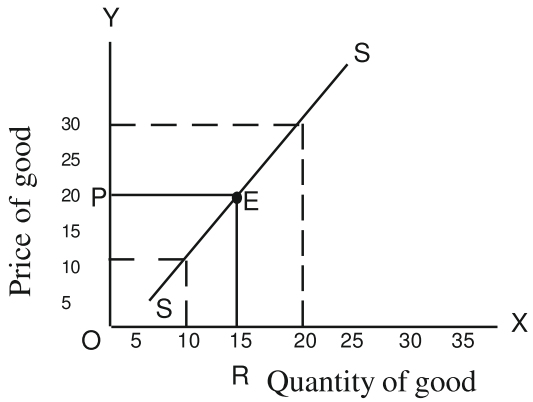

Figure 13.2

In the above Figure 13.2 on X axis the quantity of a commodity and on OY axis price is depicted. On OP i.e. price ₹20, OQ i.e. is 15 units is the quantity supplied.With increase in price, quantity supplied also increases. There is a direct relationship between price and quantity supplied of a good.

Demand and Supply Equilibrium

Analysis of demand side clarifies that the Marginal Utility of a good is the highest limit of its price, whereas by the analysis of supply side, it is evident that Marginal

cost is the lowest limit of the price of a good.

The actual price of commodity is determined at a point between these two limits. The demand analysis determines the upper limit of price by marginal utility while the supply analysis helps to determine the lower limit of price of a good by marginal cost. Buyer wants to pay the least possible price whereas seller wants to take the highest possible price. The price determined at the equilibrium, point is known as equilibrium prices and the quantity determined at this price is known as 'equilibrium quantity'. The Equilibrium Price of commodity is price at which quantity demanded of a commodity equals to its quantity supplied.

Table 13.3 Determination of Equilibrium Price

Price of x good	Demand of x good	Supply of x good
5	25	2
10	22	5
15	18	9
20	15	15
25	9	23
30	6	31

Explanation of table -

From the table 13.3 it is evident that with the rise in price of a good, its demand falls whereas supply increases. In the table, the equilibrium price is ₹ 20 where the quantity demand and supplied both are equal at 15 units each.

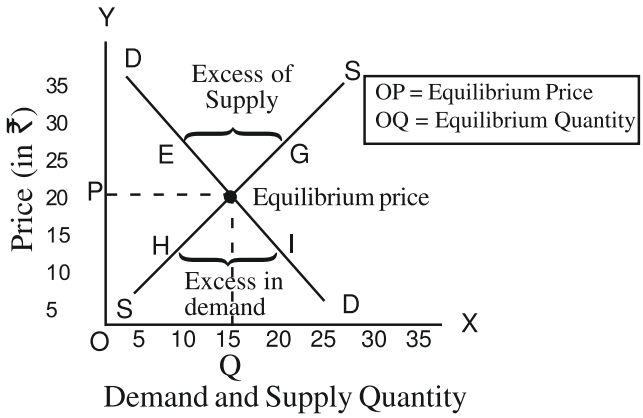

Figure 13.3

Explanation of the Figure -

In the above Figure 13.3 OX axis depicts quantity demanded and supplied whereas OY axis depicts the price of a commodity. DD is the demand curve and SS is the supply curve. Both demand and supply intersect at point E, where OQ is the equilibrium quantity and OP is the equilibrium price. When the price is ₹ 20 then demand and supply are 15 units. Thus, E is the equilibrium point where quantity demanded is equal, to the quantity supplied. If supply is more in comparison to the demand, then it is known as excess in supply. (EG in above figure) On the contrary, above Figure 13.3 shows that when demand is more than the supply, then it is known as excess in demand (HI in above figure).

Effect of change in demand and supply on equilibrium:-

Effect of changing in demand and supply on equilibrium, can be understood as follows:-

(1) Effect of change in demand on the equilibrium:-

The demand, for a commodity changes due to change in consumers income, taste, preference fashion and time. The equilibrium price increases on increase in demand of a commodity, other things and supply of commodity remaining constant. On the contrary, if the demand of commodity decreases, the equilibrium price will also decrease. To conclude, on supply remaining constant with increase in demand both price & quantity sold of a commodity increase. On the contrary, with decline in demand both the price and quantity sold also decline. **(A) Effect of Increase in demand:**

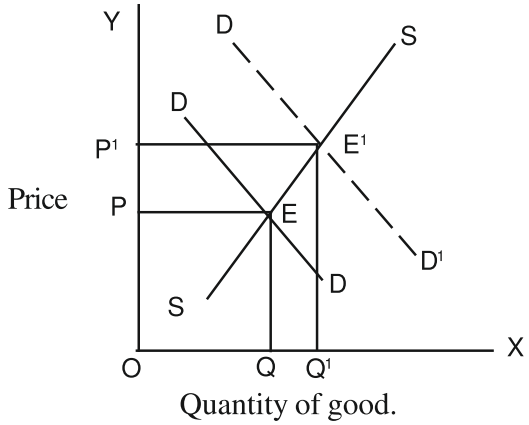

Figure 13.4

In the above Figure 13.4, the initial equilibrium price is OP with increase in demand D_1D_1 curve is the new demand curve and the new equilibrium is at E_1, hence the price rises to OP_1.

(B) Effect of decrease in demand:

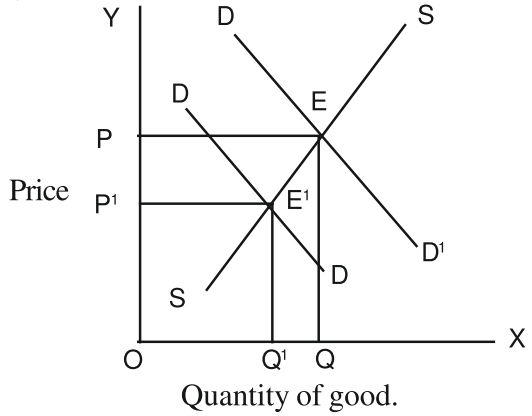

Figure 13.5

In the figure 13.5 The demand curve shifts backward due to decline in demand. New equilibrium is at E_1 and price falls form OP to OP_1.

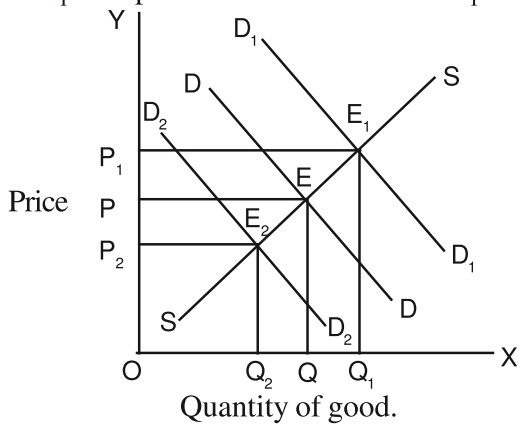

Figure 13.6

Explanation of the Figure-

In the Figure13.6 on OX axis demand and supply of a commodity and on OY axis price is depicted The initial equilibrium is established at point E and the price is OP and equilibrium quantity is OQ. Assuming other things constant with increase in demand, price increases and with decrease in demand, equilibrium price also decreases.

2. Effect of change in supply on the equilibrium:-

The following factors cause the change in supply-

A There is change in supply with the change in production cost. Increase in cost leads to decrease in supply and decrease in cost leads to increase in supply.

B Supply is also influenced by new inventions, due to increase in use of new substitutes the supply of old goods decrease.

C Change in technology affects supply through change in the production level of the commodity.

D The discovery of new sources of raw material increases the supply of good.

E There is change in supply of a commodity due to change in the perspective of the producer.

F Change in government polices also influences the supply of the commodity.

If the demand of a commodity and other factors are assumed to be constant, then with increase in supply of commodity the price will fall and quantity sold will increase. On the contrary, with decrease in supply of commodity, the price will rise and quantity sold will decline.

(A) Effect of increase in supply:-

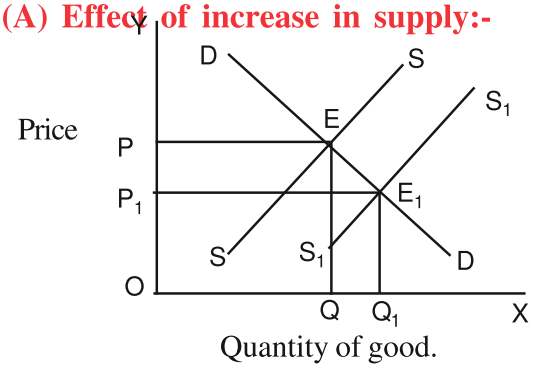

Figure 13.7

The figure 13.7 shows that with the change in supply of a good, equilibrium is also affected. With increase in supply, the supply curve shifts to S_1,S_1 and new equilibrium is at E_1. The price falls from OP to OP_1.

(B) Effect of decrease in supply:-

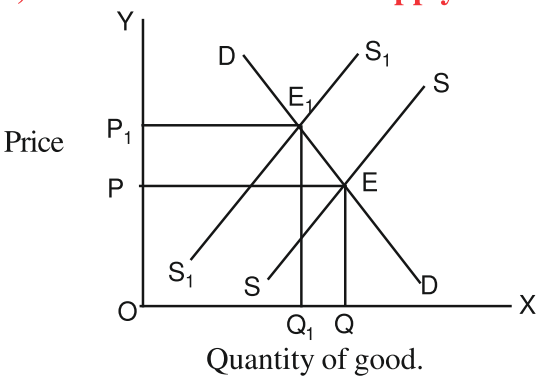

Figure 13.8

The above Figure13.8 depicts that on decrease in supply, the supply curve shifts to S_1S_1 and equilibrium point from E to E_1 and price also rises to OP_1.

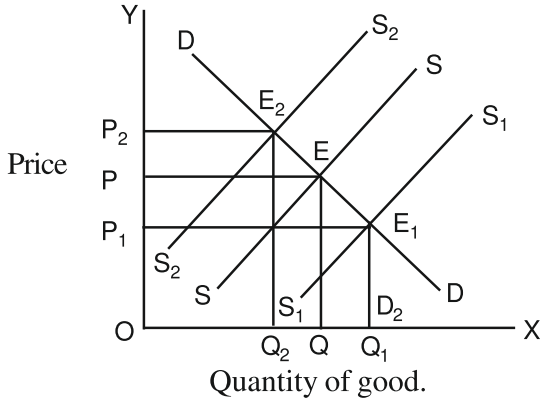

Figure 13.9

In the above Figure 13.9 the initial equilibrium is at point E where demand and supply curve intersect. OP is the equilibrium price and OQ is the equilibrium quantity. With increase in supply of a commodity the supply curve shifts to right i.e. S_1S_1 and new equilibrium is established at point E_1. Price decreases to OP_1 and quantity supplied increases to OQ_1. On the contrary, with decrease in supply, the supply curve shifts towards left to S_2S_2 and new equilibrium is established at E_2 the price rises to OP_2 and quantity supplied decreases to QQ_2.

Thus, change in supply of commodity brings change in equilibrium price in opposite direction. With increase in supply the equilibrium price falls and with decrease in supply the equilibrium price increases.

3. Impact on equilibrium price of simultaneous change in demand and supply-

The equilibrium price is affected with changes in demand & supply. At the same time both these forces have impact on the price. If changes in demand are greater in proportion to changes in supply then effect of demand will be more in price. On the contrary, if changes in supply are greater than demand then equilibrium price will have more effect on supply.

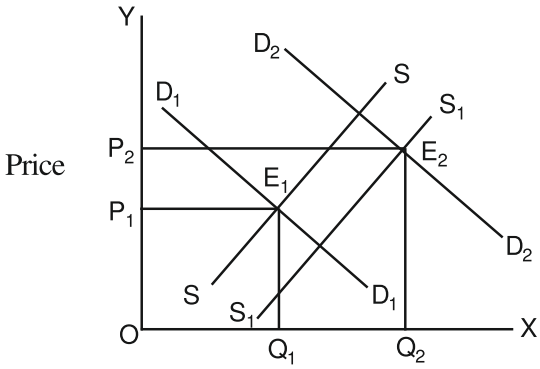

Figure 13.10

Analysis of Figure 13.10

The initial demand is DD and supply is SS Equilibrium price is OP_1 and equilibrium quantity is OQ_1. Due to increase in demand & supply, the demand curve shifts upwards to D_2D_2 and supply curve to S_1S_1 respectively. The new equilibrium is at point E_2. Thus, after change in demand and supply, the price increases to OP_2 and quantity of commodity to OQ_2.

The above analysis shows that if the demand and supply of a commodity both increase simultaneously, both forces have joint effect on equilibrium price. There can be increase or decrease in demand and supply. New equilibrium is established with change on any one side.

The effect of change in demand and supply of a commodity on equilibrium price and equilibrium quantity depands upon the change in direction and proporation of demand and supply. The possible situations can be as follows-

1. Increase in demand and supply : Increase in demand in comparision to supply can be more, less or in same proportion.

2. Decrease in demand and supply : Decrease in demand in comparision to supply can be more, less or in same proportion.

Important Points

- Equilibrium refers to point at which quantity of a good demanded is equal to its quantity supplied.
- The price of a commodity is determined at the equilibrium of demand and supply of a commodity.
- The slope of a market demand curve is negative.
- The slope of a market supply curve is positive.
- With rise in price of a commodity, its demand decreases
- With fall in price of a commodity, its demand increases.
- Generally. with increase in supply of a commodity its price falls.
- Generally decrease in the supply of a commodity leads to rise in the price.
- The summation of various individual demands is known as market demand.
- The summation of all individual supply is called the market supply.
- There is an inverse relationship between the price of commodity and its demand.

Exercise Questions

Objective Type Questions:-

1. The relation between the price and demand of a good is -
   (A) Positive (B) Negative
   (C) Zero (D) No relation
2. Equilibrium price satisfies -
   (A). Both buyers and sellers
   (B) Only buyers C) Only sellers
   (D) Neither buyer nor seller
3 The main reason for the demand of a good is-
   (A) Supply of money (B) Supply of good
   (C) The property to satisfy want
   (D) Availability of good
4. What is the objective of a producer to produce good
   (A) For social service (B) For self satisfaction
   (C) To earn profit (D) To earn prestige
5. The increase in supply of a good, the supply curve shifts towards -
   (A) Right (B) Left
   (C) Remains constant (D) Shifts any where

Very Short Answer Type Questions:-

1. Give the definition of equilibrium by Prof J.K. Mehta.
2. Which two factors determine the price of a commodity?
3. Explain the market equilibrium.
4. What is the meaning of market demand? Explain the concept of market demand.

Short Answer Type Questions:-

1. Write three factors responsible for change in supply.
2. Illustrate supply curve with the help of a Figure.
3. What is a Supply schedule.

Essay Type Questions:-

1. Construct a hypothetical market demand schedule and explain with the help of a Figure.
2. "Change in demand influences price equilibrium." Explain the statement with the help of a Figure.
3. Explain the equilibrium of demand and supply with the help of a Figure
4. Explain the market equilibrium.
5. What is the effect of change in supply on the equilibrium? Explain it.

Answer Table

1	2	3	4	5
B	A	C	C	A