

CHAPTER

FOUR

MARKET EQUILIBRIUM

1. DEMAND AND SUPPLY EQUILIBRIUM

MARKET

Market is a mechanism or arrangement that brings buyers (demanders) and sellers (suppliers) of good and service in contact with one another.

'Market is a place where buyers and sellers contact each other in order to purchase and sale of goods and services'.

Buyers and sellers may contact each other personally or indirectly through telephone, telegraph, fax, e-mail, etc. This personal or impersonal contact ultimately leads to price uniformity. So the economic market is free from geographical bondage and boundaries. The market may extend to a city, country or to the whole world. French Economist COURNOT defined market in the following words:

"Economists understand by the term market not any particular market place in which things are sold and bought but the whole of any region in which buyers and sellers are in such free interaction with one another that the price of the same goods tends to equality easily and quickly."

EQUILIBRIUM

Equilibrium means a state of balance.

MARKET EQUILIBRIUM

Market Equilibrium is a situation where quantity demand is equal to quantity supplied. There would be no shortage and surplus at market equilibrium. Market Equilibrium is also called market clearance, demand and supply equilibrium and Marshallian Cross.

EQUILIBRIUM PRICE

The Price of a commodity which is determined by the equilibrium of market forces i.e., demand and supply is called the **equilibrium price** or **market clearing price**. It is also called the **durable price** because it lasts long in the market.

If a price is determined in the market on which supply and demand are not equal, it will not prevail in the market for a long time and very soon the equilibrium price will be restored.

EQUILIBRIUM QUANTITY

The quantity of a commodity which is determined by the equilibrium of market forces i.e., demand and supply is called the **equilibrium quantity** or **market clearing quantity**.

EXPLANATION WITH THE HELP OF SCHEDULE

Suppose we have to determine the equilibrium price and quantity of sugar in the market. We can explain the market equilibrium process with the help of following schedule.

DEMAND FOR SUGAR

Demand for sugar arises from the buyers and the buyers purchase more quantity when the price is lower and lesser quantity when the price is higher.

PRICE OF SUGAR (Per Unit)	DEMAND FOR SUGAR
Rs. 50	1500 Units
Rs.100	1200 Units
Rs.150	900 Units
Rs.200	600 Units
Rs.250	300 Units

This schedule shows that as the price increases, the demand for sugar declines and when the price decreases, the demand for sugar increases.

SUPPLY OF SUGAR

Supply of sugar is that quantity of it which is offered for sale at a particular price. When the price is higher, sellers offer more quantity and vice versa.

PRICE OF SUGAR (Per Unit)	SUPPLY OF SUGAR
Rs. 50	300Units
Rs.100	600Units
Rs.150	900Units
Rs.200	1200Units
Rs.250	1500Units

This schedule shows that as the price increases, the supply of sugar also increases and when the price decreases, the supply of sugar also declines.

MARKET EQUILIBRIUM

Market Equilibrium is a situation where quantity demand is equal to quantity supplied. The equilibrium price and quantity of sugar will be determined by the equilibrium of supply of and demand for sugar. This is shown in the following schedule.

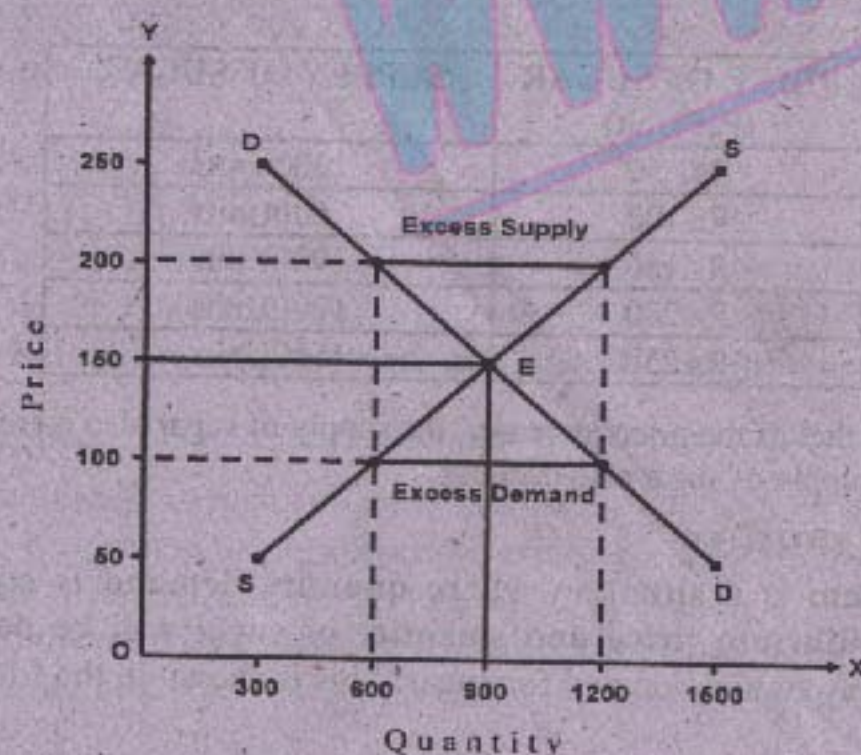
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PRICE OF SUGAR (Per Unit)	DEMAND FOR SUGAR	SUPPLY OF SUGAR	MARKET SITUATION	
Rs. 50	1500 Units	300 Units	$Q_d > Q_s$	Shortage (Excess Demand)
Rs. 100	1200 Units	600 Units	$Q_d > Q_s$	Shortage (Excess Demand)
Rs. 150	900 Units	900 Units	$Q_d = Q_s$	Equilibrium
Rs. 200	600 Units	1200 Units	$Q_d < Q_s$	Surplus (Excess Supply)
Rs. 250	300 Units	1500 Units	$Q_d < Q_s$	Surplus (Excess Supply)

This schedule shows that Rs. 150 will be determined in the market as price of sugar since at this price demand for and supply of sugar are equal. This price will prevail in the market because at this price all the quantity supplied is purchased. No other price, more or less than the equilibrium price can be set in the market e.g.,

If the price is Rs. 200 in spite of Rs. 150, at this price the demand for sugar is 600 units while its supply is 1200 units i.e., supply is greater than demand. The competition will start among the sellers and the price will go on decreasing and once again the equilibrium price will be restored in the market.

Similarly if the price is Rs. 100 in spite of equilibrium price Rs. 150, at this price demand for sugar is 1200 units and the supply of sugar is 600 units i.e., demand is greater than supply. The competition will start among the buyers and the price will start rising and once again the equilibrium price will be restored in the market. That is why the equilibrium price is also called the Durable Price.



In this diagram, equilibrium point 'E' determines the equilibrium price Rs. 150 and equilibrium quantity 900 units. If the price is fixed Rs. 200 in spite of Rs. 150, there will be excess supply in the market and the competition among the sellers will start and the price will come down to Rs. 150 that is equilibrium one. Similarly if the price is set in the market Rs. 100, there will be

excess demand in the market and the competition among the buyers will start and the price will go up to the equilibrium price Rs. 150.

2. EFFECTS ON MARKET EQUILIBRIUM

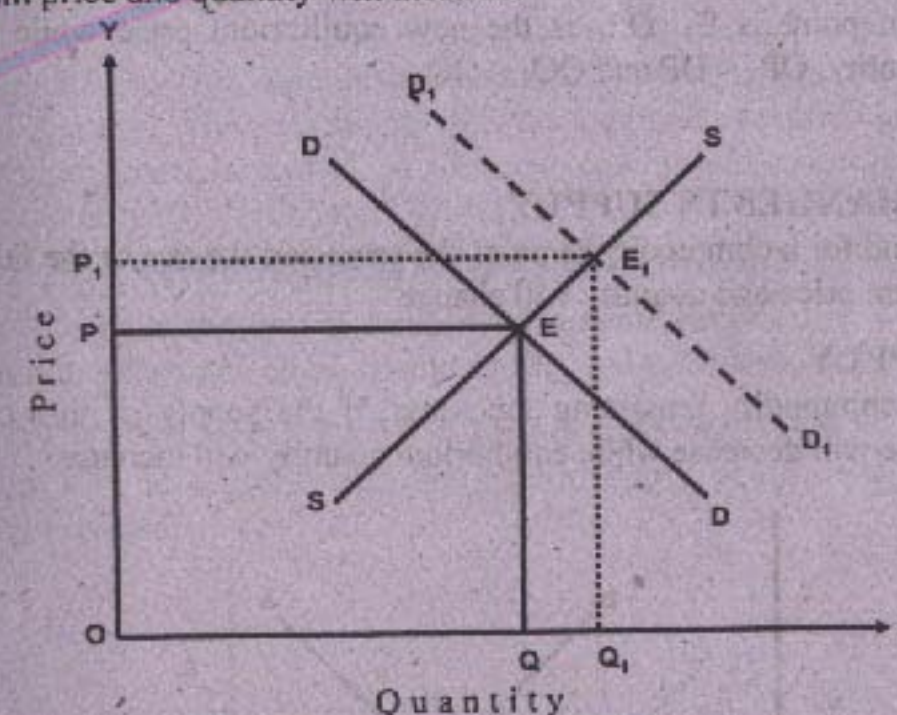
Market Equilibrium is a situation where quantity demand is equal to quantity supplied. The equilibrium price and quantity of a commodity will be determined by the equilibrium of supply of and demand. Due to rise or fall of demand and supply, new equilibrium establishes in place of the old one and new price and quantity is determined.

EFFECTS OF CHANGES IN DEMAND

When the supply of a commodity remains the same and the rise or the fall of demand takes place, equilibrium price and quantity will change.

1. RISE OF DEMAND

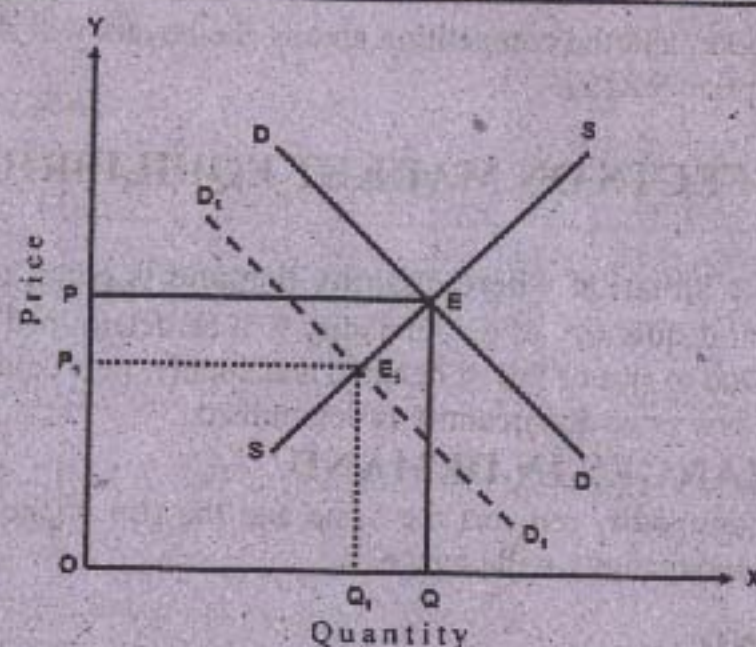
If Supply of a commodity remains the same, but the demand for that commodity rises. So, the equilibrium price and quantity will increase.



In this diagram, 'E' is the equilibrium point, OP is the equilibrium price & OQ is the equilibrium quantity. When the demand rises, demand curve shifts rightward to D_1D_1 and the new equilibrium point is E_1 . OP_1 is the new equilibrium price while OQ_1 is the new equilibrium quantity. $OP_1 > OP$ and $OQ_1 > OQ$.

2. FALL OF DEMAND

Supply of a commodity remaining the same, if the demand for that commodity falls, equilibrium price and quantity will decrease.



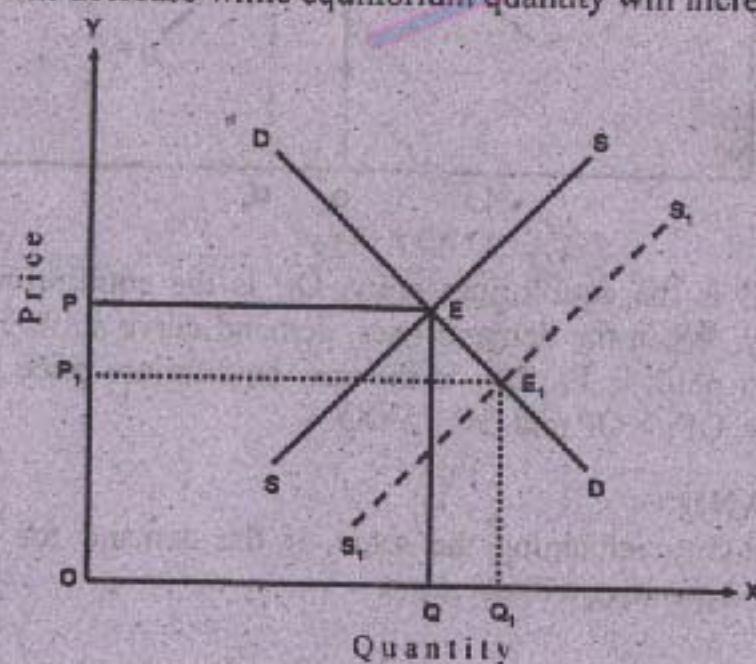
In this diagram, E is the equilibrium point, OP is the equilibrium price & OQ is the equilibrium quantity. When the demand falls, demand curve shifts leftward to D_1D_1 and the new equilibrium point is E_1 . OP_1 is the new equilibrium price while OQ_1 is the new equilibrium quantity. $OP_1 < OP$ and $OQ_1 < OQ$.

EFFECTS OF CHANGES IN SUPPLY

When the demand for a commodity remains the same and the rise or the fall of supply takes place, equilibrium price and quantity will change.

3. RISE OF SUPPLY

Demand for a commodity remaining the same, if the supply of that commodity rises, equilibrium price will decrease while equilibrium quantity will increase.

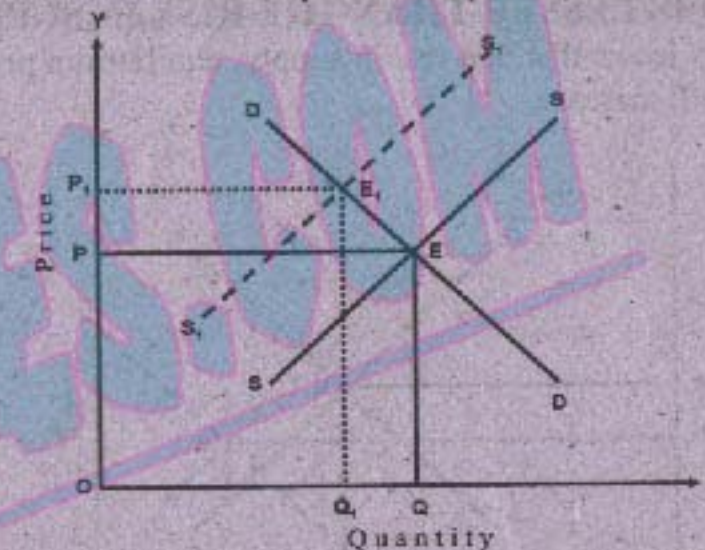


In this diagram, E is the equilibrium point, OP is the equilibrium price & OQ is the equilibrium quantity. When the supply rises, supply curve shifts downward to S_1S_1 and the

new equilibrium point is E_1 . OP_1 is the new equilibrium price while OQ_1 is the new equilibrium quantity. $OP_1 < OP$ and $OQ_1 > OQ$.

4. FALL OF SUPPLY

Demand for a commodity remaining the same, if the supply of that commodity falls, equilibrium price will increase while equilibrium quantity will decrease.



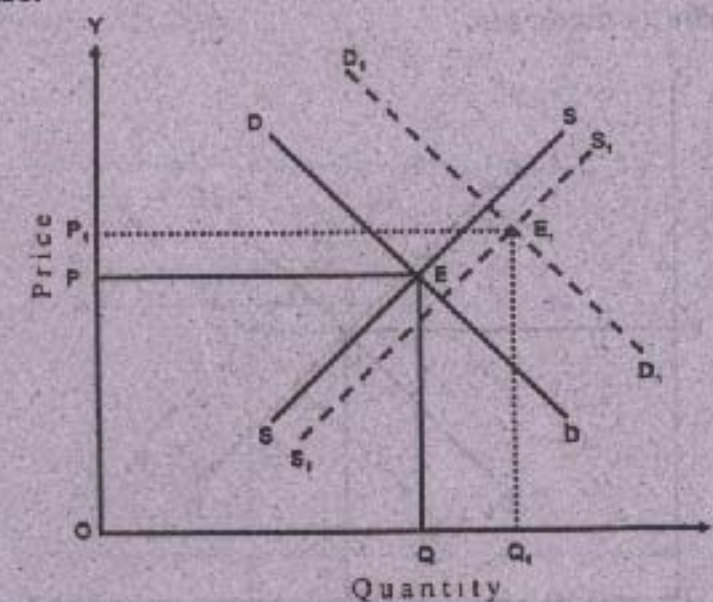
In this diagram, E is the equilibrium point, OP is the equilibrium price & OQ is the equilibrium quantity. When the supply falls the supply curve shifts upward to S_1S_1 and the new equilibrium point is E_1 . OP_1 is the new equilibrium price while OQ_1 is the new equilibrium quantity. $OP_1 > OP$ and $OQ_1 < OQ$.

EFFECTS OF CHANGES IN DEMAND AND SUPPLY

It is possible that the changes in demand and supply occur at the same time. So the new equilibrium establishes and equilibrium quantity and price also change.

5. RISE IN DEMAND IS GREATER THAN THE RISE IN SUPPLY

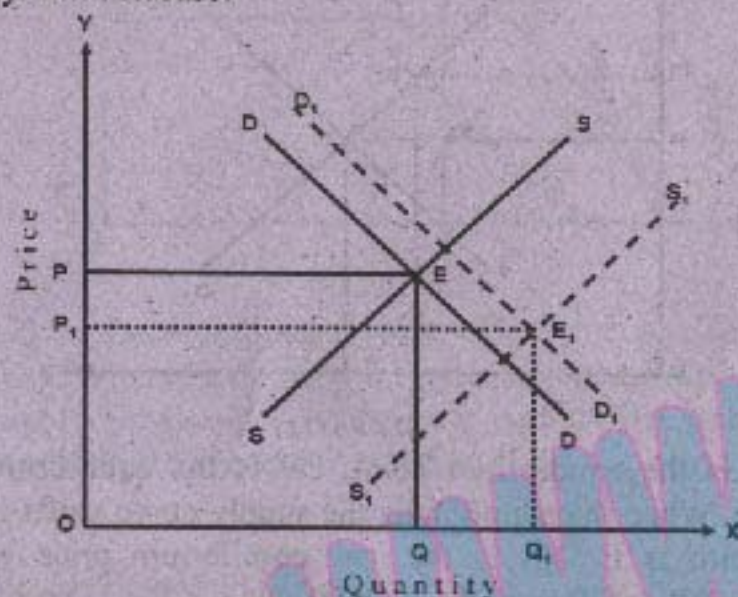
If the rise in demand is greater than the rise in supply, equilibrium price and equilibrium quantity will increase.



In this diagram, E is the equilibrium point, OP is the equilibrium price & OQ is the equilibrium quantity. When the supply and demand increases, both the curves shift to S_1S_1 and D_1D_1 . The new equilibrium point is E_1 . Since the rise in demand is greater than the rise in supply, so the new equilibrium price OP_1 and the new equilibrium quantity OQ_1 are greater than the old price and quantity. $OP_1 > OP$ and $OQ_1 > OQ$.

6. RISE IN DEMAND IS LESSER THAN THE RISE IN SUPPLY

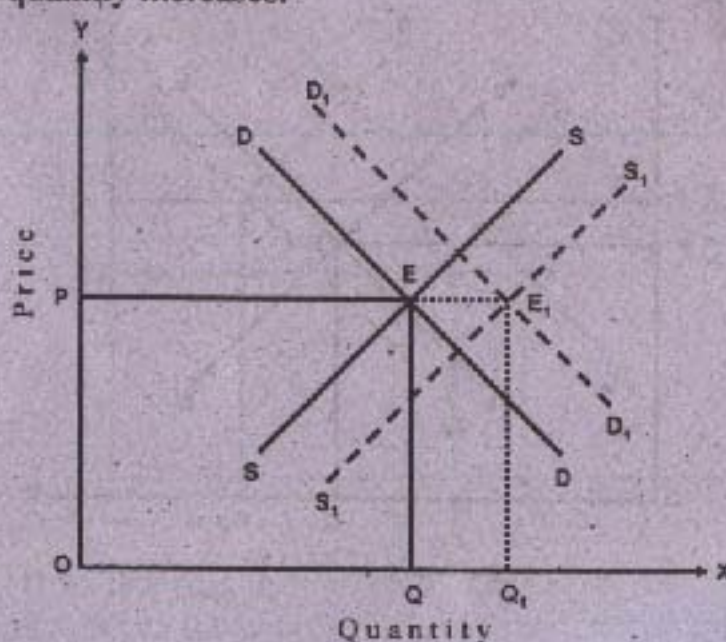
If the rise in demand is lesser than the rise in supply, equilibrium price will decrease while equilibrium quantity will increase.



In this diagram, E is the equilibrium point, OP is the equilibrium price & OQ is the equilibrium quantity. When the supply and demand increases, both the curves shift to S_1S_1 and D_1D_1 . The new equilibrium point is E_1 . Since the rise in demand is lesser than the rise in supply, so the new equilibrium price OP_1 is lesser than the old one while the new equilibrium output OQ_1 is greater than the old one. $OP_1 < OP$ and $OQ_1 > OQ$.

7. RISE IN DEMAND IS EQUAL TO RISE IN SUPPLY

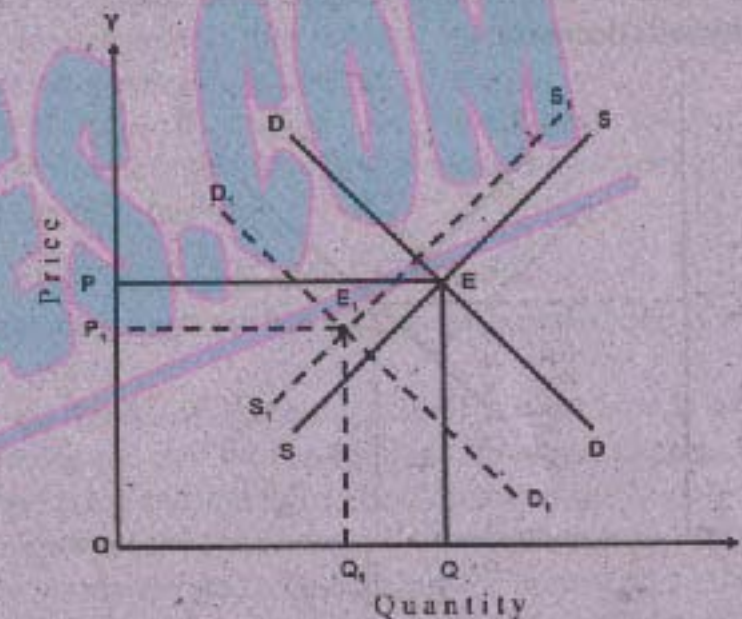
If the rise in demand and the rise in supply are equal, there is no change in equilibrium price but the equilibrium quantity increases.



In this diagram, E is the equilibrium point, OP is the equilibrium price & OQ is the equilibrium quantity. When the supply and demand increases, both the curves shift to S_1S_1 and D_1D_1 . The new equilibrium point is E_1 . Since the rise in demand is equal to the rise in supply, so there is no change in price and equilibrium quantity increases.

8. FALL IN DEMAND IS GREATER THAN FALL IN SUPPLY

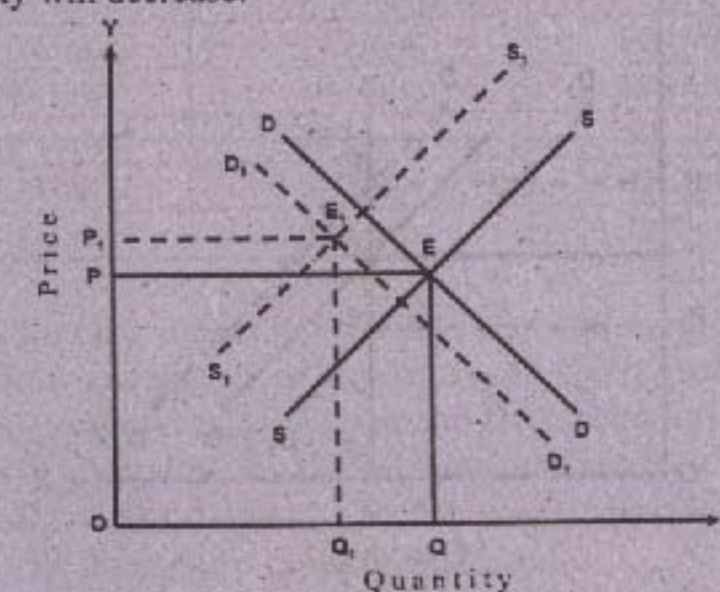
If the fall in demand is greater than the fall in supply, equilibrium price and quantity will decrease.



In this diagram, E is the equilibrium point, OP is the equilibrium price & OQ is the equilibrium quantity. When the supply and demand falls, both the curves shift to S_1S_1 and D_1D_1 . The new equilibrium point is E_1 . Since the fall in demand is greater than the fall in supply, so the new equilibrium price and quantity are lesser than the previous ones. $OP_1 < OP$ and $OQ_1 < OQ$.

9. FALL IN DEMAND IS LESSER THAN FALL IN SUPPLY

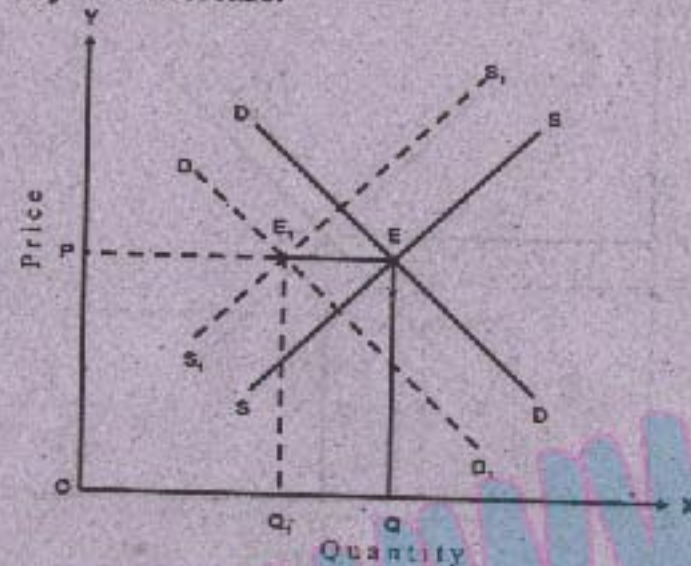
If the fall in demand is lesser than the fall in supply, equilibrium price will increase while equilibrium quantity will decrease.



In this diagram, E is the equilibrium point, OP is the equilibrium price & OQ is the equilibrium quantity. When the supply and demand falls, both the curves shift to S_1S_1 and D_1D_1 . The new equilibrium point is E_1 . Since the fall in demand is lesser than the fall in supply, so the new equilibrium price OP_1 is greater than the old one while the new equilibrium output OQ_1 is lesser than the previous one. $OP_1 > OP$ and $OQ_1 < OQ$.

10. FALL IN DEMAND IS EQUAL TO FALL IN SUPPLY

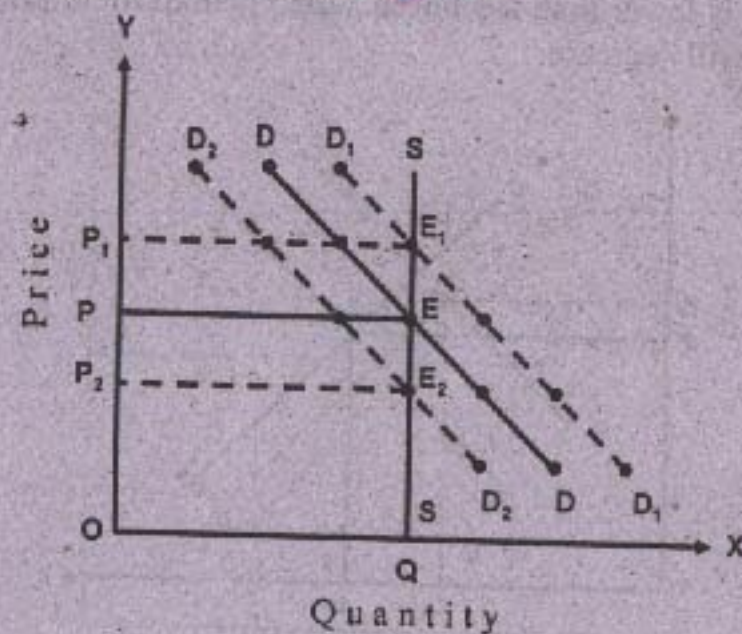
If the fall in demand is equal to fall in supply, there is no change in equilibrium price while the equilibrium quantity will decrease.



In this diagram, E is the equilibrium point, OP is the equilibrium price & OQ is the equilibrium quantity. When the supply and demand falls, both the curves shift to S_1S_1 and D_1D_1 . The new equilibrium point is E_1 . Since the fall in demand is equal to the fall in supply, there is no change in equilibrium price but equilibrium quantity decreases to OQ_1 .

11. FIXED SUPPLY AND RISE OR FALL IN DEMAND

The supply of perishable goods is fixed. In this case if the demand rises, its price also rises and vice versa.



In this diagram, SS curve is vertical which shows that the supply of perishable goods is perfectly inelastic or fixed. In this case when the demand rises (D_1D_1), equilibrium price also rises (OP_1) and when demand decreases (D_2D_2), equilibrium price also falls (OP_2).

3. MARKET PRICE

The price which is determined in the market by the equilibrium of demand and supply forces during the market period is known as market price. Market period usually consists of more or less one day. Market price is determined each day separately by the equilibrium of market period's demand and market period's supply. This price prevails in the market for only one day.

MARKET PRICE FOR PERISHABLE GOODS

The goods which cannot be stored for a long time and there is a chance of their wastage are called perishable goods.

Milk, fish, fruit and vegetable are the examples of the perishable goods. The supply of these goods remain fixed during the market period since these goods cannot be produced and offered for sale in the market during the market period and also the supply of these goods cannot be reduced because these goods cannot be stored till the next day i.e., for an other market period. As the supply of these goods is fixed, the demand for these goods plays an effective role in the determination of market price of perishable goods. If at any day, demand is greater than the supply, the price will also be higher and vice versa.

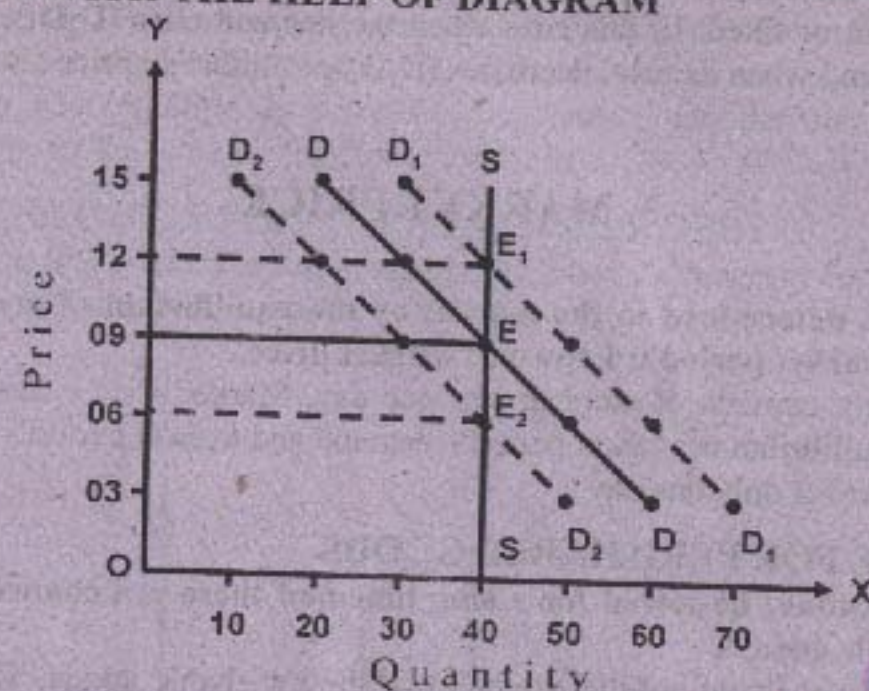
EXPLANATION WITH THE HELP OF SCHEDULE

With the help of following schedule, we can explain the process of determination of market price for perishable goods.

PRICE	MARKET PERIOD'S SUPPLY	MARKET PERIOD'S DEMAND	INCREASED DEMAND	DECREASED DEMAND
Rs.15/Unit	40 Units	20 Units	30 Units	10 Units
Rs.12/Unit	40 Units	30 Units	40 Units	20 Units
Rs.09/Unit	40 Units	40 Units	50 Units	30 Units
Rs.06/Unit	40 Units	50 Units	60 Units	40 Units
Rs.03/Unit	40 Units	60 Units	70 Units	50 Units

This schedule shows that the sellers have to sell their commodity at the price Rs.09/unit. At this price demand for and supply of the commodity are equal. At this price the sellers may sell whole of the commodity. If the demand for that commodity increases, the price of that commodity will go up i.e., Rs.12/unit, since the supply of that commodity cannot be increased. Similarly if the demand for that commodity declines, the price will go down i.e., Rs.06/unit, as the supply cannot be reduced.

EXPLANATION WITH THE HELP OF DIAGRAM



This diagram shows that SS is the market period's supply curve that is vertical and shows that market period's supply is perfectly inelastic. DD is the demand curve. Both these curves intersect each other at point E. At this point market price is Rs.09/unit and equilibrium quantity is 40 units. When the demand increases, the demand curve shifts to D_1D_1 . As the supply cannot show any response, the market price goes up to Rs.12/unit at the equilibrium point E_1 . Similarly when demand declines, it only affects the market price that goes down to Rs.06/unit, as supply remains passive.

MARKET PRICE FOR DURABLE GOODS

'The goods that can be stored for a long time and there is no danger of their wastage, are called durable goods'.

The difference between perishable and durable goods is that the whole quantity of perishable goods must have to be sold i.e., that price is charged at which the whole quantity of perishable goods may be sold out. But in case of durable goods, if the market price declines from a particular level, the sellers may stop some of the quantity. If the price increases continuously, the supply of durable goods cannot be increased more than a certain limit, since daily supply cannot be increased endlessly.

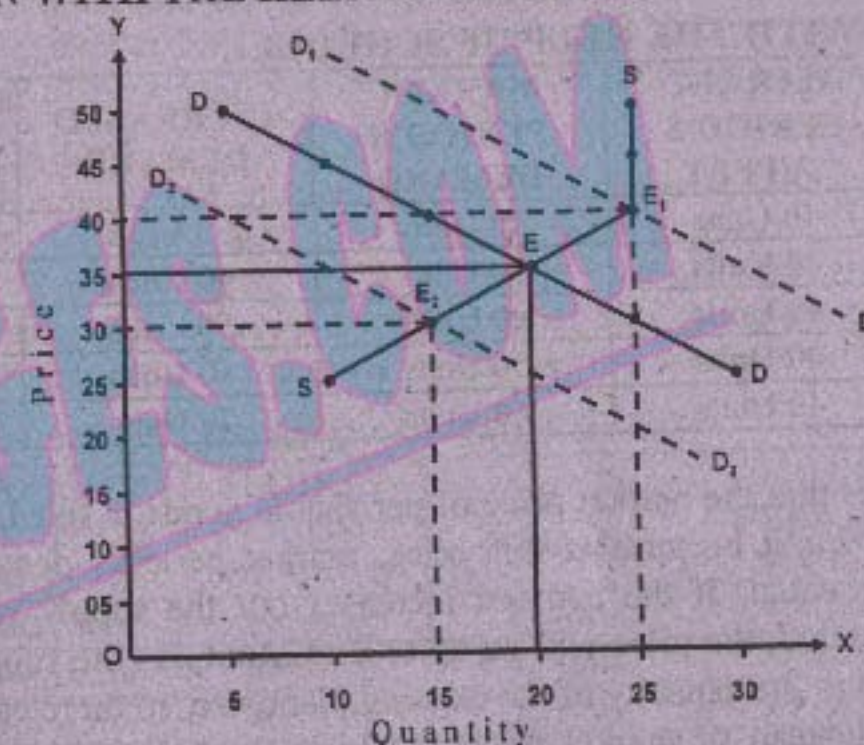
EXPLANATION WITH THE HELP OF SCHEDULE

PRICE	MARKET PERIOD'S SUPPLY	MARKET PERIOD'S DEMAND
Rs.25/Unit	10 Units	30 Units
Rs.30/Unit	15 Units	25 Units
Rs.35/Unit	20 Units	20 Units
Rs.40/Unit	25 Units	15 Units
Rs.45/Unit	25 Units	10 Units
Rs.50/Unit	25 Units	05 Units

This schedule shows that if the price of the given commodity increases continuously, its supply cannot be increased after a certain limit. If the price increases from Rs.40/unit, the supply will remain 25 units. But if the price declines, the sellers may reduce the supply of that commodity. The price of durable goods will be determined also by the equilibrium of demand and supply forces.

This schedule also shows that at lower prices, the supply of durable goods is more elastic while at higher prices, the supply is perfectly inelastic.

EXPLANATION WITH THE HELP OF DIAGRAM



This diagram shows that SS curve is more elastic at lower prices while it is perfectly inelastic at higher prices. Demand curve DD intersects the supply curve at point E where equilibrium price Rs.35/unit is determined and equilibrium quantity is 20 units. If demand increases demand curve shifts to D_1D_1 and new equilibrium point is E_1 and market price is Rs.40/unit and equilibrium quantity is 25 units. But there will be no further rise in supply with the increase in demand, so only market price will go up. In case of decline in demand, the demand curve shifts to D_2D_2 and the new equilibrium is at point E_2 where market price is Rs.30/unit and equilibrium quantity is 15 units i.e., at lower prices supply of the durable commodity can be reduced without any fear of wastage.

4. NORMAL PRICE

'The price that is determined in the market in such conditions when the sellers have enough time to adjust the supply of a commodity in accordance with demand is known as Normal Price'.

NORMAL PRICE IN THE SHORT-RUN

The price that is determined in the market for a short period by the equilibrium of short period's supply and short period's demand is known as the Normal Price for the short period.

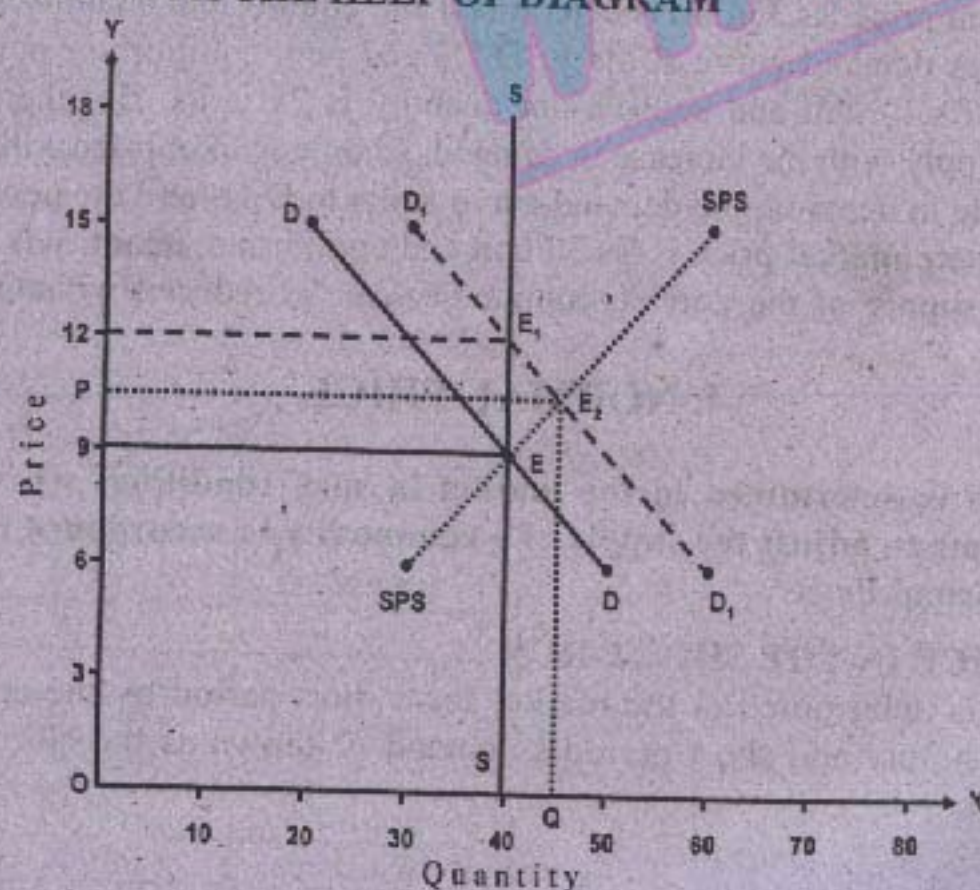
The supply of durable goods in the market period is less elastic and the supply of perishable goods in the market period is perfectly inelastic while the supply of goods during the short period is more elastic to the extent of the capacity of the existing plant size.

EXPLANATION WITH THE HELP OF SCHEDULE

PRICE	MARKET PERIOD'S SUPPLY	MARKET PERIOD'S DEMAND	INCREASED DEMAND	SHORT PERIOD'S SUPPLY
Rs.15/Unit	40 Units	20 Units	30 Units	60 Units
Rs.12/Unit	40 Units	30 Units	40 Units	50 Units
Rs.09/Unit	40 Units	40 Units	50 Units	40 Units
Rs.06/Unit	40 Units	50 Units	60 Units	30 Units
Rs.03/Unit	40 Units	60 Units	70 Units	20 Units

This schedule shows that the market price of perishable goods is fixed. Market price is determined as Rs.09/unit because at this price, market period's demand and market period's supply are equal. If the demand increases but the supply remains constant during the market period, the price will go up to Rs.12/unit. As the supply can increase in the short - run up to the capacity of the existing plant size, so there can be a tendency for an other price instead of market price at which short period's supply and short period's demand are equal.

EXPLANATION WITH THE HELP OF DIAGRAM



This diagram shows that market period's supply curve SS and market period's demand curve DD intersect each other at point E. At this point equilibrium price is Rs.09/unit and equilibrium quantity is 40 units. If the demand increases during the short-run, the demand curve shifts to D_1D_1 . If the supply remains fixed during the market period, the price would increase from Rs.09/unit to Rs.12/unit. As the supply may increase during the short-run, short period's supply curve SPS is more elastic. This supply curve intersects D_1D_1 at point E_1 . At this point equilibrium price is OP that is known as the Normal Price for the short period.

NORMAL PRICE IN THE LONG RUN

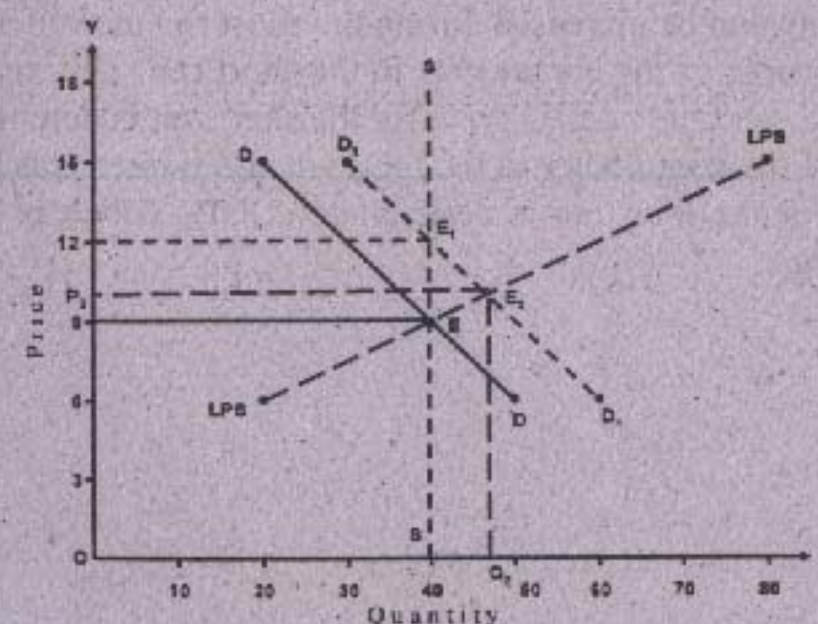
The price that is determined with in the market by the equilibrium of long period's demand and long period's supply is known as the Normal Price for the long period. Long run means the period during which the supply of a commodity can be increased by establishing new factories or by expanding the sizes of the existing plants. So during the long run, the supply of a commodity is more elastic than that of in the short run.

EXPLANATION WITH THE HELP OF SCHEDULE

PRICE	MARKET PERIOD'S SUPPLY	MARKET PERIOD'S DEMAND	INCREASED DEMAND	SHORT PERIOD'S SUPPLY	LONG PERIOD'S SUPPLY
Rs.15/Unit	40 Units	20 Units	30 Units	60 Units	80 Units
Rs.12/Unit	40 Units	30 Units	40 Units	50 Units	60 Units
Rs.09/Unit	40 Units	40 Units	50 Units	40 Units	40 Units
Rs.06/Unit	40 Units	50 Units	60 Units	30 Units	20 Units

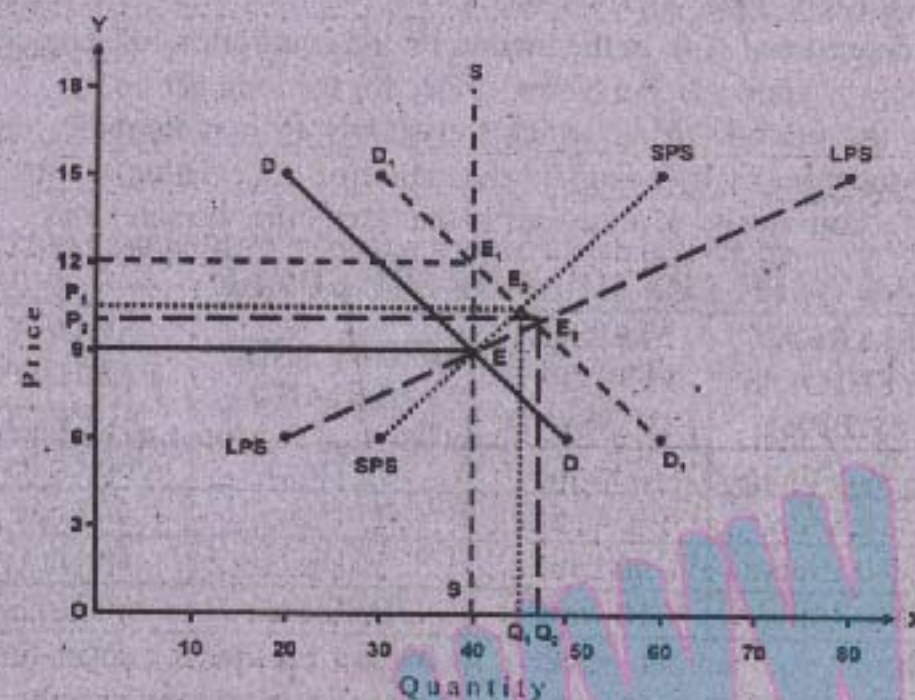
This schedule shows that market price is Rs.09/unit at which market period's demand and market period's supply are equal. Fourth column of this schedule shows increased demand. Fifth and sixth columns show the short period's supply and long period's supply respectively. Long period's supply is more elastic than that of short period.

EXPLANATION WITH THE HELP OF DIAGRAM



According to this diagram market period's supply curve SS and market period's demand curve DD intersect each other at point E . At this point, Rs.09/unit is determined as market price. If demand increases the demand curve shifts to D_1D_1 and if the supply of the commodity does not change, the price will go up to Rs.12/unit at equilibrium point E_1 . LPS is the supply curve of the commodity in the long run and it intersects D_1D_1 at point E_2 and the normal price for the long run is determined at OP_2 .

SUMMARY DIAGRAM



According to this diagram market period's supply curve SS and market period's demand curve DD intersect each other at point E . At this point, Rs.09/unit is determined as market price. If demand increases the demand curve shifts to D_1D_1 and if the supply of the commodity does not change, the price will go up to Rs.12/unit at equilibrium point E_1 . The supply can be increased during the short run as well as in the long run. So SPS is the supply curve of the commodity in the short run. This supply curve intersects the D_1D_1 at point E_2 and the normal price for the short run is determined as OP_1 . LPS is the supply curve of the commodity in the long run and it intersects D_1D_1 at point E_3 and the normal price for the long run is determined at OP_2 which is lower than the short period's normal price.

QUESTIONS FOR REVIEW

Q No.1

How the Price of a commodity can be determined in the market? Why this price is called durable Price? Explain with the help of schedule & diagram.

Discuss equilibrium of Demand & Supply with the help of Schedule & Diagram. (B.Z.U. 298)

'Equilibrium price is one at which the amount demanded is exactly equal to the amount supplied'. Explain with the help of schedule & diagram. (B.Z.U. 199)

Q No.2

What are the effects of changes in demand & supply on equilibrium price & quantity? Explain with the help of diagrams.

What are the effects of changes in supply on equilibrium price & quantity?

Q No.3

What is Market Price? How it can be determined for Perishable & Durable goods?

Q No.4

What is Normal Price? How it can be determined in the Short Run as well as in the Long Run?