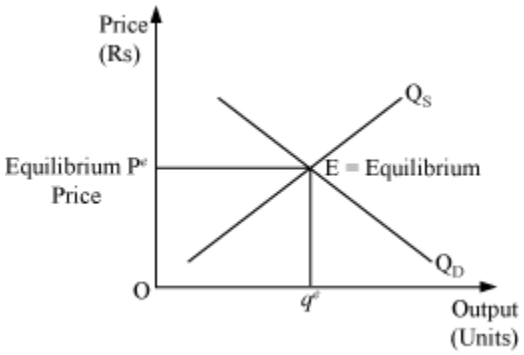
CHAPTER 5

MARKET EQUILIBRIUM

- **Market Equilibrium:** It is defined as the state of rest which is determined by the rational objectives of consumers and producers. The rational objective of consumers is to maximise their satisfaction, given their money income, while that of the producers is to maximise their profit, given their cost structure.
- **Equilibrium Price:** The price at which the market supply and market demand intersect each other gives equilibrium price and the corresponding quantity of output is called **equilibrium output.**



Symbolically Market Equilibrium is denoted as:

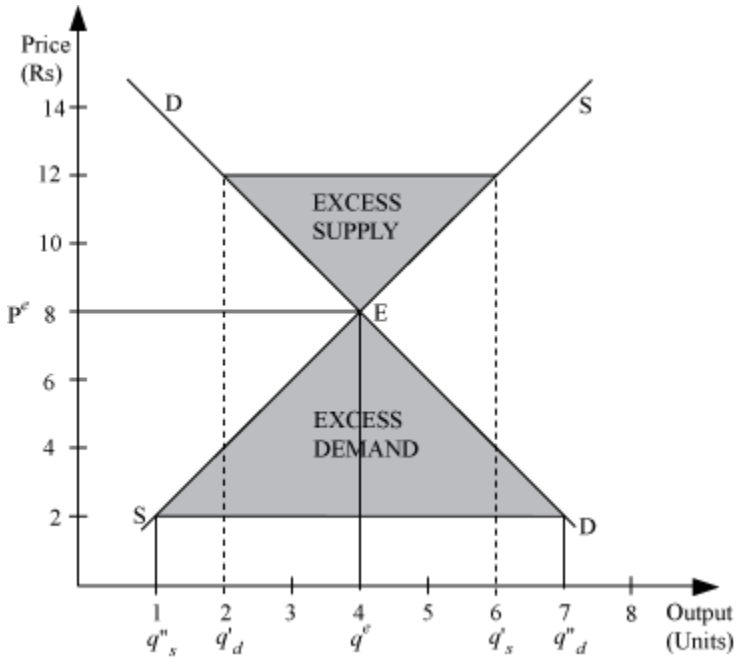
$Q_S\ (P^e) = Q_D\ (P^e)$

Q_S = Market supply at equilibrium price

Q_D = Market Demand at equilibrium price

P^e = Equilibrium price

- **Excess Demand** – It is defined as a situation where the market demand exceeds the market supply at a particular price.
- **Excess Supply** – It is defined as a situation where the market demand falls short of the market supply at a particular price.



Excess Demand = $q''d - q''s$ = 6 units

Excess Supply = $q's - q'd$ = 4 units

Equilibrium Price = Rs 8

Equilibrium Output = 4 units

❖ **Market Equilibrium under Fixed Number of Firms**

Shift in Demand and Supply

The change in the equilibrium price and quantity with respect to shift in demand and supply is fragmented under three situations:

Changes in market demand only

Change in market supply only

Simultaneous changes in both – market demand and market supply.

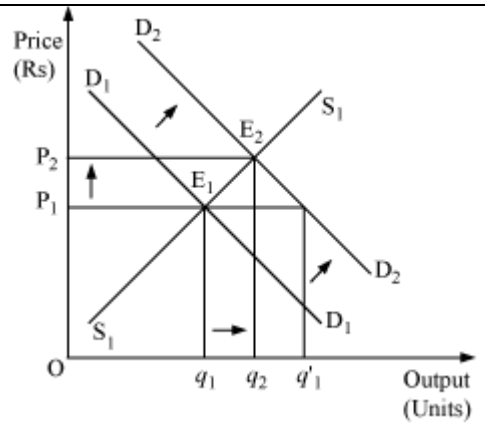
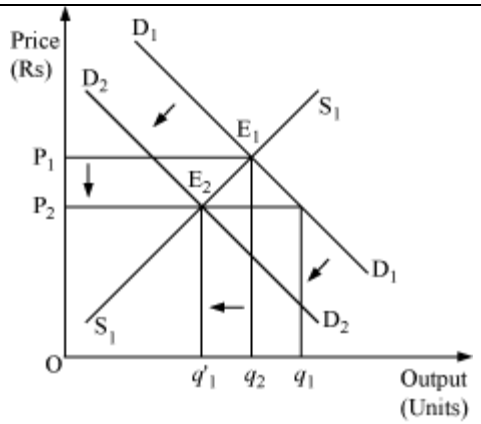
1) **Changes in market demand**

The change in market demand can be:

a) **Increase in demand**

b) **Decrease in demand**

Effects of Change in Demand with Supply Unchanged on Equilibrium Price and Output				
Change in	**Shift in**	**Equilibrium**	**Equilibrium**	**Figure**

Demand	Demand Curve	Output	Price	
a) Increase in Demand	Rightwards	Rise	Rise	
b) Decrease in Demand	Leftwards	Fall	Fall	

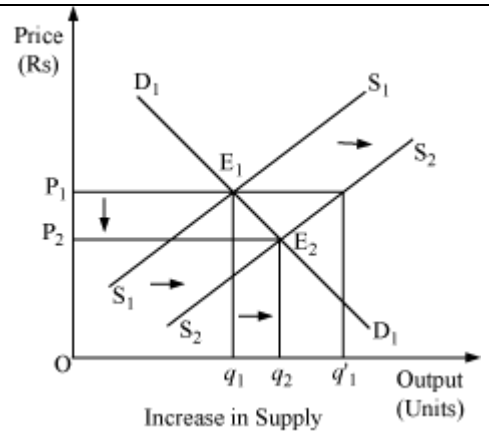
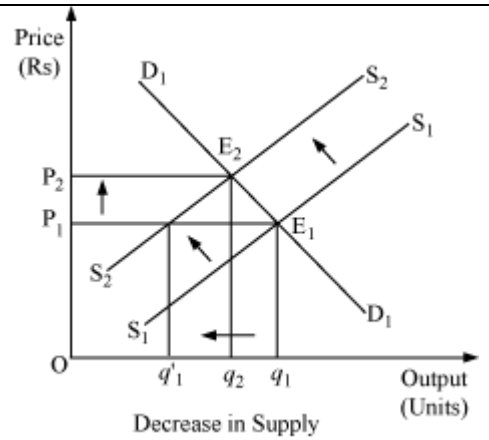
2) Change in Market Supply

The change in market supply can be:

a) **Increase in Market Supply**

b) **Decrease in Market Supply**

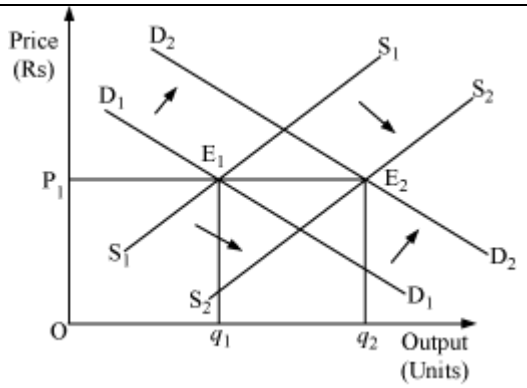
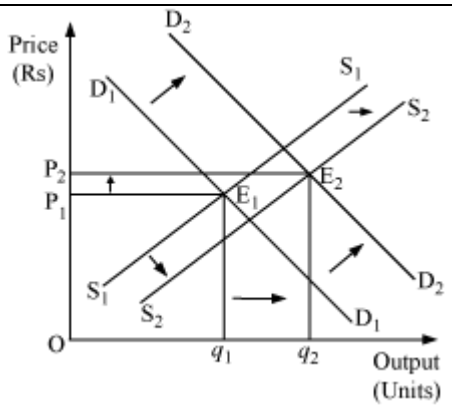
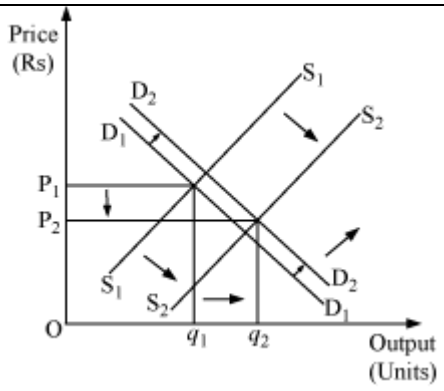
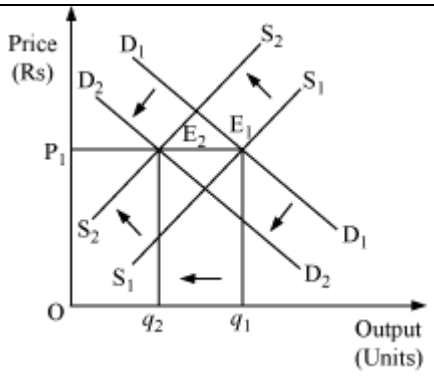
Effects of Change in Supply with Demand Unchanged on Equilibrium Price and Output				
Change in Demand	**Shift in Demand Curve**	**Equilibrium Output**	**Equilibrium Price**	**Figure**

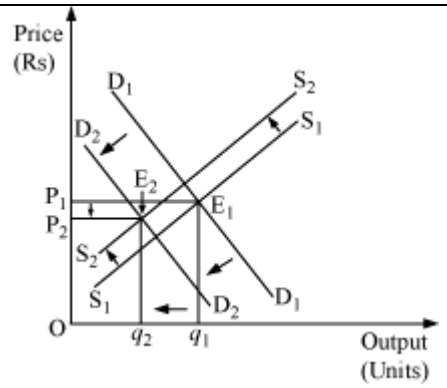
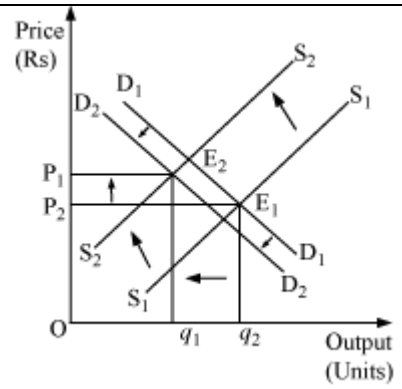
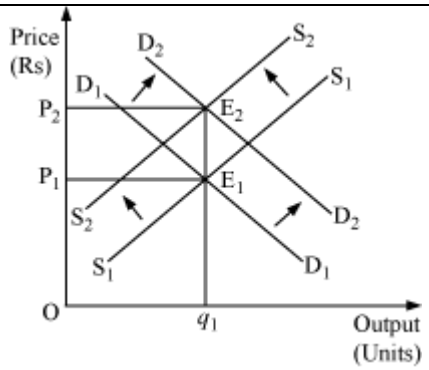
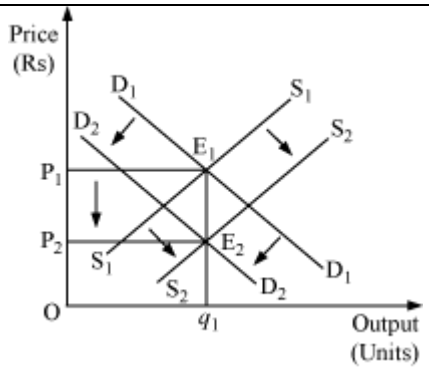
a) Increase in Supply	Rightwards	Fall	Rise	
b)Decrease in Supply	Leftwards	Rise	Fall	

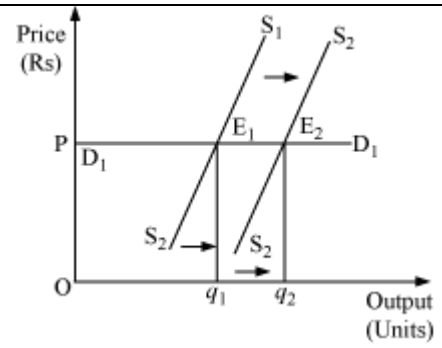
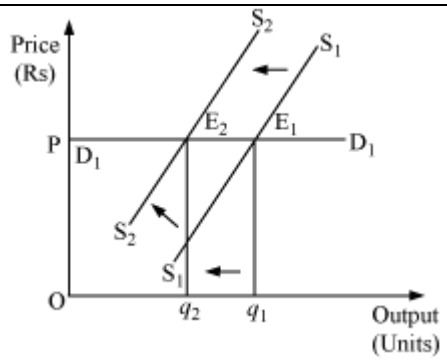
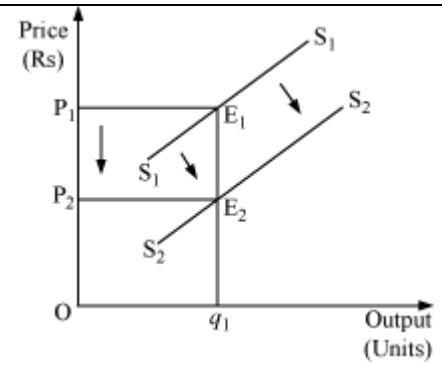
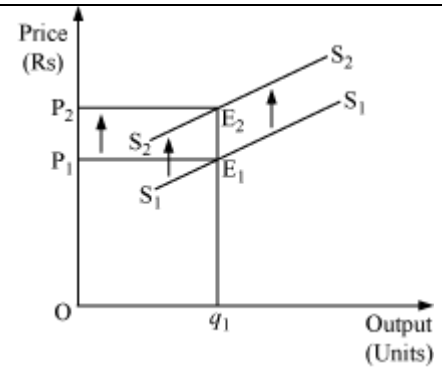
3) Simultaneous change in market demand and market supply.

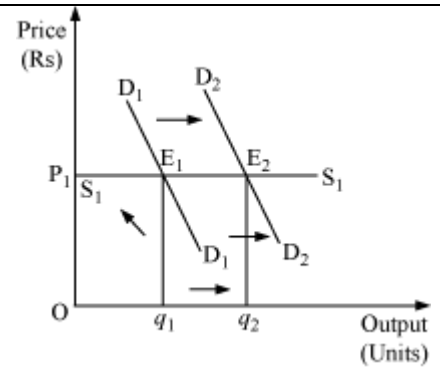
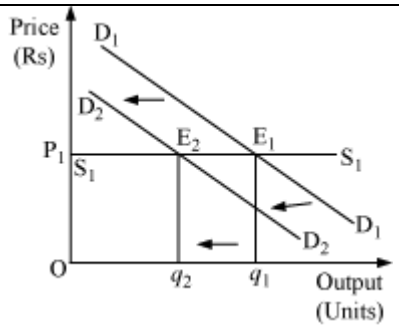
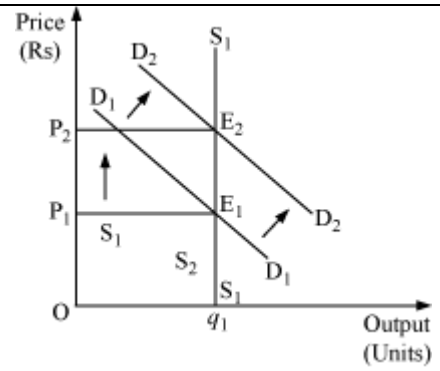
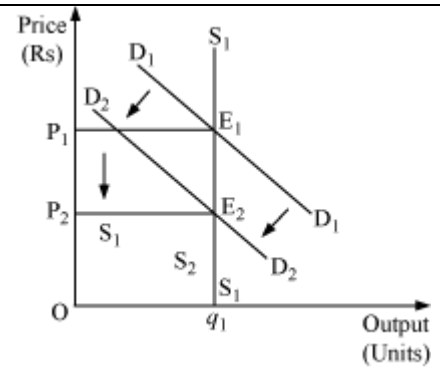
The simultaneous change in market demand and market supply affects the equilibrium price and output depends on the magnitude of the change in demand and supply.

Effects of Simultaneous Change in Demand and Supply on Equilibrium Price and Output			
Cases	**Equilibrium Price**	**Equilibrium Quantity**	**Figure**
Both demand and supply changes simultaneously in the same direction			

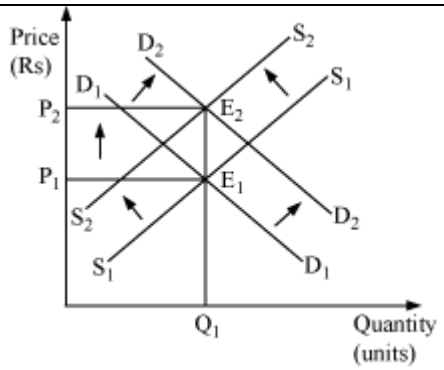
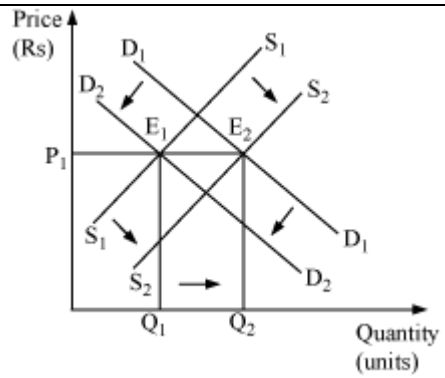
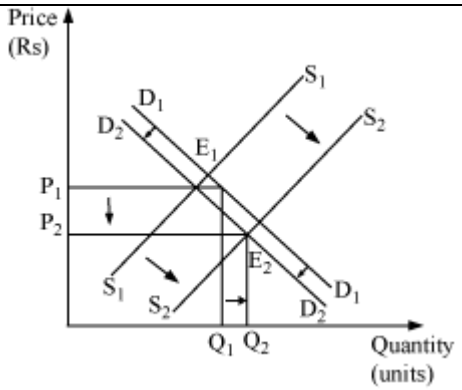
a) Increase in Demand = Increase in Supply	Unchanged	Increases	
b) Increase in Demand > Increase in Supply	Increases	Increases	
c) Increase in Demand < Increase in Supply	Falls	Increases	
d) Decrease in Demand = Decrease in Supply	Unchanged	Falls	

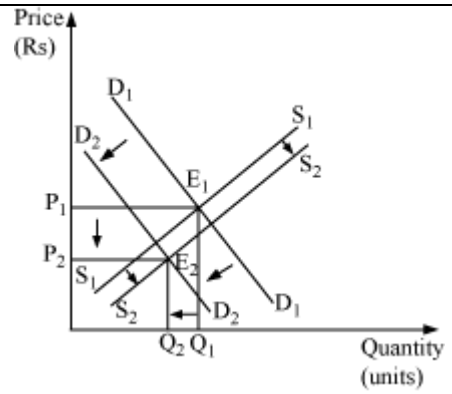
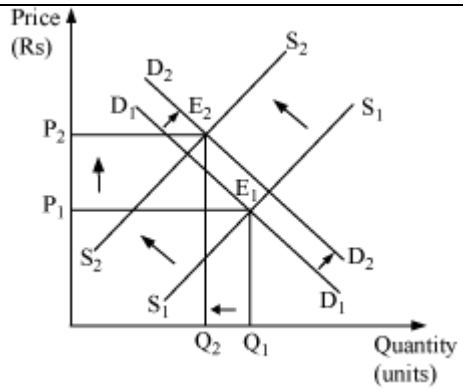
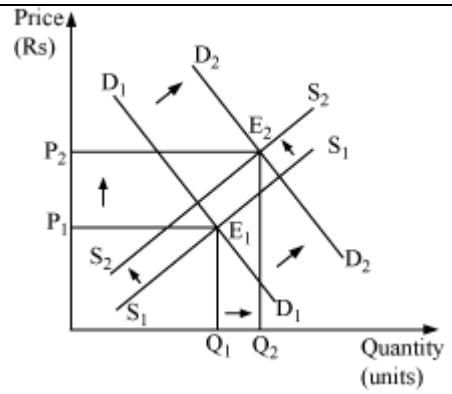
e) Decrease in Demand > Decrease in Supply	Falls	Falls	
f) Decrease in Demand < Decrease in Supply	Increases	Falls	
g) Increase in Demand = Decrease in Supply	Increases	Unchanged	
h) Decrease in Demand = Increase in Supply	Falls	Unchanged	
Extreme cases			

1) Demand Perfectly Elastic with			
a) Increase in Supply	Unchanged	Increases	
b) Decrease in Supply	Unchanged	Falls	
2) Demand Perfectly Inelastic with			
a) Increase in Supply	Falls	Unchanged	
b) Decrease in Supply	Increases	Unchanged	

3) Perfectly Elastic Supply with			
a) Increase in Demand	Unchanged	Increases	
b) Decrease in Demand	Unchanged	Falls	
4) Perfectly Inelastic Supply with			
a) Increase in Demand	Increases	Unchanged	
b) Decrease in Demand	Falls	Unchanged	

When both demand and supply changes simultaneously but in opposite direction

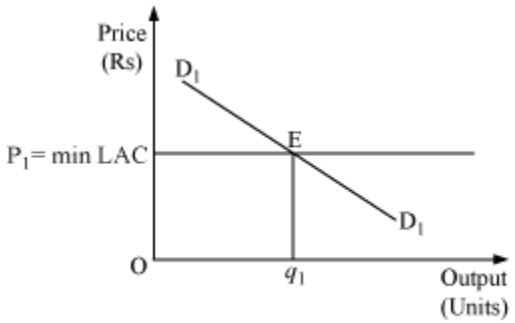
Cases	Equilibrium Price	Equilibrium Quantity	Figure
a) Increase in Demand = Decrease in Supply	Increases	Unchanged	
b) Decrease in Demand = Increase in Supply	Unchanged	Increases	
c) Decrease in Demand < Increase in Supply	Decreases	Increases	

d) Decrease in Demand > Increase in Supply	Decreases	Decreases	
e) Increase in Demand < Decrease in Supply	Increases	Decreases	
f) Increase in Demand > Decrease in Supply	Increases	Increases	

- **Market Equilibrium with free Entry and Exit**

  This is a long run concept. The implication of free entry and exit of firm is that at the equilibrium point, no individual firm will be earning super-normal or abnormal profits or losses. This implicitly means that all firms will operate at a point where the minimum of long run average cost curve is equal to the price. Thus, all the firms earn zero economic profit or normal profit.

  Thus, at Equilibrium, Price = Min LAC



Price Determination with Free Entry and Exit

❖ **Number of Firms**

The equilibrium number of firms is determined as

$$n = \frac{q_1}{q_{1f}}$$

where,

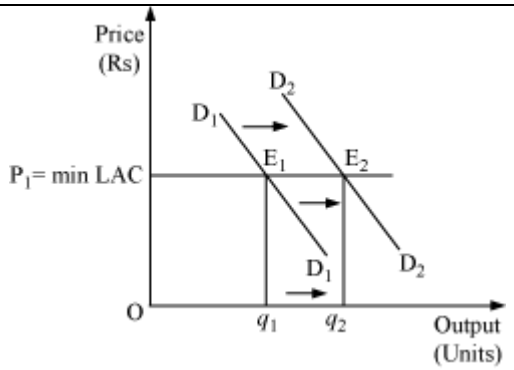
n denotes the number of firms at market equilibrium point

q_1 denotes the equilibrium quantity demanded

q_{1f} denotes the quantity of output supplied by each firm

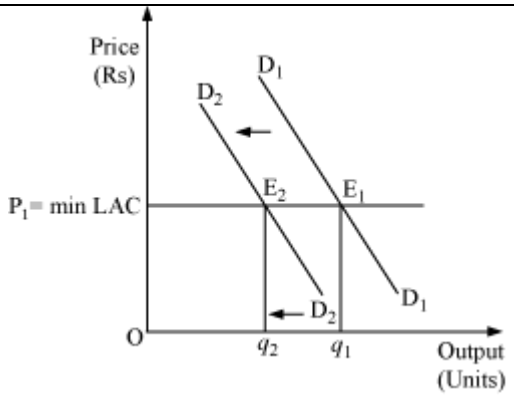
❖ **Shifts in Demand with Free entry and Exit**

1) Increase in Demand

Equilibrium	Price	Output	No. of firms of Equilibrium	Figure
At E_1	P_1 = min LAC	q_1	n_1	
At E_2	P_1 = min LAC	q_2	n_2	

Such that $q_2 > q_1$ and $n_2 > n_1$

2) Decrease in Demand

Equilibrium	Price	Output	No. of firms at Equilibrium	Figure
At E_1	P_1 = min LAC	q_1	n_1	
At E_2	P_1 = min LAC	q_2	n_2	

Such that $q_2 > q_1$ and $n_2 > n_1$

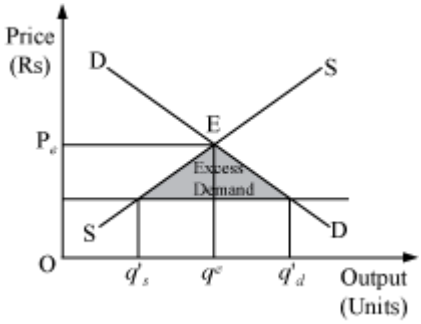
❖ The government intervention in the open market leads to:

Price Ceiling

Price Floor or Minimum Support Price

1) Price Ceiling

It is the legislated or government imposed maximum level of price that can be charged for a product or service. Usually government fixes this maximum price much below the equilibrium price, in order to preserve the welfare of poorer and vulnerable section of the society. For example, prices of wheat, rice, sugar and other goods of necessity.



The various undesired consequences of price ceiling are:

a) Excess demand

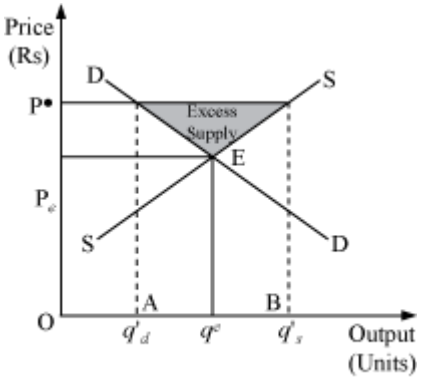
b) Inferior goods

c) Black-marketing

d) Fixed quota and dissatisfied consumers.

2) **Price Floor or Minimum Support Price**

It implies the minimum price fixed by the government that should be charged by the seller. These minimum prices are fixed above the price at which the market clears. In India, minimum wages laws are fixed to safeguard the welfare of labourers, minimum support price to safeguard and protect the interests of farmers by ensuring minimum return. In the figure, Oq'_d output of wheat will be purchased in open market at price P*and $q'_d q'_s$ output of wheat will be purchased by the government from the farmers at price P*. The portion of wheat purchased by the government will kept as buffer stock.



Price floor in Wheat Market