Market Equilibrium

- What is Market Equilibrium
- Effect of Increase and Decrease in Demand and Supply on market equilibrium
- Exceptional Cases (Perfectly Elastic and Perfectly Inelastic)
- Simultaneous Change in Demand and Supply
- Price Ceiling and Price Floor

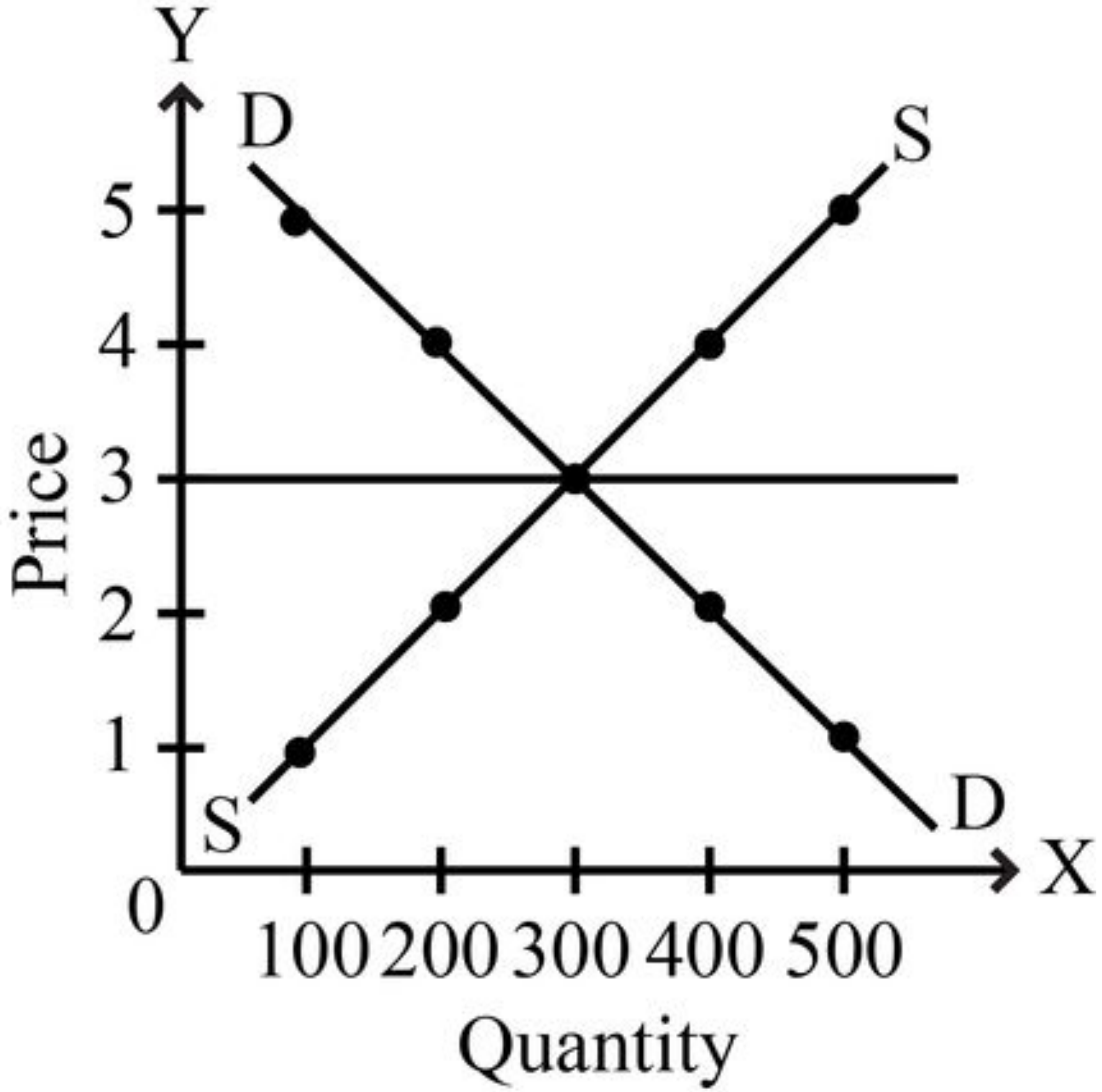
What is Market Equilibrium

- A system is in equilibrium where there is no tendency for change.
- A competitive market is in equilibrium at the market price if the quantity supplied equals the quantity demanded.
- At market equilibrium, the price is called equilibrium price and the quantity demanded and supplies is called equilibrium quantity.

Identifying the Market Equilibrium Position

P(Rs.)	D	S
5	100	500
4	200	400
3	300	300
2	400	200
1	500	100

P=S



Market Equilibrium: Mathematical Calculation

The demand and supply equation is a pre-requirement for such a calculation. The mathematical equation expresses the correlation between the number of goods demanded with the factors that impact the willingness and capability of a consumer to buy the products.

Example:

Demand= 200-15P. Supply=5P Here, 200 is the repository of all relevant non-specified factors that affect demand for the product. P is the price of the good. As per the law of demand, the coefficient is negative. The demand for the good would fall as the consumer’s income increased.

Effect of Change in Demand and Supply on Market Equilibrium

- Equilibrium Price and Equilibrium Quantity of a commodity is determined when the quantity demand is equal to the quantity of the commodity supplied.

- If there is any change in the quantity demanded and/or quantity supplied of the commodity, there will be a shift in either the demand curve or supply curve or both, further resulting in a change in equilibrium price and equilibrium quantity.

- There are many factors that affect equilibrium price and equilibrium quantity. Factors other than the price of the product affect demand and supply in the form of shifting in the curves.

Case I: Change in Demand

Figure 1.1: Increase In Demand

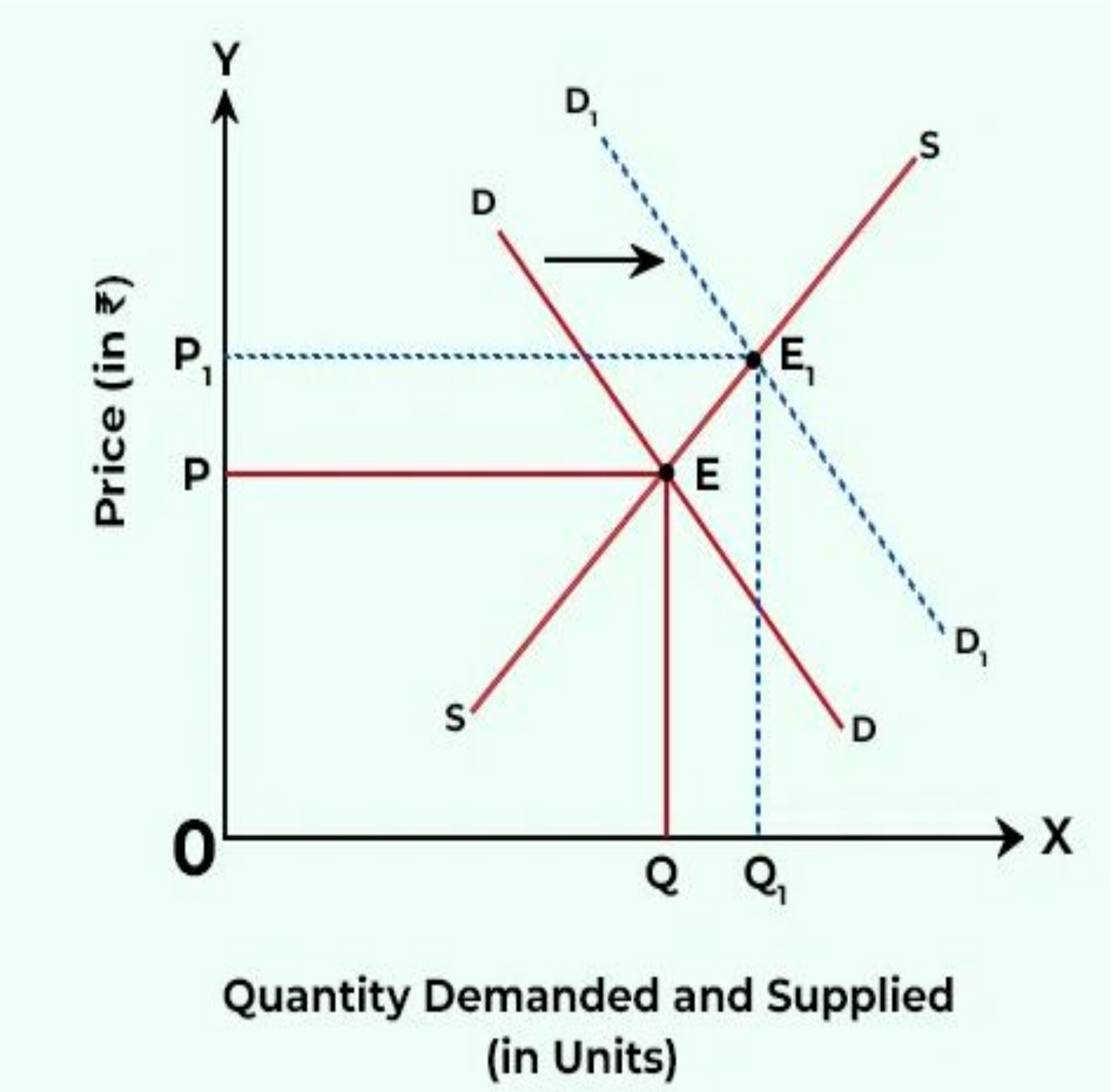
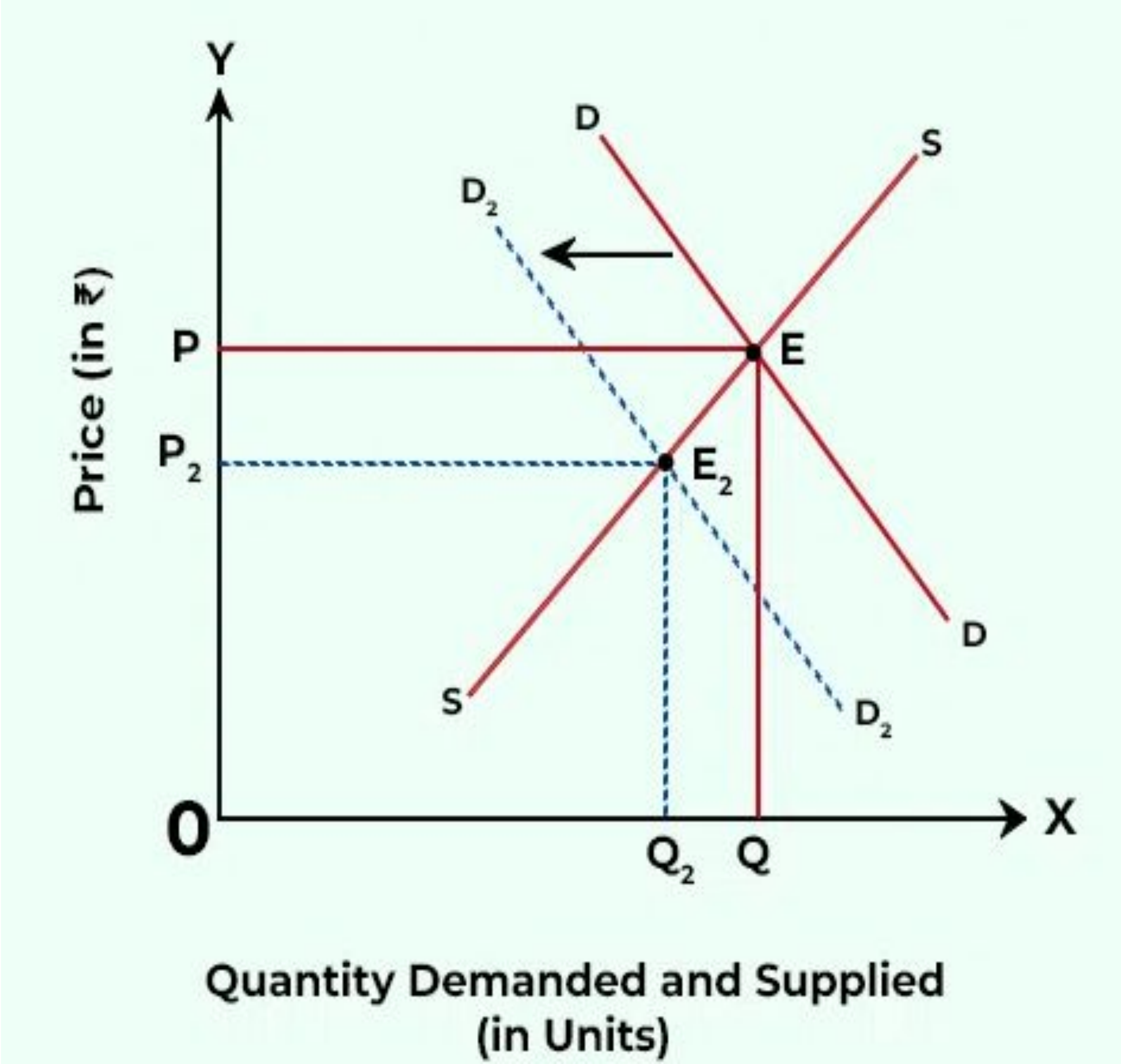


Figure 1.2: Decrease in Demand



Case II: Change in Supply

Figure 2.1: Increase in Supply

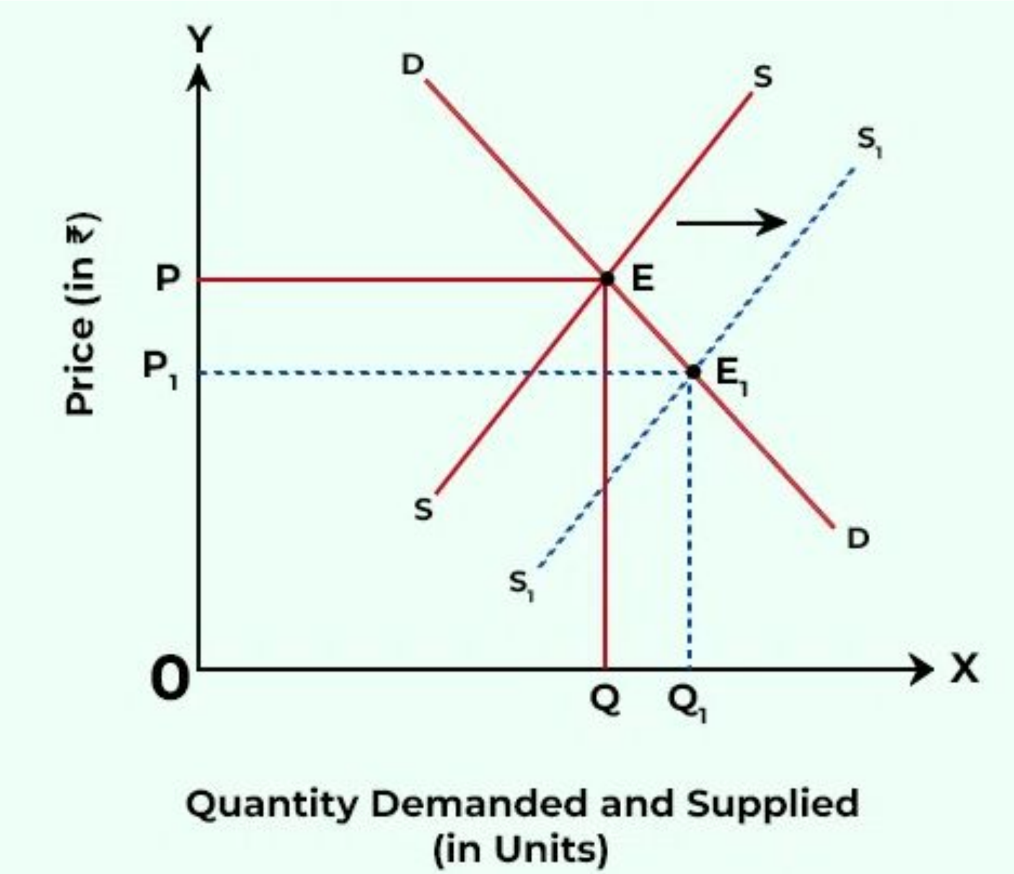
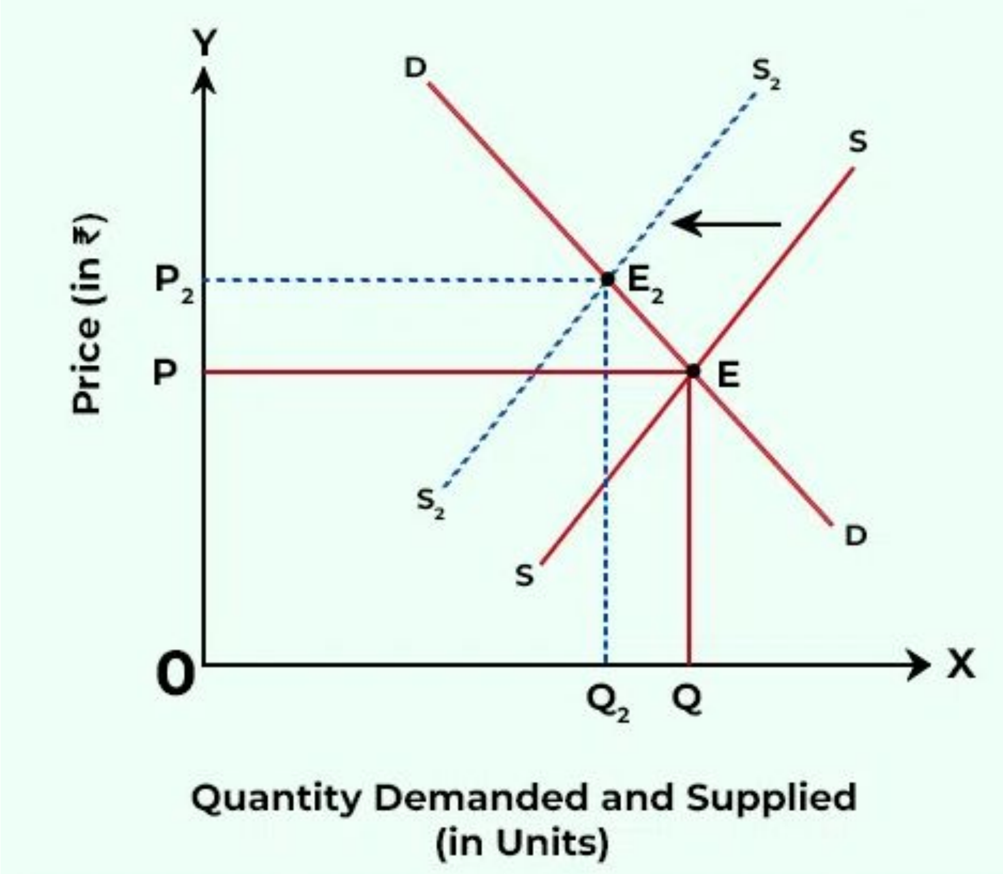


Figure 2.2: Decrease in Supply



Case III: Simultaneous Change in Demand and Supply

Figure 3.1: Decrease in Demand= Decrease in Supply

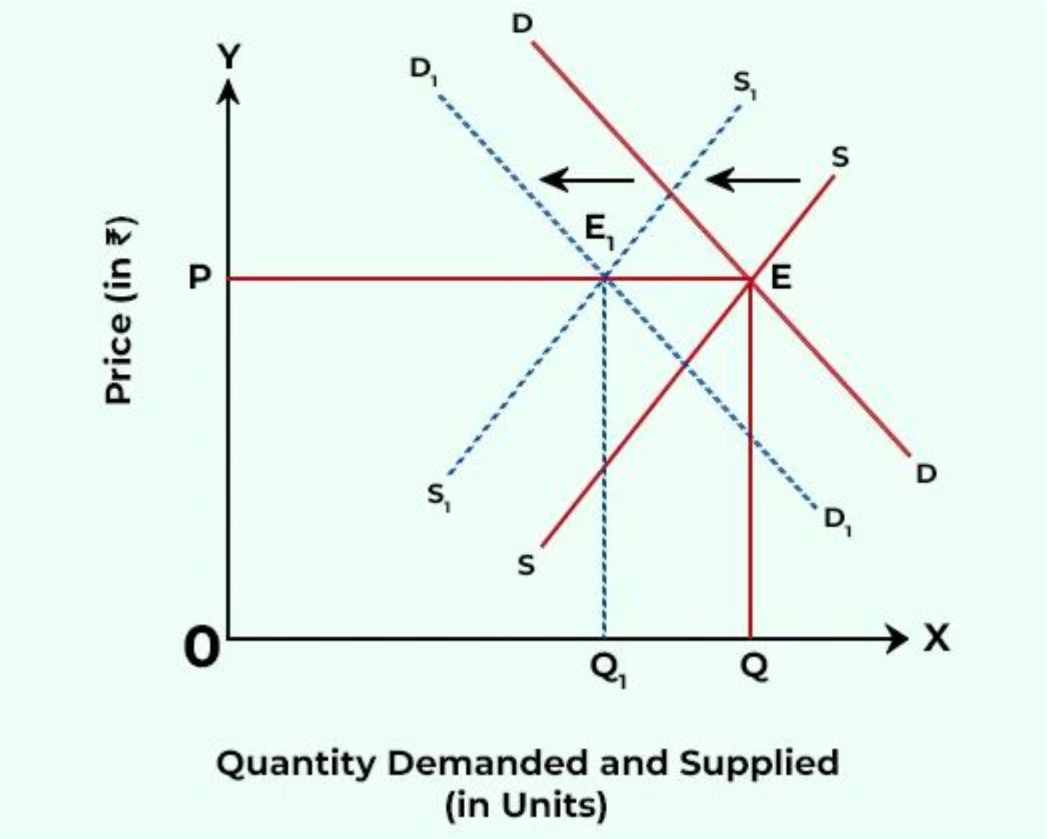
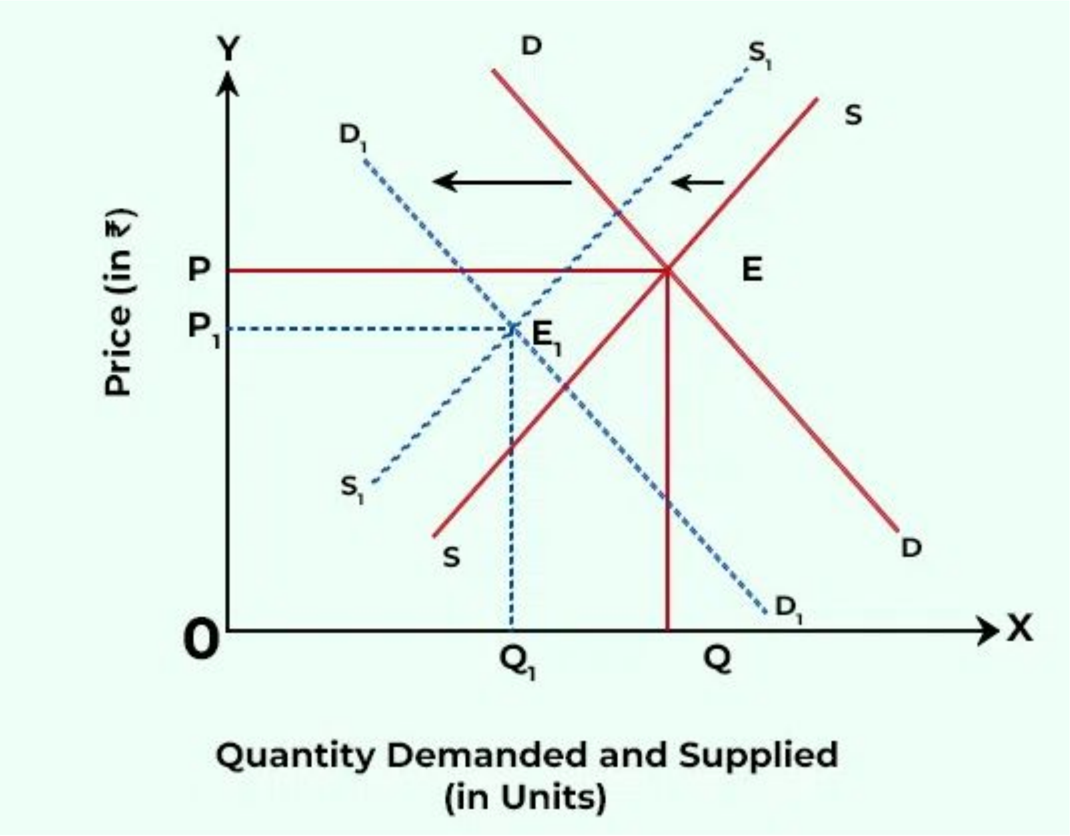
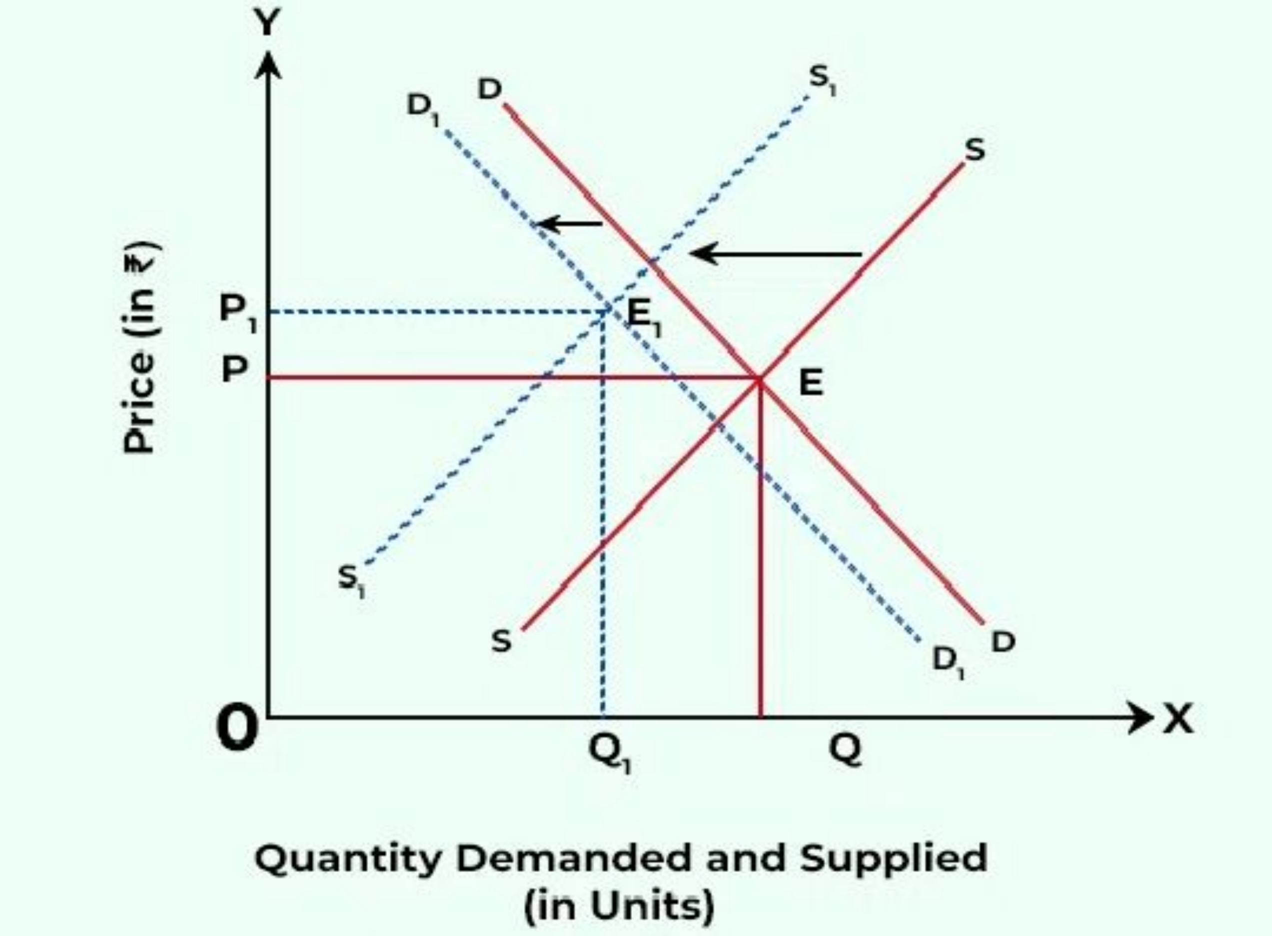


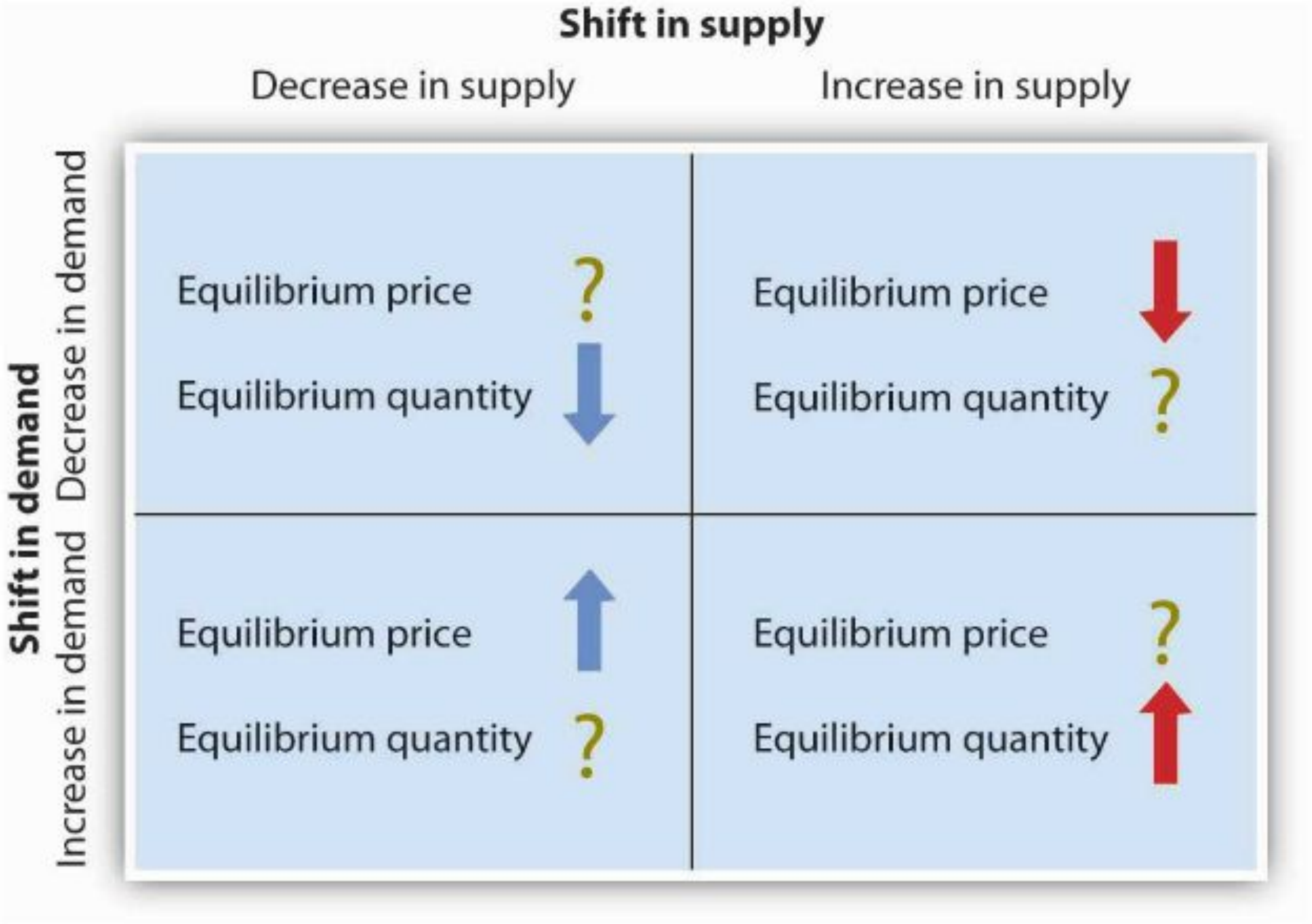
Figure 3.2: Decrease in Demand > Decrease in Supply



Case IV: Simultaneous Change in Demand and Supply

Figure 4 : Decrease in Demand is less than Decrease in Supply





If simultaneous shifts in demand and supply cause equilibrium price or quantity to move in the same direction, then equilibrium price or quantity clearly moves in that direction. If the shift in one of the curves causes equilibrium price or quantity to rise while the shift in the other curve causes equilibrium price or quantity to fall, then the relative amount by which each curve shifts is critical to figuring out what happens to that variable.

Special Cases: When Supply is Perfectly Elastic

Figure 5.1: Increase in Demand

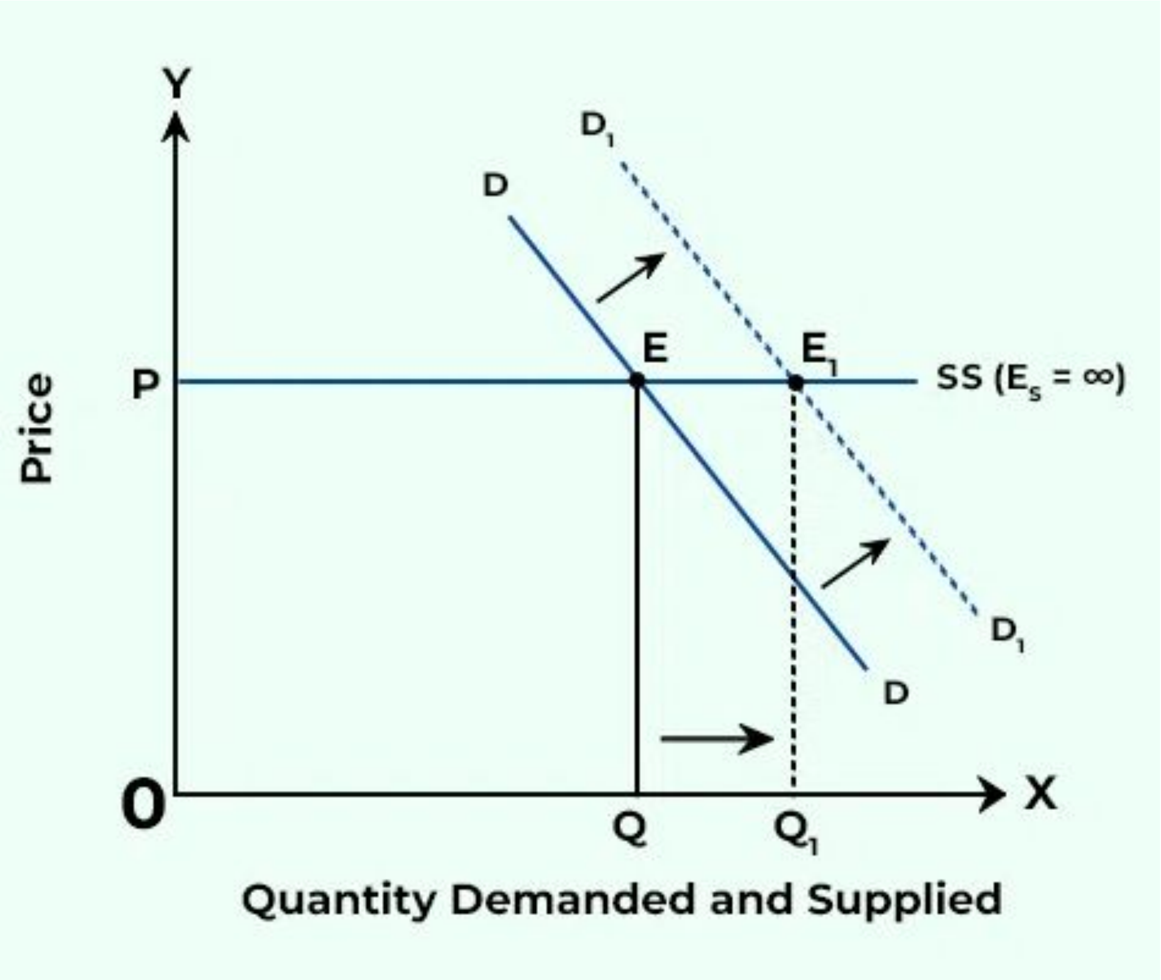
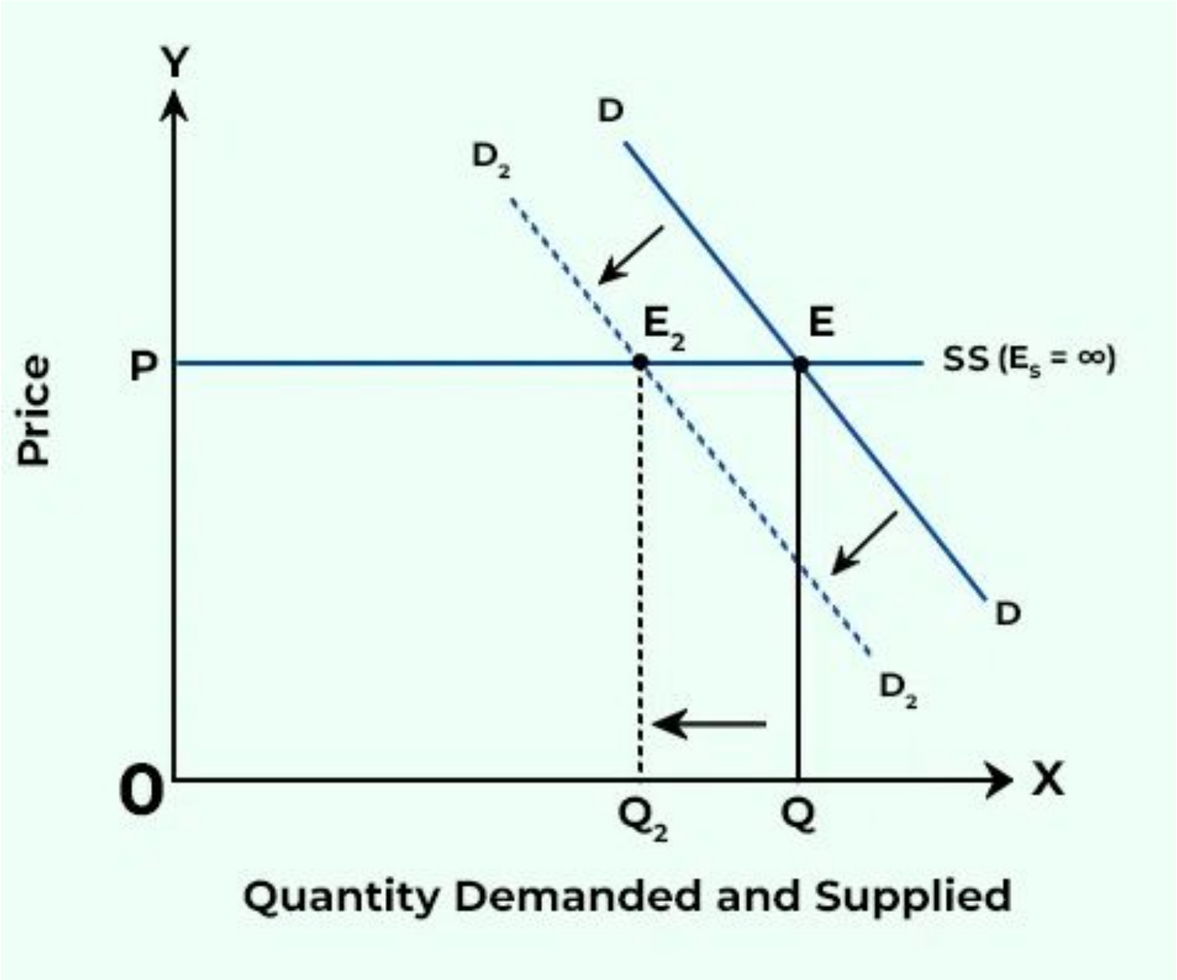


Figure 5.2: Decrease in Demand



Special Cases: When Supply is Perfectly Inelastic

Figure 6.1: Increase in Demand

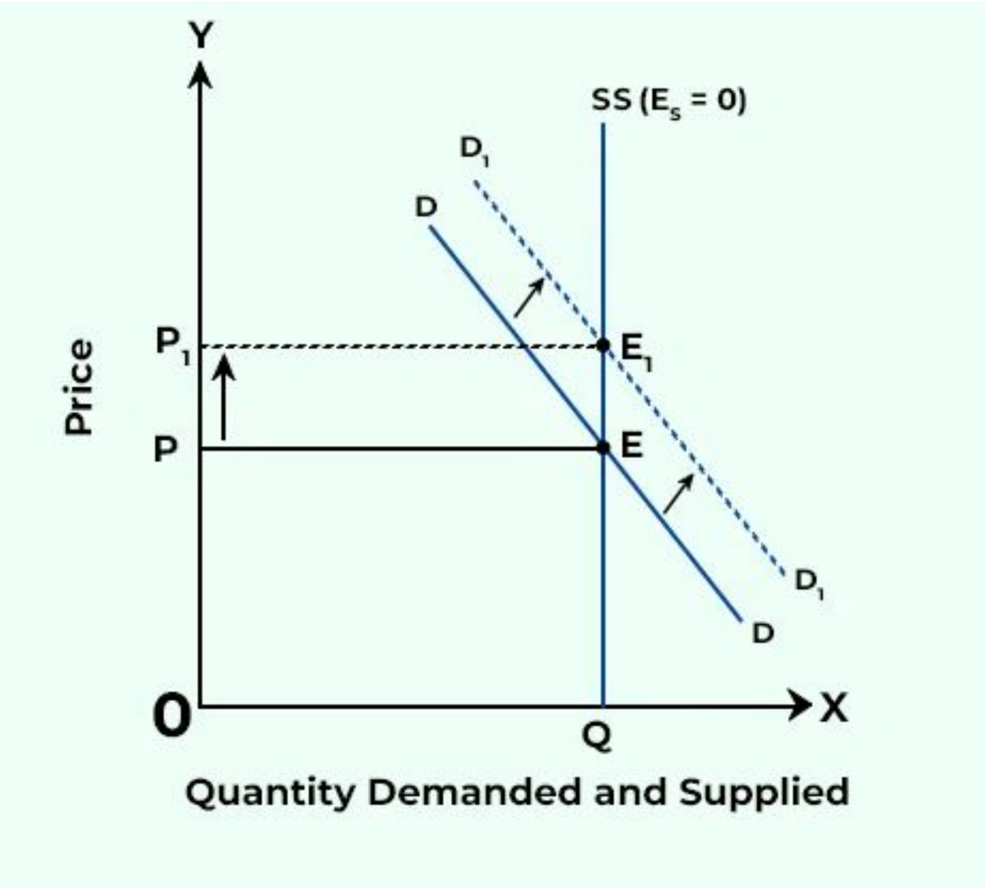
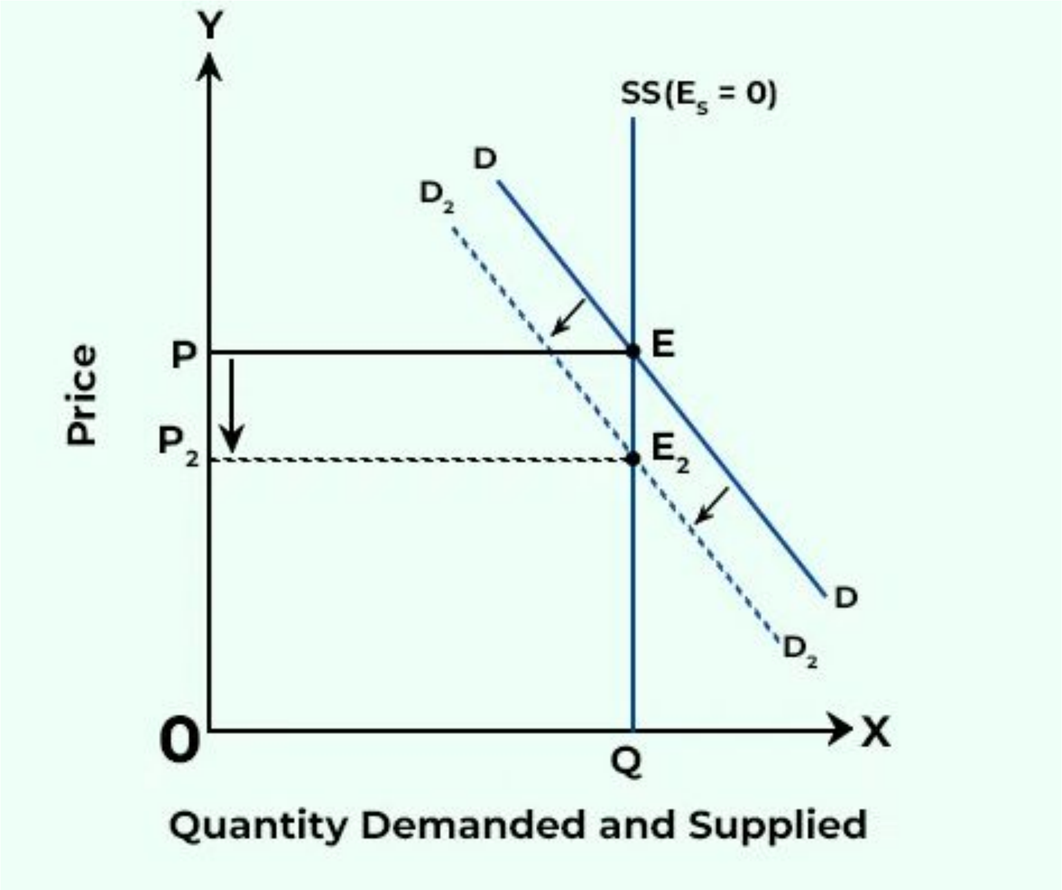


Figure 6.2 : Decrease in Demand



Special Cases: When Demand is Perfectly Elastic

Figure 7.1 : Increase in Supply

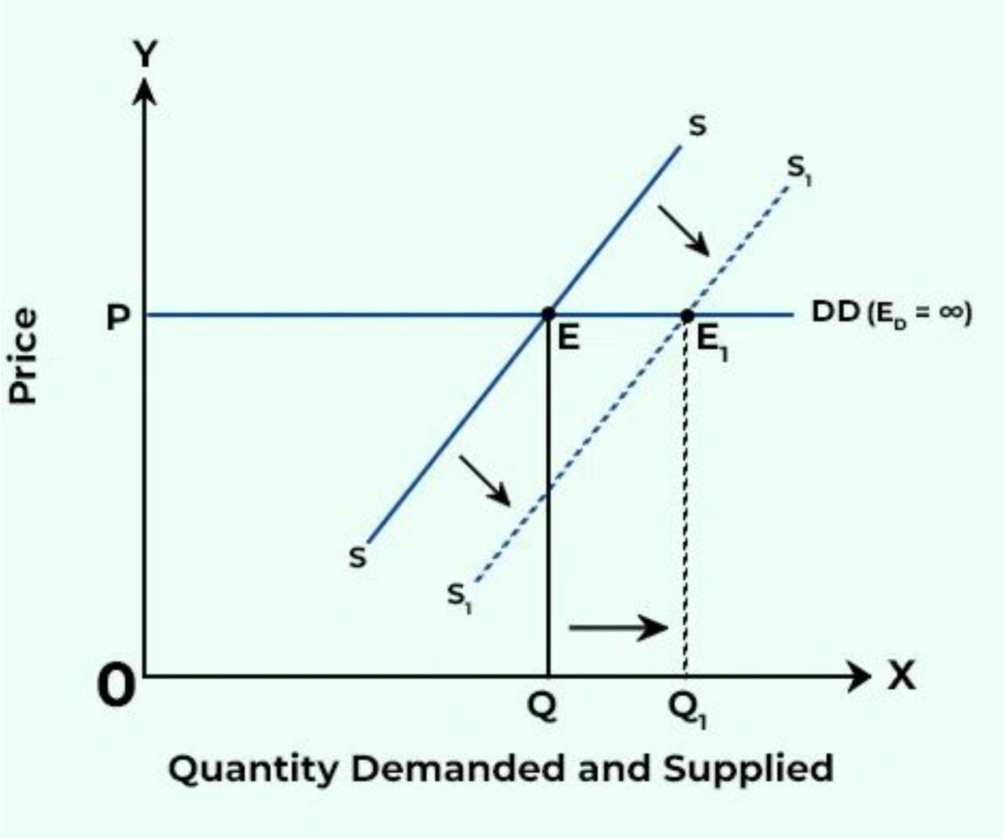
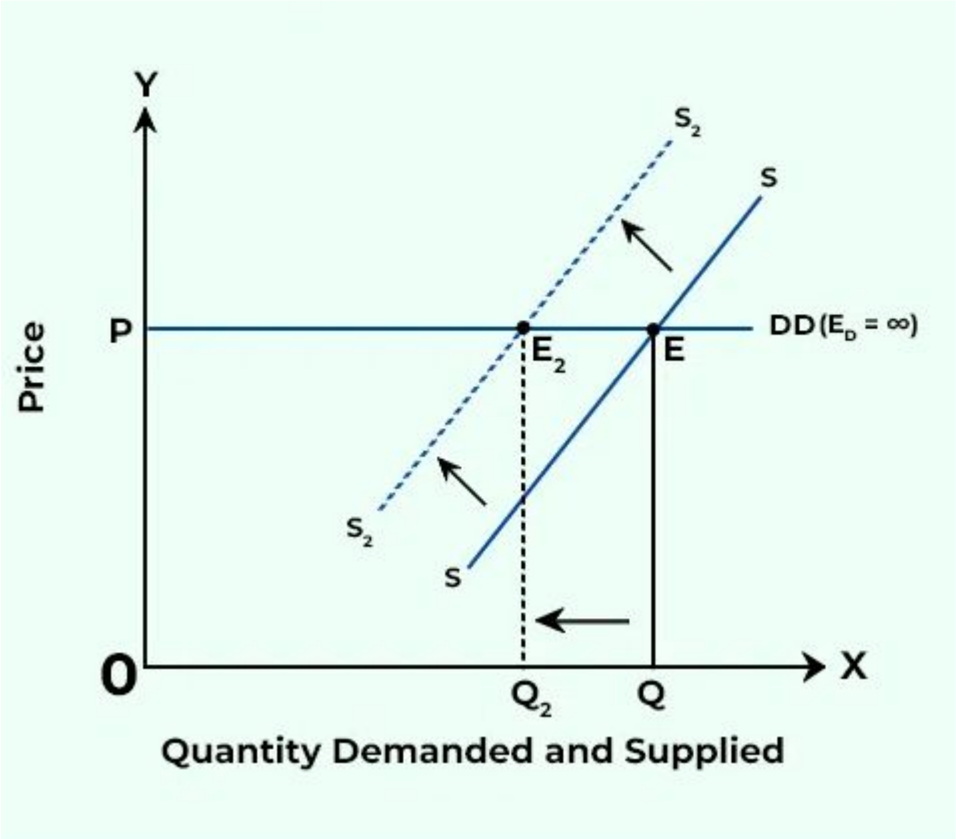


Figure 7.2.: Decrease in Supply



Special Cases: When Demand is Perfectly Inelastic

Figure 8.1 : Increase in Supply

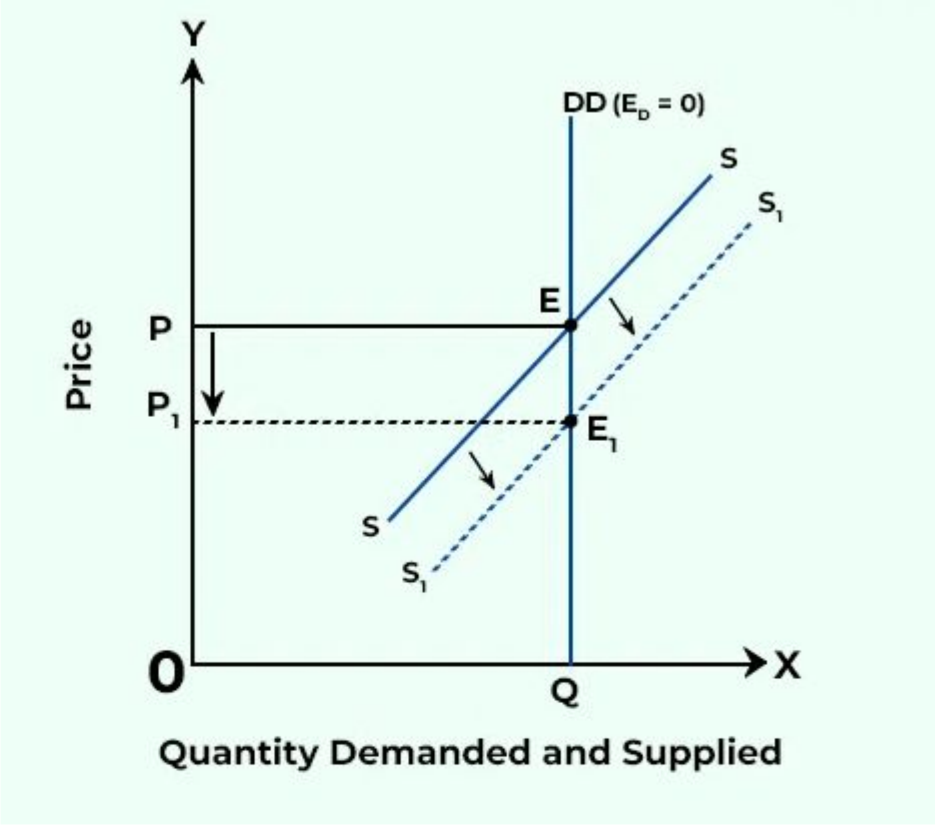
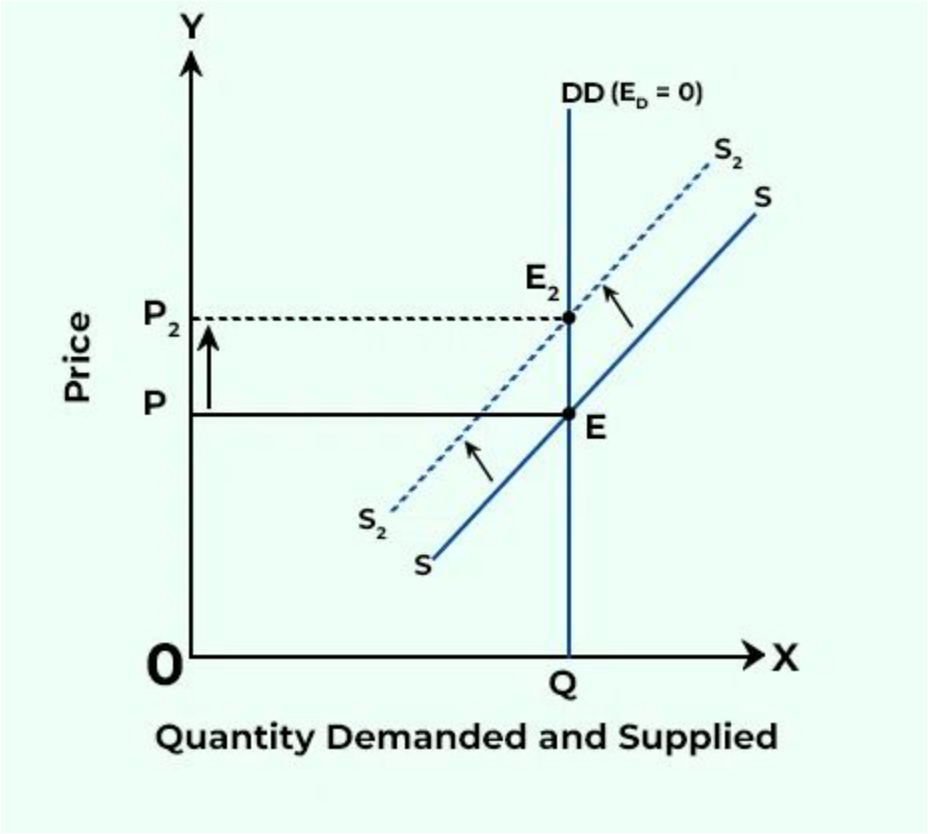


Figure 8.2 : Decrease in Supply



Price Restrictions and Market Equilibrium

- In a competitive market equilibrium, price and quantity freely adjust to the forces of demand and supply.

- Sometimes, the government restricts how much prices are permitted to rise and fall. This is done by two methods:

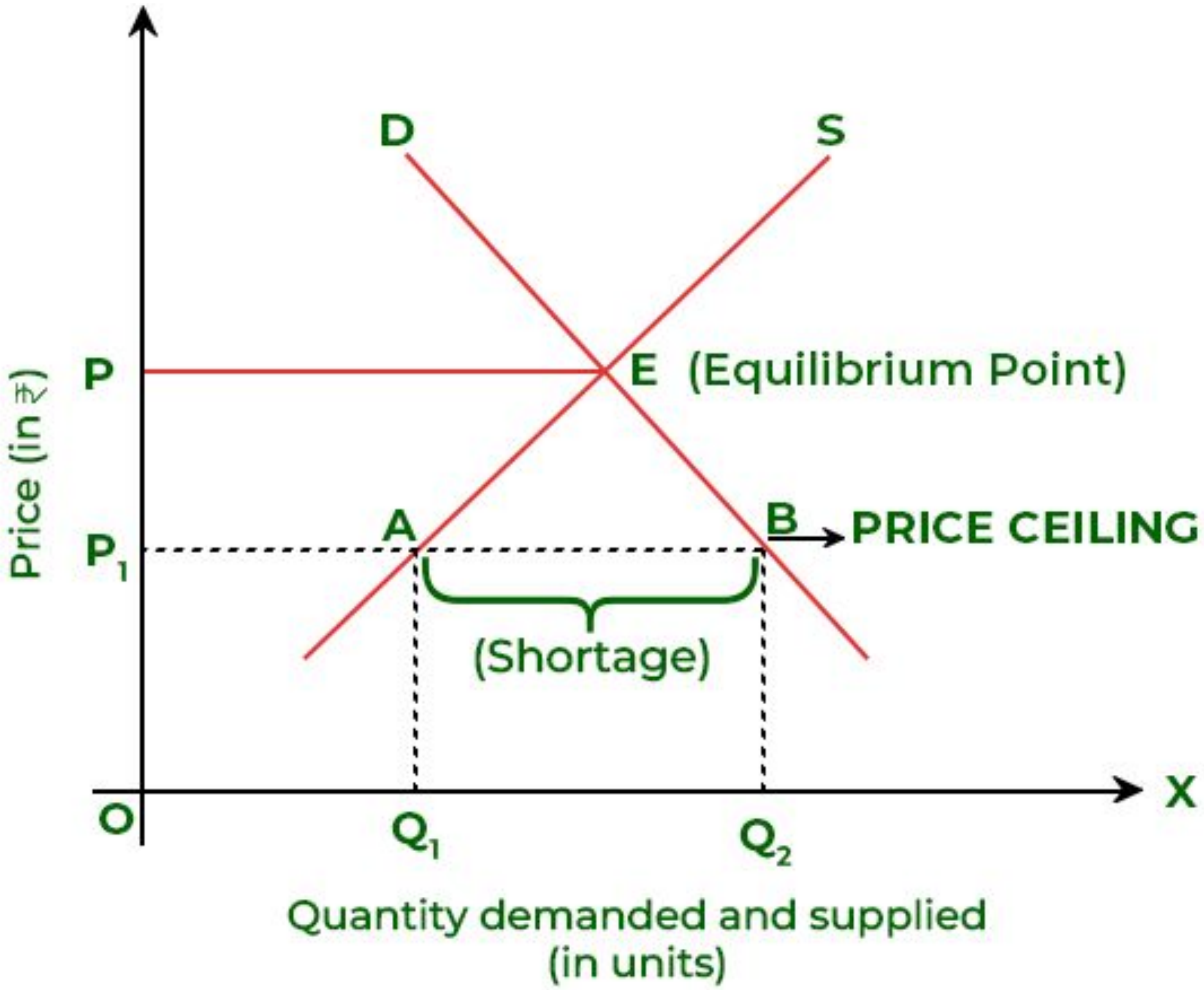
a. *Price Ceiling*

b. *Price Flooring*

Price Ceiling

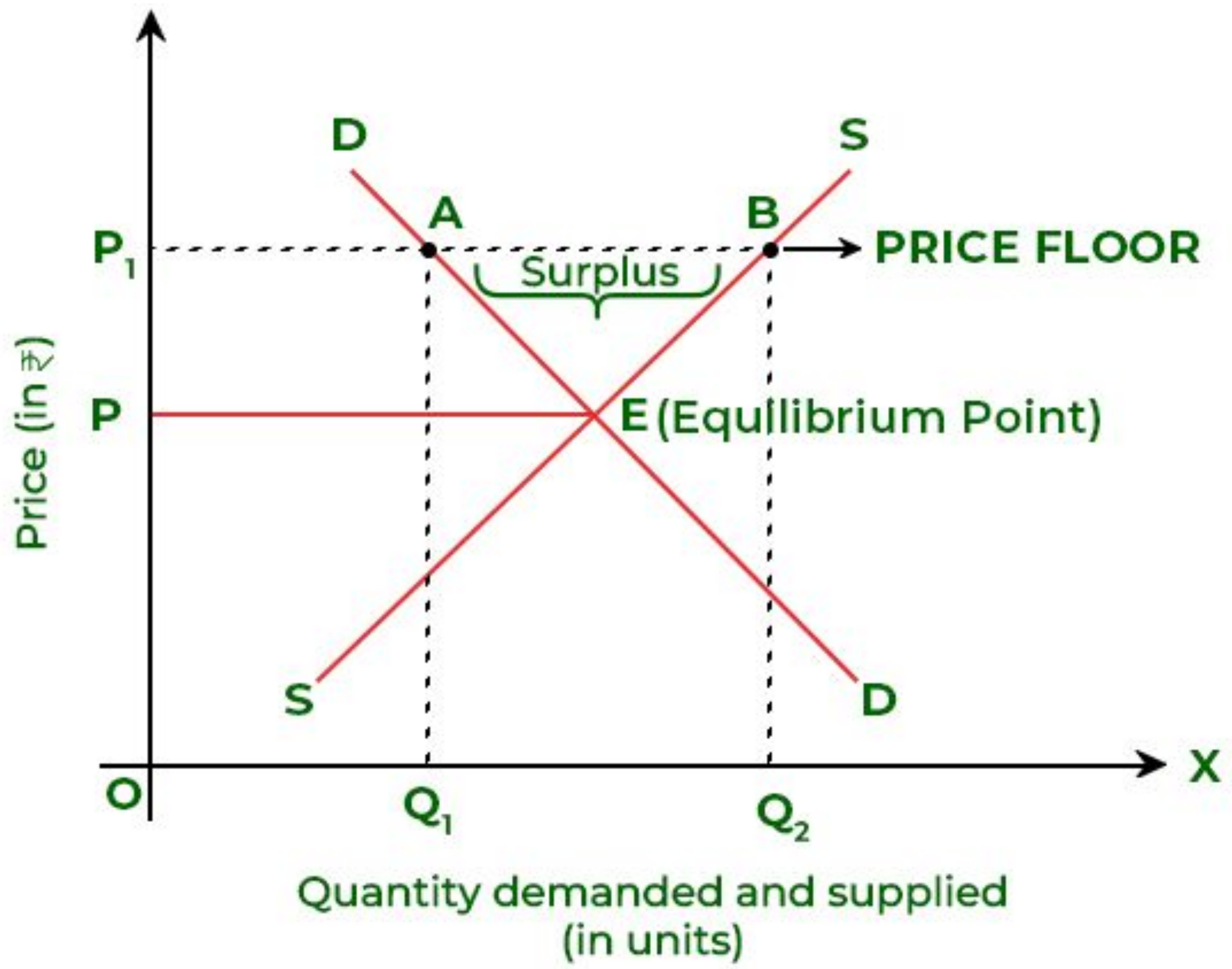
- When the equilibrium price established by the free play of demand and supply is too high for the poor, the government plays a significant role in regulating the prices of essential commodities(wheat, sugar, kerosene, etc.).

- Price Ceiling refers to fixing the maximum price of a commodity at a level lower than the equilibrium price. Simply put, price ceilings are higher limits set by the government on the price of a product.


D
S
P
E (Equilibrium Point)
Price (in ₹)
A
B
PRICE CEILING
P1
(Shortage)
O
Q1
Q2
X
Quantity demanded and supplied
(in units)

Price Floor

- A legally established minimum price at which a good can be sold, which is set above the equilibrium point.
- Floor must be above the equilibrium price to be binding.
- Minimum wage in employment schemes and agricultural sector is the best example for price flooring.
- Price floors are intended to ensure that producers receive a stable income while also protecting consumers from unfair price gouging.


D
S
A
B
P1
PRICE FLOOR
Surplus
Price (in ₹)
P
E (Equilibrium Point)
S
D
O
Q1
Q2
X
Quantity demanded and supplied
(in units)

Question: In a perfectly competitive market, if the government imposes a price floor above the current equilibrium price, what is the most likely short-term effect on the market?
A) Quantity supplied will decrease, and quantity demanded will increase.
B) Quantity supplied will increase, and quantity demanded will decrease.
C) Quantity supplied and quantity demanded will both decrease.
D) Quantity supplied and quantity demanded will both increase.
E) Quantity supplied will increase, and quantity demanded will remain unchanged.

Answer: B) Quantity supplied will increase, and quantity demanded will decrease.

Explanation: A price floor set above the equilibrium price creates a situation where the quantity supplied exceeds the quantity demanded. This leads to a surplus in the market, as producers are willing to supply more at the higher price, but consumers are less willing to purchase at the elevated level.

Question: If equilibrium price rises but equilibrium quantity remains unchanged, the cause is:

A) Supply and Demand both increases equally.
B) Supply and Demand both decreases equally.
C) Supply decreases and demand increases.
D) Supply increases and demand decreases.

Answer: C

Question: 10 rupees is the equilibrium price for good X. If the government fixes the price at 5 rupees, there is

A) A Shortage
B) A Surplus
C) Excess supply
D) Loss
E) The quantity remains unchanged.

Answer: Option A

Question: The price as well as the sale of sugar has increased. The possible reason behind this could be

1) A decrease in the income of the consumers.
2) A decrease in the tax on sugar
3) An increase in the wages of the workers in the sugar industry
4) An increase in the price of the sugar substitutes.
5) None of the above

Answer: An increase in the price of sugar substitutes