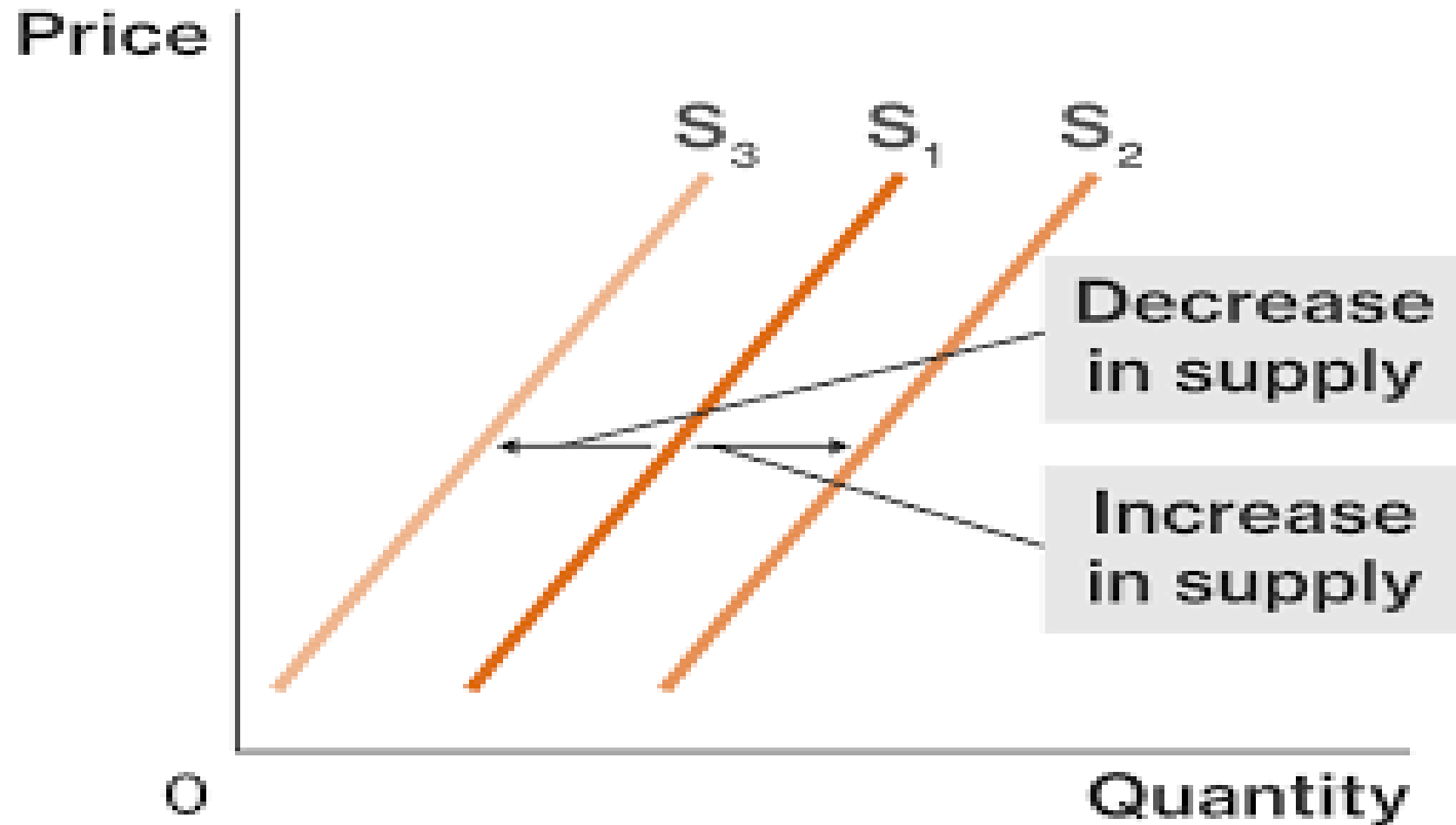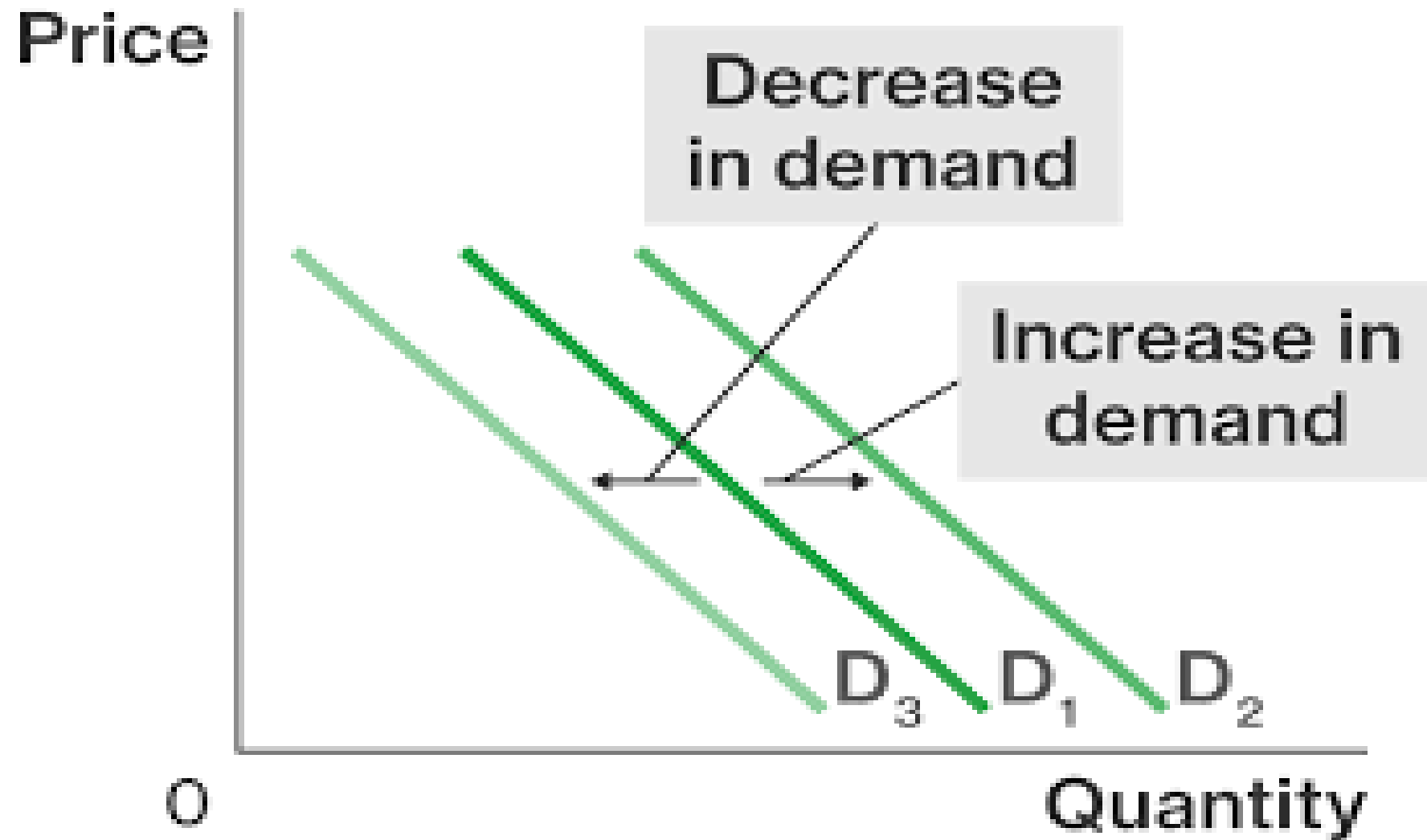# CHANGE IN BOTH DEMAND AND SUPPLY CURVES

(I) Both Demand and Supply decrease

(II) Both Demand and Supply increase

(III) Demand decreases and Supply increases

(IV) Demand increases and Supply decreases

Change in Supply

(I) Both Demand and Supply Decrease:

Original Equilibrium is determined at point E, when the original demand curve DD and the original supply curve SS intersect each other. OQ is the equilibrium quantity and OP is the equilibrium price. The effect of decrease in both demand and supply on equilibrium price and equilibrium quantity can be better analyzed under three different cases:

Case 1: Decrease in Demand = Decrease in Supply:

Case 2: Decrease in Demand > Decrease in Supply:

Case 3: Decrease in Demand < Decrease in Supply:

Case 1: Decrease in Demand = Decrease in Supply:

When decrease in demand is proportionately equal to decrease in supply, then leftward shift in demand curve from DD to D1D1 is proportionately equal to leftward shift in supply curve from SS to S1S1 (Fig. 11.10). The new equilibrium is determined at Er As demand and supply decrease in the same pro-portion, equilibrium price remains same at OP, but equilibrium quantity falls from OQ to OQ1.
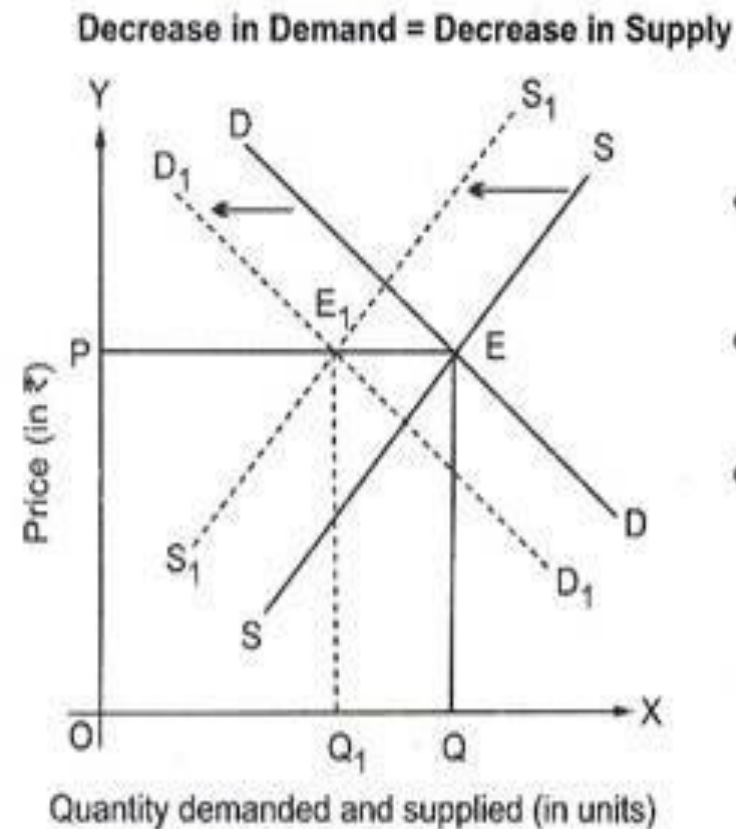

Decrease in Demand = Decrease in Supply

Price (in ₹)

Quantity demanded and supplied (in units)

Fig. 11.10

- **New Equilibrium** is determined at E_1
- **Equilibrium Price** remains same at OP
- **Equilibrium Quantity** falls from OQ to OQ_1

Case 2: Decrease in Demand > Decrease in Supply:

When decrease in demand is proportionately more than decrease in supply, then leftward shift in demand curve from DD to D1D1 is proportionately more than leftward shift in supply curve from SS to S1S1 (Fig. 11.11). The new equilibrium is determined at E1, equilibrium price falls from OP to OP1 and equilibrium quantity falls from OQ to OQ1.
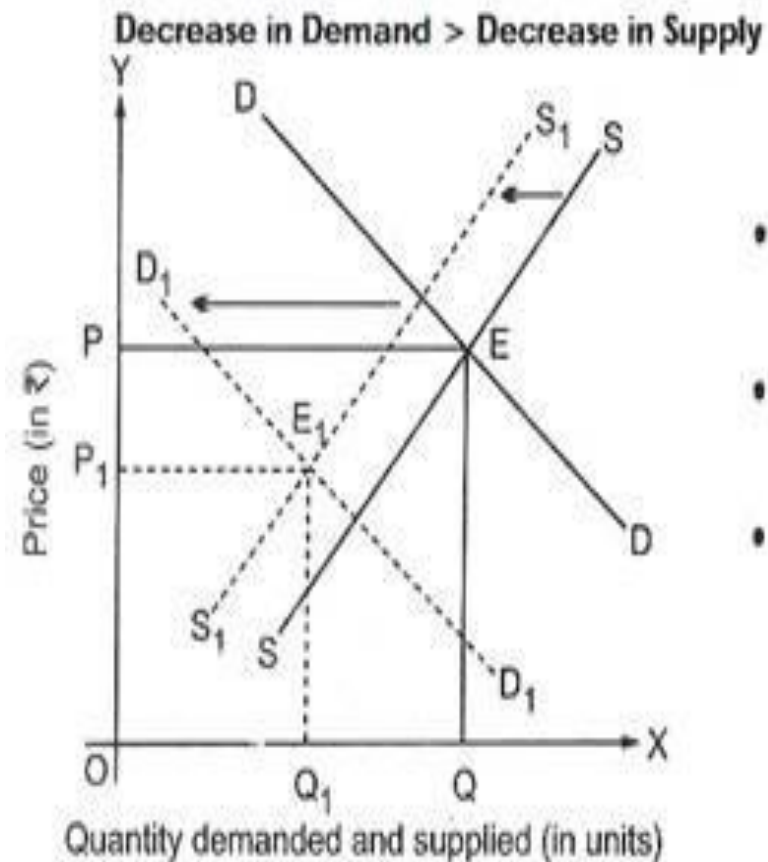

Decrease in Demand > Decrease in Supply

- **New Equilibrium** is determined at E₁
- **Equilibrium Price** falls from OP to OP₁
- **Equilibrium Quantity** falls from OQ to OQ₁

Fig. 11.11

Case 3: Decrease in Demand < Decrease in Supply:

When decrease in demand is proportionately less than decrease in supply, then leftward shift in demand curve from DD to D1D1 is proportionately less than leftward shift in supply curve from SS to S1S1 (Fig. 11.12). The new equilibrium is determined at E1 equilibrium price rises from OP to OP7 whereas, equilibrium quantity falls from OQ to OQ1.
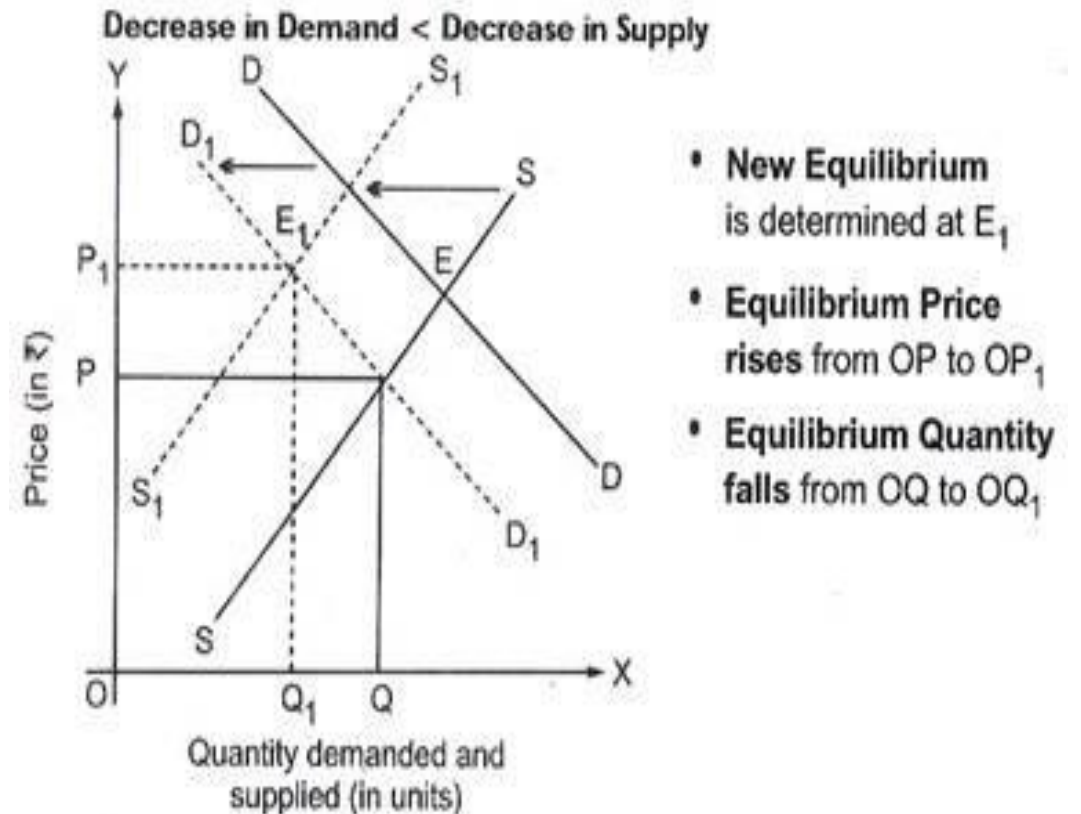

Decrease in Demand < Decrease in Supply

Price (in ₹)

Quantity demanded and supplied (in units)

Fig. 11.12

- New Equilibrium is determined at E_1
- Equilibrium Price rises from OP to OP_1
- Equilibrium Quantity falls from OQ to OQ_1

(II) Both Demand and Supply Increase:

Original Equilibrium is determined at point E, when the original demand curve DD and the original supply curve SS intersect each other. OQ is the equilibrium quantity and OP is the equilibrium price. The effect of increase in both demand and supply on equilibrium price and equilibrium quantity is discussed under three different cases:

Case 1: Increase in Demand = Increase in Supply

Case 2: Increase in Demand > Increase in Supply:

Case 3: Increase in Demand < Increase in Supply:

Case 1: Increase in Demand = Increase in Supply:

When increase in demand is proportionately equal to increase in supply, then rightward shift in demand curve from DD to D1D1 is proportionately equal to rightward shift in supply curve from SS to S1S1 (Fig. 11.13). The new equilibrium is determined at E1. As both demand and supply increase in the same proportion, equilibrium price remains the same at OP, but equilibrium quantity rises from OQ to OQ1.
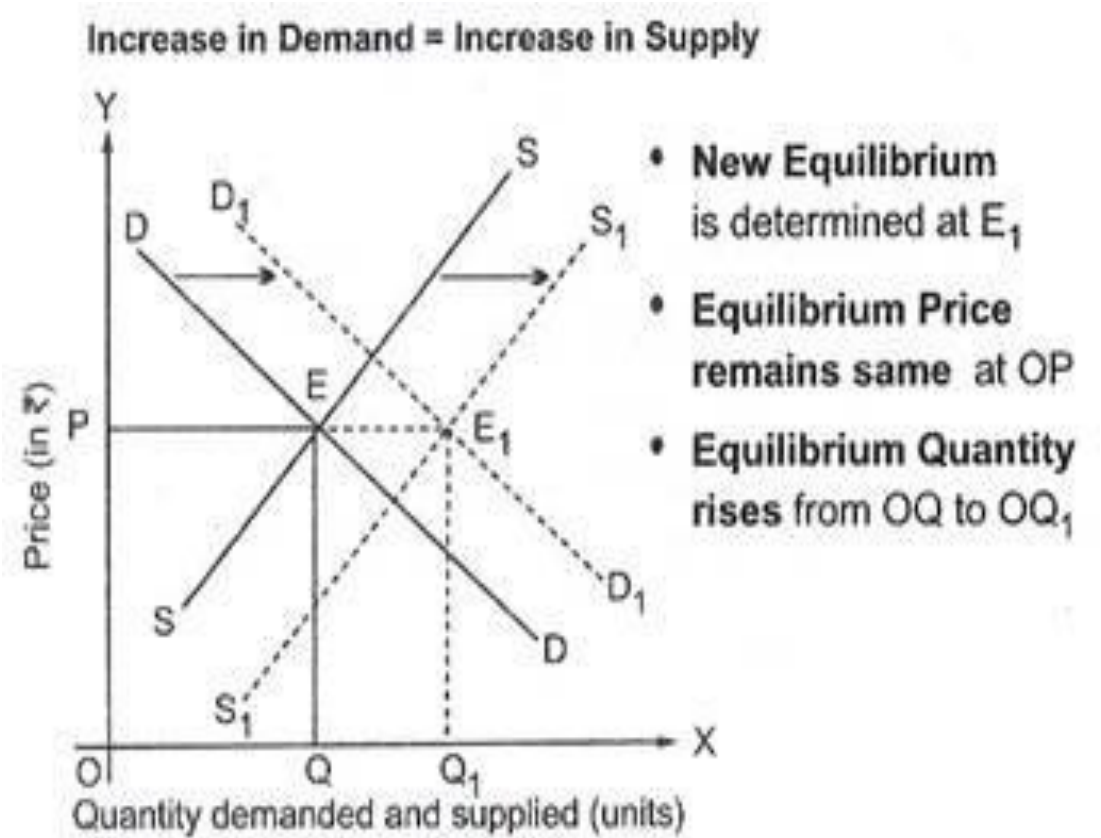

Increase in Demand = Increase in Supply

- **New Equilibrium** is determined at E_1
- **Equilibrium Price** remains same at OP
- **Equilibrium Quantity** rises from OQ to OQ_1

Fig. 11.13

Case 2: Increase in Demand > Increase in Supply:

When increase in demand is proportionately more than increase in supply then rightward shift in demand curve from DD to D1D1 is proportionately more than rightward shift in supply curve from SS to S1S1 (Fig. 11.14). The new equilibrium is determined at E1 equilibrium price rises from OP to OP1 and equilibrium quantity rises from OQ to OQ1.

Increase in Demand > Increase in Supply

- **New Equilibrium** is determined at E_1
- **Equilibrium Price** rises from OP to OP_1
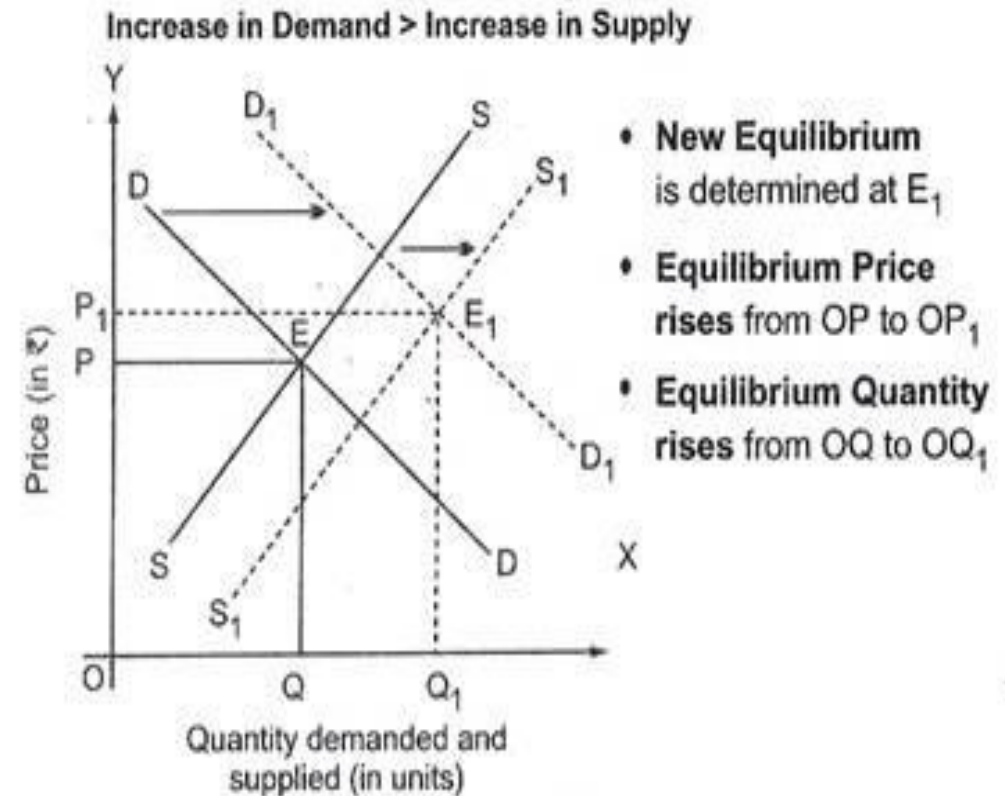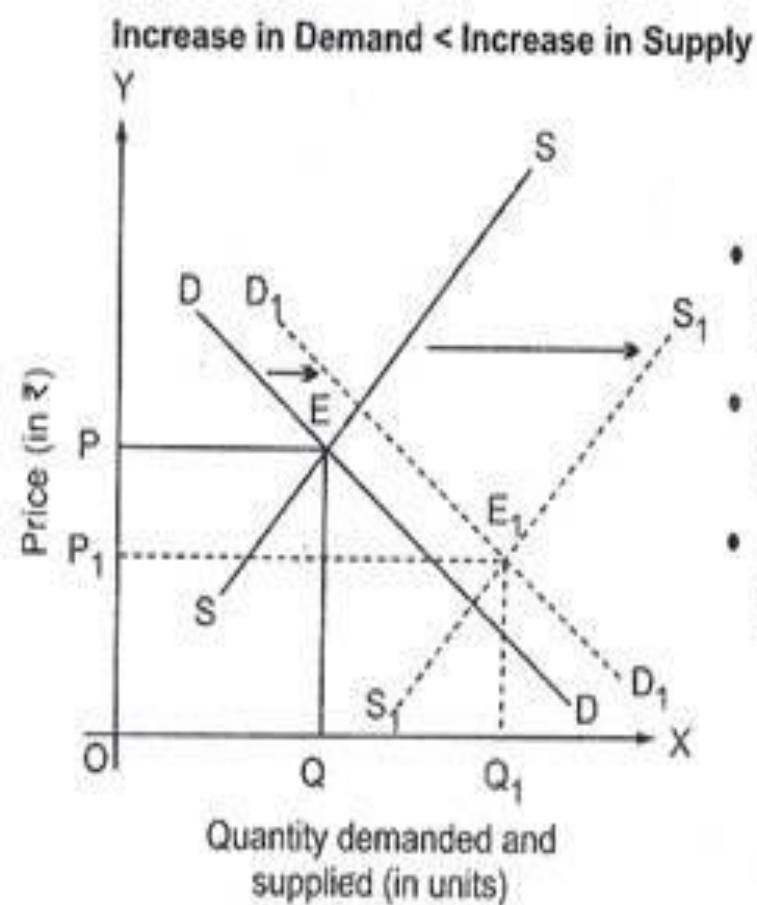- **Equilibrium Quantity** rises from OQ to OQ_1

Fig. 11.14

Case 3: Increase in Demand < Increase in Supply:

When increase in demand is proportionately less than increase in supply, then rightward shift in demand curve from DD to D1D1 is proportionately less than rightward shift in supply curve from SS to S1S1 (Fig. 11.15). The new equilibrium is determined at E1 equilibrium price falls from OP to OP1 whereas, equilibrium quantity rises from OQ to OQ1.

Increase in Demand < Increase in Supply

- **New Equilibrium** is determined at E_1
- **Equilibrium Price** falls from OP to OP_1
- **Equilibrium Quantity** rises from OQ to OQ_1

Fig. 11.15

(III) Demand decreases and Supply increases:

The effect of simultaneous decrease in demand and increase in supply on equilibrium price and equilibrium quantity is analyzed in the-foil owing three cases:
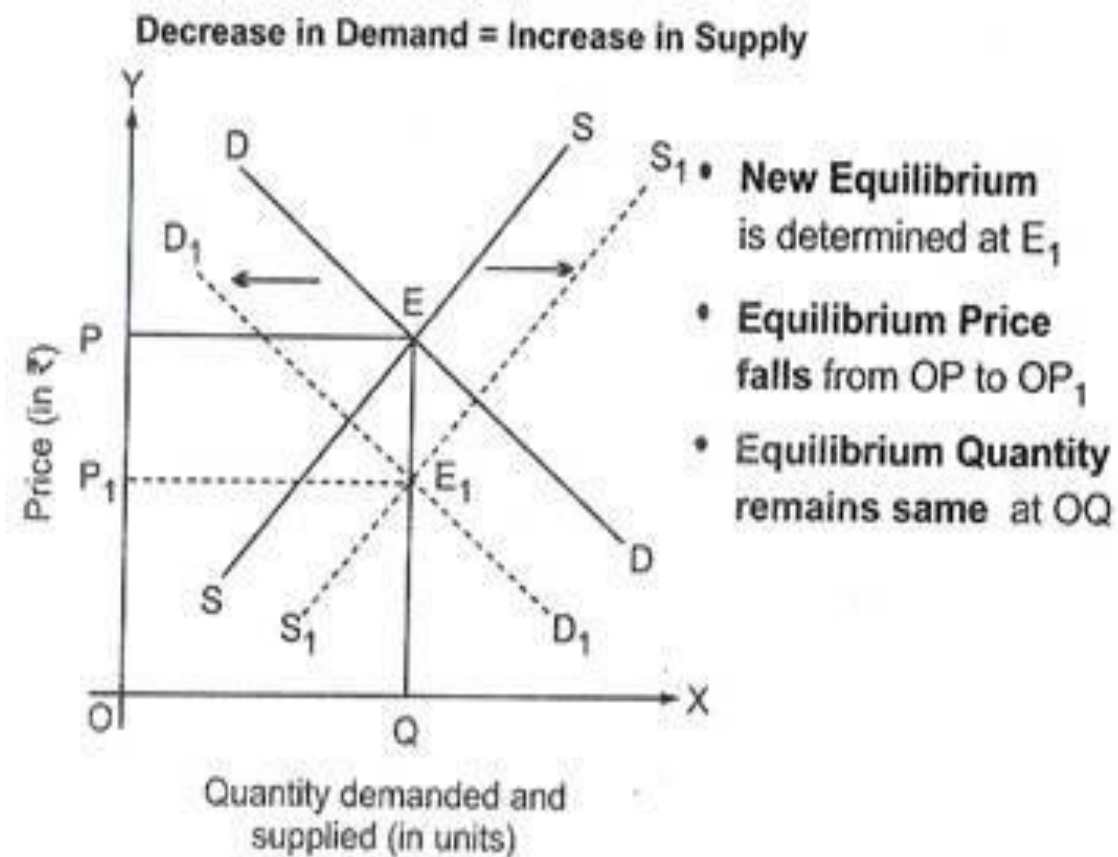
Case 1: Decrease in Demand = Increase in Supply

Case 2: Decrease in Demand > Increase in Supply:

Case 3: Decrease in Demand < Increase in Supply:

Case 1: Decrease in Demand = Increase in Supply

When decrease in demand is proportionately equal to increase in supply, then leftward shift in demand curve from DD to D1D1 is proportionately equal to rightward shift in supply curve from SS to S1S1 (Fig. 11.16). The new equilibrium is determined at E1 equilibrium quantity remains the same at OQ, but equilibrium price falls from OP to OP1.

Decrease in Demand = Increase in Supply

- New Equilibrium is determined at E1
- Equilibrium Price falls from OP to OP1
- Equilibrium Quantity remains same at OQ

Fig. 11.16

Case 2: Decrease in Demand > Increase in Supply:

When decrease in demand is proportionately more than increase in supply then leftward shift in demand curve from DD to D1D1 is proportionately more than rightward shift in supply curve from SS to S1S1 (Fig. 11.17). The new equilibrium is determined at E1 equilibrium quantity falls from OQ to OQ1 and equilibrium price falls from OP to OP1.
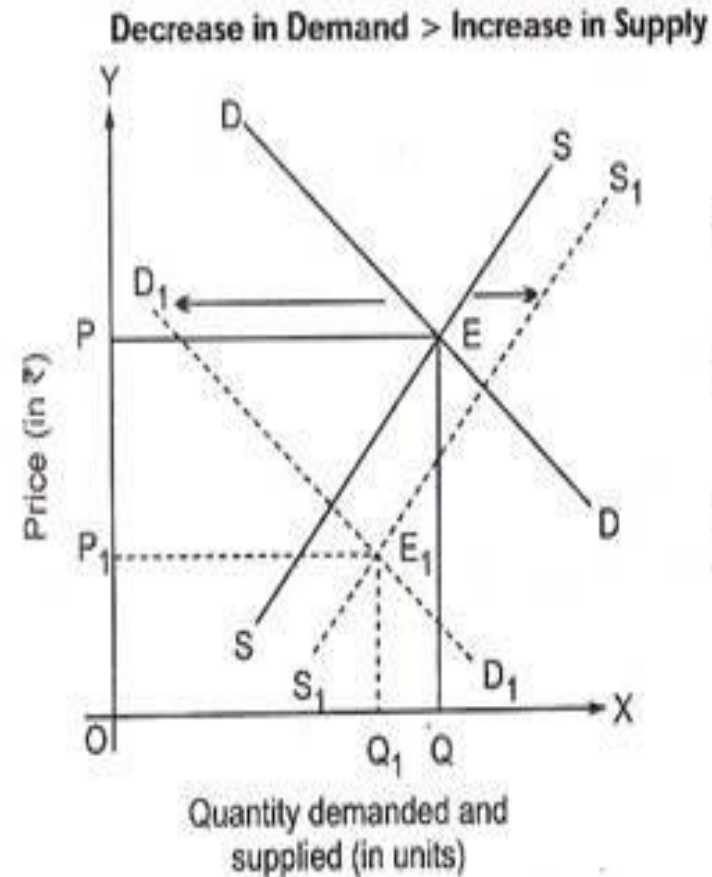

Decrease in Demand > Increase in Supply

- New Equilibrium is determined at E_1
- Equilibrium Price falls from OP to OP_1
- Equilibrium Quantity falls from OQ to OQ_1

Fig. 11.17

Case 3: Decrease in Demand < Increase in Supply:

When decrease in demand is proportionately less than increase in supply, then leftward shift in demand curve from DD to D1D1 is proportionately less than rightward shift in supply curve from SS to S1S1 (Fig. 11.18). The new equilibrium is determined at E1 equilibrium quantity rises from OQ to OQ1 whereas, equilibrium price falls from OP to OP1.

Decrease in Demand < Increase in Supply

- **New Equilibrium** is determined at E_1
- **Equilibrium Price** falls from OP to OP_1
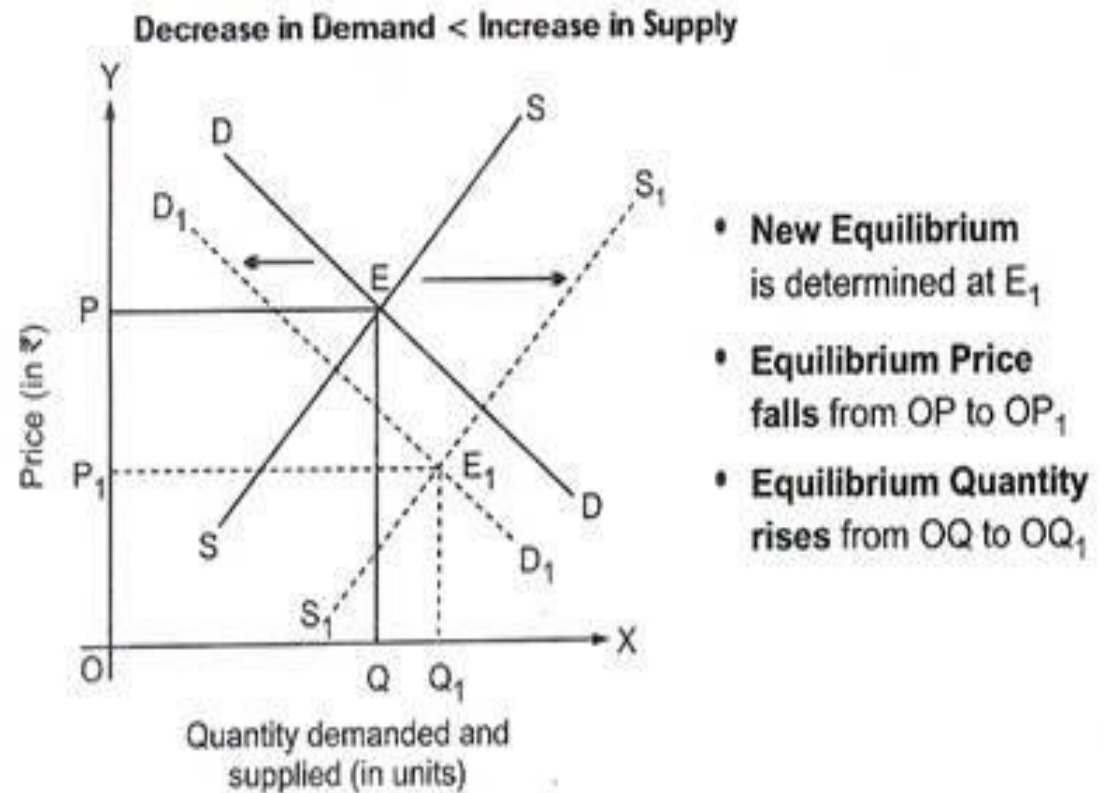- **Equilibrium Quantity** rises from OQ to OQ_1

Fig. 11.18

(IV) Demand increases and Supply decreases:

The effect of increase in demand and decrease in supply on equilibrium price and equilibrium quantity is discussed in the following three cases:
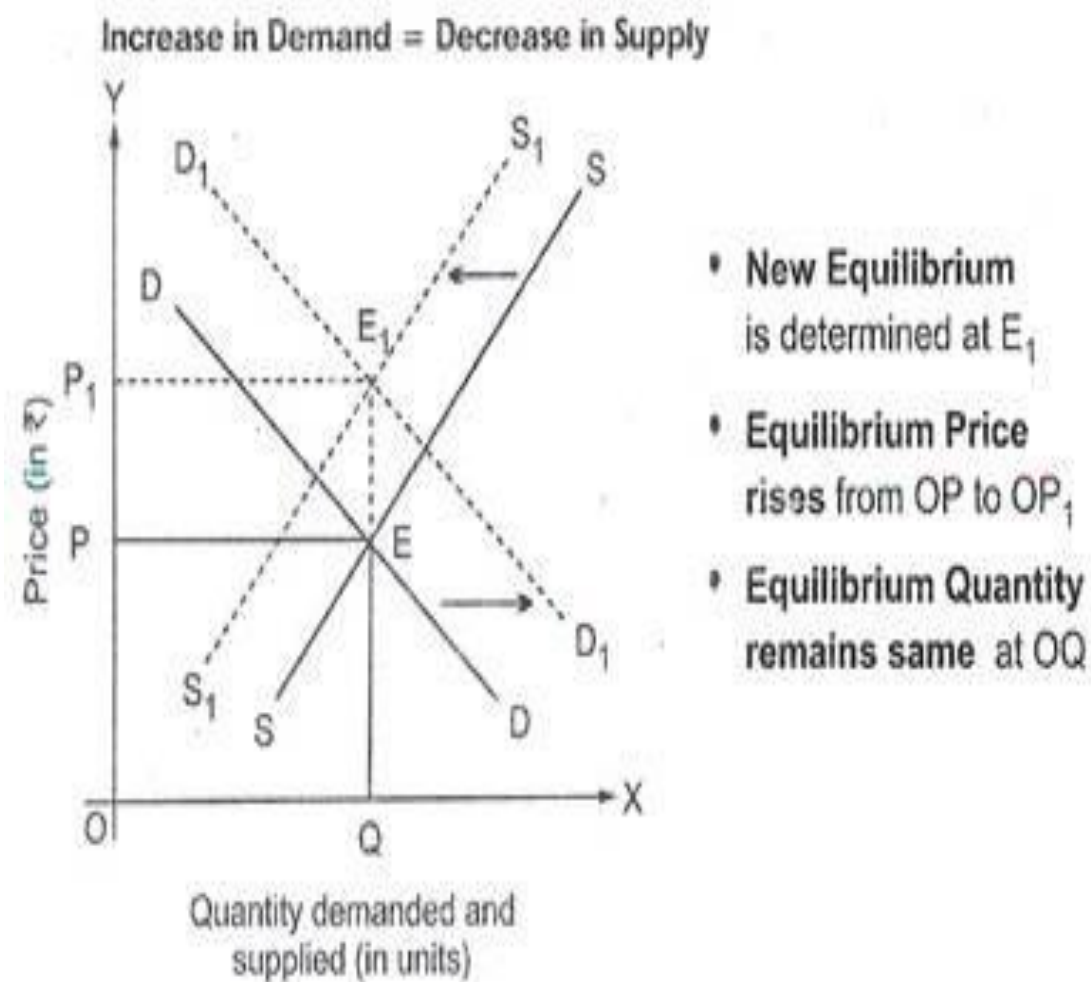
Case 1: Increase in demand = Decrease in supply
Case 2: Increase in Demand > Decrease in Supply
Case 3: Increase in Demand < Decrease in Supply

Case 1: Increase in demand = Decrease in supply:

When increase in demand is proportionately equal to decrease in supply, then rightward shift in demand curve from DD to D1D1 is proportionately equal to leftward shift in supply curve from SS to S1S1 (Fig. 11.19). The new equilibrium is determined at E1. As the increase in demand is proportionately equal to the decrease in supply, equilibrium quantity remains the same at OQ, but

equilibrium price rises from OP to OP1.

Increase in Demand = Decrease in Supply

- New Equilibrium is determined at E_1
- Equilibrium Price rises from OP to OP_1
- Equilibrium Quantity remains same at OQ

Quantity demanded and supplied (in units)

Fig. 11.19

Case 2: Increase in Demand > Decrease in Supply:

When increase in demand is proportionately more than decrease in supply, then rightward shift in demand curve from DD to D1D1 is proportionately more than leftward shift in supply curve from SS to S1S1 (Fig. 11.20). The new equilibrium is determined at E1. As the increase in demand is proportionately more than the decrease in supply, equilibrium quantity rises from OQ to OQ1 and equilibrium price rises from OP to OP1.
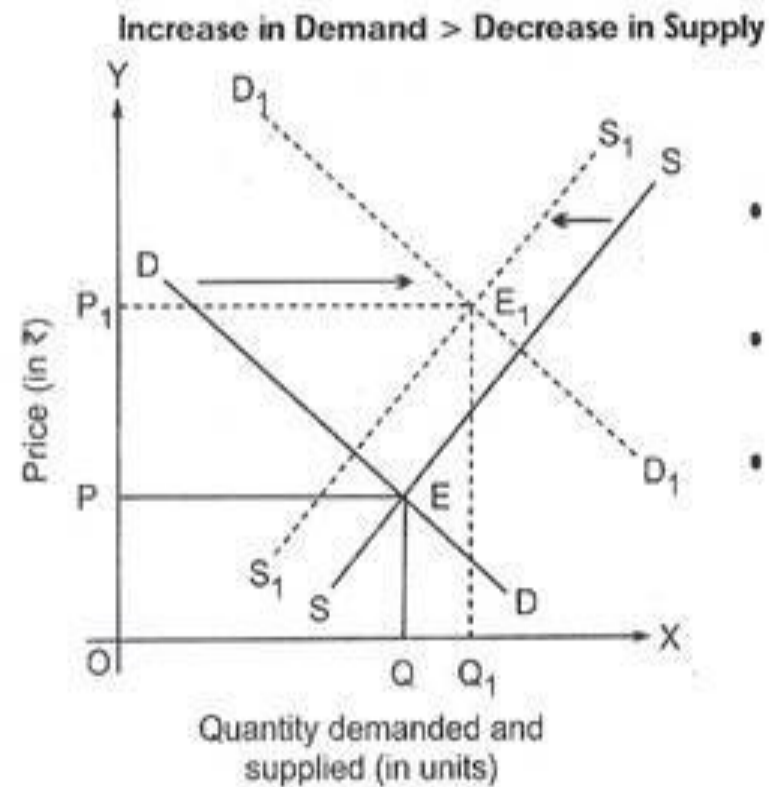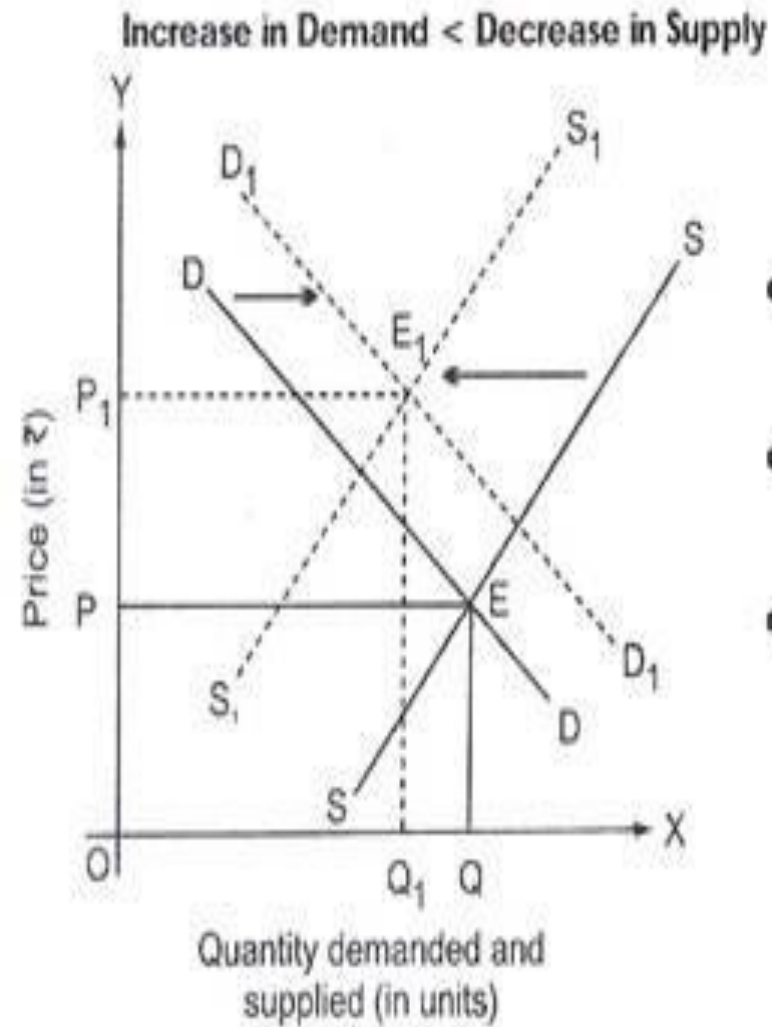

Increase in Demand > Decrease in Supply

- **New Equilibrium** is determined at E_1
- **Equilibrium Price** **rises** from OP to OP_1
- **Equilibrium Quantity** **rises** from OQ to OQ_1

Fig. 11.20

Case 3: Increase in Demand < Decrease in Supply:

When increase in demand is proportionately less than decrease in supply then rightward shift in demand curve from DD to D1D1 is proportionately less than leftward shift in supply curve from SS to S1S1 (Fig. 11.21). The new equilibrium is determined at E1. As the increase in demand is proportionately less than the decrease in supply equilibrium quantity falls from OQ to OQ1 whereas, equilibrium price rises from OP to OP1.

Increase in Demand < Decrease in Supply

- New Equilibrium is determined at E₁
- Equilibrium Price rises from OP to OP₁
- Equilibrium Quantity falls from OQ to OQ₁

Fig. 11.21