

Problem: In a perfectly competitive market, the demand and supply are given by:

$$Q_d = 100 - 5P$$

$$Q_s = 20 + 3P$$

Find the equilibrium price and quantity.

Solution:

Step 1: Condition for Equilibrium:

$$Q_d = Q_s$$

Step 2: Equate Demand and Supply:

$$100 - 5P = 20 + 3P$$

$$100 - 20 = 8P$$

$$80 = 8P$$

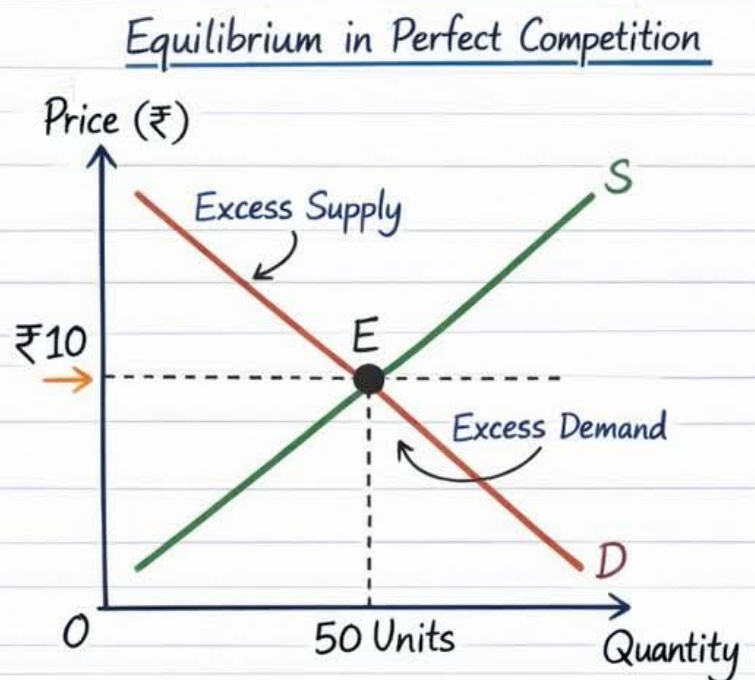
$$\underline{P = 10}$$

Step 3: Find Equilibrium Quantity:

$$Q = 100 - 5(10)$$

$$Q = 100 - 50$$

$$\underline{Q = 50}$$



At $P = ₹10$, $Q_d = Q_s = 50$ units.

This is the Equilibrium Point.

If Price $> ₹10 \rightarrow$ Excess Supply $\downarrow$ Price Falls

If Price $< ₹10 \rightarrow$ Excess Demand $\uparrow$ Price Rises

Thus, equilibrium price is stable in perfect competition.