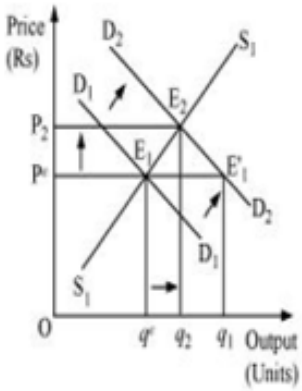
Q11. How will a change in price of coffee affect the equilibrium price of tea? Explain the effect on equilibrium quantity also through a diagram.
Ans: Coffee and tea are substitute goods, i.e. they are used in the place of each other. An increase or a decrease in the price of coffee will lead to an increase or a decrease in the demand for tea respectively.

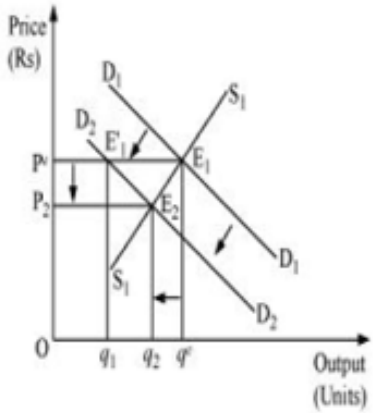
The figure depicts the equilibrium of the tea market. The initial demand and supply of tea is depicted by D_1D_1 and S_1S_1 respectively. The initial equilibrium is at E1, with the equilibrium price $\left(P^e\right)$ and equilibrium quantity $\left(q^e\right)$. Now, if the price of coffee increases, which will lead to an increase in the demand for tea (being a substitute good), the demand curve of tea will shift rightward parallelly. At the equilibrium price $\left(P^e\right)$, there will be an excess demand for tea; consequently, the price of tea will rise. This will form the new equilibrium at E_2, with the new equilibrium price P_2 and the new equilibrium output q_2. Hence, an increase in the price of coffee, will lead the equilibrium price of tea to rise (due to excess demand). Further, the increase in the price of coffee will also lead to the increase in demand for tea as tea is the substitute good for coffee.

Now, if the price of coffee decreases, there will be a decrease in the demand for tea. The demand curve for tea will shift leftward parallelly to D_2D_2. At the equilibrium price $\left(P^e\right)$, there will be an excess supply.

Consequently, the price of tea will fall, which will form the new equilibrium at E_2, with the new equilibrium price P_2 and the new equilibrium output q_2. Hence, a decrease in the price of coffee will lead to a decrease in the price of tea and a decrease in the demand for tea, as people will switch over to consumption of coffee.



Increase in price of coffee leads to increase in demand for tea.



Decrease in price of coffee leads to decrease in demand for tea.

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