

Q22. Suppose the demand and supply curve of commodity X in a perfectly competitive market are given by:

$$q^D = 700 - p$$

$$q^{S} = 500 + 3p$$
 for  $p \ge 15$ 

$$= 0 \text{ or } 0 \le p < 15$$

Assume that the market consists of identical firms. Identify the reason behind the market supply of commodity X being zero at any price less than Rs 15. What will be the equilibrium price for this commodity? At equilibrium, what quantity of X will be produced?

Ans: It is given that;

$$q_d = 700 - p$$

$$q_s$$
 = 500 + 3p for p > Rs 15

$$= 0 \text{ for } 0 \le p < 15$$

The market supply is zero for any price from Rs 0 to Rs 15, this is because, for price between 0 to 15, no individual firm will produce any positive level of output (as the price is less than the minimum of AVC). Consequently, the market supply curve will be zero.

At equilibrium  $q_d = q_s$ 

$$700 - p = 500 + 3p$$

$$-4p = -200$$

$$p = 50$$

Equilibrium price is Rs 50.

Quantity = 
$$q_s$$
 = 500 + 3p

$$=500 + 3 (50)$$

$$= 500 + 150$$

Therefore, the equilibrium quantity is 650 units.

\*\*\*\*\*\*\*\*\*\* END \*\*\*\*\*\*\*\*