Q 26. The market price of a good changes from Rs 5 to Rs 20. As a result, the quantity supplied by a firm increase by 15 units. The price elasticity of the firm's supply curve is 0.5. Find the initial and final output levels of the firm.

Ans: Elasticity of Supply, $e_s = 0.5$

Initial Price, $P_1 = \text{Rs } 5$

Final price, $P_2 = \text{Rs } 20$

$\Delta P = P_2 - P_1$

$= 20 - 5$

$\Delta P = 15$

$\Delta Q = 15$

$$e_s = \frac{\Delta Q}{\Delta p} \times \frac{P_1}{Q_1}$$

$$0.5 = \frac{15}{15} \times \frac{5}{Q_1}$$

$$0.5 = \frac{5}{Q_1}$$

$$Q_1 = \frac{5}{0.5}$$

$=10$ units

Initial quantity = 10 units

Final quantity, $Q_2 = \Delta Q + Q_1$

$= 15 + 10$

Therefore, $Q_2 = 25$ units

********** END **********