Mona
Department of Economics
Maharaja College, Ara
Veer Kunwar Singh University
B.A. Economics
Sem-lV
Paper - MJC 5
Topic: Formal Derivation of the Equilibrium of the Monopolist

Formal Derivation of the Equilibrium of the Monopolist

Given the demand function

$$X = g(P)$$

Which may be solved for P

$$P = f1\ (X)$$

And given the cost function

$$C = f2\ (X)$$

The monopolist aims at the maximisation of his profit.

$$\pi = TR - TC$$

a) **The first order condition for the maximisation of profit (π) is**

$d\pi / dX = 0$

Or, $d\pi / dX = dTR/dX - dTC/dX = 0$

Or, $dTR/dX = dTC/dX$

i.e; MR = MC

b) The second - order condition for maximum profit is

$d^2\pi / dX^2 < 0$

Or $d^2\pi / dX^2 = d^2TR/dX^2 - d^2TC/dX^2 < 0$

Or $d^2TR / dX^2 = d^2TC / dX^2$

i.e; slope of MR < slope of MC

Costs:

In the traditional theory of monopoly the shapes of the cost curves are the same as in the theory of perfect competition. The AVC , MC and ATC are U - shaped , while the AFV is a rectangular hyperbola. However, the particular shape of the cost curves does not make any difference to the determination of the equilibrium of the firm, provided that the slope of the MC is greater than the slope of the MR curve.

One point should be stressed here. The MC curve is not the supply curve of the Monopolist, as is the case in perfect competition . In monopoly there is no unique relationship between price and the quantity supplied.