

Home Assignment (Series - 2)

B.A. 1st Semester (Economics Honours)

Paper : ECO-HC-1026 : Mathematical Methods for Economics I

Session : 2022-2023

1. The total cost function of a firm is given by $TC = 625 - 5q + q^2$ 5

Show that optimum size of output of the firm is 25 units.

2. Show the relationship among average revenue (AR), Marginal Revenue (MR) and elasticity of demand (ed) by using differential calculus. 5

3. Establish the relationship between average cost (AC) and marginal cost (MC) with the help of product rule of differentiation. 5

4. Prove the Euler's theorem in case of C-D production function with the help of differential calculus. 5

5. Find out the derivatives of the following functions using chain rule -

(a) $y = 5(x^2 + 3x + 2)^3$ $5 \times 3 = 15$

(b) $y = \log(5e^{3x} - 2x^2 + 12)$

(c) $y = e^{\log(5+x^2)^2}$