

Optimization Methods for Economic Analysis

B.A.(P) Sem 3

29th Nov, 2023

Max Marks : 12

Attempt all questions

Duration : 1 hour

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- Q-1. Given the total-cost function $C = Q^3 - 5Q^2 + 14Q + 75$, find the Marginal-cost function. (2) ✓
- Q-2. Given the average-revenue function, $AR = 60 - 3Q$, find the total-revenue function and the marginal-revenue function. (3) ✓
- Q-3. Given the function $f(x) = ax + b$, find the derivative of $\frac{1}{f(x)}$. (2)
- Q-4. Given $y = u^3 + 1$, where $u = 5 - x^2$, find dy/dx in terms of x by the chain rule. (2) ✓
- Q-5. Are the following functions monotonic? (3)
- (a) $y = -x^6 + 5 \quad (x > 0)$
- (b) $y = 4x^5 + x^3 + 3x$

Bhanika