

First / Third Semester Internal Examination, September 2026
Major Course in ECONOMICS
ANALYTICAL TOOLS FOR ECONOMICS I
ECO3CJ201

Time: 1 Hr

Max Marks: 35

Name:	Marks Scored	Section A		Total Marks
Class:		Section B		
		Section C		

Section A

(Each question carries 3 marks, Max marks for section – 7)

1. Define a set and give one example.
2. What is derivative of ;
A) x^3 B) e^x C) $5x^2$
3. Define partial differentiation with example.

Section B

(Each question carries 6 marks, Max marks for section – 18)

4. Distinguish between a linear function and a quadratic function.
5. Differentiate $y = (3x^2 + 2x - 5)(x + 1)$
6. Find $\partial z / \partial x$ and $\partial z / \partial y$ if $z = x^2y^2 + 3xy^2$
7. What is a second-order derivative? Give an example.

Section C

(Answer any one question, Each question carries 10 marks)

8. Let $A = \{1, 2, 3, 4\}$ and $B = \{3, 4, 5, 6\}$ find $A \cup B$, $A \cap B$, $A - B$ and $B - A$. Explain the results.
9. Given $z = x^2y + xy^2 + 5x + 3y$, find the first order partial derivatives $\partial z / \partial x$ and $\partial z / \partial y$ and second order partial derivatives.