

Third Semester Internal Examination, September 2025

**Major Course in Economics
Analytical Tools for Economics-1**

ECO3CJ 201

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 an example of a finite and infinite set.
2. Define elasticity in economics.
3. Write the graph of $f(x) = x^2 - 4$

Section B

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

4. Write properties of determinants.
5. If a consumer's utility function is $U = x^2y$, find the marginal utility of x and y
6. Explain different type of functions
7. Solve the system of equations using matrix inverse method
 $2x + y = 5$, $x - y = 1$

Section C

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

8. Using Cramer's rule, solve the following equations
 $x + y + z = 6$
 $2x - y + z = 3$
 $x + 2y - z = 4$
9. Discuss how mathematical models (functions, calculus, and matrices) can be applied to understand and solve real-world economic problems like demand, production, and optimization.