



SCHOOL OF APPLIED SCIENCE & HUMANITIES
DEPARTMENT OF MATHEMATICS

Subject: Linear Algebra

Subject Code : 25MT103

Sem. : I

Academic Year: 2025-2026

Section: 7

Regulation: R25

Module 1 - T5 - Assignment 1

1. Consider the following system of linear equations

$$x + 2y + z = 2$$

$$2x - 2y + 3z = 1$$

$$x + 2y - z = 1$$

- a. Solve the system of equations using the Gaussian Elimination method.
- b. Solve the system of equations using the LU decomposition method.
- c. If the constant matrix keeps changing, is the LU decomposition method better than the Gaussian Elimination method?