**CLL:113-Tut-3(14.8.19)**

***Gauss Jordon Elimination:***

Q1. While solving if you write an augmented matrix of the form

and perform Gauss-Jordon steps you end up with

(a)Write a general program and solve the following matrix equations with the help of Gauss Jordon technique:

(b)Evaluate from the same program and write a subroutine to check

***LU Decomposition:***

Q2 Use the naive Gauss elimination code you have written earlier to decompose the following system

**7x1 + 2x2 − 3x3 = −12**

**2x1 + 5x2 − 3x3 = −20**

**x1 − x2 − 6x3 = −26**

into a [L] and [U] form.

(a) Write a subroutine to show that on multiplication the [L] and [U] matrices produce [A]

(b) Write two subroutines for the forward and backward sweep respectively to solve the system.

(c) Also solve the system for an alternative right-hand-side vector given by : **[B]T = [12 18 −6].**