

Indian Institute of Information Technology Allahabad
Linear Algebra
Computational Project-I

Program: B.Tech. 1st Semester

Deadline: **September 13, 2024, by 07:00 PM**

Full Marks: 10

Instructions: Let **Num** = the last three digits of your enrolment no.

$$\text{Assigned question} = \begin{cases} Q.1 & \text{if } \mathbf{Num} = 3n \text{ for some non-negative integer } n, \\ Q.2 & \text{if } \mathbf{Num} = 3n + 1 \text{ for some non-negative integer } n, \\ Q.3 & \text{if } \mathbf{Num} = 3n + 2 \text{ for some non-negative integer } n. \end{cases}$$

Find your **Assigned question** according to your enrollment number.

- Q.1* Write an algorithm and C/C++/MATLAB program to compute the row-reduced echelon (RRE) form of a matrix.
- Q.2* Write an algorithm and code in C/C++/MATLAB to determine the inverse of a matrix.
- Q.3* Write an algorithm and C/C++/MATLAB program for solving systems of linear equations using the Gauss-Jordan method.