

Spring 2023  
MTH603 Numerical Analysis  
Assignment # 1

**Section Incharge: Zulfiqar Ahmad Noor**

Total Marks 10

**Instructions**

1. The course is segmented into four sections, each of which is supervised by a different faculty member. Information regarding the section incharge can be found in the course information section on the LMS.
2. A distinct assignment file has been given to each section, resulting in a total of four separate assignment files. The relevant assignment file can be downloaded from the announcement section of the course. It is important to note that students can only view the announcements relevant to their respective sections.
3. You will prepare the solution of assignment on Word file and upload at the assignment interface on LMS as per usual practice.
4. Plagiarism in the submitted assignment will lead to a zero grade. Additionally, any student who submits a solution file that is not applicable to their section will also receive a zero grade.

**Question # 1**

**Marks 05**

Use Newton's Raphson method to find the root of equation

$$x \ln x = 3 \quad \text{with } x_0 = 2$$

Perform three iterations only.

**Question # 2**

**Marks 05**

solve the following system of equations by Crout's reduction method

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

$$5x + y + z = 9$$

$$3x + 2y + 4z = 11$$