

SEC4-N II LaTeX for Scientific Writing and Mathematics into LaTeX

Semester 6

Objectives

1. To introduce students to figure insertion techniques in document preparation, including simple figures, side-by-side figures, grouped figures, and figures within tables.
2. To develop proficiency in mathematical typesetting, including writing equations, arrays, vectors, matrices, and complex mathematical expressions in structured formats.
3. To familiarize students with advanced LaTeX features such as custom commands (macros) and user-defined environments for efficient document creation.

Expected Outcomes

1. Students will be able to insert and manage figures effectively in academic and technical documents using proper formatting techniques.
2. Students will be able to write and format mathematical equations, expressions, and structures clearly and accurately in professional documents.
3. Students will be able to create and use custom commands and environments to simplify and enhance document preparation tasks.

Unit 5: Figure Insertion

- 5.1 Commands and Environment for Inserting Figures
- 5.2 Inserting a Simple Figure
- 5.3 Side-by-Side Figures
- 5.4 Sub-numbering a Group of Figures
- 5.5 Figures in Tables

Unit 6: Equation Writing – I

- 6.1 Basic Mathematical Notations and Delimiters
- 6.2 Mathematical Operators
- 6.3 Mathematical Expressions in Text-Mode
- 6.4 Simple Equations
- 6.5 Array of Equations
- 6.6 Left Aligning an Equation
- 6.7 Sub-numbering a Set of Equations

Unit 7: Equation Writing – II

- 7.1 Texts and Blank Space in Math-Mode
- 7.2 Conditional Expression
- 7.3 Evaluation of Functional Values
- 7.4 Splitting an Equation into Multiple Lines
- 7.5 Vector and Matrix
- 7.6 Overlining and Underlining

7.7 Stacking Terms

7.8 Side-by-Side Equations

Unit 8: User-Defined Macros

8.1 Defining New Commands

8.2 Defining New Environments