Technical Writing Using LaTeX

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Introduction

- ► LaTeX is a powerful document preparation system for technical writing.
- ► It is widely used for scientific papers, reports, and presentations.
- ► Features include structured formatting, mathematical equations, tables, and bibliographies.

$$\mathrm{\LaTeX}$$

Unit I: Learning LaTeX

- **Installation:** TeX Live, MiKTeX, Overleaf.
- **Document Classes:** article, report, book, beamer.
- **Text Formatting:** Bold, italics, underline.
- **Lists:** Ordered and unordered lists.

Equations and Tables in LaTeX

Equation Example:

$$E = mc^2 \tag{1}$$

Table Example:

Variable	Value
X	10
Y	20

Table: Sample Table

Unit II: Scientific Manuscripts

- **Purpose:** Communicate research findings clearly.
- **Structure:**
    - Abstract: Summary of the research.
    - Introduction: Background and objectives.
    - Methods: Experimental setup.
    - Results: Findings and discussion.

Unit III: Writing Guidelines

- **Types of Documents:**
  - Memos and Letters: Short official communication.
  - Manuals: Technical guides and documentation.
  - Resumes: Professional CVs.
- **Writing Style:** Clarity, conciseness, and formality.

Unit IV: Referencing Research Ethics

- **Citation Styles:** APA, IEEE, Chicago.
- **Bibliographic Indexes:** h-index, impact factor.
- **Research Ethics:**
    - Avoid plagiarism.
    - Properly cite sources.
    - Use similarity-checking tools (e.g., Turnitin).

Conclusion

- ▶ LaTeX is essential for structured and professional documentation.
- ▶ It supports citations, equations, tables, and presentations.
- ▶ Follow ethical guidelines and proper referencing in research.