Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore – 641 020

# Department of Mathematics

**Organizes a**

## *Value-added course on* LaTeX

**About the course:**

LaTeX is a high-quality typesetting software which is widely used for document preparation in academics. Though it was invented for typing mathematical equations, but also used in various fields like, physics, chemistry, computer science, engineering, economics, psychology, social and political sciences to write documents. LaTeX provides a platform to create a document with customized citation styles, bibliography list, placements of the graphs and tables. LaTeX is essential for researchers to write the research papers for publications in scientific journals. In contrast to Microsoft Word, LaTeX can handle large documents very easily.

**Course duration:**

40 hours (20 Theory + 20 Practical's)

**Timings:**

Theory: 9.00 am to 10. 00 am

Practical's: 04.00 pm to 05.00 pm

**Course fee:** Rs. 300/-

**Topics to be covered:**

- Installation of MikTeX and TeXStudio on Windows Operating System
- Introduction about TeX, preparing an article, basic commands
- Citations using BibTeX and preparation of Bibliography database
- Preparing various types of lists – bullets and numbering
- Preparing tables and figures
- Preparing a large document
- Preparing presentations using Beamer
- Typesetting Mathematical documents

**Highlights:**

- Twenty hours of theory and 20 hours of practical's
- A copy of the software and materials in PDF will be provided to all the students.
- After completion of this course, the students will be able to write their manuscripts/thesis/reports using LaTeX typesetting.
- At the end of the course, a certificate will be provided to the students those who successfully complete the evaluation process.
- Extra credits will be awarded for the students who complete this course successfully.

**Contact:**

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AND SCIENCE (AUTONOMOUS) COIMBATORE - 641 020

Department of Mathematics

**Value-added course on LaTeX**

**Hours: 40** **Credits: 2**

**Course Objectives**

1. To get the knowledge of creating basic types of LaTeX documents.
2. To know how to typeset complicated mathematics.
3. To know how to import graphics, as well as: building diagrams, enhancing figures, and plotting functions, using the graphics packages.

**Course Outcomes (CO)**

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|---|---|
| CO1 | Preparing a LaTeX document using basic commands |
| CO2 | LaTeX environment, Creating tables and figures in the LaTeX document |
| CO3 | Basic tools to draw a figure and plotting functions |

**Unit I:**

Text formatting, TEX and its offspring, What's different in LATEX 2€, Basic of a LATEX file. Chapter 1: Sections: 1.1-1.3, 1.4.1, 1.5.

**Unit II:**

Commands and environments - Command names and arguments, Environments, declarations, Lengths, Special Characters, Fragile Commands, Exercises.
Chapter 2: Sections: 2.1 – 2.7.

**Unit III**:

Document layout and organization - Document class, Page style, Parts of the document, Table of contents, Fine - tuning text, Word division. Displayed text – changing font, Cantering and indenting, lists, Generalized lists, Theorem-like declarations, Tabulator stops, Boxes.
Chapter 3: Sections: 3.1 – 3.6, 4.1 – 4.7.

**Unit IV:**

Tables, Printing literal text, Footnotes and marginal notes. Drawing pictures with LATEX.
Chapter 4: Sections: 4.8 – 4.10, 6.1.

**Unit V:**

Mathematical formulas – Mathematical environments, Main elements of math mode, Mathematical symbols, Additional elements, Fine-tuning mathematics.
Chapter 5: Sections: 5.1 – 5.5.

**Treatment as in**:

A guide to LATEX by H. Kopka and P.W. Daly, Third Edition Addin Wesley, London, 1999.