



हिमालयन विज्ञान एवं प्रौद्योगिकी स्कूल  
स्वामी राम हिमालयन विश्वविद्यालय की एक शैक्षणिक इकाई

**Himalayan School of Science and Technology**  
A Constituent Academic Unit of Swami Rama Himalayan University



SRHU/HSST/Int./2024 -109/1

Dated: 14<sup>th</sup> August 2024

## **NOTICE**

Himalayan School of Science & Technology is organizing a National Level Online Faculty Development Program (FDP) in association with Spoken Tutorial, IIT Bombay on "Introduction to Latex" from 16th August to 31st August 2024. The Mode of Training will be Online, remote learning through audio-video lectures, as per self-learning pace. The inaugural function will be held on 16<sup>th</sup> August, 2024. All the faculty members are requested to join it positively. Details of Inaugural meeting is given below:

**Details of the Online Faculty Development Program (FDP) are as follows:**

- **Date:** 16 August – 31<sup>st</sup> August 2024
- **Time:** 11:00am – 12:00pm Friday
- **Time zone:** Asia/Kolkata
- 

Time zone: Asia/Kolkata

### **Google Meet joining info**

**Link: <https://meet.google.com/jxs-zpxb-asu>**

For any concerns/questions please contact:

Dr. Anupama Mishra

(Email: [anupamamishra@srhu.edu.in](mailto:anupamamishra@srhu.edu.in), Contact number: 9639601234)

*Pramod Kumar*  
*14/08/2024*

**Principal**  
Himalayan School of Science & Technology  
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**Dr. Pramod Kumar**  
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**SWAMI RAMA HIMALAYAN UNIVERSITY,  
UTTARAKHAND**

in association with

**SPOKEN TUTORIAL IIT BOMBAY**

organising

**Faculty Development Program on  
INTRODUCTION TO LATEX**



**EVENT DATES**

**16 AUGUST TO 31 AUGUST 2024**

Registration will ends on 14 August 2024

**COORDINATORS**

**DR. PRAMOD KUMAR, PRINCIPAL, HIMALAYAN SCHOOL OF SCIENCE & TECHNOLOGY**

**DR. ANUPAMA MISHRA, ASSISTANT PROFESSOR,  
DEPT. OF COMPUTER SCIENCE & ENGINEERING- 9639601234**

**MRS. CHAITRA H GAWADE - TRAINING MANAGER,  
SPOKEN TUTORIAL-IIT BOMBAY - 9738471845**



स्वामी राम हिमालयन विश्वविद्यालय  
Swami Rama Himalayan University

# A NATIONAL FACULTY DEVELOPMENT PROGRAM

on

## “Introduction to Latex”

16th - 31st August, 2024

Organized By

**Himalayan School of Science & Technology**



in association with

**Spoken Tutorial, IIT Bombay**



[spoken-tutorial.org](http://spoken-tutorial.org)

**SPOKEN TUTORIAL**

SOFTWARE TRAINING PROJECT

Developed by IIT BOMBAY

A PROJECT OF THE NATIONAL INSTITUTE FOR EDUCATION TECHNOLOGY  
FINANCED BY THE MINISTRY OF HIGHER EDUCATION & SKILL DEVELOPMENT  
GOVERNMENT OF INDIA



Dated: 31<sup>st</sup> August 2024

## REPORT

A National Level FDP on “Introduction to Latex” in collaboration with Spoken Tutorial, IIT Bombay has been organized by Himalayan School of Science & Technology. The details are mentioned below:

<b>Name of Activity</b>	: A National Level FDP on “Introduction to Latex”
<b>Dates</b>	: 16 <sup>th</sup> August,2024 to 31 <sup>st</sup> August,2024
<b>Objectives</b>	: The FDP aims to: <ul style="list-style-type: none"><li>• Introduce faculty members to LaTeX and its applications in academic writing.</li><li>• Provide hands-on experience in using LaTeX for creating and formatting documents.</li><li>• Enhance participants' proficiency in LaTeX to improve their academic and research output.</li></ul>

## Summary

A National Level Faculty Development Program (FDP) was organized to provide an in-depth understanding of LaTeX, a typesetting system widely used for technical and scientific documentation. The program aimed to equip participants with the knowledge and skills to create professional documents, including reports, articles, books, presentations, and more, using LaTeX. Each day of the program focused on specific aspects of LaTeX, from basic document creation to advanced typesetting techniques. The skills acquired during this program will enable participants to create professional-quality documents and presentations, enhancing their academic and professional endeavors. The details of the covered topics 15 Days are as following:

### Day1: LaTeX on Windows using TeXworks

- Installing MikTeX on Windows
- Writing basic LaTeX document using TeXworks editor
- Configuring MikTeX to download missing packages

### Day 2. Report Writing

- Report Writing
- Report style having chapter, section and subsection
- Article style having section, subsection and subsubsection

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- Automatic generation of table of contents
- Toc file to store the information that goes into the table of contents
- Automatic numbering of section numbers
- Appendix; its appearance in report and article style
- Exiting from LaTeX when a compilation error occurs

### **Day 3. Letter Writing**

- Letter Writing
- Letter document class
- From address
- Automatic generation and format of date
- Starting a new line with double slash
- To address
- Starting a new paragraph with a blank line
- Itemize environment for bullet points
- Enumerate environment for numbered points
- Closing statement
- Signature
- Carbon copy

### **Day 4. Mathematical Typesetting**

- Mathematical Typesetting
- \$ sign to begin and end mathematical expressions
- Creating alpha, beta, gamma and delta
- Space being used as a terminator of symbols
- Creating spaces in mathematical formulae
- Difference in font of text and formula
- Difference in the minus sign in text and in formula
- Frac command to create fractions



- Subscripts and superscripts
- Use of braces  $\{ \}$  to demarcate arguments
- Not equal to, greater than or equal to, less than or equal to, much less than
- Right arrow, left arrow, left right arrow, up arrow
- Integral sign, limits of an integral
- Matrices of different rows and columns

### Day 5. Equations

#### Equations

- Creating an equation
- Writing multiple equations
- Aligning multiple equations
- Amsmath package
- \$ Mode
- Align environment
- Intertext command
- Unnumbered align\* environment
- Creating matrices in LaTeX
- Label command
- Cross referencing with ref command
- Leslie Lamport's book

### Day 6. Numbering Equations

#### Amsmath

- Numbering equations
- Align environment
- Nonumber command
- Labelling equations with the label command



- Cross referencing equations with the ref command
- Case dependence of variables in label command
- Taking help from stackexchange
- Learning from ltx-primer.pdf
- Typing if-else with cases command

### **Day 7. Tables and Figures**

- Creating tables and figures in LaTeX

### **Day 8. Beamer**

- Creating a presentation using Beamer

### **Day 9. Bibliography**

Creating Bibliography in LaTeX

### **Day 10. Feedback diagram with Maths**

- Open the .fig file saved in the feedback control tutorial
- Put  $G(z) = \frac{z}{z-1}$  in the second block diagram

Choose the special flag

- Save and export it as combined tex and pdf
- Show that if "special" is not chosen, we get only text
- Change /frac into /dfrac
- Show that at the time of compilation, dfrac unknown error
- Include `\usepackage{amsmath}` in the tex file
- Recompile it and show that the equation is now coming properly
- Use pdfcrop to trim the pdf file, mention Briss



### **Day 11. Newcommand in LaTeX**

What is a command?

Different types of commands with examples

Defining a new command

Defining short commands for long repeated input.

Commands with parameter

Passing parameters to the commands defined

Renewcommand

Redefining the existing commands to the required output

### **Day 12. Newenvironment in LaTeX**

What is an environment?

- Defining a new environment
- **Defining environments with parameters**
- **Renewenvironment**
- **Redefining an existing environment to the required output**

### **Day 13. Writing Style Files in LaTeX**

#### **Writing Style Files in LaTeX**

- About LaTeX Styles files.
- Writing a Style file for LaTeX.
- Importing a Style file in LaTeX.
- Defining a standard Style file for LaTeX.
- Newcommand in LaTeX.newenvironment in LaTeX.
- RequirePackage command in LaTeX.
- Usepackage command in LaTeX.
- Style file identification.
- Preliminary declarations of a Style file.



- NeedsTeXFormat.
- ProvidesPackage.

### **Day 14. Indic Language Typesetting in LaTeX**

- Indic Language Typesetting in LateX
- Typeset a document in Indic language using XeLaTeX.
- Indic language fonts bundle.
- Installing Indic language Fonts.
- Installing Nirmala UI Fonts.XeLaTeX Compiler.
- Using Fontspec package.
- Using Polyglossia package.
- Select language command.
- Set default language in LaTeX.
- Set other language in LaTeX.

### **Day 15. Beamer Themes and Animation in LaTeX**

- Beamer Themes and Animation
- About Beamer Theme Matrix
- Add Beamer Themes
- Add Beamer Color Themes
- Usage of Warsaw and Madrid Themes
- Usage of Beaver and Crane Color Themes
- Navigating between slides using the Section Title
- Navigating between slides using the Sub section Title
- Text Animations using overlay command
- Overlay - onslide
- Overlay - uncover



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**List of participants**

<b>S. No</b>	<b>Faculty's Name</b>
1.	Dr. Pramod Kumar
2.	Mr. Harvinder Malhotra
3.	Dr. D.S.Rao
4.	Mr. Satyendra Singh Rawat
5.	Dr. Deepak Srivastava
6.	Mr. Gaurav Sharma
7.	Dr. Anupama Mishra
8.	Dr. Pooja Baloni
9.	Dr. Ashutosh Bhatt
10.	Mr. Gaurav Aggarwal
11.	Dr. Vibhor Sharma
12.	Mr. Sanjay Kumar
13.	Mrs. Princy Tyagi
14.	Ms. Vaishali Gupta
15.	Mrs. Shivani Sharma
16.	Ms. Shefali Khatri
17.	Mr. Sanjeev Gupta
18.	Mr. Rachit Lakhera
19.	Dr. Ashutosh Kumar Choudhary
20.	Dr. Vivek Katiyar
21.	Ms. Neelam Danu
22.	Dr. Suman ant

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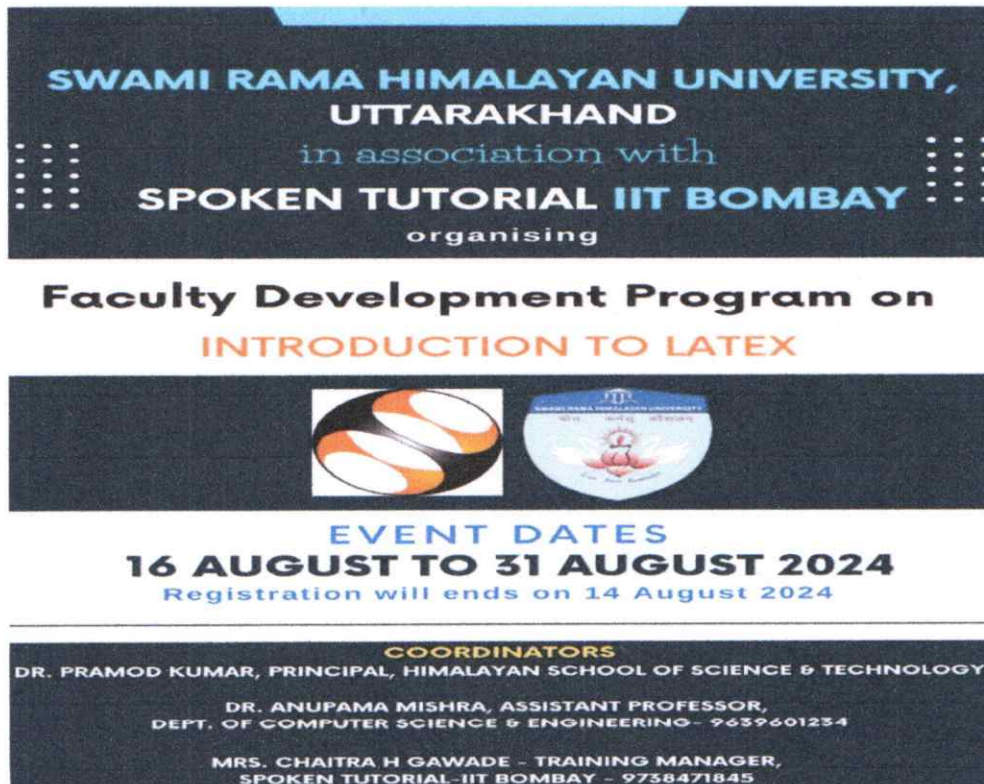
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**A few Pics of the FDP**



*Figure 1: Banner for FDP*



*Figure 2: Flyer for FDP*



*Figure 3: Learning from Videos*



*Figure 4: Figure 3: Learning from Videos(Cont.)*

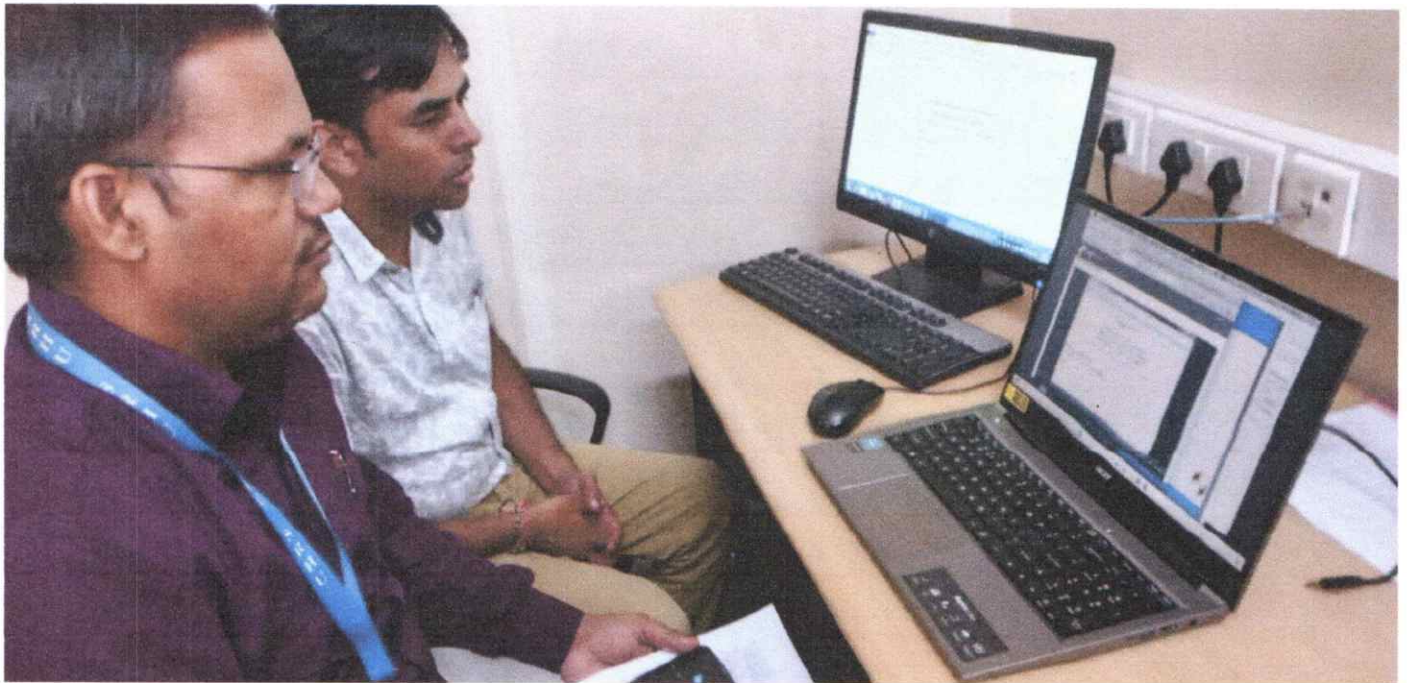


Figure 5: Learning from Videos (cont.)



Figure 6: Learning from Videos (cont.)

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