

Course: Latex

Course Code: Latex

Session: 2017-18

Duration: 4 Months

Assessment procedures: Proctored certification Exam (100%)

Curriculum of the Course:

1. LaTeX on Windows using TeXworks
 - Installing MikTeX on Windows
 - Writing basic LaTeX document using TeXworks editor
 - Configuring MikTeX to download missing packages
2. Report Writing
 - report style having chapter, section and subsection
 - article style having section, subsection and subsubsection
 - 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
3. 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
4. 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

5. Equations

- `amsmath` package and `align` and `align*` environments to create equations
- Matrix differential equation
- aligning two equations using `&`, with and without intervening text
- Automatic numbering of equations using `align`
- Labeling equations with the `label` command
- Cross referencing equation numbers through the `ref` command
- Inserting text between two aligned equations through the `intertext` command
- Automatic generation of equation numbers at run time allows insertion and removal of an equation from a set of equations
- Labeling sections and subsections for easy and fool-proof cross referencing
- Breaking an equation into more than one line
- Suppression of equation numbers in the `align` environment using the `nonumber` command
- Use of backslash (`\`) to make braces appear as braces
- `left[`, `right]` and also `left[.` (i.e. left bracking fullstop)
- Blank lines in the `align` environment is not permissible

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
7. Tables and Figures
 - Creating tables and figures in Latex
 8. Beamer
 - Creating a presentation using a Beamer
 9. Bibliography
 - Creating Bibliography in Latex

Intermediate Level

1. 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
2. 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
3. newenvironment in LaTeX
 - What is an environment?
 - Defining a new environment
 - Defining environments with parameters
 - Renewenvironment
 - Redefining an existing environment to the required output
4. 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.

5. 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.

List of students enrolled

1	Sagar Jangid
2	Aalekh Ravi
3	Abhinav Kumawat
4	Abhishek Chouhan
5	Abhishek Khandelwal
6	Abhishek Saini
7	Abhishek Verma
8	Aditya Juneja
9	Aman Saini
10	Amit Kilaniya
11	Arpit Garg
12	Arpit Khandelwal
13	Ayushi Somani
14	Charul Jain
15	Devwrath Jadawat
16	Dharamveer Singh Rathore
17	Divya Pratapsingh
18	Harsh Chaturvedi
19	Jai Jain
20	Kusum Wadhwani

21	Mahip Singh Charan
22	Manish Nebhnani
23	Mathur Aayush Neeraj
24	Mayank Balani
25	Mudita Jain
26	Neha Arun
27	Nikita Gupta
28	Nitin Rohra
29	Aashutosh Sharma
30	Aayush Sharma
31	Aayushi Beniwal
32	Abhinandan Kumar Singh
33	Achal Jain
34	Amandeep Walia
35	Amrit Kumar
36	Anish Garg
37	Chandan Choubisa
38	Deepak Sharma
39	Dinesh Solanki
40	Divya Arora

41	Garima Mangal
42	Gaurang Bansal
43	Hari Singh
44	Harsh Mandan
45	Harshit Jain
46	Harshita Maheshwari
47	Hitendra Singh Rathore
48	Jitendra Budiya
49	Kashish Taneja
50	Kshitij Maheshwari
51	Kushagra Khandelwal
52	Lakshman Rajpurohit
53	Mahima Doshi
54	Manish Dhayal
55	Meghna Bhattacharya
56	Mohit Singh Baghel
57	Naveen Kumar Sharma
58	Neelesh Malpani
59	Pranshu Rastogi
60	Prerana Gupta
61	Pulkit Sharma
62	Rahul Dubey
63	Rahul Yadav
64	Ritik Patni
65	Roopesh Joshi
66	Sachin Pratap Singh Chauhan
67	Smriti Gupta
68	Sonam Saini
69	Surbhi Khandelwal
70	Swati Jindal
71	Vaibhav Gautam
72	Aakanksha Sharma
73	Abhinav Dhaka
74	Abhishek Agarwal
75	Abhishek Jain
76	Abhishek Kala
77	Abhishek Kumar Singh
78	Ajit Meratwal
79	Akanksha Tiwari
80	Anmol Madaan
81	Anubhuti Agrawal
82	Ayush Didwaniya
83	Ayush Jain
84	Chandresh Joshi
85	Deepak Lahoty
86	Deepali Saxena
87	Divyansh Dhamaniya

88	Harsh Kumar
89	Harsh Kumawat
90	Harsh Manwani
91	Harsh Varddhan Rajpurohit
92	Harshit Mantri
93	Himanshu Bansal
94	Hridayesh Sharma
95	Kaushal Dubey
96	Kirti Mittal
97	Malay Singh
98	Mayank Chittora
99	Milind Sharma
100	Nandita Khemnani
101	Nilisha Bansal
102	Nitesh Arora
103	Reetika Singh
104	Rohan Garg
105	Ronak Jain
106	Saad Siddiqui
107	Saurabh Soni
108	Shreya Gupta
109	Shubham Jain
110	Sona Kumar
111	Sonal Khanna
112	Sonali Sinha
113	Sudhanshu Indoria
114	Sunaina Lalwani
115	Vaibhav Gandhi
116	Vivek Singhal
117	Yash Arora
118	Saurabh Chaturvedi
119	Keshav Kumar Saxena
120	Nihal Soni
121	Meenal Sharma
122	Nilesh Kumar
123	Payal +
124	Piyush Jain
125	Sanchari Dey
126	Shivani Gupta
127	Shubhendu Mal
128	Manu Goyal
129	Divyansha Gupta
130	Disha Agarwal
131	Kabeer Chaturvedi
132	Jigyasa Goyal
133	Khush Vyas
134	Kusum Sankhala

135	Hanisha Nankani
136	Tulika Singh
137	Pramod Sharma
138	Ronak Panchal
139	Rahul Yadav

140	Vipasha Choudhary
141	Charvi Joshi
142	Sangeeta Gurjar
143	Deepika Kanwar