

Course: Latex

Course Code: Latex

Session: 2018-19

Duration: 4 Months

Assessment procedures: Proctored certification Exam (100%)

Curriculum of the Course:

Basic Level LaTeX

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.
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List of students enrolled

1	Aastha Bubber
2	Aastha Mathur
3	Aayushi Choudhary
4	Abhishek Goyal
5	Abhishek Gupta
6	Abhishek Gupta
7	Aditya Umesh Acharya
8	Aikansh Gaur
9	Akanksha Agarwal
10	Alok Raj
11	Aman Jain
12	Anisha Jindal
13	Ankit Goyal
14	Ankit Goyal

15	Ankit Kumar
16	Anmol Gupta
17	Anshu Mulchandani
18	Anshul Kumar Garg
19	Apoorva Gupta
20	Ayushi Gupta
21	Ayushi Khandelwal
22	Bhawesh Singh
23	Charchit Sharma
24	Chirag Aggarwal
25	Deepak Kumar
26	Deepak Sharma
27	Devendra Jain
28	Dharmender Gurjar

29	Divyash Singh Hura
30	Ehaab Ahmad
31	Gaurav Khandelwal
32	Harshit Bhargava
33	Harshita Jain
34	Himanshu Satija
35	Himanshu Sharma
36	Isha Vyas
37	Ishanya Ashutosh Keshodhan
38	Karan Gopal Gaur
39	Karishma Khandelwal
40	Keshav Kumar Saxena
41	Keshav Mundra
42	Khushi Agrawal
43	Lakshay Bajargaan
44	Megha Bansal
45	Neetish Kumar
46	Nipun Kumar Jain
47	Nitesh Sharma
48	Nitisha Saini
49	Palash Patidar
50	Prachi Dubey
51	Prachi Yadav
52	Pramod Kumar
53	Punit Agarwal
54	Punit Kumar
55	Raghuveer Sharma
56	Rakesh Soni
57	Rishabh Kachhwaha
58	Rishav Chetan
59	Ritika Gupta
60	Riya Ritu
61	Sagar Goyal
62	Saharsh Anand Sharma
63	Saurabh Khandelwal
64	Shaily Jindal
65	Shivanshu Gupta
66	Siddharth Rawat
67	Simran Ajwani
68	Sonal Negi
69	Suchita Gaur
70	Sumit Singh
71	Sunil Suman
72	Surabhi Shrivastava
73	Swati Jain
74	Swati Priya
75	Tanushi Khandelwal

76	Urvashi Takuli
77	Vaibhav Pitliya
78	Vaishali Jain
79	Vikas Motiani
80	Vinay Pancholi
81	Vinod Sharma
82	Yash Bhardwaj
83	Yash Mangal
84	Yashika Singh
85	Kartik Arora
86	Krishan Veer Singh Chauhan
87	Piyush Jain
88	Udita Garg
89	Aakanksha Dixit
90	Ajay Sharma
91	Akshita Khatri
92	Aman Mahnot
93	Amritanshu Singh Chauhan
94	Anika Kocher
95	Anjali Kumari
96	Deepansh Soni
97	Deepanshu Samdani
98	Harsh Pandya
99	Hemant Vikani
100	Himanshu Bartiya
101	Jayesh Nagar
102	Karan Raj Singh
103	Malay Garg
104	Mansi Sharma
105	Mayank Kaushik
106	Mitali Jangid
107	Neha Alwani
108	Nihal Soni
109	Nitin Agnihotri
110	Parag Jain
111	Peeyush Goyal
112	Pradeep Lakwal
113	Pradeep Pandey
114	Prakhar Chatter
115	Puneet Saxena
116	Punita Tiwari
117	Ram Mohan Jain
118	Rishabh Vyas
119	Ritika Somani
120	Sakshi Agrawal
121	Shradha Na
122	Shubham Singhvi

123	Simran Khandelwal
124	Sunil Sharma
125	Tushar Kumawat
126	Ayush Gupta
127	Prateek Surana
128	Aishwarya Soni
129	Asmita Purohit
130	Aviral Chaudhary
131	Geeta Arora
132	Ketan Soni
133	Kumari Sukanya
134	Lavish Sharma
135	Nupur Gupta
136	Pranjal Kaushik
137	Pranjul Gupta
138	Purvi Mehta
139	Niharika Saxena
140	Punit Sharma
141	Harshit Bhargava

142	Vedant Vasishta
143	Raj Agarwal
144	Bhumi Shah
145	Puru Paneri
146	Aman Agwal
147	Rishabh Garg
148	Anurag Chaturvedi
149	Hritik Samaria
150	Kaushal Kishor Agrawal
151	Rajat Kaswan
152	Akshay Sharma
153	Rahul Mathur
154	Mitali Bajaj
155	Shaifali Kumawat
156	Pooja Sahu
157	Ayush Tayal
158	Neha Choudhary
159	Mansi Bhalla
160	Abdul Qadir