

Course: Latex

Course Code: Latex

Session: 2019-20

Duration: 4 months

Assessment procedures: Proctored certification Exam (100%)

Curriculum of the Course:

- 1 Basic Level LaTeX
- 2 Intermediate Level
- 3 Advanced Level

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.

List of Students Enrolled

#	Name of Student
1	Abhiraj Tak
2	Akshaya Makkar
3	Amanpreet Singh Bagga
4	Ananya Gupta
5	Ankit Gupta
6	Ankit Kumar
7	Anshul Jain

8	Anurag Chaturvedi
9	Apoorva Sapra
10	Asish Kumar
11	Astha Bhargava
12	Avinash Nagar
13	Ayush Ranjan
14	Bhanu Pratap Singh
15	Bhavesh Mittal

16	Bhavya Kashyap
17	Chaitanya Sharma
18	Deepak Nehra
19	Deepak Waswani
20	Devansh Sharma
21	Dipesh Kalal
22	Divya Shanker Acharya
23	Gaurav Mittal
24	Harish Pradhan
25	Harmukh Wattal
26	Harshit Khandelwal
27	Hritik Samaria
28	Kapil Bhagchandani
29	Krishna Sharma
30	Madhav Dixit
31	Monit Ranjan
32	Nikhil Kumawat
33	Pradeep Saini
34	Zuber Mohammed
35	Pushpak Gupta
36	Rahul Kumawat
37	Rajat Saini
38	Rishabh Verma
39	Sakshi Gupta
40	Sharon Thomas
41	Shashank Runthala
42	Shaurya Sisodia
43	Shefali Arora
44	Shikhar Agarwal
45	Shivam Gupta
46	Shubham Tak
47	Siddhant Jain
48	Siddharth Jain
49	Smriti Bagga
50	Snehil Bhatnagar
51	Tushar Mathur
52	Ujjwal Bansal
53	Vaibhav Lodha
54	Vaibhav Sharma
55	Vibhu Jain
56	Vikas Raj Purohit
57	Yash Dagur
58	Harsh Sharma
59	Prachi Keswani
60	Prateek Bhatt
61	Pratik Bansal
62	Rahul Kumar

63	Riyansh Khandelwal
64	Sahil Agarwal
65	Shriyansh Sharma
66	Vishal Tulsani
67	Wasim Khan
68	Yash Laddha
69	Zubin Mehta
70	Amandeep Gangwar
71	Anshul Gakkhar
72	Arpit Mathur
73	Bhavyam Jain
74	Dehul Parashar
75	Garima Singhal
76	Harshvardhan Singh Khidiya
77	Himanshu Modi
78	Jitendra Chatwani
79	Jitendra Yadav
80	Mamta Siyak
81	Mohit Soni
82	Saksham Kumar
83	Nikhil Mathur
84	Nilay Maheshwari
85	Nitesh Gupta
86	Pawan Sharma
87	Pranjal Agarwal
88	Puneet Sharma
89	Rakesh Kumar
90	Sagar Mochi
91	Saksham Jain
92	Satyam Kumar
93	Shagun Agarwal
94	Shiwanshu Mani
95	Shubham Baheti
96	Siddhant Sharma
97	Simran Khameshara
98	Talib Hussain
99	Tanvi Garg
100	Toshit Jain
101	Vivek Kumar Gupta
102	Aman Sharma
103	Anisha Mittal
104	Shivam Soni
105	Kaushal Kishor Agrawal
106	Neha Mathur
107	Aakriti Jain
108	Aayush Garg
109	Aayush Paliwal

110	Abhijit Kumar Jha
111	Aditya Upneja
112	Akshay Kumar Sharma
113	Anjali Poddar
114	Ankita Jha
115	Anurag Sharma
116	Arpit Singh Rajpurohit
117	Ashutosh Pareek
118	Ayush Gupta
119	Ayush Kothari
120	Digvijay Singh Shekhawat
121	Hardik Sharma
122	Harshit Sankhala
123	Hemang Joshi
124	Ishika Gupta
125	Keyur Jain
126	Kriyanshu Saraswat
127	Mohit Chouhan
128	Namit Patni
129	Pawan Kumar
130	Saumya Singh
131	Abhinav Singh
132	Abhishek Kumawat
133	Archit Khandelwal
134	Ashwin Royal
135	Bhanwar Singh
136	Harshit Gupta
137	Kashish Bhateja
138	Keshav Sharma
139	Nishchal Shah
140	Priyal Jain
141	Rahul Soni
142	Rajat Sharma
143	Raksha Choudhary
144	Ritika Goyal
145	Ruchika Thory
146	Samridhi Prasad
147	Saurabh Sisodia
148	Sharad Goyal
149	Shrestha Bansal
150	Simran Dhingra
151	Sita Choudhary
152	Sumit Maindoliya
153	Tapesh Kumar
154	Tarun Gupta
155	Uma Kumari
156	Umang Poddar

157	Varun Gandhi
158	Varun Mahirchandani
159	Vatsal Bhatt
160	Vikas Prajapat
161	Vinayak Vashishtha
162	Vishnu Kumawat
163	Yash Mishra
164	Yovan Jain
165	Abhinav Sharma
166	Abhishek Singhal
167	Akshita Bhatnagar
168	Ashima Gupta
169	Bhavik Bansal
170	Harjot Narang
171	Harsh Sanchawat
172	Harshal Jain
173	Harshdeep Walia
174	Himanshu Garg
175	Hitakshi Malhotra
176	Janak Rao
177	Kashish Wadhwa
178	Kunal Mahatma
179	Naman Kinger
180	Neha Sharma
181	Palak Saroja
182	Pranjali Maheshwari
183	Saurav Kumar
184	Shashank Pant
185	Aradhana Bharti
186	Arpit Sachan
187	Ashish Bansal
188	Atul Jain
189	Ayush Mehta
190	Deepankar Sharma
191	Divisha Dadhich
192	Heena Vasdani
193	Hitesh Goyal
194	Kanika Goyal
195	Medha Shukla
196	Minal Jain
197	Nalin Uniyal
198	Nimesh Vijay
199	Noopur Rathore
200	Pallavi Jain
201	Pranshu Sharma
202	Pulkit Totla
203	Shruti Agarwal

204	Tamanna Sharma
205	Vaibhav Paliwal
206	Vanisha Arora
207	Yash Goyal
208	Yashita Jain
209	Yasir Kadri
210	Pranjal Agrawal
211	Kapil Soni
212	Sonali Pandey
213	Hritvik Patidar
214	Yashesh Gupta
215	Navya Solanki
216	Umang Arora

217	Priya Khandelwal
218	Charu Sharma
219	Ayush Pandey
220	Piyush Tayal
221	Harshita Sinari
222	Sakshi Dayani
223	Abdul Qadir
224	Sandeep Singh
225	Yash Sharma
226	Shefali Goyal
227	Isha Soni
228	Jagrati Rajvanshi