

## **Report on self-sponsored national workshop on “Use of LaTeX in typesetting technical documents” , from 31/08/2020 to 04/09/2020**

A self-sponsored national workshop on “Use of LaTeX in typesetting technical documents” was organized successfully by the Department of Physics, Dr. B. R. Ambedkar National Institute of Technology from 31/08/2020 to 04/09/2020. The academicians working in various fields, such as Physics, Chemistry, Chemical Engineering, Mechanical Engineering, Mathematics etc. attended and benefitted from the workshop. Participants were from various IITs, NITs, Universities, research laboratories and colleges. The talks were delivered by organizers. Equal time was devoted to the lectures and hands-on training in online mode. The response from the participants was very good. The total number of participants (paying the registration fee @ 500 per participant) were 123.

Following is a brief summary of the workshop:

### **Day 1**

**Inaugural:** The workshop was inaugurated by Dr. L. K. Awasthi, Director, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar. He encouraged the participants and the organizers for attending and conducting the workshop. The participants were welcomed by Dr. Harleen Dahiya, Head, Department of Physics. Dr. Arvind Kumar then briefed the participants about the objective and motivation of organizing the workshop.

**Dr. A. P. Singh:** The program started with Dr. A. P. Singh’s talk. He provided an introduction to LaTeX. He highlighted the difference between LaTeX and a word processing software. He highlighted the advantages and disadvantages of both and why LaTeX may be more suitable for technical documents.

**Dr. A. P. Singh:** In this hands-on session, Dr. A. P. Singh demonstrated how to use the basic tools required for typesetting documents in LaTeX. He highlighted the most important features of the software and provided the hands-on training.

**Dr. S. Dutt:** In the second session of the first day of the workshop, Dr. Suneel Dutt introduced the basics of typesetting the documents using LaTeX.

**Hands-on 1:** During the hand-on session the participants were able to prepare their first text document using LaTeX.

## Day 2

**Dr. A. Kumar:** In the first lecture of 2nd Day, participants were introduced about how to write equations in LaTeX. Important environments related to equations in LaTeX were introduced.

**Hands-on 2:** During the hand-on session participants worked on the assignment related to equations in LaTeX.

**Dr. S. Dutt:** In the second lecture of day 2, the participants were introduced to the various listing environments in LaTeX. In addition to this, the participants were introduced to creating their own new commands and new environments in LaTeX.

**Hands-on 3:** In this hand-on session participants practised the usage of different lists structure and modification of the default values for these list structures.

## Day 3

**Dr. A. Kumar:** Third day of workshop started with a lecture on inserting figures in LaTeX. Here, participants were made familiar with inserting single figures and subfigures and related rules.

**Hands-on 4:** This hand-on session was dedicated to inserting figures in LaTeX documents.

**Dr. A. P. Singh:** In this session, Dr. A. P. Singh discussed the importance of graphics in documents. He discussed the various aspects of graphics. He provided an introduction to the tikz package to the participants and how it can be used to produce graphics.

**Hands-on 5:** This session was dedicated to hands-on training on producing 2D graphics in LaTeX.

## Day 4

**Dr. A. Kumar:** First lecture of the 4th day was on creating different types of tables in LaTeX and also how to prepare beamer presentations.

**Hands-on 6:** Hand on session was dedicated to creating table and beamer presentation.

**Dr. A. P. Singh:** In this session, Dr. A. P. Singh discussed various important libraries. He also discussed how to produce the diagrams programmatically.

**Dr. A. P. Singh:** In this session, Dr. A. P. Singh discussed how to plot functions and data in LaTeX. He elaborated on the various features available in the software. He also discussed the various customization options available.

## Day 5

**Hands-on 7:** This session was dedicated to providing hands-on training to the participants on plotting data from external files. The data plots were then customized according to the requirements of authors.

**Dr. S. Dutt:** This lecture was devoted to the discussion on adding bibliography to the technical documents prepared using LaTeX. In this lecture a basic template for preparing the Thesis was also discussed.

**Hands-on 8:** In this Hand-on session, the participants created the thesis template by using the various assignments completed during the workshop.

**Feedback session:** This session was devoted to interaction with participants about their experiences about the workshop. Their feedback was received regarding the conduct of the workshop, content and expertise of the organizers. The participants were satisfied with the workshop and praised the content. Some suggestions were received for the future as well. The session ended with words of motivation from Dr. Harleen Dahiya, Head, Department of Physics.

The course could not have been successful without the support from the institute authorities and our colleagues. We thank Dr. L. K. Awasthi, Director, Dr. B. R. Ambedkar National Institute of Technology and Dr. Harleen Dahiya, Head, Department of Physics for their support and encouragement. We are also thankful to the staff members and the team of research scholars. It is hoped that such support from various authorities will continue in the future also.

Dr A P Singh

(Convener)

Dr Suneel Dutt

(Coordinator)

Dr Arvind Kumar

(Coordinator)