



# POORNIMA

## INSTITUTE OF ENGINEERING & TECHNOLOGY

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*A*  
*report*  
*on*



**Indian Society of Technical Education (ISTE) sponsored**  
**Offline FDP on Advanced Tools & Techniques**  
**for Quality Research Analysis & Writing**  
(28th March, 2023 to 1st April, 2023)

**Organized by:**  
**Department of Applied Sciences,**  
**Poornima Institute of Engineering & Technology,**  
**Jaipur-302022**

**Submitted by:**  
Dr. Sama Jain  
FDP Coordinator,  
HoD, Department of Applied Sciences,  
Poornima Institute of Engineering  
& Technology, Jaipur

**Submitted to:**  
Dr. Dinesh Goyal  
FDP Patron,  
Principal and Director,  
Poornima Institute of Engineering  
& Technology, Jaipur

# Acknowledgements

I would like to thank the **ISTE** for financially-aiding and the **Poornima Group Management** for providing me an opportunity to organize a “*Faculty Development Programme (FDP) on ADVANCED TOOLS & TECHNIQUES FOR QUALITY RESEARCH ANALYSIS & WRITING*”. I extend my gratitude towards **Dr. Dinesh Goyal**, Principal and Director, Poornima Institute of Engineering & Technology (PIET), Jaipur and **Dr. Gautam Singh**, Registrar and Chief Proctor, PIET, Jaipur, and **all HoDs** for providing invaluable advices to organize the same. I convey my gratitude to **Dr. Bhanu Pratap**, Deputy HoD, Department of Applied Sciences (AS), PIET, Jaipur and Associate Professor, Department of Mechanical Engineering, PIET, Jaipur for aiding me in the smooth conduction of this event. My thanks are also due for the chief guest & speaker of the program, **Dr. Amar Patnaik**, Associate Professor, Department of Mechanical Engineering (ME), Malaviya National Institute of Technology, Jaipur for accepting the invitation and devoting his valuable time to share the insights on the preparation of quality research paper. Further, I convey my thanks to external speakers **Dr. Nitesh Pradhan**, Assistant Professor, Department of Computer Science and Engineering (CSE), Manipal University Jaipur (MUJ), **Dr. Rahul Goyal**, Professor, Department of ME, MUJ, and **Dr. Kamal Kishore Khatri**, Professor, Department of Mechatronics and Mechanical Engineering (MME), LNM Institute of Information Technology, Jaipur for enriching the knowledge of participants related to their talks. I am also thankful to the in-house experts **Dr. Priya Mathur**, Professor, Department of Mathematics, PIET, Jaipur, **Dr. Uday Pratap Singh**, Associate Professor, Department of CSE, PIET, Jaipur, **Dr. Ashish Laddha**, Associate Professor, Department of Electrical Engineering, PIET, Jaipur, and **Mr. Deepak Moud**, Assistant Professor, Department of CSE, PIET, Jaipur for their interactive and knowledge-enriching sessions during this FDP. My thanks goes to **Mr. Nitin Mukesh Mathur**, Deputy HoD, Department of AS, PIET, Jaipur and Assistant Professor, Department of ME, PIET, Jaipur, **Ms. Garima Kachhara**, Assistant Professor, Department of AS, PIET, Jaipur, **Dr. Shivanshi**, Associate Professor, Department of Civil Engineering, PIET, Jaipur, **Ms. Reshma Kala**, Assistant Professor, Department of CSE, PIET, Jaipur, and **Mr. Ram Mohan**, Assistant Professor, Department of ME, PIET, Jaipur for managing the inaugural session of the FDP. I am expressing my thanks to **Ms. Reshma Kala**, Assistant Professor, Department of CSE, PIET, Jaipur for managing all technical sessions and valedictory session of the program. Additionally, I thank **Mr. Robin Singh**, Teaching Assistant, Department of Civil Engineering, PIET, Jaipur, **Mr. Hansraj Mourya**, Technical Assistant, Department of CSE, PIET, Jaipur, and **Mr. Atma Ram Yadav**, Technical Assistant, Department of CSE, PIET, Jaipur, and **Mr. Laxman Singh**, Technical Assistant, PIET AICTE IDEA Lab for providing their technical supports throughout the FDP. I also thank all participants for attending all sessions of the FDP with great enthusiasm.

**Dr. Sama Jain**  
**FDP Convener**

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# FDP Leaflet

The leaflet of the FDP is as depicted in the below image. Various details such as the Title, Duration, Chief Guest, Patron, Chair, Convenor, and Resource Persons have been unfolded via it.

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## Faculty Development Programme on ADVANCED TOOLS & TECHNIQUES FOR QUALITY RESEARCH ANALYSIS & WRITING

March 28 - April 01, 2023

 <b>Dr. Amar Patnaik</b> CHIEF GUEST Associate Professor (ME), MNIT, Jaipur	 <b>Dr. Dinesh Goyal</b> PATRON Principal & Director, PIET	 <b>Dr. Gautam Singh</b> CHAIR Registrar & Chief Proctor, PIET	 <b>Dr. Sama Jain</b> CONVENOR Prof. & HoD, Dept. of Applied Science, PIET	 <b>Dr. Kamal Kishore Khatri</b> Associate Professor, MME LNMIIT, Jaipur
RESOURCE PERSONS				
 <b>Dr. Rahul Goyal</b> Professor (ME), MUJ, Jaipur	 <b>Dr. Nitesh Pradhan</b> Assistant Professor, CSE, MUJ, Jaipur	 <b>Mr. Deepak Moud</b> Assistant Professor (CSE), PIET, Jaipur	 <b>Dr. Priya Mathur</b> Professor (Mathematics), PIET, Jaipur	 <b>Dr. Uday Pratap Singh</b> Associate Professor (CSE), PIET, Jaipur
 <b>Dr. Bhanu Pratap</b> Associate Professor, PIET				 <b>Dr. Ashish Laddha</b> Associate Professor, EE, PIET

Flyer of the FDP

# FDP Plan

The image below portrays the detailed (day and session-wise) schedule of the FDP. A total of 20 technical sessions were planned and thus, organized during the event.

<b>Poornima Institute of Engineering and Technology, Jaipur</b> Department of First Year, 2022-23 <b>Faculty Development Program on Advanced Tools &amp; Techniques for Quality Research Analysis &amp; Writing (28<sup>th</sup> March-1<sup>st</sup> April, 2023)</b>					
Date/Day	8:30 AM-10:00 AM	10:00 AM-11:30 AM	11:30 AM-12 Noon	12:00 Noon-1:30 PM	1:30 PM-3:00 PM
28 March 2023 Tuesday	Session-1 Effective Research Paper Writing Skills Dr. Amar Patnaik (Chief Guest & Expert), (Associate Prof, MNIT, Jaipur) Venue: Sirohi Hall	Session-2 LaTeX type-setting Tool for Creating Quality Documents Dr. Nitesh Pradhan (Expert Assistant Prof, MUJ, Jaipur) Venue: IDEA Lab	Lunch	Session-3 LaTeX type-setting Tool for Creating Quality Documents Dr. Nitesh Pradhan (Expert Assistant Prof, MUJ, Jaipur) Venue: IDEA Lab	Session-4 LaTeX type-setting Tool for Creating Quality Documents (Self Practice)
29 March 2023 *Wednesday	Session-5 LaTeX type-setting Tool for Creating Quality Documents (Self Practice)	Session-6 LaTeX type-setting Tool for Creating Quality Documents (Self Practice)	Lunch	Session-7 LaTeX type-setting Tool for Creating Quality Documents (Self Practice)	Session-8 LaTeX type-setting Tool for Creating Quality Documents (Self Practice)
30 March 2023 Thursday	Session-9 Session on Reference Writing using Mendeley Dr. Priya Mathur (Expert, Professor, PIET) Venue: IDEA Lab	Session-10 User Awareness Session on SCOPUS/SCIE journals Dr. Rahul Goyal (Expert, Professor, MUJ, Jaipur) Venue: IDEA Lab	Lunch	Session-11 Effective Research Proposal Writing Dr. Kamal Kishore Khatri, (Expert, Professor, LNMIIT, Jaipur) Venue: IDEA LAB	Session-12 Awareness Session on Research Funding Agencies Dr. Dinesh Goyal, (Expert, Director & Principal, PIET) Venue: IDEA LAB
31 March 2023 *Friday	Session-13 Implementation of Data Science in Interdisciplinary Research Mr. Deepak Moud (Expert, HoD-CSE, PIET) Venue: IDEA Lab	Session-14 Research Paper Writing (Self Practice)	Lunch	Session-15 Research Paper Writing (Self Practice)	Session-16 Research Paper Writing (Self Practice)
01 April 2023 *Saturday	Session-17 Interactive Scientific Graphing and Data Analysis through Excel Dr. Uday Pratap Singh (Expert, Associate Professor PIET) Venue: IDEA Lab	Session-18 Assignment Submission & Evaluation by Expert	Lunch	Session-19 Assignment Submission & Evaluation by Expert	Session-20 Certificate Distribution Dr. Dinesh Goyal, (Expert, Director & Principal, PIET) Venue: IDEA Lab

Detailed schedule/plan of the FDP

## Registration Count

➤ A total of 46 participants registered for the event. Out of these, 24 were in-house whereas, the remaining 22 were from the various premier institutions of the country.

# Inauguration Ceremony

The first day of this FDP began with the inaugural ceremony held at the **Sirohi Hall** of the PIET, Jaipur. The Q sheet of the same is as shown below.



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### Faculty Development Programme on ADVANCED TOOLS & TECHNIQUES FOR QUALITY RESEARCH ANALYSIS & WRITING

**Department of First Year, 2022-23**  
 Faculty Development Program on  
**Advanced Tools & Techniques for Quality Research Analysis & Writing**  
 (28<sup>th</sup> March -1<sup>st</sup> April, 2023)

#### Q Sheet of Inaugural Session

**Day & Date:** Tuesday, March 28, 2023  
**Time:** 8:30 AM to 10:00 AM  
**Venue:** Sirohi Hall, PIET Campus

S. No	Activity	Time	Coordinator
1	Assembling of Dignitaries, Chief Guest, Faculty members and Students at Sirohi Hall, PIET Campus	8:30 AM-8:35 AM	Dr. Bhanu Pratap Mr. Nitin M. Mathur
2	Formal Welcome of Guest and Participants by Ms. Garima Kachhara	8:35 AM-8:40 AM	Ms. Garima Kachhara
3	<ul style="list-style-type: none"> <li>Presentation of Memento to <b>Dr. Amar Patnaik</b> (Chief Guest) Associate Professor, MNIT by Dr. Dinesh Goyal, Principal &amp; Director, PIET</li> <li>Presentation of Shawl to <b>Dr. Amar Patnaik</b> (Chief Guest) Associate Professor, MNIT by Dr. Gautam Singh, Registrar &amp; Chief Proctor, PIET)</li> </ul>	8:40 AM-8:45 AM	Ms. Garima Kachhara
4.	Brief Overview about the FDP by Dr. Dinesh Goyal, Principal & Director, PIET	8:45 AM-8:50 AM	Ms. Garima Kachhara
5.	Introduction of Dr. Amar Patnaik (Chief Guest/Session Expert) Associate Professor, MNIT by Dr. Sama Jain (HoD, Department of First Year, PIET)	8:50 AM-8:55 AM	Ms. Garima Kachhara
6.	Vote of Thanks	08:55 AM -09:00 AM	Dr. Bhanu Pratap
7.	High Tea	09:00 AM- 09:15 AM	Mr. Nitin M. Mathur
8.	Expert Session by Dr. Amar Patnaik on “Effective Research Paper Writing Skills”	09:15 AM-10:10 AM	Ms. Garima Kachhara

### Q Sheet of the FDP inauguration

**Dr. Amar Patnaik**, Associate Professor, Department of ME, MNIT, Jaipur was the chief guest of the occasion. He was welcomed by **Dr. Dinesh Goyal**, Principal and Director, PIET, Jaipur by presenting a memento. Later, **Dr. Gautam Singh**, Registrar and Chief Proctor, PIET, Jaipur presented a shawl to the chief guest. **Ms. Garima Kachhara**, Assistant Professor, Department of AS, PIET, Jaipur, **Mr. Ram Mohan**, Assistant Professor, Department

of ME, and **Dr. Shivanshi**, Associate Professor, Department of Civil Engineering coordinated the inaugural session.

At first, **Ms. Garima Kachhara** welcomed the chief guest, Principal and Director, Registrar and Chief Proctor, all Heads and Deputy Heads of the departments, Faculty Members, and Participants. Then, she requested to the Honorable Principal and Director, PIET, Jaipur to give a brief introduction of the Poornima Group and the PIET, Jaipur before the gathering. Then, Dr. Dinesh Goyal gave a brief introduction of the institute. He also shared the motive of this offline FDP before the gathering. Later, she invited **Dr. Sama Jain**, Head, Department of AS, PIET, Jaipur and FDP Convener for a short introduction of the chief guest.

**Google Scholar**

**Amar Patnaik**  
Associate Professor, [MNIT JAIPUR](#)  
Verified email at mnit.ac.in - [Homepage](#)  
[Tribology and Fracture anal...](#)

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TITLE	CITED BY	YEAR
<a href="#">Marble Dust Reinforced Epoxy Structural Adhesive Composites</a> A Patnaik, P Agarwal, A Sharma, D Shekhawat, TK Patnaik Structural Adhesives: Properties, Characterization and Applications, 105		2023
<a href="#">Tribological performance of ceramic composites for biomedical applications: A review</a> D Shekhawat, S Mishra, A Singh, TK Patnaik, A Patnaik Materialwissenschaft und Werkstofftechnik 54 (3), 284-293		2023
<a href="#">Investigation of physical, mechanical, thermal, and tribological characterization of tricalcium phosphate and zirconia particulate reinforced dental resin composite materials</a> S Saini, A Meena, R Yadav, A Patnaik Tribology International 181, 108322		2023
<a href="#">Ranking optimization investigation using hybrid AHP-TOPSIS MCDM technique on hybrid AA2024—Ceramic particulate alloy composite materials prepared through stir casting</a> S Bhaskar, M Kumar, A Patnaik		2023

	All	Since 2018
Citations	8803	5922
h-index	50	41
i10-index	190	166

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### The Google Scholar profile of the Chief Guest

Then, Madam introduced Dr. Patnaik before the audience and conveyed that such a great profile is the result of the continuous efforts, hard work, and dedication towards the work. Afterwards, **Dr. Bhanu Pratap**, Deputy Head, Department of AS, PIET, Jaipur and Associate Professor, Department of ME, PIET, Jaipur gave the Vote of Thanks.

## Gallery: Inauguration Ceremony

Following are a few glimpses of the inaugural ceremony of this offline FDP:



Welcoming and introduction of the chief guest, Vote of Thanks, and a group photograph

# Technical Session 1

The topic of this technical session was *Effective Research Paper Writing Skills*. The chief guest of the inauguration ceremony (i.e., **Dr. Amar Patnaik**) was the speaker of the session. It went on from 8:45 A.M. to the 10:00 A.M. on the 28th March, 2023 at the Sirohi Hall, PIET, Jaipur. The speaker kept the following major parts of a manuscript before the audience through one of his presentation slides:

- Title,
- Abstract,
- Introduction,
- Materials and Methodology,
- Results and Discussion,
- Conclusions, and
- References.

Dr. Patnaik, then, proceeded by telling that how one should write the introduction. He told that there may be four to five paragraphs in this section. He also let the participants know that how to cite the references in this part of an article. Then, he said about the materials and methodology section of a paper. Then, he made the participants understand that results should be given in a proper sequence. Then, a comparison of the obtained results can be made with that of the existing literature. The corresponding analysis (i.e., whether the obtained results are superior/inferior to the already available results with the proper explanation) needs to be provided in the discussion part of the ‘Results and Discussion’ fragment. Then, a few important points need to be picked and put in the conclusion section. As per his opinion, a total of 20-25 references are enough for a manuscript. He also said that the Abstract should be written at the last without citing any reference. Then, based on the journal in which one wants to communicate his/her work, a title can be provided to the work. The title should not contain more words and may be selected according to the following:

- Keeping in mind the materials, methodology, key findings of the work, and
- According to the ‘Aim and Scope’ of the selected journal/‘Tracks’ of a conference.

Then, the speaker advised the attendants to incorporate the following details in their manuscripts:

- Limitation(s) of the work, and
- Possible future scope(s) of the work.

## Gallery: Technical Session 1

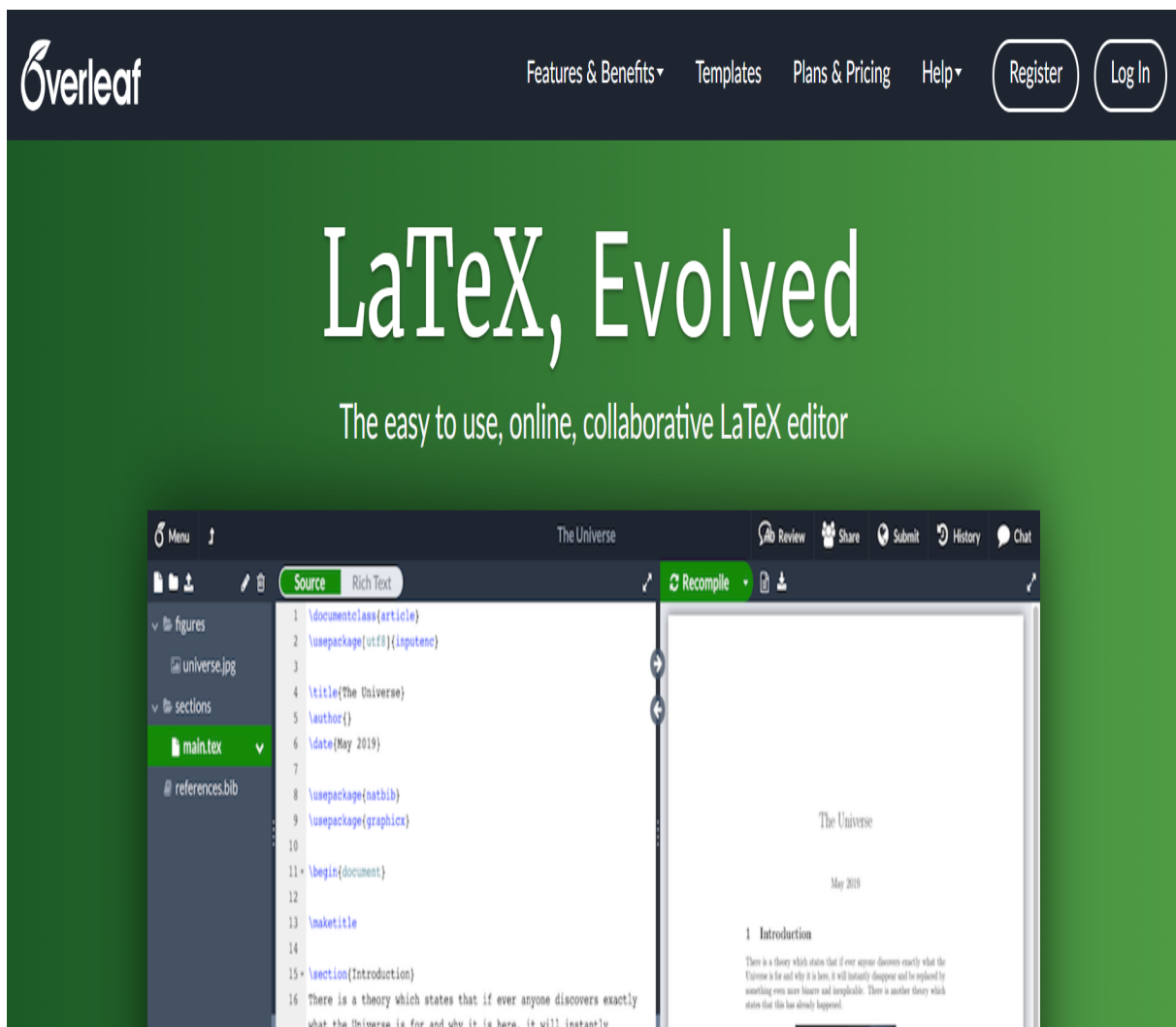
☞ The image below portrays a few clicks of the technical session 1.



Participants getting the tips of preparing a quality research manuscript

## Technical Session 2

The subject of this session was *LaTeX type-setting Tool for Creating Quality Documents*. It ran from 10:05 A.M. to 12:00 Noon on the 28th March, 2023 at the IDEA Lab, PIET, Jaipur. **Dr. Nitesh Pradhan**, Assistant Professor, Department of CSE, MUJ was the speaker of this session. He began the session by showing a manuscript prepared from the LaTeX, as well as some other available document type-setting platform. It was observed by all that the type-setting of the delineated document was better with the LaTeX. The LaTeX is a *programming-based platform* and utilizes a specific package to enable the implementation of a specific function in a document. It can either be utilized in the ‘*online*’ or ‘*offline*’ mode. Following image delineates the ‘*Overleaf*’, which is popularly utilized for preparing a LaTeX document in the online mode. At first, the user needs to login on the Overleaf.



The Overleaf homepage

Afterwards, it is needed to download the *zip file* (ZF) of the LaTeX template of the concerned journal/conference. Then, the downloaded ZF is supposed to be uploaded on the Overleaf by clicking on the *new project*. The next step is to put the relevant/desired content under the specific heads of that template.


## Technical Session 3

This post-lunch session was held from 12:00 Noon to 1:30 P.M. at the IDEA Lab, PIET, Jaipur. Dr. Pradhan continued making the participants learn about the LaTeX. He discussed about the following in this session :

- Insertion and proper accommodation of an image,
- Making a sideways table,
- Downloading and sharing of the whole zip folder of the concerned project, etc.


Later, he told about the '*CodeCogs*' for writing a mathematical expression as needed within the equation environment of the LaTeX.

Home Documentation Support Log in BUY

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$\boldsymbol{\Sigma} f(x)$ 
Bold
 $\pm \cap \cup \cdot$ 
 $\therefore \partial \mathbb{P} \angle$ 
 $\mathfrak{A} \mathbb{E} \left[ \right] \left[ \right]$ 
 $a' a''$ 
 $\widetilde{abc} \underline{abc}$ 
 $\mapsto \rightarrow$

$x^a \frac{a}{b} \int \cap \Sigma \Pi$ 
 $( ) \| \| \|$ 
 $\alpha \beta \zeta \kappa$ 
 $\Gamma \Delta$ 
 $< > =$ 
 $\dots \left[ \dots \right] \binom{n}{r}$ 


$x^{2}+y^{2}=1$

Define equation with [LaTeX markup](#). `<Tab>` or `<Ctrl+ arrows keys>` to jump between brackets and matrix elements.

$x^2 + y^2 = 1$

### The CodeCogs

Dr. Pradhan also let the participants knew about the '*Tables Generator*' platform for the preparation of a table according to one's requirement. Before concluding his session, Dr. Pradhan advised the attendees to work with patience until they become familiar with the LaTeX.

The session was ended with Vote of Thanks given by **Dr. Sama Jain**. On top of that, all participants thanked the speaker for making them understand the various fundamentals of the LaTeX.

```

1 \begin{table}[]
2 \begin{tabular}{lllll}
3 & & & & \\
4 & & & & \\
5 & & & & \\
6 & & & & \\
7 \end{tabular}
8 \end{table}

```

The Tables Generator

## Technical Session 4

The last session went on from 1:30 P.M. to 3:00 P.M. on the 28th March, 2023. From this session onwards, certain assignments were announced for the participants of the FDP. The details regarding the same were conveyed to them. Moreover, they were asked to finish it by 10:00 A.M. on the concluding day of this programme. Specifically, each of them were asked to prepare a research document by utilizing the LaTeX type-setting tool.

The participants, then, started working on the above-mentioned assignments.

## Gallery: Technical Sessions 2-4

Following image shows a few glimpses of the technical sessions 2-4:




Welcoming of the speaker, speaker-participants interaction, and group photograph

## Technical Session 5

The second day of the FDP began with a practicing session (Technical Session 5) on the '*LaTeX type-setting Tool for Creating Quality Documents*'. The speaker of the session was **Dr. Ashish Laddha**, Assistant Professor, Department of Electrical Engineering, PIET, Jaipur. The session took place from 8:30 A.M. to 10:00 A.M. on the 29th March, 2023. The venue for the same was AF-03, First Floor, A Block, PIET, Jaipur. All participants were trying to implement the various fundamentals of the LaTeX, which they learnt on the previous day. A few of these fundamentals are as listed below.

- Creating a new project on the Overleaf,
- Putting the desired content on the selected LaTeX template,
- Setting of an image as per one's requirement,
- Tabulation of a specific data,
- Creation and then utilization of a '.bib' file within the main '.tex' file,
- Commenting a certain fragment of the manuscript etc.

Introduction ○○	Softwares needed for the L <sup>A</sup> T <sub>E</sub> X ○○	Some useful packages ○○○	Some L <sup>A</sup> T <sub>E</sub> X commands ○○	L <sup>A</sup> T <sub>E</sub> X codes ○○○○○○○○○○○○○○○○○○	References ○○○
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 **POORNIMA INSTITUTE OF ENGINEERING & TECHNOLOGY, JAIPUR**  
**DEPARTMENT OF FIRST YEAR**

**FDP ON ADVANCED TOOLS AND TECHNIQUES FOR QUALITY  
RESEARCH PAPER ANALYSIS AND WRITING**

**A presentation on**  
**L<sup>A</sup>T<sub>E</sub>X type-setting Tool for Creating Quality Documents**

**Presented by :**  
Dr. Ashish Laddha  
Assistant Professor (EE),  
Dept. of First Year,  
Poornima Institute of Engineering & Technology, Jaipur

### Delineation of the presentation on the LaTeX

**Mr. Hansraj Mourya**, Technical Assistant, Department of CSE, PIET, Jaipur and **Mr. Atma Ram Yadav**, Technical Assistant, Department of CSE, PIET, Jaipur were present at the venue for resolving all sorts of technical issues. Just before the concluding of the session, **Dr. Sama Jain** gave the Vote of Thanks to the guest speaker.

## Technical Session 6

This pre-lunch session went on from 10:00 A.M. to 11:30 A.M. on the second day of the FDP (i.e., 29th March, 2023). The venue for the same was AF-03, A Block, PIET, Jaipur. The participants continued the preparation of their respective document(s). Each of them was engaged with a great *enthusiasm*. By the time, they had learnt various fundamentals that are essential to prepare any document on the LaTeX. Then, there was a lunch break from 11:30 A.M. to 12:00 Noon. The session expert and persons for the technical support were the same as of the technical session 5. **Dr. Sama Jain** gave the Vote of Thanks to the session expert.

## Technical Session 7

This session, numbered ‘7’ in the series of sessions, went on just after the lunch break. The participants were looking quite energetic after taking the lunch. They again started working on their respective project(s) and kept asking their queries. Some of the queries, which were asked during the session, are as follows:

- Changing the author(s) detail (such as the name, affiliation, email-id, etc.),
- Adjusting the dimensions of a figure,
- Creating a table according to one’s own requirement, among others.

## Technical Session 8

This last session of the second day was also a hands-on session like the earlier sessions of the day. The participants kept on extending their respective works at the same venue. They understood about various possible errors, which might occur due to one of the following reasons:

- Not mentioning of a package,
- Due to a wrong syntax, and
- Missing of the ‘Ending’ of an environment (like table, equation, figure, etc.).

At last, **Dr. Sama Jain** gave the Vote of Thanks to the guest speaker.

She also motivated and reminded all participants to keep on working on their assignments and submit it within the stipulated time.

## Gallery: Technical Sessions 5-8

☞ The enthusiasm of the participants, while learning the LaTeX type-setting tool, may be observed from the following images.

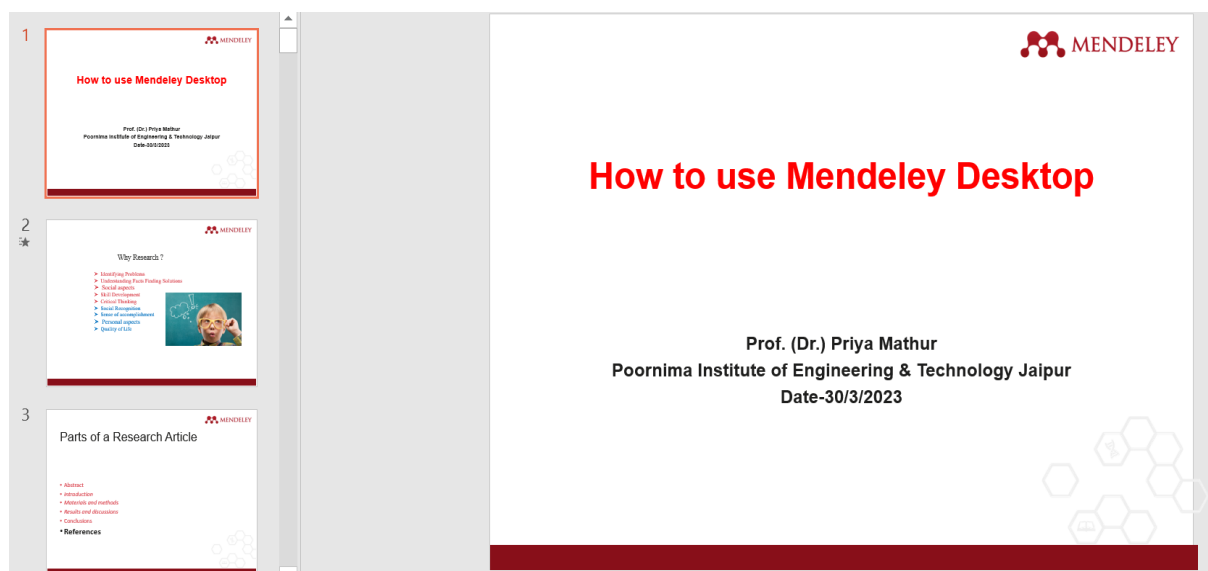


A few pictures from the hands-on practicing sessions on the LaTeX

## Technical Session 9

The subject of this session was '*How to Write References Using the Mendeley*'. **Dr. Priya Mathur**, Professor, Department of Mathematics, PIET, Jaipur was the expert of this session. At first, **Ms. Reshma Kala**, Assistant Professor, Department of CSE, PIET, Jaipur welcomed and introduced the speaker before the participants. Dr. Mathur started the talk by discussing about the various parts of a manuscript like Abstract, Introduction, Materials and Methodology, Results and Discussion, Conclusions, and REFERENCES. After giving the overview of all the aforementioned parts of an article, Dr. Mathur said that putting and citing the references is the most important task. She continued by saying that sometimes organization of the references may consume a lot of time. This problem can be overcome by utilizing a reference-managing software.

Among the various available softwares for the reference-managing, the *Mendeley* (from the Elsevier) seems to be the most appropriate. It is *freely available* and *supports all browsers*. One needs to sign in to the Mendeley in order to utilize it. Subsequently, the speaker talked about the *Mendeley Desktop*. Later, she discussed the various facilities provided by the Mendeley. The latter allows to add an article within the library formulated on one's account. By this, that article may be read anywhere and at any point of time. On top of that, the platform also allows to make annotations on an article. Besides, one may prepare his/her notes to remember certain important/key points. The Mendeley also lets one know about his/her SCOPUS-indexed publications. She also let the participants knew that apart from the Mendeley, **Zotero** may also be utilized for the same purpose. Some features, which are available on the Zotero, are not available with the Mendeley. Dr. Mathur also talked about the **Scihub** and **Runge**



A glimpse from the technical session 9

**Kutta 6<sup>th</sup> order method**, and **MATLAB**. The session was indeed very informative and concluded with the Vote of Thanks by the FDP convener **Dr. Sama Jain**.

# Gallery: Technical Session 9

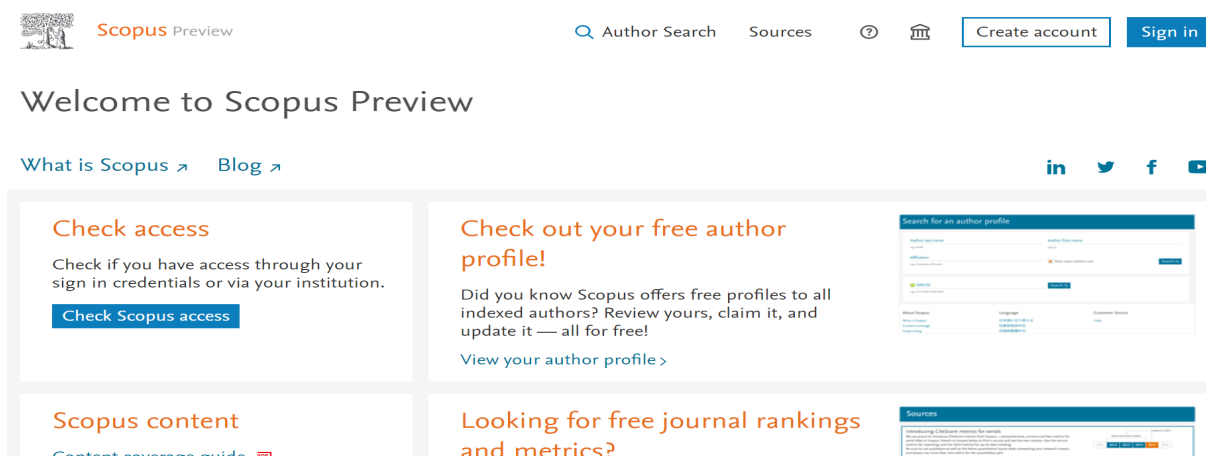
The subsequent image depicts the highlights of the session.



Depiction of the session highlights

## Technical Session 10

The talk of this session was centered on '*Awareness on SCOPUS/SCI/SCIE Journals*'. The session was organized at the IDEA Lab, PIET, Jaipur. The speaker of the session was **Dr. Rahul Goyal**, Professor, Department of ME, MUJ. At first, **Ms. Reshma Kala** requested **Dr. Dinesh Goyal**, **Dr. Gautam Singh**, **Dr. Sama Jain**, and **Dr. Bhanu Pratap** for welcoming of the guest speaker. Then, **Ms. Reshma Kala** invited the guest for enriching the knowledge of the participants through his presentation. While presenting on the aforementioned subject, Dr. Goyal started the talk by explaining various *Journal-level metrics*. He said that the latter is classifiable in *Web-of-Science (WoS)* and *SCOPUS*. The second one was started in the year 2004 by the Elsevier publisher. Moreover, the information of any journal, as provided by it, is available in the form of *Cite Score*.



The Scopus homepage

Dr. Goyal, then, discussed about the *Google Scholar*. While discussing about it, he explained about the following:

- **Hirsch (h)-index**: This metric tells that the 'n' number of research articles of a person have been cited by at least 'n' times.  
For e.g.: An h-index 10 informs that 10 articles of a person/researcher have been at least cited by 10 times.
- **i10-index**: An i10 index of 'm' means that the 'm' number of articles of a person has been cited at least 10 times.

Then, Dr. Goyal also threw the light on the **Q1**, **Q2**, **Q3**, and **Q4**-indexed SCOPUS journals. He let the participants knew the ranking of the above four, which is as mentioned below:

$$Q1 > Q2 > Q3 > Q4$$

The expert advised the listeners that always try to submit their work(s) in the top most Q1-categorized journals. He also told that try to avoid submitting manuscripts in the Q4-ranked journals because there are fair chances that after sometime, it might not remained indexed in the SCOPUS journal database.

# Gallery: Technical Session 10

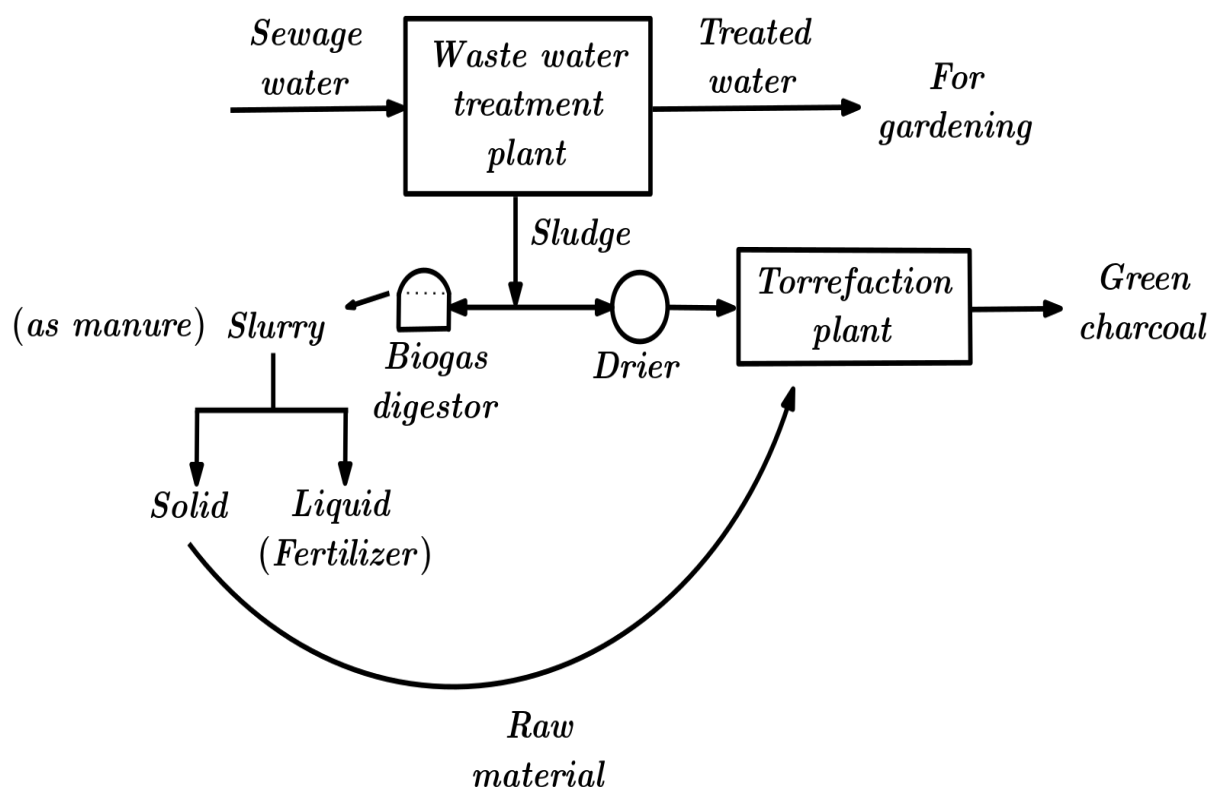
☞ Various activities, which took place during the session, can be seen from the following image.



Welcoming of the speaker, speaker-participants interaction, vote of thanks, and group photograph

## Technical Session 11

This post-lunch session on the third day of the FDP went on from 12:00 Noon to 1:30 P.M. at the IDEA Lab, PIET, Jaipur. **Dr. Kamal Kishore Khatri**, Professor, Department of MME, LNM Institute of Information Technology, Jaipur was the invited speaker for the same. At first, **Ms. Reshma Kala** invited **Dr. Dinesh Goyal**, **Dr. Gautam Singh**, **Dr. Sama Jain**, and **Dr. Bhanu Pratap** for the welcoming of the honorable guest. She spoke that it was indeed a great pleasure for everyone to have a dignitary like him among them. Then, **Ms. Reshma Kala** gave a brief introduction of the speaker before the gathering. Afterwards, he was invited for delivering a lecture on *Effective Research Proposal Writing*. Dr. Khatri told that ‘A research proposal is your PLAN’. Then, he added that a good research proposal should contain the Title, Background, Problem statement(s), Aim and Objectives, Rationale and Context, Methodology, Plan of Work, Resources/support, Outcomes, and References. Subsequently, he spoke that one should always read his/her ‘*Call for Proposal*’ very carefully before submitting it either for an internal or external evaluation. In the later part of his lecture, Dr. Khatri also discussed about various terms like ‘*Recurring*’, ‘*Non-recurring*’, ‘*Overhead charges*’, to name a few.



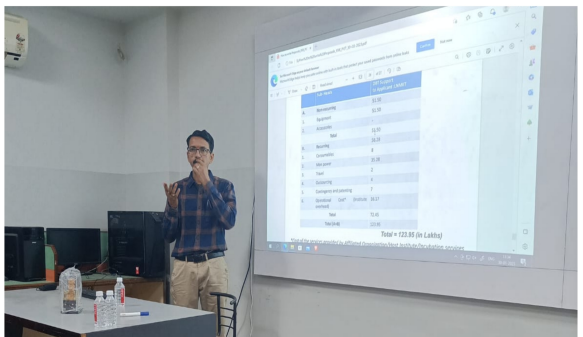
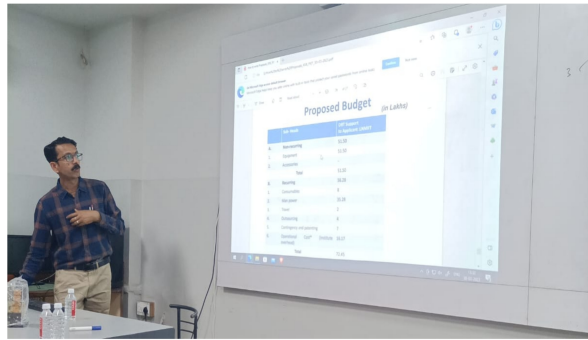
Depiction of a waste water treatment plant as explained by the speaker

He also discussed about a project related to *Waste Water Treatment Plant*, which had executed at the MUJ campus. The above figure depicts an outline of the same.

At last, **Dr. Sama Jain** gave the Vote of Thanks to the speaker. Then, a group photograph of the speaker, dignitaries, and participants was also captured.

# Gallery: Technical Session 11

☞ The image below portrays a few clicks of the technical session 11.



Welcoming of the speaker, speaker-participants interaction, and group photograph

## Technical Session 12

The session numbered 12 was taken by **Dr. Dinesh Goyal**, Principal and Director, PIET, Jaipur. It went on from 1:30 P.M. to 3:00 P.M. on the day. Sir initiated by making the attendees understand about the ‘Ethics in Research’. He conveyed that a research carried out in an unethical manner may also affect someone’s career. The talk then shifted towards a short discussion on the plagiarism. The latter varies from journal to journal; for e.g.: The plagiarism up to the 10 % is permissible for a  $Q_1$ -categorized journal whereas a  $Q_2/Q_3$  journal may permit up to the 15 % similarity score. Next, the speaker differentiated between the *Moral* and *Ethics*.

**Necessity of the ETHICS for the research:** The necessity of the ETHICS in the research is on the account of its impact on the society. Research participants have moral and legal rights and it is quintessential that these rights must not be violated.

Wrong research	Right research
Harmful for the society For e.g.: Invention of the <i>Dynamite</i> .	Beneficial for the society For e.g.: Availability of the Paytm, PhonePe, etc. helped the society in making the contact-less (i.e., safe) transactions during the COVID-19 pandemic.

**Recent Avenue:** Some researchers have started exploring on the utilization of the thundering energy. Then, a small talk went on the *Supervised*, *Unsupervised*<sup>1</sup>, and *Reinforced* machine learning.

**Principles of Ethics:** Honesty, objectivity, integrity, carefulness (Avoiding careless errors and negligence), openness (in the view of sharing data, results, ideas, tools, resources, among others.), confidentiality (to protect confidential communications such as papers/grants), etc. represent some of the principles of the ethics. One should keep his/her promises and agreements. Then, the speaker emphasized on the responsible publication, responsible mentoring, legality, social responsibility, non-discrimination, competence<sup>2</sup>, and royalty (For e.g.: It is not allowed to play music for more than 6 seconds without showing the source(s)). without showing the source(s).

In the later part of the session, the speaker shared his knowledge on ‘***Finding funding opportunities***’. He emphasized on choosing the best grant for one’s own. He motivated all participants by saying the words “Start thinking about grants NOW.” He urged the attendees to remember “What do you want to do?” At last, **Dr. Sama Jain** expressed her gratitude towards the speaker by delivering the Vote of Thanks.

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<sup>1</sup>Biasings are introduced.

<sup>2</sup>Maintaining and improving one’s own professional competence and expertise through lifelong education and learning; taking steps to promote competence in science as a whole.

## Gallery: Technical Session 12

☞ A few clicks of the technical session 12 have been shown in the following image.



Guest speaker-participants interaction and group photograph

## Technical Session 13

The first technical session (i.e., technical session 13) was about '*Implementation of Data Science in Interdisciplinary Research*'. Mr. Deepak Moud, Assistant Professor, Department of CSE, PIET, Jaipur was the speaker for the same. The session went on from 8:30 A.M. to 10:00 A.M. on the 31st March, 2023 at the IDEA Lab, PIET, Jaipur. Ms. Reshma Kala, Assistant Professor, Department of CSE introduced Mr. Moud to the gathering. The discussion began with the question 'What are the fields emerging from the Data Science (DS)?' displayed on one of the slides of the presenter.



A glimpse of the technical session 13

Subsequently, Mr. Moud discussed about the *data and its various types*. Following represent the various types of the data:

1. **Structured data:** The data which adheres to a fixed schema is called the structured data. The problem with this type of data is that the format of the data remains fixed.
2. **Unstructured data:** Mr. Moud let us the participants knew that “Not all data is structured or even semi-structured”.  
For e.g.: Documents, images, audio and video data, binary files, among others.
3. **Semi-structured data:** The data that has some structure but which allows for some variation between entity instances is termed as the semi-structured data.

The subsequent conversation went on 'How data can support an organization?'

For e.g.: Website of an institution, ERP system (that keeps the record of attendance, number

of students, etc.), to name a few. The speaker told that “Organizations are drowning in data. . . but lacking in information/knowledge”.

Then Mr. Moud also shared his views on the following:

- Global digitization,
- Enhancement in the processing and storage capacities during the present era, and
- Meaning of the ‘information’ and ‘knowledge’.

In the later part of his lecture, he told about the ‘*Research Area(s) in the DS*’. He let everyone know that the ‘*Artificial Intelligence (AI)*’ came into existence around the 1940. Further, he discussed about the difference between the fastest digital computer and the human brain. He also spoke on the benefits of neurons<sup>3</sup>. He then proceeded by saying that one wants to make a computer system/program which can mimic the behavior of the human brain i.e., the AI. ‘*Machine learning (ML)*’ may be realized as a subset of the AI. It basically involves algorithms (for e.g.: Quick sort, binary search, to name a few). The ML implies

Machine + Learning.

Basically, a machine means a device (intelligent) in the context of the ML. Usually, a device receives certain instructions whereas a human being learns from his/her experiences. One wishes to make a device learning similar to a human being. Further, if the experience of a machine keeps on increasing with the learning then, it is termed as the ML.

‘*Deep learning (DL)*’ came into existence in 2009. Here, the learning is talked in terms of ‘*Artificial Neural Network*’ (ANN). Moreover, *synaptic* weights get transformed into *simple* weights. Afterwards, the world witnessed the arrival of the DS. A ‘*Driverless Car*’ is usually taken as the classical example of the DS.

In the remaining part of his lecture, Mr. Moud discussed about ‘*AI solutions*’, ‘*Exploratory Data Analysis*’ (only analysis of the data), ‘*Predictive Analysis*’ (to anticipate through the ML), etc. Then, Sir told about ‘*Decision Tree*’, which is based on an algorithm. For e.g.: To purchase a product on an online platform.

At last, the speaker carried forward the session towards the conclusive points. A few of these are need of the DS, role(s) of a Data Scientist, and applications of the DS. The talk got dissolved after a short conversation on the ‘*Curse of Dimensionality*’ of the ANN, benefits of the ‘*Convolution Neural Network*’ (CNN) in the previously-stated context, and ‘*Recurrent Neural Network*’ (RNN).

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<sup>3</sup>There are trillions of neurons in the brain of a human being.

## Gallery: Technical Session 13

A few of the images of the first session of the fourth day of this FDP are as given below.



Some of the glimpses corresponding to Speaker's presentation, speaker-attendees conversation, vote of thanks, and a group photograph

## **Technical Session 14**

This session went on from 10:00 A.M. to 12:00 Noon on the fourth day of the FDP (i.e., 31st March, 2023). After learning some fundamentals of the DS, the participants again carried forward their assigned tasks. They kept on asking the relevant queries to the in-house experts of the FDP.

The ending of the session was followed by the lunch session.

## **Technical Session 15**

This post-lunch session went on from 12:00 Noon to 1:30 P.M. on the same day.

It also witnessed the efforts of all attendees in enriching the knowledge of the advanced tools like LaTeX, Mendeley, Zotero, to name a few.

All participants showed a great enthusiasm while learning. The session was quite interactive.

## **Technical Session 16**

This last session of the fourth day of the programme was scheduled from 1:30 P.M. to 3:00 P.M. By the time, the participants reached closer towards the completion of their assignments and had acquired more confidence.

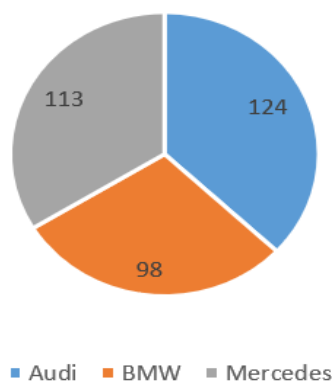
## Technical Session 17

This first session of the last (i.e., the fifth) day of the FDP went on from 8:30 A.M. to the 10:00 A.M. at the IDEA Lab, PIET, Jaipur. The topic of the session was *Interactive Scientific Graphing and Data Analysis through Excel*. The guest speaker of this technical session 17 was **Dr. Uday Pratap Singh**, Associate Professor, Department of CSE, PIET, Jaipur. The session began with a brief introduction of the speaker by **Ms. Reshma Kala**. At the beginning, the speaker shared a link of a google document containing the essential data. The latter had to be utilized for understanding various graphing (or plotting) and mathematical operations. The shared google document incorporated an example mentioned below.

Selling Data of a German Car Shop

Car Model	Frequency
Audi	124
BMW	98
Mercedes	113

Car selling frequency



Pie chart corresponding to the above example

He described few mathematical function such as '*SUM()*' and '*COUNTIF(range,division)*'. He also highlighted the significance of putting the '\$' in the formula of the SUM. Then, Mr. Singh discussed about '*Descriptive Statistics*' and '*Data Visualization*'. He also threw a light on the '*Hypothesis Testing*'. He discussed about the '*Null Hypothesis*' by taking an example of no benefit. Subsequently, he talked about '*Data Analysis*', '*t-table*', etc. At last, **Dr. Sama Jain** gave the Vote of Thanks to the speaker by saying that it remains a difficult task to take out some time from one's own schedule and to make others learn something.

She also spoke that it would be a great pleasure for her whole team to organize some other lectures by the speaker.

# Gallery: Technical Session 17

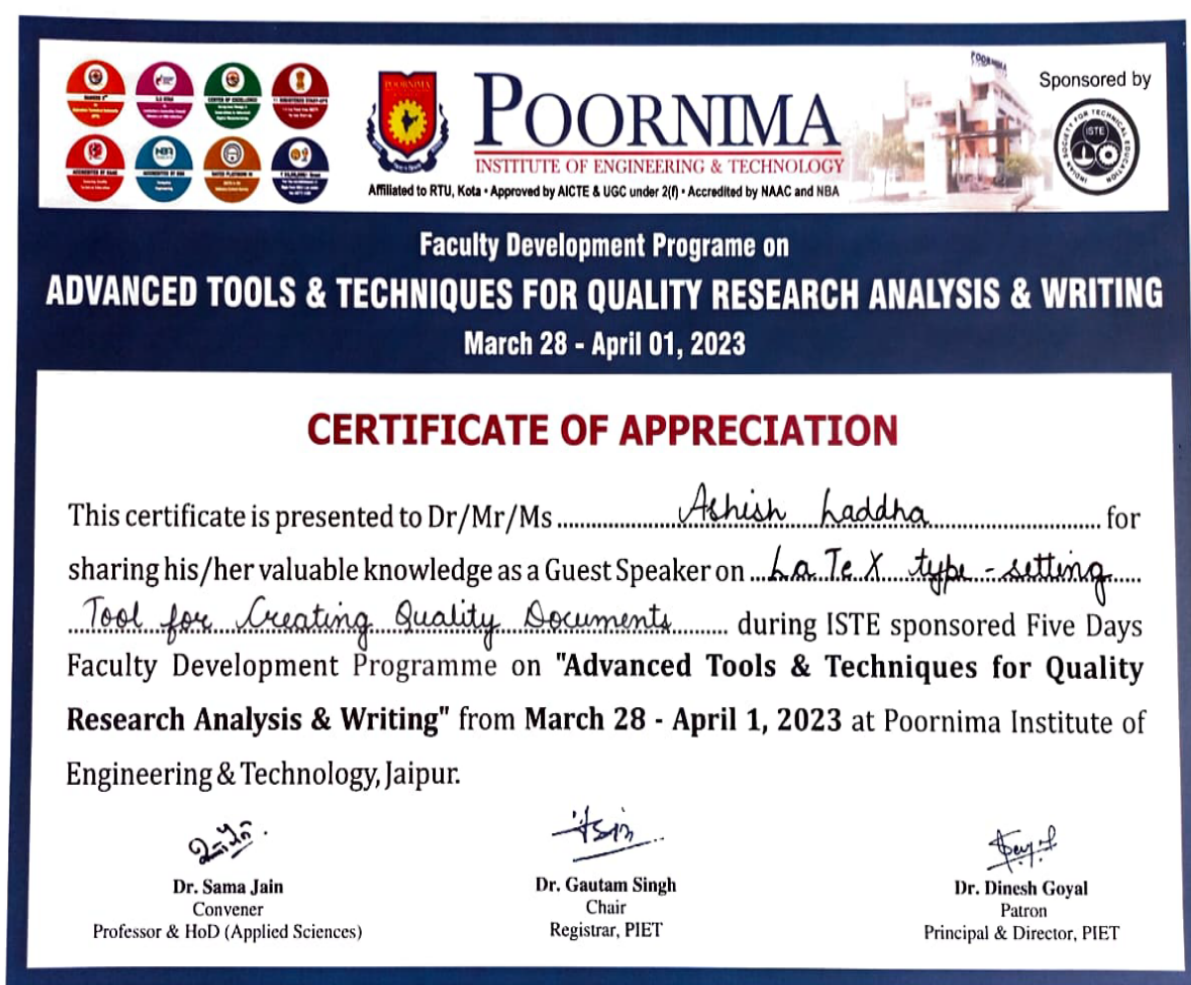
The group of images, provided below, says about the technical session 17.



A few clicks. . .

## Technical Session 18

This session, numbered 18, among the series of the technical sessions was for the *submission and evaluation of the assignments* given to the participants. The time for the same was from 10:00 A.M. to 11:30 A.M. on the 1st April, 2023. A large number of assignments were received by the evaluation committee members. The attendance of all the participants was also compiled by the committee members. Then, certificates were prepared according to the submitted-assignment and attendance of the participants. Also, the certificates of appreciation were prepared for the resource persons. Although the knowledge, which has been provided by these people, is beyond anything. Still, providing the aforementioned certificates is just to express the gratitude towards them.



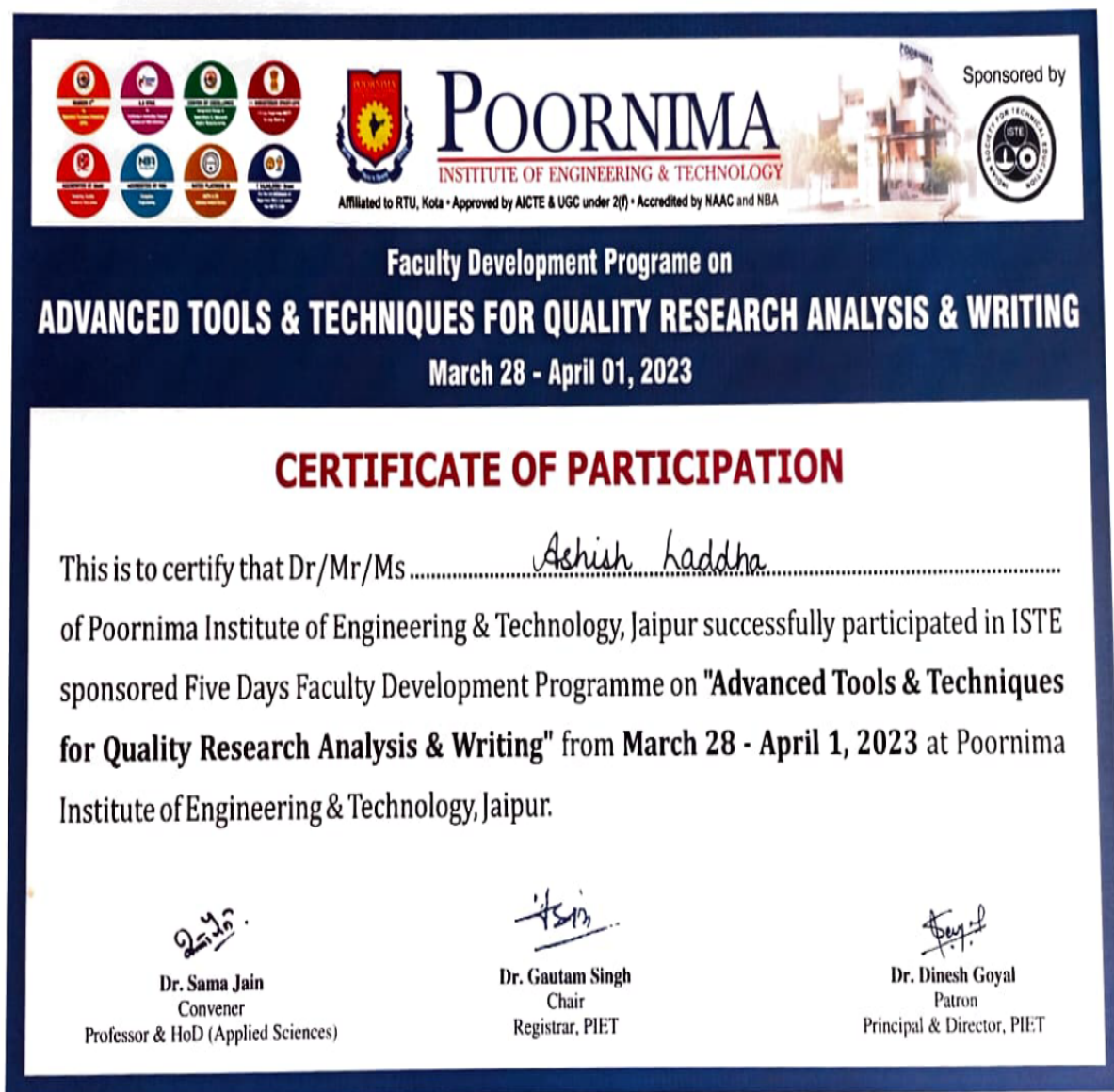
A sample: Certificate of Appreciation

## Technical Session 19

This post-lunch session of the concluding day of the FDP was from 12:00 Noon to 1:30 P.M. on the 1st April, 2023. The evaluation procedure, which was started in the previous (i.e., the technical session 18) kept on going during this session.

## Valedictory Session

This valedictory session was held from 1:30 P.M. to 3:00 P.M. on the 1st April, 2023 at the IDEA Lab, PIET, Jaipur. **Dr. Dinesh Goyal** and **Dr. Gautam Singh** were the invited guests of the occasion. The session was coordinated by **Ms. Reshma Kala**. At first, she requested both the guests and the FDP convener, **Dr. Sama Jain** to come near the dais and hand over the CERTIFICATE OF APPRECIATION to the honorary resource persons and the CERTIFICATE OF PARTICIPATION to the participants<sup>4</sup>. The certificate distribution program began by calling and awarding the certificates to the resource persons of the FDP one by one. **Ms. Reshma Kala** called the resource persons one by one for the same.



A sample: Certificate of Participation

Both the guests and the FDP convener thanked each of the resource persons and handed over their respective certificates.

<sup>4</sup>Who attended at least 80 % of the technical sessions and submitted the assignments.

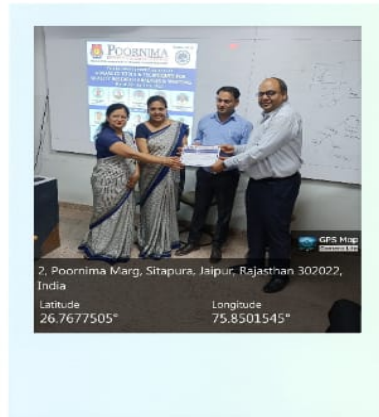
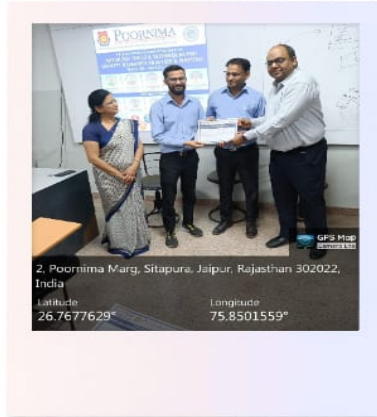
## Gallery: Valedictory Session

☛ Some of the glimpses, which have been captured during the valedictory session of this offline FDP, are as shown below.



Appreciation of the resource persons

# Gallery: Valedictory Session Contd...



Certificate of Participation awarded to the participants

## Gallery: Valedictory Session Contd...



Another glimpse of the distribution of the Certificate of Participation

## Gallery: Valedictory Session Contd...



Group photograph taken after the valedictory session

## Outcomes of the FDP

✎ Following are the major outcomes of this FDP:

✎ The beginning session entitled ‘Effective Research Paper Writing Skills’ has made the participants learn various key-points about the drafting, as well as communicating a manuscript. Each of the drafting and communication has its own significance for the possible acceptance of a manuscript.

✎ The sessions on the LaTeX have resolved the different problematic issues (which had stopped them to proceed further) of various participants.

Moreover, after attending these session, the participants were feeling more confidence to work on the LaTeX. Even, a few of those had started making their ‘Curriculum Vitae’ on the LaTeX.

✎ The introduction of the Overleaf, codecogs, table generator, etc. platforms was like a boon to the participants, who were either unaware or beginner of the LaTeX.

✎ The awareness session on the SCOPUS/SCI/SCIE journals was very fruitful in the sense that the participants came to know about different metrics and their significance.

✎ The session on ‘Effective Research Proposal Writing’ provided an insight of various key-points regarding preparation and submission of a proposal for obtaining a grant from various funding institutions.

✎ The technical session related to various funding opportunities made the participants know about the ways in which they may apply for various grants from the reputed organizations across the country.

✎ The session on the ‘Implementation of Data Science in Interdisciplinary Research’ was well appreciated and gave insights of various key points related to the data science to the attendees.

## Media Coverage of the FDP

- The event was also covered by the reputed printed media of the Jaipur, Rajasthan.
- The coverage, as per the following image, puts an overview of the FDP.

### क्वालिटी रिसर्च राइटिंग के टिप्स मिले

ब्यूरो/नवज्योति, जयपुर। पूर्णिमा इंस्टीट्यूट ऑफ इंजीनियरिंग एंड टेक्नोलॉजी की ओर से आईएसटीई प्रायोजित पांच दिवसीय फैकल्टी डवलपमेंट प्रोग्राम

शुरू हुआ। एडवांस्ड टूल्स एंड टेक्नक्स फॉर क्वालिटी रिसर्च एनालिसिस एंड राइटिंग विषय पर आयोजित इस



प्रोग्राम में विभिन्न कॉलेजों व यूनिवर्सिटीज के 46 फैकल्टी मेंबर शामिल हुए। एमएनआईटी जयपुर के एसोसिएट प्रोफेसर डॉ. अमर पटनायक इसके उद्घाटन समारोह के मुख्य अतिथि थे। मेजबान पीआईआईटी के डायरेक्टर डॉ. दिनेश गोयल व रजिस्ट्रार डॉ. गौतम सिंह ने उनका स्वागत किया। फर्स्ट ईयर की एचओडी डॉ. समा जैन ने कार्यक्रम के बारे में जानकारी दी। डॉ. पटनायक ने प्रतिभागियों को प्रभावी रिसर्च पेपर लिखने की स्किल के बारे में बताया।

Media coverage of the FDP