

Report of the Sttp/Workshop

ISTE approved one-week Short Term Training Program

1. **Date of the STTP:** 21/06/2021 to 26/06/2021
2. **Title of the STTP:** Insights and Methodologies towards Research and Research Outcomes
3. **Topic of each session Day wise:**

Day	Session 1	Session 2	Session 3	Session 4
Day 1	Introduction to Research Process, Types of Research, research design	Introduction to Research Methods	Writing Research Proposal (SOP)	Data Collection tool
Day 2	Hands on session: Parametric Testing	Research Proposals vs Research Paper	Hands on session: Non-Parametric Testing	
Day 3	Quantitative Research: Correlational and Quasi-Experimental Research		Hands on Session: Statistics using R	
Day 4	Qualitative Research: Methodology and Testing methods		Hands on session: Data collection and testing tools in Qualitative Research	
Day 5	Publication of empirical papers in Indexed Journals	Research Ethics & Plagiarism Tools	Hands On Session: Writing Research proposal and Papers using LaTeX	
Day 6	Effective grant Proposal writing	Quiz	Expectations of Evaluators of Funded research	

			project and what to target	
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4. Name of the Speaker/Resource person with Affiliation with the institute/industry:

1. Dr. B. Satyanarayana, Scientific Officer (H), TIFR, Mumbai.
2. Dr. Bernard L. Menezes, Associate Professor, IIT-Bombay.
3. Dr. Vivek Agarwal, Professor, IIT-Bombay.
4. Dr. Amiya Kumar Tripathy, Professor, Computer Engineering, Don Bosco Institute of Technology, Mumbai-70.
5. Dr. Satishkumar L Varma, Professor & Head, Department of Information Technology, Pillai College of Engineering (PCE), New Panvel.
6. Dr. Sandeep M Joshi, Principal, Pillai College of Engineering (PCE), New Panvel.
7. Dr. Mirza Sarwar Baig, Research Associate, Dept. of Molecular Medicine, Jamia Hamdard, New Delhi-110062.
8. Dr. Sincy George, Principal, St. Francis Institute of Technology, Borivali, Mumbai.
9. Dr. (Mrs.) Joanne Gomes, Professor and Head, Department of Information Technology, St. Francis Institute of Technology, Borivali, Mumbai.
10. Mr. Santosh Chapaneri, Assistant Professor, Department of EXTC, St. Francis Institute of Technology, Borivali West, Mumbai.
11. Dr. Nazneen Ansari, Associate Professor, Department of Computer Engineering, St. Francis Institute of Technology, Borivali, Mumbai.
12. Dr. Kavita Sonawane, Professor and Head, Department of Computer Engineering, St. Francis Institute of Technology, Borivali, Mumbai.
13. Ms. Dakshata Mayur Panchal, Assistant Professor, Department of Computer Engineering, St. Francis Institute of Technology, Borivali, Mumbai.

5. Venue of the STTP: Platform Used-Google meet

6. Duration of the Seminar: One week (6 Days)

7. Session details:

Session 1: (1hr) 10 a.m. to 11.30 a.m.

Session 2: (2hr) 11.45 a.m. to 1.15 p.m.

Session 3: (1hr) 2 p.m. to 3 p.m.

Session 4: (1hr) 3 p.m. to 4 p.m.

8. **Conducted for:** Faculties/ industry experts

9. Objective of the Workshop:

1. To enrich the prospective research scholars on various research methods, data acquisition, interpretation, statistical methods, writing of research paper and dissertation at one platform.
2. Reinforce the spirit of Research and its application amongst the faculty and students as research outcome in the form of grants and R & D projects

10. Contents of the Workshop

Day1:

Session 1 & 2:

- Research Process
- Mathematical models
- Monti carlo methods

Session 3: Research Proposal

- What is research
- why do people go to research?
- skills required before and after PhD
- Benefits of doing good research
- characteristics of a good researcher and issues
- Definition of Research Problem
- Formulation Research problem (Selection of interested area, Literature survey, narrow down the area of research, generate the new idea, Developing ideas through discussion and finalize the topic)
- How to evaluate the title?
- Statement of the proposal
- PHD content of research proposal

Session 4: Data collection tool

- Introduction to data collection tools
- Challenges in connecting two different software
- Data collection methods
- Focus groups with advantages and disadvantages
- Observation
- Records and Documents

- Tools for interview (audio recording- video camera, photo interview/ photo diary, observations tools
- Recording sheets tools
- checklist tools
- Schedule to be filled by the researcher
- Field Observation log
- Focus group tools
- Case studies
- Tools for surveys and Questionnaires
- Apps for data collection and Research

Day2:

Session 1 & 3:

- Parametric testing
- Nonparametric testing
- Google colab hands on

Session 2: Research Proposal Vs. research paper

- What is a research proposal?
- What is a research paper?
- Details of the contents of the research paper and proposal.
- Difference in research paper and proposal
- Case studies for both

Day3:

Session 1 & 2: Quantitative Research: Correlational and Quasi-Experimental Research

- Research and Research methods
- Basic principles of Research design
- Primary quantitative research methods
- Data collection methodologies
- Data analysis techniques
- Types of quantitative research
- Different case studies

Session 3 and 4: Hands on Session: Statistics using R

- R Language
- R studio
- R commands

Day4:

Session 1, 2, 3:

- Research Methodology and its types
- Qualitative Research and its types
- Qualitative data analysis approach
- Qualitative Testing methods
- Triangulation in Qualitative Research
- How to build hypothesis

Day 5:

Session 1:

- How to structure the research paper?
- Details of the contents of research paper
- Guidelines for Publication of empirical papers in Indexed Journals

Session 2:

- Ethics to be followed in writing research paper
- Do's and Don'ts while writing research paper
- List and usage of various Plagiarism tool
- Discussion on Copyrights Infringement
- Discussion on Intellectual property

Session 3:

- What is Latex and its advantages?
- Hands On Session: Writing Research proposal and Papers using LaTeX

Day 6:

Session1: Effective grant Proposal writing

- Writing a good proposal
- Choosing a topic.
- Steps involved in Choosing a topic,
- Finding information "Literature Review"
- Problem in Definition & Title.
- Structure of Proposal
- Abstract/Execution: Summary
- Flowchart of plan, Checklist, Tips and Funding agencies

Session 2: Quiz sent to email

Session 3: Expectations of Evaluators of Funded research project and what to target

- How to Write a Good proposal?

- What to Target while writing a proposal.
- Fund agency expectations.
- Types of Evaluation.
- Components of a Research proposal.
- Chances and reasons of Rejection.
- Do's and Don'ts while writing a proposal.
- Writing Skills

9. Description of the Entire Event

Overview of the session:

- Sessions include basics of research methodology to structuring research paper, Intellectual property, Copyrights Infringement issues and writing research papers using LATEX.

Technical Details:

- R programming, Latex hands on sessions were included in the event.

Regarding total number of participants:

- There were around 33 participants.

Overall feedback about the Workshop and about the resource person:

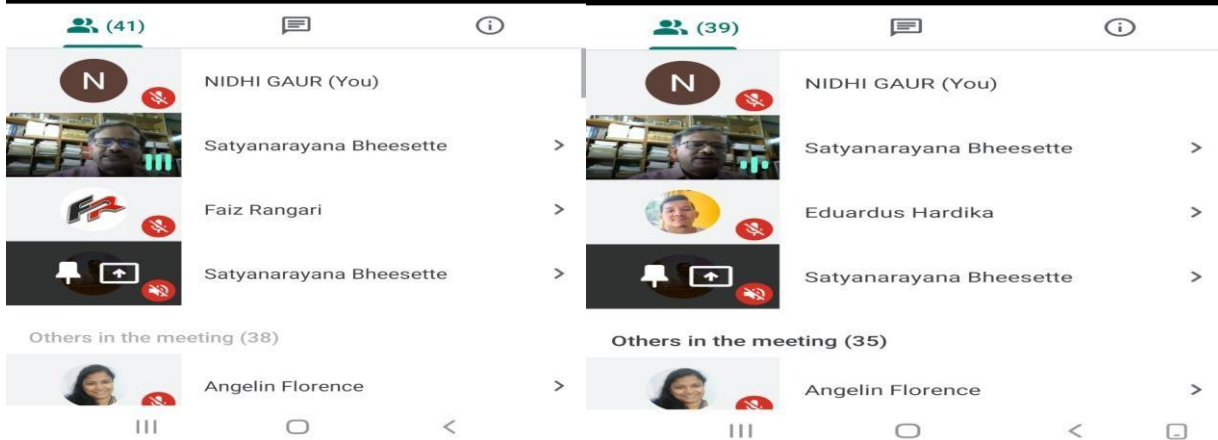
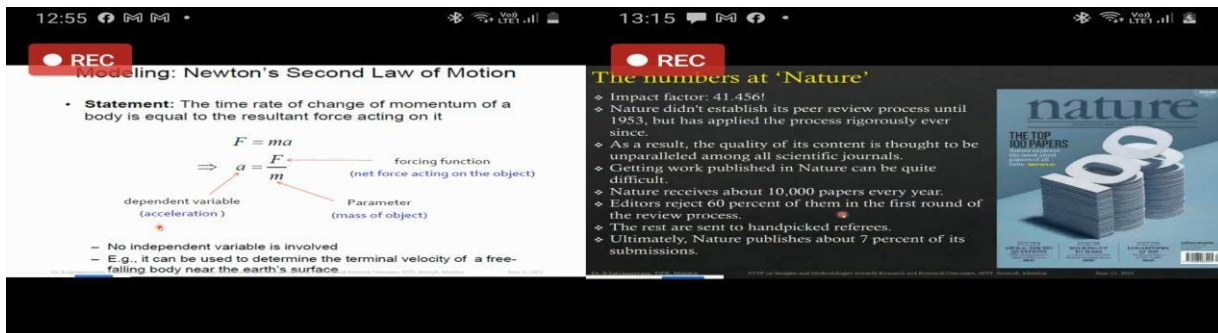
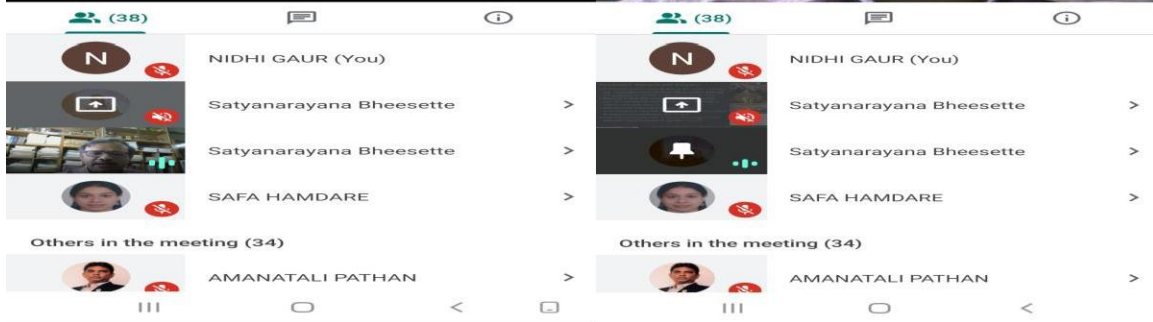
- All the sessions were very good and informative.

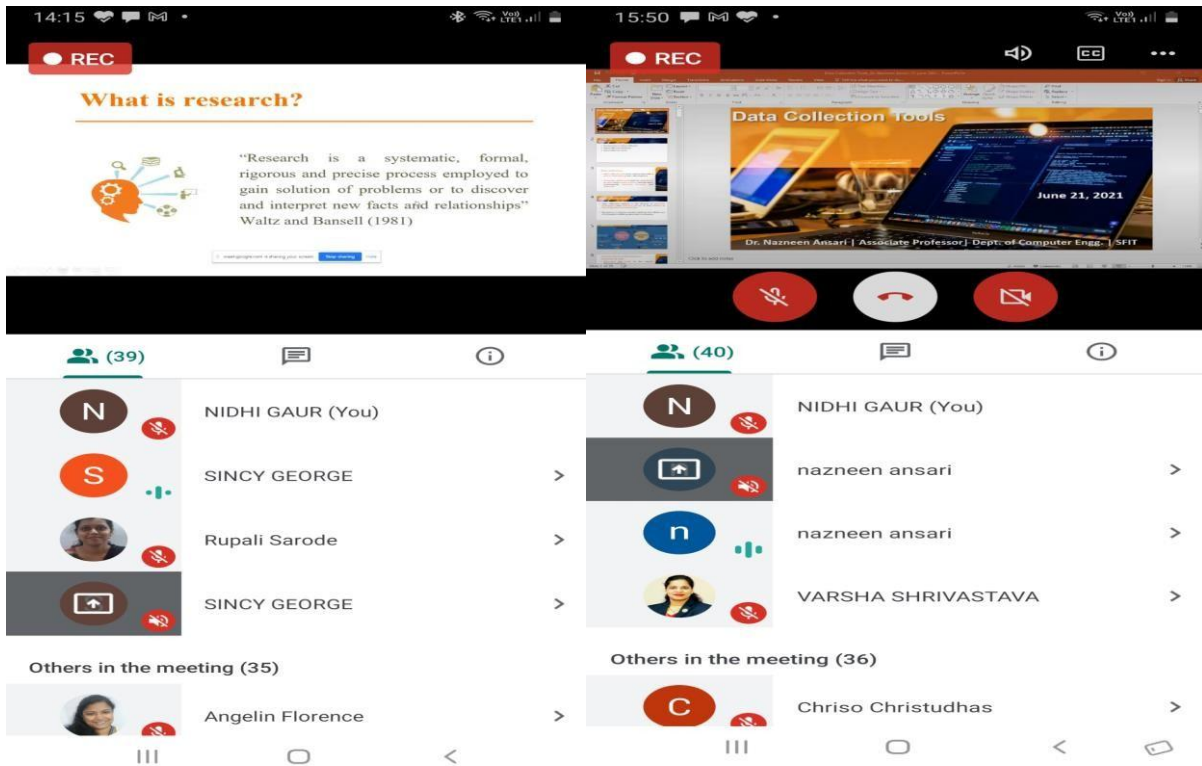
How do the objectives of the seminar meet the requirements?

- The participants were able to learn about various research methods, data collection interpretation, statistical methods with real life examples. The spirit of research was inculcated in research scholars/participants by various motivational sessions.
- Also they got insights on writing an effective research proposal and how to write an effective research proposal to be accepted for a research grant or any funding agency. The participants got hands-on experience in various tools like R programming and Latex to aid them in research work.

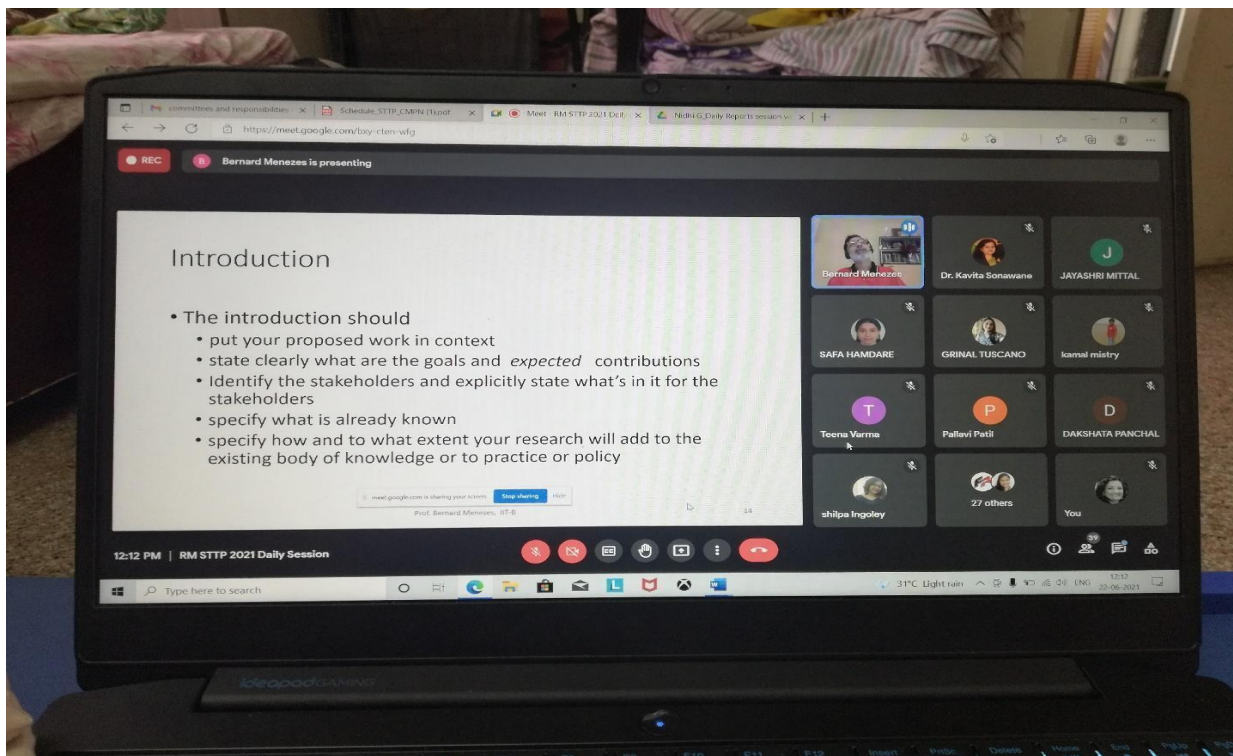
Photographs of the Workshop:

DAY1:





DAY2:



https://meet.google.com/bxy-cten-wlg

REC Bernard Menezes is presenting

Literature Survey or Review

- Do not forget the 5 C's
 - Cite (include copious references to previous work)
 - Compare (which previous approaches are similar?)
 - Contrast (what are the areas of disagreement or controversy?)
 - Critique (what are the failures, lacunae, limitations, etc. in existing work?)
 - Connect (how does your work draw upon, depart from or synthesize previous work)

12:21 PM | RM STTP 2021 Daily Session

31°C Light rain

14:17

REC

+ Code + Text

KNN and Decision Tree classifiers

```
[6] from sklearn.utils import resample
from sklearn.metrics import accuracy_score
from sklearn.tree import DecisionTreeClassifier

stats_dt = []
for i in range(n_iter):
    train = resample(vals, n_samples = n_size)
    test = np.array( [ x for x in vals if x.tolist() not in train.tolist() ] )
```

0s completed at 2:14 PM

(42)

3

N NIDHI GAUR (You)

Santosh Chapaneri

VANDANA PATIL

Santosh Chapaneri

Others in the meeting (38)

Angelin Florence

DAY3:

The screenshot shows a Google Meet interface. At the top, the browser tabs include "(no subject) - varshanag...", "Meet - RM STTP 2021", "Quiz & Worksheet - Cros...", and "good words for apprecia...". The address bar shows "meet.google.com/bxy-cten-wfg".

The main video area displays a man with glasses, identified as "Amiya Kumar Tripathy". A red "REC" button is in the top left corner. A presentation slide is visible on the right, titled "What are the advantages of quantitative research?". The slide content includes:

- Collect reliable and accurate data;
- Quick data collection;
- Wider scope of data analysis;
- Eliminate bias.

Below the slide, the name "Amiya Kumar Tripathy" is visible. The bottom right of the Meet interface shows a list of participants: "JAYASHRI MITTAL", "31 others", and "You".

At the bottom of the screen, the Windows taskbar is visible, showing the time "11:07 AM" and date "23/06/2021". Open applications include Microsoft Word with files "1624355473188_Day 3-Anchoring-VarshaS [Compatibility Mode] - Microsoft Word" and "report-day3 [Compatibility Mode] - Microsoft Word".

meet.google.com, "bxy'-c-en-!";fg

REC Amiya Kumar Tripathy is presenting

Secondary quantitative research methods

- Data available on the internet
- Government and non-government sources
- Public libraries
- Educational institutions
- Commercial information sources

Amiya Kumar Tripathy

JAYASHRI MITTAL

31 others

You

11:04 AM | RM STTP 2021 Daily Ses...

Class List

11:04 AM 23/06/2021

... N F + b Piv1 SAP <C 4 N ... u- & V'p-o-kc lle et- ic N ... c v, arc sfa -a rev N

REC Amiya Kumar Tripathy is presenting

Types of Quantitative Research

- Descriptive
- Correlational
- Quasi-experimental
- Experimental

Amiya Kumar Tripathy

JAYASHRI MITTAL

32 others

You

11:09 AM | RM STTP 2021 Daily Ses...

Class List

11:09 AM 23/06/2021

g a o e m a m / by cten-vvfg

REC Amiya Kumar Tripathy is presenting

Determining the Type of Correlational Design

```

    graph TD
      A[Describe relationships between/among variables?] --> B[Descriptive correlational design]
      C[Predict relationships between/among variables?] --> D[Predictive correlational design]
      E[Test theoretically proposed relationships?] --> F[Model testing design]
  
```

12:10 PM | RM STTP 2021 Daily Ses...

Inbox (5,651) - varshanagpurkar Meet - RM STTP 2021 Daily

0 meet.google.com/bxy-cten-vfg

REC Amiya Kumar Tripathy is presenting

Active Daily Living Routines Monitoring and Abnormalities Detection

HEALTHCARE + SMART HOME

Aging uncle Earl is still living isolated at his home and you are concerned about his safety.

Wireless sensors throughout his house help measure healthy activity levels, sleeping patterns and medication schedules.

Alerts are automatically sent to health care services and authorized family members if any abnormal activity is detected.

Detecting Deviations from Activities of Daily Living Routines Using Kinect Depth Maps and Power Consumption Data (2019), Hosein Pazhoumand-Dar, Leisa Armstrong and Amiya Kumar Tripathy, Springer - Journal of Ambient Intelligence and Humanized Computing, Pp. 1-21, September 2019. <https://doi.org/10.1007/s12652-019-01447-3>

This work is carried out at ECU Australia

6/23/2021

12:31 PM | RM STTP 2021 Daily Ses...


DAY4:

Qualitative Data Analysis Example and Case Study

Qualitative research definition

Reveals What people think and Why they think so
QualR sometimes also called naturalistic inquiry to

- ▶ Obtain data through open-ended conversations
- ▶ Collect and analyse non-numerical data (text/video/audio)
- ▶ Understand concepts, opinions, or experiences
- ▶ Gather in-depth insights to generate new ideas for research
- ▶ Allow questioning of respondents based on responses^I
- ▶ Allow researcher to understand motivation and feelings
- ▶ Understand how audience decisions help derive conclusions
- ▶ Explore disciplines such as engineering/education/health/history/sociology/psychology/etc.

 13/33

Qualitative Data Analysis Example and Case Study

Qualitative research types

In-depth examine how people experience the world

- ▶ Each approach retains rich meaning while interpreting data
- ▶ Similarities in approaches, emphasize different aims and perspectives^I
- ▶ Each approach involve one or more data collection methods
- ▶ Researchers use common approaches for interpreting data

QualR Types	Purpose
Phenomenological	Investigate phenomenon/event by interpreting lived participants experience
Ethnography	Understand their cultures immerse themselves in groups or organizations
Historical Research	Collet past to examine what happened in present and will happen in future
Action research	Link collaboratively theory to practice to drive social change
Case Study	Study of a single case/problem of an individual or group of people
Narrative research	Examine how stories told to understand how participants perceive/sense
Grounded theory	Collect rich/root data on a topic of interest and develop theories inductively




Table of Contents
Qualitative Research
Qualitative Data Analysis

Approaches
Hypothesis in Qualitative Research
Learning outcomes

Qualitative testing methods

Combination of QualR and QuanR methods

- ▶ Researcher test multiple concepts/products to optimize insight
- ▶ Balance between qualitative and quantitative data to analyse results

Testing Method	Definition	Example
Direct Exploration	Used in initial phases of testing and relies on open-ended and unaided f/b	VSAT need to understand feelings of consumers and developed innovative packaging to address need
Monadic Testing (Paired Testing)	Provide individual concept/product or a stimulus and no direct comparisons	VSAT after exploring feedback provide new package idea to support reactions/interests/concerns
Sequential Monadic Testing	Involves stimuli but show alternate design option for understanding small differences and preferences	VSAT testing a new design vs. current product where researcher shows 2 groups new design 1st & current design 1st to evaluate designs to improve with f/b
Discrete Choice Testing	Like MT, respondents given a options set & asked to make a discrete choice	VSAT wants to understand audience preferences for font/icons/description & benefits listed on package

PtE

21 / 23

DAY 5:

10:10

REC

Publication of Empirical Papers in Indexed Journals

"Research and Research Paper"

Kavita Sonawane
Ph.D, Computer Engg.

(29)

NIDHI GAUR (You)

Dr. Kavita Sonawane **NEW**

UMA GURAV

Dr. Kavita Sonawane

Others in the meeting (25)

Angelin Florence A

10:15

REC

OUTLINE...

- What is Research?
- What is Research Paper?
- Why & When should We Write a Research Paper?
- Expectations from the Research Paper
- How to begin for writing research paper?
- Tips for writing Research Papers
- General Structure of Research Paper
- What are High Impact Factor Journals?
- Summary

(33)

NIDHI GAUR (You)

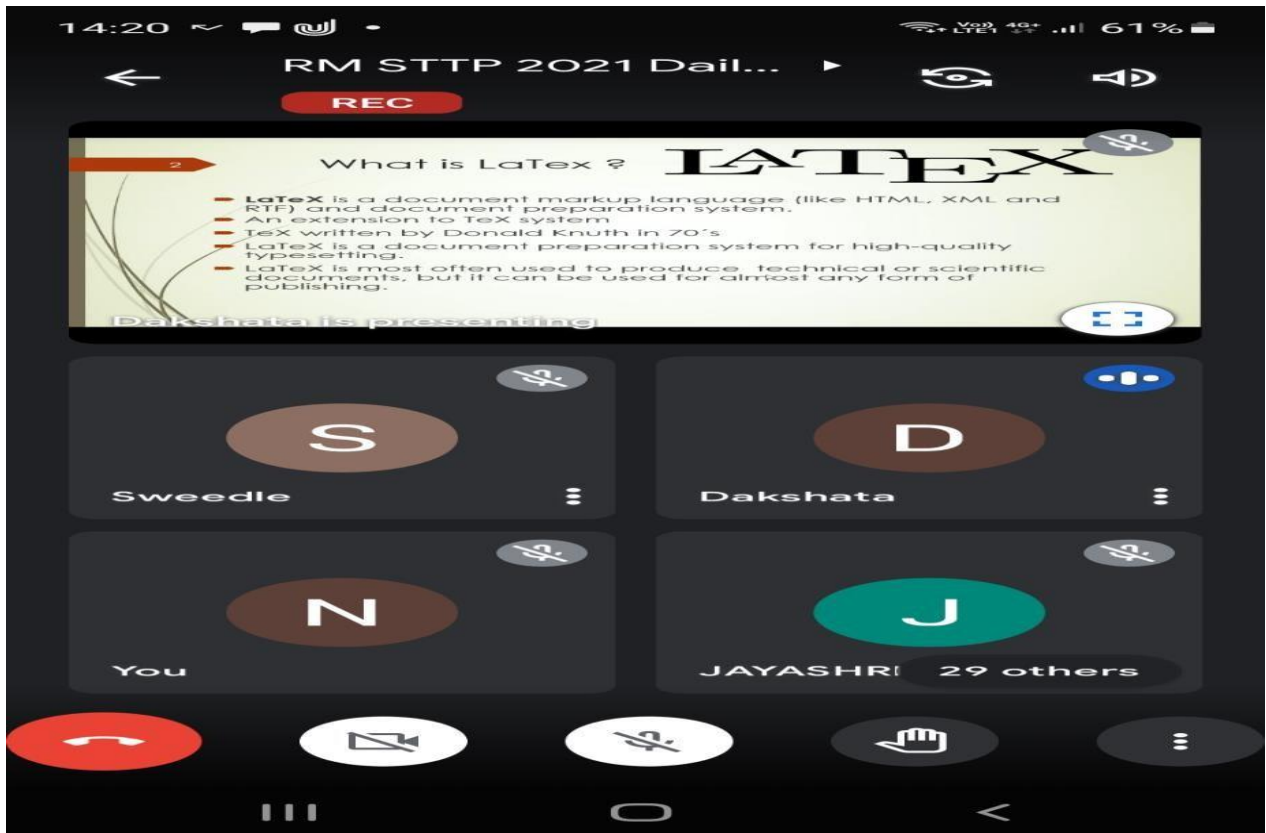
Dr. Kavita Sonawane

Dr. Kavita Sonawane

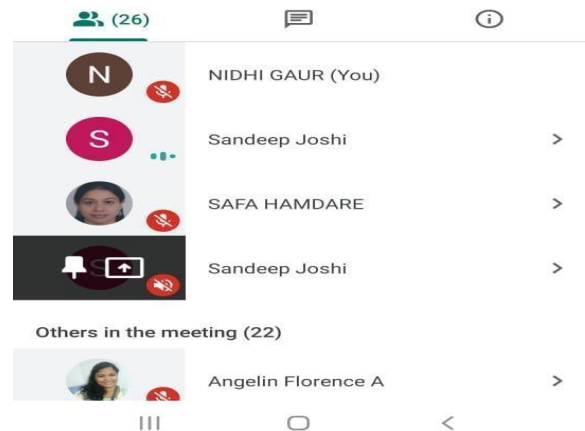
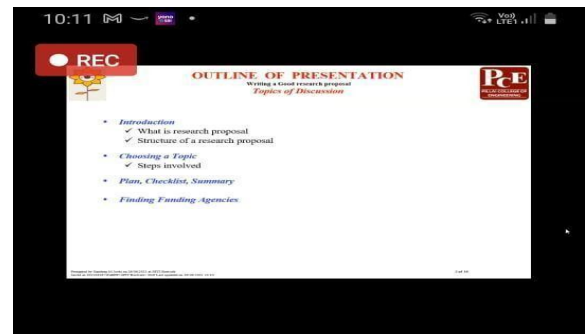
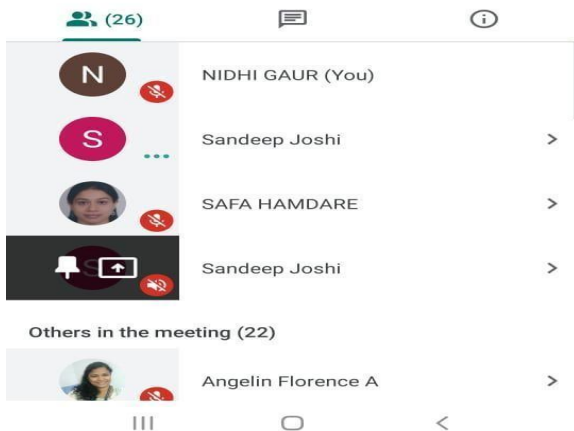
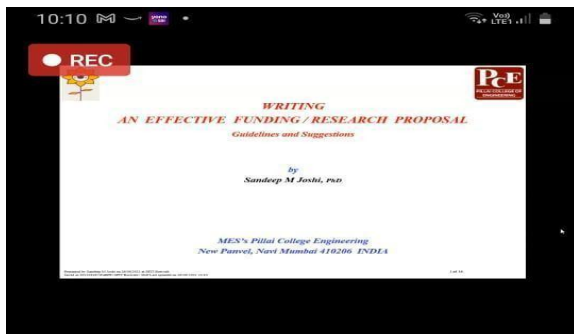
VANDANA PATIL

Others in the meeting (29)

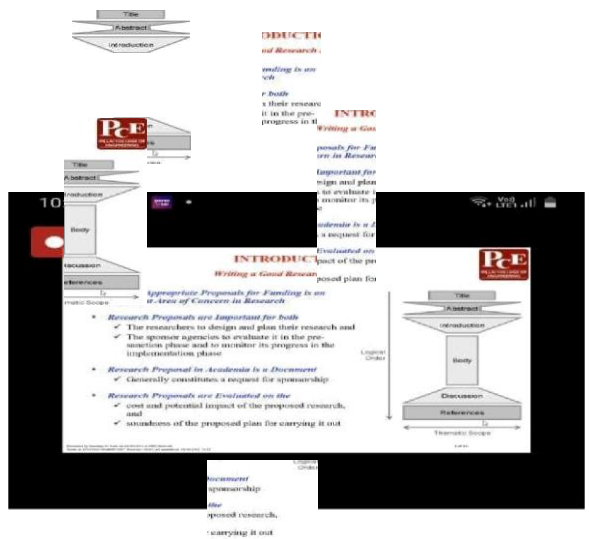
Angelin Florence A



Day 6:



Summary
 Abstract
 Introduction
 Background
 Objectives
 Methods
 Results
 Discussion
 Conclusion
 References



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INTRODUCTION
 Writing a Good Research Proposal
 Appropriate Programs for Funding in an Area of Concern in Research
 Research Proposals are Important for both
 The researchers to design and plan their research and
 The sponsor agencies to evaluate it in the pre-submission phase and to monitor its progress in the implementation phase
 Research Proposal in Academia is a Document
 Generally constitutes a request for sponsorship
 Research Proposals are Evaluated on the
 merit and potential impact of the proposed research, and
 soundness of the proposed plan for carrying it out

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Expectations of Evaluators
 Relevance
 Why do you want to do this research? (Right person to invest)
 Will this research add to the state of knowledge? (Publications)
 Who is the expected outcome? (patients/ industrial application)
 Should have a phenomenal societal and economic impact
 Scientific merit and Interdisciplinarity
 How are you doing the research? (methods)
 What is your qualifications to do the research?
 Feasibility
 Can you achieve the goals with your team?
 Can you achieve the goals within the time horizon?
 Can you achieve the goals with the requested resources? (budget)

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REC Baig Mirza Sarwar is presenting

How to write a good research proposal?

- 1 **Be practical-** balanced with a realistic understanding of what can be achieved
- 2 **Be a good planner-** survey the gaps in literature and develop new avenue to the chosen research
- 3 **Be persuasive-** to convince reviewers, funding agencies, educational institutions and supervisors that the research is worthy
- 4 **Be crystal clear-** proposal should be clearly stated in a simple language in such a way that non-specialists can comprehend
- 5 **Be a good finisher-** Objectives should be achievable within stipulated time-line
- 6 **Make broader links-** by social-networking or engineering with scientific community

2:21 PM | RM STTP 2021 Daily Session

ANNIES MINU

Safa Hamdare

Mandalapu SrinivasaRao

29 others

You

32°C Light rain

ENG IN 2:21 PM 6/26/2021

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REC Baig Mirza Sarwar is presenting

Proposal Writing skills

- Before you write proposal, read and learn from others experiences!
- Use Simple, unbiased and direct language
- Strictly follow the recommended structure and format of funding agency
- Abbreviations should be explained once (in the beginning)
- Be clear, concise, complete and coherent (CCCC)
- Get to the point quickly and stick to it!
- Cite only references that are relevant and absolutely necessary
- Include only graphical elements that are necessary
- Do generate some preliminary data or information
- Use standard units and abbreviations, and be consistent
- Don't use vague words like "a large area" rather "3.5 million"
- Use a Spell Checker to prevent typographical errors in spelling (very annoying for a reviewer)

2:26 PM | RM STTP 2021 Daily Session

ANNIES MINU

Safa Hamdare

Mandalapu SrinivasaRao

30 others

You

32°C Light rain

ENG IN 2:26 PM 6/26/2021

Participant list with attendance and score details:

Sr. No	Name	Institute Name	ISTE_Mem_No	Attendance	Score
1	Angelin Florence A	St John college of engineering and management	LM123255	100%	60
2	Dakshata Panchal	St. Francis Institute of Technology	LM48937	100%	60
3	Dr. Kavita Sonawane	SFIT	LM 61601	100%	46
4	Dr. Madhu N	PCE	LM 21362	100%	42
5	Dr. Madhuri pravin Borawake	PDEA'S college of engineering hadapsar	LM 51715	84%	30
6	Dr. Sharmila Sengupta	Vivekanand Education Society's Institute of Technology	LM 81050	84%	44
7	FAIZ ZAKERIYA RANGARI	M H SABOO SIDDIK COLLEGE OF ENGINEERING	LM84045	84%	48
8	GRINAL MERWIN TUSCANO	St. Francis Institute of Technology	LM - 61599	100%	46
9	JAYASHRI MITTAL	St. Francis Institute of Technology	LM41372	100%	54
10	Lifna C S	VES Institute of Technology, Mumbai	LM 81056	100%	48
11	Mr. Ronald Laban	St. John College of Engineering and Management	LM117525	100%	60
12	Mrs. Shubhada Sachin Labde	K J Somaiya Institute of Engineering & Information Technology	LM64210	84%	34
13	Mrs.Jyoti Amol Gaikwad	Datta Meghe college of Engg.Airoli	LM 87822	84%	36
14	Ms. Shraddha More	St. John College of Engineering and Management	LM114597	84%	54
15	Neelam Phadnis	SHREE L R TIWARI COLLEGE OF ENGINEERING	LM 129823	84%	36
16	NIDHI GAUR	St. Francis Institute of Technology	LM62416	100%	60

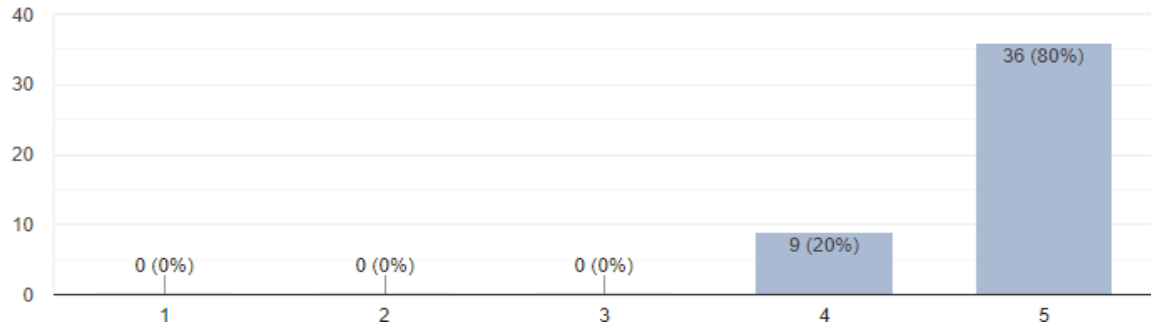
17	Nisha Ameya Vanjari	K.J.Somaiya Institute of Engineering and Information Technology	LM 102023	84%	34
18	PALLAVI Y. PATIL	St. Francis Institute of Technology	LM 68358	100%	56
19	Pradnya Rane	St. Francis Institute of Technology	LM 62413	100%	60
20	RAJKUMAR SHENDE	St. Francis Institute of Technology	LM 62415	100%	42
21	Rupali Sanjay Sarode	Thadomal Shahani Engineering College	LM 78143	100%	46
22	SAFA SALMAN HAMDARE	St. Francis Institute of Technology	LM83816	100%	54
23	Sanam Salman Kazi	M. H Saboo Siddik College of Engineering	LM128595	100%	42
24	SHAMSUDDIN S KHAN	St. Francis Institute of Technology	LM 68799	100%	44
25	SHILPA CHAMAN	St. Francis Institute of Technology	LM 128376	100%	54
26	Shilpa Ingoley	Thadomal Shahani Engineering College	LM 118593	100%	46
27	SNEHAL KULKARNI	St. Francis Institute of Technology	LM 83818	100%	58
28	Teena Varma	Xavier Institute of Engineering	LM126601	100%	42
29	VANDANA ASHISH PATIL	St. Francis Institute of Technology	LM 62411	100%	60
30	Varsha Nagpurkar	SFIT	LM 71594	100%	36
31	VARSHA SHRIVASTAVA	St. Francis Institute of Technology	LM001010	100%	60
32	Vishwajit Balaso Gaikwad	Terna Engineering College, Nerul	LM58677	100%	50
33	Vivian Brian Lobo	St. John College of Engineering and Management	LM129819	84%	60

Feedback Form:

The feedback form was evaluated based on following parameters. Also suggestion were taken to improve.

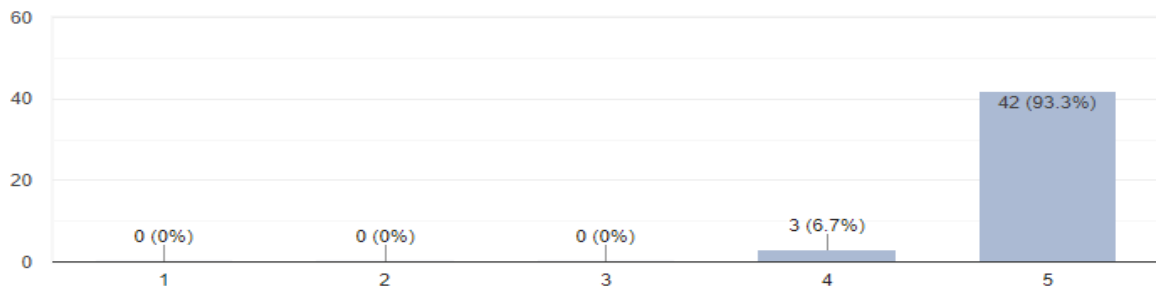
Sessions contents and delivery met your expectations in terms of usefulness and effectiveness.

45 responses



Technical Support provided by the organizing team

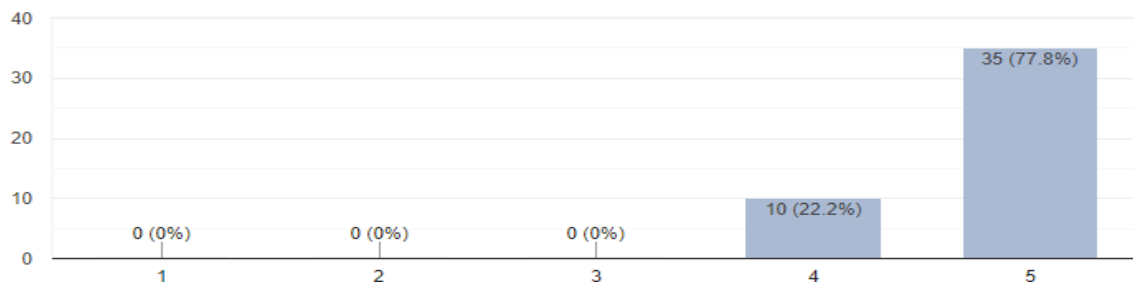
45 responses



Significance of this FDP to explore the unknown and unlock new possibilities in research areas.

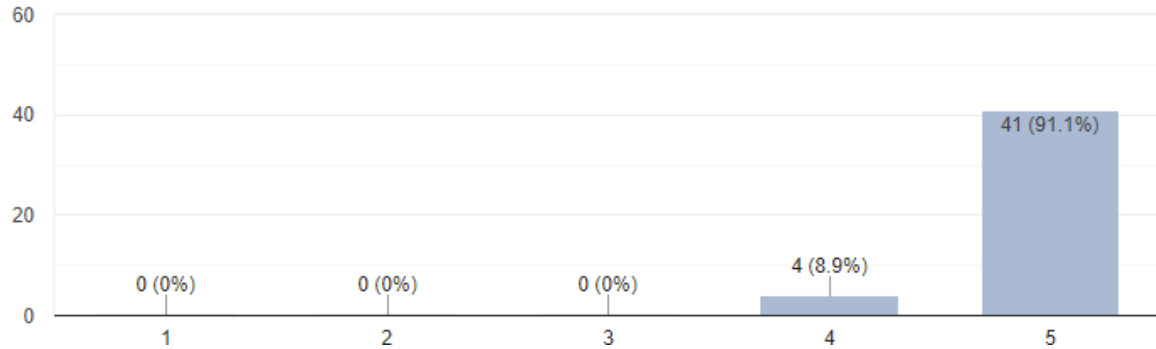


45 responses



Do you feel this STTP was organized on right time w.r.t to need of current academic requirements?

45 responses



Certificate Sample:

