Workshop Report on

Introduction to Research in Engineering: A Beginner's Workshop

Conducted by: Saffrony Institute of Technology

Expert Facilitator: Prof. Avani Dedhia

Date: September 16, 2022

Participants: 108

Overview:

The workshop on "Introduction to Research in Engineering: A Beginner's Workshop," held on September 16, 2022, at Saffrony Institute of Technology, served as a foundational platform for 108 participants to delve into essential aspects of engineering research. Prof. Avani Dedhia, a seasoned expert, led the session, focusing on instilling fundamental knowledge and practical skills.

Topics Covered:

Under the title "Introduction to Research in Engineering: A Beginner's Workshop," a range of fundamental topics and skills can be covered to provide participants with a solid foundation in research methodologies specific to engineering. Here are some key areas that could be taught in such a workshop:

1. Research Fundamentals:

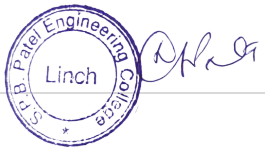
- Understanding the importance of research in the field of engineering.
- Differentiating between applied and theoretical research.
- Recognizing the role of research in problem-solving and innovation.

2. Research Methodologies:

- Introduction to various research methodologies such as experimental, observational, and analytical approaches.
- Understanding the selection of appropriate research methods based on the nature of the research question.

3. Formulating Research Questions:

- Techniques for formulating clear and focused research questions.
- Identifying gaps in existing knowledge and formulating research objectives.



4. Practical Research Skills:

- Hands-on exercises for participants to practice formulating research questions and hypotheses.
- Introduction to basic statistical concepts relevant to engineering research.

5. Literature Review:

- Understanding the importance of literature reviews in engineering research.
- Techniques for conducting an effective literature review to inform the research process.

6. Research Design:

- Designing a research plan or protocol, including variables, data collection methods, and instrumentation.
- Ethical considerations in engineering research.

7. Data Analysis Techniques:

- Introduction to common data analysis techniques relevant to engineering research.
- Basic understanding of statistical software for data analysis.

8. Interactive Learning:

- Engaging participants in discussions and activities to reinforce theoretical concepts.
- Encouraging critical thinking and problem-solving within an engineering research context.

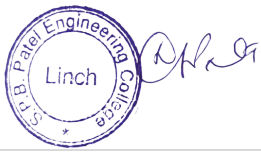
This workshop aims to equip participants with the essential knowledge and skills needed to initiate and conduct research in the field of engineering. It should foster a practical understanding of the research process, from formulating questions to effectively communicating findings.

Student Outcomes:

1. Enhanced Ethical Awareness:

- Participants left the workshop with heightened awareness and understanding of the ethical dimensions inherent in engineering research.

2. Practical Application Skills:



- The utilization of case studies equipped students with practical skills to navigate real-world ethical challenges, enhancing their ability to make ethically informed decisions in research.

3. Improved Collaboration Practices:

- Insights into responsible conduct fostered improved collaboration practices, emphasizing the significance of ethical behavior in research collaboration.

4. Critical Thinking Development:

- Engaging in interactive discussions facilitated the development of critical thinking skills, enabling students to analyze and address ethical issues in a nuanced manner.

Conclusion:

The "Introduction to Research in Engineering: A Beginner's Workshop" conducted by Prof. Avani Dedhia at Saffrony Institute of Technology proved to be a valuable initiation into the world of research for 108 participants. The foundational knowledge, practical exercises, and interactive sessions facilitated by Prof. Dedhia positioned the participants to embark on their research journeys with enhanced confidence and understanding.