



Report on
One-Week Faculty Development Program
On

**“SMART TOOLS AND METHODOLOGIES FOR
ACADEMIC RESEARCH”**
25th to 29th December 2022

Approved by



Organized by

**Department of Automation and Robotics Engineering and
Mechatronics Engineering**



**Sharad Institute of Technology College of Engineering,
Yadrav-(Kolhapur)**

Introduction

Sharad Institute of Technology College of Engineering organized One-Week Faculty Development Program on “**SMART TOOLS AND METHODOLOGIES FOR ACADEMIC RESEARCH**”

Approved by IETE and IIC and organized by Department of Automation and Robotics & Mechatronics Engineering ,Sharad Institute of Technology college of Engineering, Yadrav.

About SITCOE:-

It is matter of great pride and privilege to introduce our Institute. Shri. Shamrao Patil (Yadravkar) Educational & Charitable Trust's, Sharad Institute of Technology, College of Engineering, Yadrav (Ichalkaranji).SITCOE is Autonomous Institute, NBA accredited programs and NAAC 'A' grade Technical institution in the State of Maharashtra. SITCOE has been established in the year 2009 with a view to “Build a Bright Future” for the young people of the Rural part of our Country. The College is approved by AICTE, New Delhi, recognized by Govt. of Maharashtra i.e. DTE, Mumbai and affiliated to DBATU Lonere.

About Department:-

The department of Automation and Robotics has started by the Institute from A.Y. 2021-22 with a UG program of intake capacity of 60. This program is approved by AICTE, New Delhi and Affiliated to the DBATU, Lonere. The department of Automation and Robotics is established to meet the growing demand for trained engineers in the field of Robotics and industrial Automation.

The Mechatronics Engineering is established in the year 2020, offering Undergraduate program (B. Tech.) with an intake of 60 students and Post Graduate in take of 12. This program is approved by AICTE, New Delhi and Affiliated to the DBATU, Lonere. The department has well equipped laboratories with the state-of-the-art equipments like PLC and also Department is transforming the current labs into Industry 4.0

About Workshop

This course is basically a Faculty Development Program on “SMART TOOLS AND METHODOLOGIES FOR ACADEMIC RESEARCH”. The modules intend to enhance the ability of the participants to undertake independent research in a planned manner, identify appropriate to assist them in writing research papers for good quality journals. This workshop will introduce participants to advance tools and techniques used in empirical research. The workshop will also have insight on promoting excellence in research by understanding how to get funds from DST, CSIR, DRDO, and MHRD etc. and to create awareness for writing good Research proposals. The FDP designed to provide knowledge on research Funding Opportunities and proposal preparations for Academicians for a rapid dissemination and experience in the research and development.

Course Objectives

- 1 To highlight on road map of Research Journey.
2. To introduce participants to advance tools and techniques used in empirical research.
3. To familiarize the participants of the requirements to publish in top tier journals.
4. To discuss on preparing Research Proposal and relevant keywords

Our expected outcome of this workshop

Participants will be able to-

1. After attending FDP, participants get in depth understanding of research and its implications in decision making process.
2. Gain better understanding on how to design a valid research project to answer specific research questions.
3. Design reliable and valid questionnaires for collection of data.
4. Use descriptive and predictive statistical tools and hands on Matlab and LaTeX

Program Schedule

| Day & date/ Time | Session 1 | 11.00am- 11.30am | Session 2 | 1.00pm - 2.00pm | Session 3 |
|---------------------------------------|---|-----------------------|--|-----------------------|--|
| | 9.30am-11.00am | | 11.30am-1.00pm | | 2.00pm - 4.00pm |
| Sunday 25/12/2022 | Inaugural session | Breakfast & Tea Break | Hands-on Latex by Kshirsagar Sunil Yadav (Assistant Researcher, VIT –AP ,Amaravati) | Lunch Break | Tips to write an effective research paper by Dr. P. K. Kharat (Associate Professor ,Department of Information Technology Walchand College of Engineering Sangli) |
| Monday 26/12/2022 | By Tips to write an effective research paper by Dr. P. K. Kharat (Associate Professor ,Department of Information Technology Walchand College of Engineering Sangli) | | Writing research proposal by Dr. S.P.Sonavane (Associate Professor ,Department of Information Technology Walchand College of Engineering Sangli) | | Writing research proposal by Dr. S.P.Sonavane (Associate Professor ,Department of Information Technology Walchand College of Engineering Sangli) |
| Tuesday 27/12/2022 | Hands-on Matlab by Mr.A.L.Jamadar (Assistant Professor, Sharad Institute of Technology college of Engineering Yadrbav) | | Hands-on Matlab by Mr.A.L.Jamadar (Assistant Professor, Sharad Institute of Technology college of Engineering Yadrav) | | Hands-on Matlab by Mr.A.L.Jamadar (Assistant Professor, Sharad Institute of Technology college of Engineering Yadrav) |
| Wednesday 28/12/2022 | Industrial Visit to FIE Research Center | | Industrial Visit to FIE Research Center | | IPR Activity by Dr.B.L.Sarakar Consultant ,Pune |
| Thursday 29/12/2022 | Funding opportunities by Dr.Satish Idury (Assistant Professor,Sharad Institute of Technology college of Engineering Yadrav) | | Introduction to Scopus and Web of Science Relevant Perspective by Dr.G.S.Patel (Associate Professor,Sharad Institute of Technology college of Engineering Yadrav) | | VALEDICTORY PROGRAMME |

Inauguration Session

The inauguration of the workshop was held with felicitations of the dignitaries on dais. Mr.G.V.Pujari, gave the brief idea about the workshop. Registration for the workshop started at 9:30AM followed by the Inaugural session. The programme was anchored by Mr.G.V.Pujari Assistant Professor ,SITCOE. The programme was inaugurated by Dr.S.A.Khot , Principal, SITCOE, Yadrav.

Dr.G.S.Patel, HoD, Automation and Robotics welcomed all the guests and participants and briefed the participants about the objectives of the Faculty Development Programme. The keynote address was delivered by Dr.G.S.Patel, HoD, Automation and Robotics. He introduced the participants with a brief description about our college. In the welcome speech, Dr. S.P. Sonavane shared his views with participants that researchers should focus on societal needs keeping in mind commercial value & viability of research work. He further added attending such faculty development programs would enhance their knowledge & skills of research and teaching concepts practically. He further added that it helps to improve the performance of faculties in research & teaching. In the inaugural speech, Dr. Kharat shared his views regarding patience, hard work & perseverance required for undertaking research. During the sessions, the Dr.S.A.Khot, Principal, SITCOE, Yadrav presented a token of gratitude to the resource person.

Dr.S.A.Khot, Principal, SITCOE, Yadrav ,said during Inaugural function that building research skills emphasized the importance of collaborative multidisciplinary research which is the buzzword to conduct quality research culminating in impactful publications in top notch scientific journals.

Dr. S.K.Shikalgar HoD, Mechatronics Engineering, proposed vote of thanks of inaugural session.





Faculty Development Programme

| | |
|------------------------------|---|
| Activity Title | “Faculty Development Program Day 1” Session-1 |
| Name Of Guest Speaker | Mr. Kshirsagar Sunil Yadav |
| Topic | Hands on LaTeX |
| Organization Name | Assistant Professor, Assistant Researcher VIT-AP |
| Day And Date | Sunday, December 25, 2022 |
| Venue | CAD Lab |
| Time | 11.30 AM to 1.30 PM |

25th December 2022, the FDP started by .Kshirsagar Sunil Yadav, FDP Coordinator by briefing about the program, the resource person begin the session by briefing about the LaTeX Software, its core aspects and uses and encouraged audience to take a keen interest in using LaTeX editor for research work processing for good journals. The session was graced by a responsive audience who were very interactive, they were practicing on their laptop side by side as resource person was showing it and they asked plenty of questions to the speakers and got their queries resolved and explained, showed us the various codes we need to take care of while preparing research paper in Latex format by giving examples of various research papers which were in his Archive. The best thing is, he also showed how to use the existing template. LaTeX is a code based software, he demonstrated us step by step how do I start functioning in Overleaf LaTeX editor and how do I prepare a good paper in LaTeX format. For instance he explained how to insert codes for abstract preparation, author details, introduction, references, figures etc. Ultimately he encouraged the participants to keep practicing in LateX editor to grow good number of research papers according to various journal style and the sessions ended with answering various queries of the participants. The day also includes the quiz to check the knowledge. Latex is typesetting system to create a document. The day ended with hands on session. LaTeX He said that "it may seem a little bit difficult to learn and use, but after practicing, you will find it quite easy and effective.

Mr.Y.Y.Kamble, Asst.Professor SITCOE has proposed vote of thanks

| | |
|------------------------------|--|
| Activity Title | “Faculty Development Program Day 1” Session-2 |
| Name Of Guest Speaker | Dr. P. K. Kharat |
| Topic | Tips to write an effective research paper |
| Organization Name | Associate Professor ,Department of Information Technology Walchand College of Engineering Sangli |
| Day And Date | Sunday, December 25, 2022 |
| Venue | CAD Lab |
| Time | 2.00 PM to 4.00 PM |

Dr. P. K. Kharat, Associate Professor, Department of Information Technology Walchand College of Engineering Sangli highlighted on the importance of issue of plagiarism in academic writings The fundamental procedures of choosing a topic and formulating the research questions were explained to the participants. This was followed by a thorough discussion of the literature review, the formulation of research objectives, and the research techniques to be used for various sorts of research articles followed. In order to create a general structure for the research paper to be written, participants were asked to choose a topic related to their area of expertise and then frame the research questions they want to answer.



The session was attended by 35 Faculty members took an active role in the programme, which was highly beneficial for individuals looking to produce high-caliber research papers. He ended up and remaining session continued on second day.

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|------------------------------|--|
| Activity Title | “Faculty Development Program Day 2” Session 1 |
| Name Of Guest Speaker | Dr. P. K. Kharat |
| Topic | Tips to write an effective research paper |
| Organization Name | Associate Professor ,Department of Information Technology Walchand College of Engineering Sangli |
| Day And Date | Monday, December 26, 2022 |
| Venue | CAD Lab |
| Time | 9.30 AM to 11.00AM |

In continuation with last session, Dr.P.K,Kharat focused on started the session by giving an overview of the description and introduction of Research and Development. During session following points were discussed by giving suitable examples.

1. What is a research?
2. What are the types of research?
3. Why is research important
4. How is research done?
5. How to write research paper
6. What are the ways and techniques of writing a research paper
7. Knowledge about the template and abstract of the paper.

The Second day of the program witnessed lectures on writing impactful proposals for research grant, outcome based education, and conducting commercially viable research towards development of affordable healthcare solutions. He also highlighted the importance of Plagiarism, and how to safeguard from the false information on google and search relevant information. . VOTE OF THANKS was given by Mr.A.A.Desai,SITCOE Yadrav



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|------------------------------|--|
| Activity Title | “Faculty Development Program Day 2” Session -2 |
| Name Of Guest Speaker | Dr. S.P.Sonavane |
| Topic | Writing research proposal |
| Organization Name | Associate Professor ,Department of Information Technology Walchand College of Engineering Sangli |
| Day And Date | Monday, December 26, 2022 |
| Venue | CAD Lab |
| Time | 11.30 AM to 1.30PM |

Dr. S.P.Sonavane focused on how to promote research among teachers. She further said Research contributes to teaching. Teachers involved in research are more likely to be at the forefront of their discipline and be aware of local, national and international perspectives. Results from one’s research can be used to clarify, update, and amend the teaching of a topic. She stressed the importance of research and remarked that only classroom teaching results in “out-of-touch” with the problems and concerns of the real business world and from practitioners. She further remarked that a major aim of academic institutions is to increase the relation between teaching and research and continually devise strategies to achieve this mission.



She focused on different aspects of writing effective research papers and project proposals. The modules in the FDP are designed to guide researchers across disciplines to enhance the skills in planning, writing, and getting the research articles published in reputed journals and also, process for getting funds from the agencies.

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| Activity Title | “Faculty Development Program Day 2” Session -3 |
| Name Of Guest Speaker | Dr. S.P.Sonavane |
| Topic | Writing research proposal |
| Organization Name | Associate Professor ,Department of Information Technology Walchand College of Engineering Sangli |
| Day and Date | Monday, December 26, 2022 |
| Venue | CAD Lab |
| Time | 2.00 PM to 4.00 PM |

In the first and second sessions, the speaker discussed Art of Writing a Scientific Article and its’ Nuances. In the third session Dr.Sonavane explained on foundations of Research Proposals Writing and Identifying Sources of Funding. In the last session, she shared his experiences: Writing a Winning Grant Proposal, Tips, and Other Metrics.



Dr. S.P.Sonvane explained the procedures of how to apply minor and major project under UGC and also the documents required for submitting minor and major projects. She then informed us the various agencies through which research grants could be availed like Indian Council of Social Science Research (ICSSR). The speaker gave wonderful lecture and received huge response from the audience. All the sessions were very informative and impressive. Dr. S.K.Shikalgar HoD, Mechatronics Engineering, proposed vote of thanks.

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|------------------------------|---|
| Activity Title | “Faculty Development Program Day 3” Session:1 |
| Name Of Guest Speaker | Mr.A.L.Jamadar |
| Topic | Hands on Matlab |
| Organization Name | Assistant Professor ,Sharad Institute of Technology College of Engineering ,Yadrav |
| Day And Date | Tuesday, December 27, 2022 |
| Venue | Computer Lab (Electrical) |
| Time | 9.30 AM to 11.00 AM |

First session was conducted by Mr.A.L.Jamadar he introduced an IDE (Interactive MATLAB Environment). He explained the importance and scope of the MATLAB for modeling and simulation of mechanical systems. Second session on the same day was concerned with introducing the use of variables and expressions to be used in MATLAB. This ensured the participants to write system equations and how to convert those mathematical formulations into MATLAB scripts. After converting ideas into mathematical models, the researcher needs to visualize the results of simulations. This may be possible by exploring the effects of various governing system parameters by having graphical outputs and then interpretation of the results can be enhanced through very powerful plotting capabilities of MATLAB. In the post-lunch session, He talked on plotting and graphics functions used in MATLAB and for script writing with various in-built graphics“ functions of MATLAB.



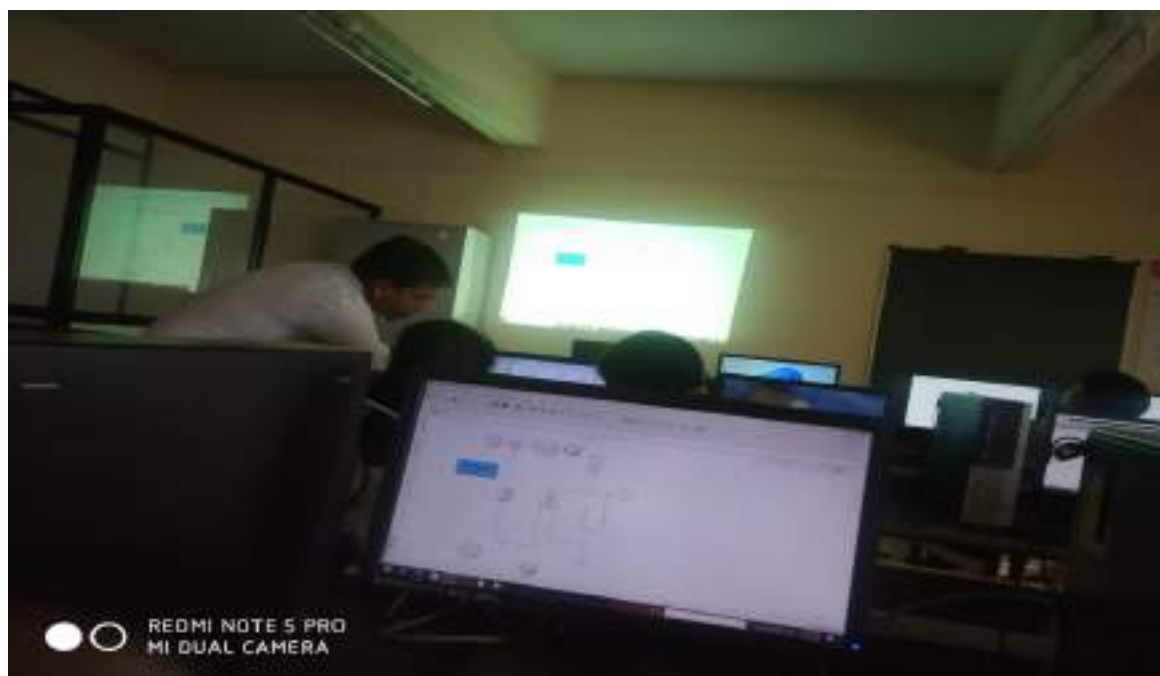
| | |
|------------------------------|---|
| Activity Title | “Faculty Development Program Day 3” Session:2 |
| Name Of Guest Speaker | Mr.A.L.Jamadar |
| Topic | Hands on Matlab |
| Organization Name | Assistant Professor ,Sharad Institute of Technology College of Engineering ,Yadrav |
| Day And Date | Tuesday, December 27, 2022 |
| Venue | Computer Lab (Electrical) |
| Time | 11.30 AM to 1.30 PM |

On second Session was started at 10.00 A.M with hands-on session on “Decision Making Branching and Looping “Mainly , second session was focused on hand-on practice for some simple to complicated problems. As another approach of programming, Simulink block modelling was also an area which was taught to the participants. In the afternoon session, Dr. U A Patel explained different aspects of “Simulink Block Set” and later the participants were allowed to have practice on making Simulink block models.



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|------------------------------|---|
| Activity Title | “Faculty Development Program Day 3” Session :3 |
| Name Of Guest Speaker | Mr.A.L.Jamadar |
| Topic | Hands on Matlab |
| Organization Name | Assistant Professor ,Sharad Institute of Technology College of Engineering ,Yadrav |
| Day And Date | Tuesday, December 27, 2022 |
| Venue | Computer Lab (Electrical) |
| Time | 2.00 PM to 4 PM |

In the Third sessions, the speaker discussed, the course of writing scripts to simulate real life problems, we may encounter many problems of reading large amount of data. Further, it would be better if we don't have to input values of many variables at a time and that too frequently. To avoid this file management has got significant impact on the simulation time. So, keeping in view file management aspect.



In a post-lunch session, to check the knowledge gained by the faculties during this third day FDP, using short questions, program outputs and preparing program on their own, was arranged in the form of a suitably designed quiz which was carried out to conclude the training part of this special FDP. Mr.G.V.Pujari , proposed vote of thanks .

| | |
|--------------------------|---|
| Activity Title | “Faculty Development Program Day 4” Visit to FIE Research Session 1 and Session 2 |
| Organization Name | FIE,Research |
| Address | Fie Research Institute, 22/44, Ganganagar P.O., Near Sanjay Founders, Station Road, Ichalkaranji-416116. Dist.Kolhapur (Maharashtra State) INDIA. |
| Day And Date | Wednesday December 28, 2022 |
| Time | 9.30AM to 1.30PM |

Fie Research Institute (FRI) is an autonomous, independent R & D body under D.S.I.R., Govt.of India. FRI is situated in Ichalkaranji a small town in the Kolhapur district of Maharashtra State.



The objects of the research association are:-

- a) To establish or acquire, equip and maintain or assist scientific laboratories, workshops,

institutes or organizations

- b) To encourage and finance scientific research and to extend technical and financial assistance where necessary for the promotion of such research.
- c) To organize or make available facilities for higher training in industrial and scientific research with a view to providing facilities for the extension of Indian Industry.
- d) To prepare, edit, print, publish, issue and circulate books, magazines, papers, periodicals, circulars and other literary undertakings of or bearing upon research in science and industry

Fie Research Institute

Fie Research Institute is an autonomous R & D Body approved by Department of Science & Technology, New Delhi. It has designed, developed and commercialised many Engineering projects benefiting many Industries throughout India. Many projects developed by this Institute are import substitute and are appreciated from time to time by Govt.of India.

Fie Research Institute is also an NABL accredited Calibration and Testing Laboratory for Force, Hardness, Dimensional, Torque, Pressure and Thermal Parameters.

| | |
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| Activity Title | “Faculty Development Program Day 4” Session 3 |
| Name Of Guest Speaker | Mr.B.K.Sarakar |
| Topic | IPR Activity |
| Organization Name | ADBIGA Innovation Llp Founder (Project Director) |
| Day And Date | Wednesday , December 28, 2022 |
| Venue | Seminar Hall |
| Time | 2.00 PM to 4 PM |

After Lunch break, the s technical session started at 2:00 PM with the continued by Dr.B.K.Sarakar , resource person. He discussed the matter with patents and copyrights with case studies. He gave various examples about publication of paper in journals by academicians. The concluding interactive session was conducted by the resource person with intense involvement of the participants.

Speaker highlighted on

1. Intellectual Property Rights and its protection
2. Basic understanding of the IPR
3. Patents, Copyrights and Trademark criteria
4. Publication of paper in journals by academicians and Researcher



The speaker gave wonderful lecture and received huge response from the audience. Mr.Y.Y.Kamble, proposed vote of thanks.

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|------------------------------|---|
| Activity Title | “Faculty Development Program Day 5” Session 1 |
| Name Of Guest Speaker | Dr.Satish Idury |
| Topic | Funding opportunities |
| Organization Name | Assistant Professor ,Sharad Institute of Technology College of Engineering ,Yadrav |
| Day And Date | Thursday , December 29, 2022 |
| Venue | CAD Lab |
| Time | 9.30 AM to 11.00AM |

On first session of fifth day, Dr.Satish highlighted research Funding Opportunities and proposal preparations for Academicians for a rapid dissemination and experience to engineers and scientists working in the research and development. The workshop also have insighted on promoting excellence in research by understanding how to get bodies like DST, CSIR, DRDO, and MHRD etc.... and to create awareness for writing good Research proposals.

Major Contents:

- An Overview on funding Agencies for Indian research scholars and Funding Opportunities for Project Proposals like DST, MHRD, DRDO and AICTE etc.
- How to write a good Proposal for funding.



| | |
|------------------------------|---|
| Activity Title | “Faculty Development Program Day 5” Session 2 |
| Name Of Guest Speaker | Dr.G.S.Patel |
| Topic | Introduction to Scopus and Web of Science Relevant Perspective |
| Organization Name | Assistant Professor ,Sharad Institute of Technology College of Engineering ,Yadrav |
| Day And Date | Thursday , December 29, 2022 |
| Venue | CAD Lab |
| Time | 9.30 AM to 11.00AM |

During the Second session of Fifth day , Dr.G.S.Patel discussed how to identify Fake/Cloned/ Predatory Journals, how to avoid publishing in fake and dubious impact factor journals, how to check Databases like UGC Care, Scopus, Web of Science, ABDC etc. He also elaborated the importance of ORCID and DOI in research papers. In addition, discussed how to choose open access journals .It was an interactive and informative session, and it will help the participant to identify the journals more effectively and avoid the publication in predatory journals.



| | |
|-----------------------|---|
| Activity Title | “Faculty Development Program Day 5” Session 3 |
| Day And Date | Thursday , December 29, 2022 |
| Venue | CAD Lab |
| Time | 2.00 PM to 2.30 PM |

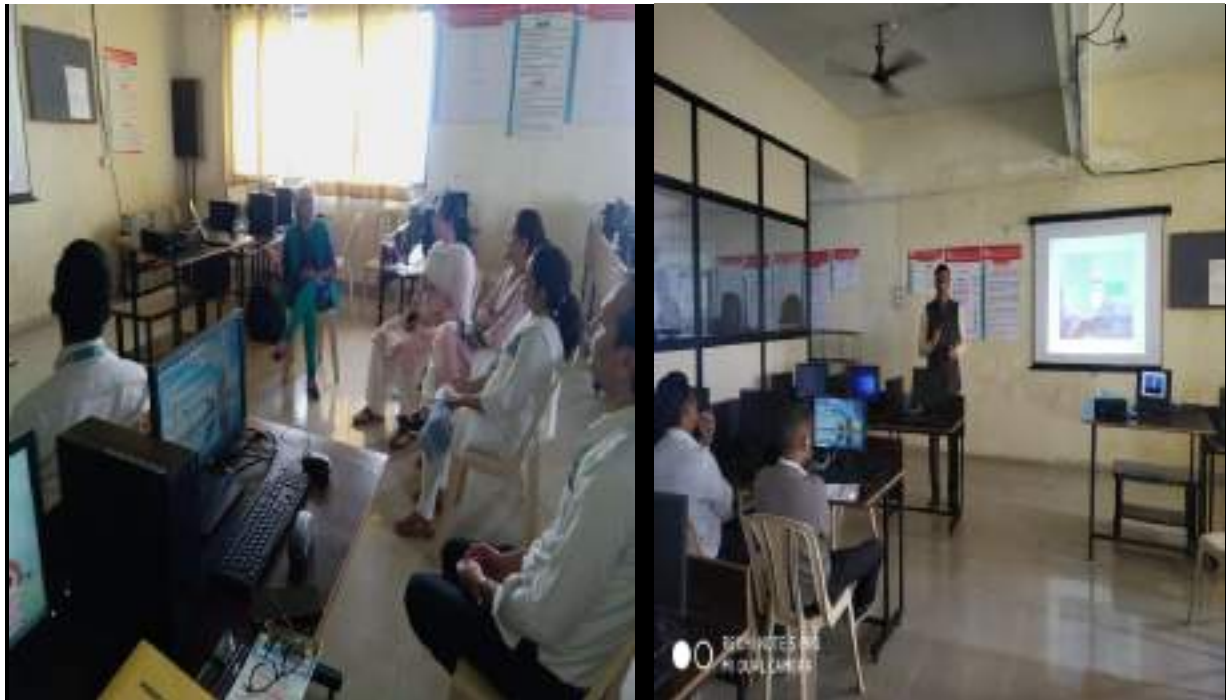
VALEDICTORY PROGRAMME

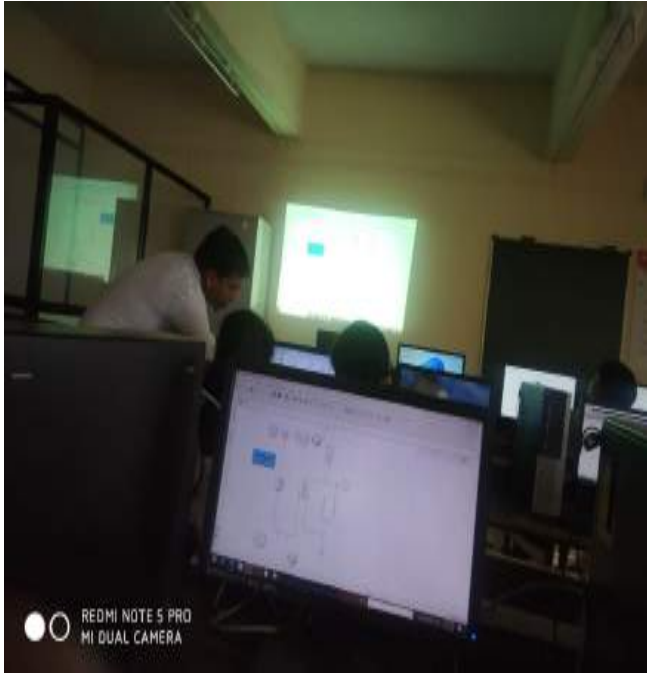
The Faculty Development Programme was concluded with a valedictory function on 29 th December , 2022.

Dr.S.K.Shikalgar emphasized on the importance of research and how SITCOE has significantly and constantly working and growing in the field of innovative research. Dr.G.S.Patel addressed has aspiration towards the original research work which is equally contributing towards the society policing and internal security. He also explains about how different research methodology is important for generalizing the research findings to the society in order to function on ground reality. This FDP will not only helped the participants in their research work but also helped them to know patent filing procedures

Vote of thanks, on behalf of all the organizing committee members of the institute was given by Mr.G.V.Pujari to conclude the valedictory programme

Glimpses OF THIS FDP





SHARAD INSTITUTE OF TECHNOLOGY COLLEGE OF ENGINEERS

An Autonomous Institute affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Warananagar, A. C. T. Vas, Dist. Baramulla, Pin-191 001, Government of Maharashtra

MSA Accredited Programmes | Accredited by MAAC with A Grade | An ISO 9001:2015 Certified Institute

Dr. S. A. Akhate Dept. Mech. A, Baginwa Dr. Rajendra Sathe (Head of Dept)

Dr. No. SIT/COE

Dr. S. A. Akhate

Dr. Rajendra Sathe

Date - 27/12/2022

Ref. No. SIT/COE/BSH/Event/Lecture/2022-23/184

Yashraj Parandekar Kumbhoge

Co-ordinator,

CPET

Kothbapur

(Greetings from SIT/COE)

Subject: Thanking Letter

Dear Sir,

We express our sincere gratitude to you for expert lecture on "How to plan a startup" on 27th December 2022. We thank you for giving your precious time and gratitude. It is definitely helpful for attempts to improve their knowledge. We expect similar co-operation from you in the future.

Thanking you,

Yashraj Kumbhoge

Dr. G. H. Dapke

Head, Dept. Sciences And Humanities
SIT College of Engineering, Yashraj,
Kothbapurji

Ms. D. Akhate
Co-ordinator, lecture committee





Dr. S. A. Khel Director
 Shri. Avil A. Bagnare Executive Director
 Dr. Rajendra Pralhadrao Chavan Chairman

Ref. No. SITCOE/BSH/Guest Lecture/2022-23 Date - 24/12/2022

To,
 Subject: Paramedical Kumbhoje
 Co-ordinator,
 CHRE,
 Kolhapur,
 Greetings from SITCOE

Subject: Invitation as an expert for the lecture for "How to plan a startup"

Dear Sir,
 We are the emerging institution of western Maharashtra, recognized by all India Council for Technical Education (A.I.C.T.E.) New Delhi and affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere. Since its inception our Institute is taking untiring endeavors for the betterment of rural students.
 We offer following degree courses in our Institute.

| Course | Intake |
|---|--------|
| 1. Mechanical Engineering | 60 |
| 2. Electronics and Computer engineering | 120 |
| 3. Electrical engineering | 60 |
| 4. Computer Science & Engineering | 180 |
| 5. Civil engineering | 60 |
| 6. Artificial Intelligence and Data Science | 60 |
| 7. Mechatronics Engineering | 60 |
| 8. Automation and Robotics | 60 |

We are glad to invite you as an expert for the lecture on "How to plan a startup" on 27th December 2022, at 12:30pm. So we would like to request you to grant us permission for concerned lecture.
 Your favorable response in this regard will be highly appreciated.

Yours Truly

Dr. G. B. Dapke

Head, Basic Sciences And Humanities
 SIT College of Engineering Yandav, Ichhalikarnji





Dr. S. A. Khot
Principal

Shri. Anil A. Bagane
Executive Director

Dr. Rajendra Patil (Yadavkar)
Chairman

Ref. No.-SITCOE/ BSH/Guest Lecture/ 2022-23/ 23rd

Date: - 27/12/2022

To,
Anjori Parandekar Kumbhoje,
Co-Founder,
CIREE,
Kolhapur.

Greetings from SITCOE

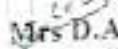
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Thanking you.

Yours Truly


Mrs D.A. Karwa
IC Guest lecture committee


Dr. G. B. Dapke
Head, Basic Sciences And Humanities
SIT College of Engineering Yadav,
Ichalkaranji

Handwritten note:
Anil
Received





Shri. Shamrao Patil (Yadavkar) Educational & Charitable Trust's
Sharad Institute of Technology College of Engineering

Yadav (Ichalkaranji)-416121, Dist. – Kolhapur
(An Autonomous Institute)

(Approved by AICTE, New Delhi, Recognized by Government of Maharashtra & Affiliated to DBATU University, Lonere)

NBA Courses, Accredited By NAAC 'A' Grade, ISO 9001:2015 Certified

Department of Basic Science & Humanities

Report of Guest Lecture

Date: 27/12/22

Time: 9:30am-11:30am

Topic:How to plan Startup

Resource Person: Ms.Anjori.P.Kumbojkar

The guest lecture was conducted on Tuesday, 27/12/2023 for the class of FY (A,G,H,I) on the topic of "How to plan Startup". It was really helpful for students.

The Resource Person Ms.Anjori.P.Kumbojkar also showed different Opportunities in Different Field.

Introduction and vote of thanks was proposed by Mrs.D.A.Karwa .Some glimpses of program are attached with this report.





GPS Map Camera

Ichalkaranji, Maharashtra, India

PF5H+493, Yadrav, Ichalkaranji, Maharashtra 416121, India

27/12/22 01:14 PM





Report on
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On

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Organized by

**Department of Automation and Robotics Engineering and
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The department of Automation and Robotics has started by the Institute from A.Y. 2021-22 with a UG program of intake capacity of 60. This program is approved by AICTE, New Delhi and Affiliated to the DBATU, Lonere. The department of Automation and Robotics is established to meet the growing demand for trained engineers in the field of Robotics and industrial Automation.

The Mechatronics Engineering is established in the year 2020, offering Undergraduate program (B. Tech.) with an intake of 60 students and Post Graduate in take of 12. This program is approved by AICTE, New Delhi and Affiliated to the DBATU, Lonere. The department has well equipped laboratories with the state-of-the-art equipments like PLC and also Department is transforming the current labs into Industry 4.0

About Workshop

This course is basically a Faculty Development Program on “SMART TOOLS AND METHODOLOGIES FOR ACADEMIC RESEARCH”. The modules intend to enhance the ability of the participants to undertake independent research in a planned manner, identify appropriate to assist them in writing research papers for good quality journals. This workshop will introduce participants to advance tools and techniques used in empirical research. The workshop will also have insight on promoting excellence in research by understanding how to get funds from DST, CSIR, DRDO, and MHRD etc. and to create awareness for writing good Research proposals. The FDP designed to provide knowledge on research Funding Opportunities and proposal preparations for Academicians for a rapid dissemination and experience in the research and development.

Course Objectives

- 1 To highlight on road map of Research Journey.
2. To introduce participants to advance tools and techniques used in empirical research.
3. To familiarize the participants of the requirements to publish in top tier journals.
4. To discuss on preparing Research Proposal and relevant keywords

Our expected outcome of this workshop

Participants will be able to-

1. After attending FDP, participants get in depth understanding of research and its implications in decision making process.
2. Gain better understanding on how to design a valid research project to answer specific research questions.
3. Design reliable and valid questionnaires for collection of data.
4. Use descriptive and predictive statistical tools and hands on Matlab and LaTeX

Program Schedule

| Day & date/ Time | Session 1 | 11.00am- 11.30am | Session 2 | 1.00pm - 2.00pm | Session 3 |
|---------------------------------------|---|-----------------------|--|-----------------------|--|
| | 9.30am-11.00am | | 11.30am-1.00pm | | 2.00pm - 4.00pm |
| Sunday 25/12/2022 | Inaugural session | Breakfast & Tea Break | Hands-on Latex by Kshirsagar Sunil Yadav (Assistant Researcher, VIT –AP ,Amaravati) | Lunch Break | Tips to write an effective research paper by Dr. P. K. Kharat (Associate Professor ,Department of Information Technology Walchand College of Engineering Sangli) |
| Monday 26/12/2022 | By Tips to write an effective research paper by Dr. P. K. Kharat (Associate Professor ,Department of Information Technology Walchand College of Engineering Sangli) | | Writing research proposal by Dr. S.P.Sonavane (Associate Professor ,Department of Information Technology Walchand College of Engineering Sangli) | | Writing research proposal by Dr. S.P.Sonavane (Associate Professor ,Department of Information Technology Walchand College of Engineering Sangli) |
| Tuesday 27/12/2022 | Hands-on Matlab by Mr.A.L.Jamadar (Assistant Professor, Sharad Institute of Technology college of Engineering Yadrbav) | | Hands-on Matlab by Mr.A.L.Jamadar (Assistant Professor, Sharad Institute of Technology college of Engineering Yadrav) | | Hands-on Matlab by Mr.A.L.Jamadar (Assistant Professor, Sharad Institute of Technology college of Engineering Yadrav) |
| Wednesday 28/12/2022 | Industrial Visit to FIE Research Center | | Industrial Visit to FIE Research Center | | IPR Activity by Dr.B.L.Sarakar Consultant ,Pune |
| Thursday 29/12/2022 | Funding opportunities by Dr.Satish Idury (Assistant Professor,Sharad Institute of Technology college of Engineering Yadrav) | | Introduction to Scopus and Web of Science Relevant Perspective by Dr.G.S.Patel (Associate Professor,Sharad Institute of Technology college of Engineering Yadrav) | | VALEDICTORY PROGRAMME |

Inauguration Session

The inauguration of the workshop was held with felicitations of the dignitaries on dais. Mr.G.V.Pujari, gave the brief idea about the workshop. Registration for the workshop started at 9:30AM followed by the Inaugural session. The programme was anchored by Mr.G.V.Pujari Assistant Professor ,SITCOE. The programme was inaugurated by Dr.S.A.Khot , Principal, SITCOE, Yadrav.

Dr.G.S.Patel, HoD, Automation and Robotics welcomed all the guests and participants and briefed the participants about the objectives of the Faculty Development Programme. The keynote address was delivered by Dr.G.S.Patel, HoD, Automation and Robotics. He introduced the participants with a brief description about our college. In the welcome speech, Dr. S.P. Sonavane shared his views with participants that researchers should focus on societal needs keeping in mind commercial value & viability of research work. He further added attending such faculty development programs would enhance their knowledge & skills of research and teaching concepts practically. He further added that it helps to improve the performance of faculties in research & teaching. In the inaugural speech, Dr. Kharat shared his views regarding patience, hard work & perseverance required for undertaking research. During the sessions, the Dr.S.A.Khot, Principal, SITCOE, Yadrav presented a token of gratitude to the resource person.

Dr.S.A.Khot, Principal, SITCOE, Yadrav ,said during Inaugural function that building research skills emphasized the importance of collaborative multidisciplinary research which is the buzzword to conduct quality research culminating in impactful publications in top notch scientific journals.

Dr. S.K.Shikalgar HoD, Mechatronics Engineering, proposed vote of thanks of inaugural session.





Faculty Development Programme

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|------------------------------|---|
| Activity Title | “Faculty Development Program Day 1” Session-1 |
| Name Of Guest Speaker | Mr. Kshirsagar Sunil Yadav |
| Topic | Hands on LaTeX |
| Organization Name | Assistant Professor, Assistant Researcher VIT-AP |
| Day And Date | Sunday, December 25, 2022 |
| Venue | CAD Lab |
| Time | 11.30 AM to 1.30 PM |

25th December 2022, the FDP started by .Kshirsagar Sunil Yadav, FDP Coordinator by briefing about the program, the resource person begin the session by briefing about the LaTeX Software, its core aspects and uses and encouraged audience to take a keen interest in using LaTeX editor for research work processing for good journals. The session was graced by a responsive audience who were very interactive, they were practicing on their laptop side by side as resource person was showing it and they asked plenty of questions to the speakers and got their queries resolved and explained, showed us the various codes we need to take care of while preparing research paper in Latex format by giving examples of various research papers which were in his Archive. The best thing is, he also showed how to use the existing template. LaTeX is a code based software, he demonstrated us step by step how do I start functioning in Overleaf LaTeX editor and how do I prepare a good paper in LaTeX format. For instance he explained how to insert codes for abstract preparation, author details, introduction, references, figures etc. Ultimately he encouraged the participants to keep practicing in LateX editor to grow good number of research papers according to various journal style and the sessions ended with answering various queries of the participants. The day also includes the quiz to check the knowledge. Latex is typesetting system to create a document. The day ended with hands on session. LaTeX He said that "it may seem a little bit difficult to learn and use, but after practicing, you will find it quite easy and effective.

Mr.Y.Y.Kamble, Asst.Professor SITCOE has proposed vote of thanks

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| Activity Title | “Faculty Development Program Day 1” Session-2 |
| Name Of Guest Speaker | Dr. P. K. Kharat |
| Topic | Tips to write an effective research paper |
| Organization Name | Associate Professor ,Department of Information Technology Walchand College of Engineering Sangli |
| Day And Date | Sunday, December 25, 2022 |
| Venue | CAD Lab |
| Time | 2.00 PM to 4.00 PM |

Dr. P. K. Kharat, Associate Professor, Department of Information Technology Walchand College of Engineering Sangli highlighted on the importance of issue of plagiarism in academic writings The fundamental procedures of choosing a topic and formulating the research questions were explained to the participants. This was followed by a thorough discussion of the literature review, the formulation of research objectives, and the research techniques to be used for various sorts of research articles followed. In order to create a general structure for the research paper to be written, participants were asked to choose a topic related to their area of expertise and then frame the research questions they want to answer.



The session was attended by 35 Faculty members took an active role in the programme, which was highly beneficial for individuals looking to produce high-caliber research papers. He ended up and remaining session continued on second day.

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| Activity Title | “Faculty Development Program Day 2” Session 1 |
| Name Of Guest Speaker | Dr. P. K. Kharat |
| Topic | Tips to write an effective research paper |
| Organization Name | Associate Professor ,Department of Information Technology Walchand College of Engineering Sangli |
| Day And Date | Monday, December 26, 2022 |
| Venue | CAD Lab |
| Time | 9.30 AM to 11.00AM |

In continuation with last session, Dr.P.K,Kharat focused on started the session by giving an overview of the description and introduction of Research and Development. During session following points were discussed by giving suitable examples.

1. What is a research?
2. What are the types of research?
3. Why is research important
4. How is research done?
5. How to write research paper
6. What are the ways and techniques of writing a research paper
7. Knowledge about the template and abstract of the paper.

The Second day of the program witnessed lectures on writing impactful proposals for research grant, outcome based education, and conducting commercially viable research towards development of affordable healthcare solutions. He also highlighted the importance of Plagiarism, and how to safeguard from the false information on google and search relevant information. . VOTE OF THANKS was given by Mr.A.A.Desai,SITCOE Yadrav



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| Activity Title | “Faculty Development Program Day 2” Session -2 |
| Name Of Guest Speaker | Dr. S.P.Sonavane |
| Topic | Writing research proposal |
| Organization Name | Associate Professor ,Department of Information Technology Walchand College of Engineering Sangli |
| Day And Date | Monday, December 26, 2022 |
| Venue | CAD Lab |
| Time | 11.30 AM to 1.30PM |

Dr. S.P.Sonavane focused on how to promote research among teachers. She further said Research contributes to teaching. Teachers involved in research are more likely to be at the forefront of their discipline and be aware of local, national and international perspectives. Results from one’s research can be used to clarify, update, and amend the teaching of a topic. She stressed the importance of research and remarked that only classroom teaching results in “out-of-touch” with the problems and concerns of the real business world and from practitioners. She further remarked that a major aim of academic institutions is to increase the relation between teaching and research and continually devise strategies to achieve this mission.



She focused on different aspects of writing effective research papers and project proposals. The modules in the FDP are designed to guide researchers across disciplines to enhance the skills in planning, writing, and getting the research articles published in reputed journals and also, process for getting funds from the agencies.

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| Activity Title | “Faculty Development Program Day 2” Session -3 |
| Name Of Guest Speaker | Dr. S.P.Sonavane |
| Topic | Writing research proposal |
| Organization Name | Associate Professor ,Department of Information Technology Walchand College of Engineering Sangli |
| Day and Date | Monday, December 26, 2022 |
| Venue | CAD Lab |
| Time | 2.00 PM to 4.00 PM |

In the first and second sessions, the speaker discussed Art of Writing a Scientific Article and its’ Nuances. In the third session Dr.Sonavane explained on foundations of Research Proposals Writing and Identifying Sources of Funding. In the last session, she shared his experiences: Writing a Winning Grant Proposal, Tips, and Other Metrics.



Dr. S.P.Sonvane explained the procedures of how to apply minor and major project under UGC and also the documents required for submitting minor and major projects. She then informed us the various agencies through which research grants could be availed like Indian Council of Social Science Research (ICSSR). The speaker gave wonderful lecture and received huge response from the audience. All the sessions were very informative and impressive. Dr. S.K.Shikalgar HoD, Mechatronics Engineering, proposed vote of thanks.

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| Activity Title | “Faculty Development Program Day 3” Session:1 |
| Name Of Guest Speaker | Mr.A.L.Jamadar |
| Topic | Hands on Matlab |
| Organization Name | Assistant Professor ,Sharad Institute of Technology College of Engineering ,Yadrav |
| Day And Date | Tuesday, December 27, 2022 |
| Venue | Computer Lab (Electrical) |
| Time | 9.30 AM to 11.00 AM |

First session was conducted by Mr.A.L.Jamadar he introduced an IDE (Interactive MATLAB Environment). He explained the importance and scope of the MATLAB for modeling and simulation of mechanical systems. Second session on the same day was concerned with introducing the use of variables and expressions to be used in MATLAB. This ensured the participants to write system equations and how to convert those mathematical formulations into MATLAB scripts. After converting ideas into mathematical models, the researcher needs to visualize the results of simulations. This may be possible by exploring the effects of various governing system parameters by having graphical outputs and then interpretation of the results can be enhanced through very powerful plotting capabilities of MATLAB. In the post-lunch session, He talked on plotting and graphics functions used in MATLAB and for script writing with various in-built graphics“ functions of MATLAB.



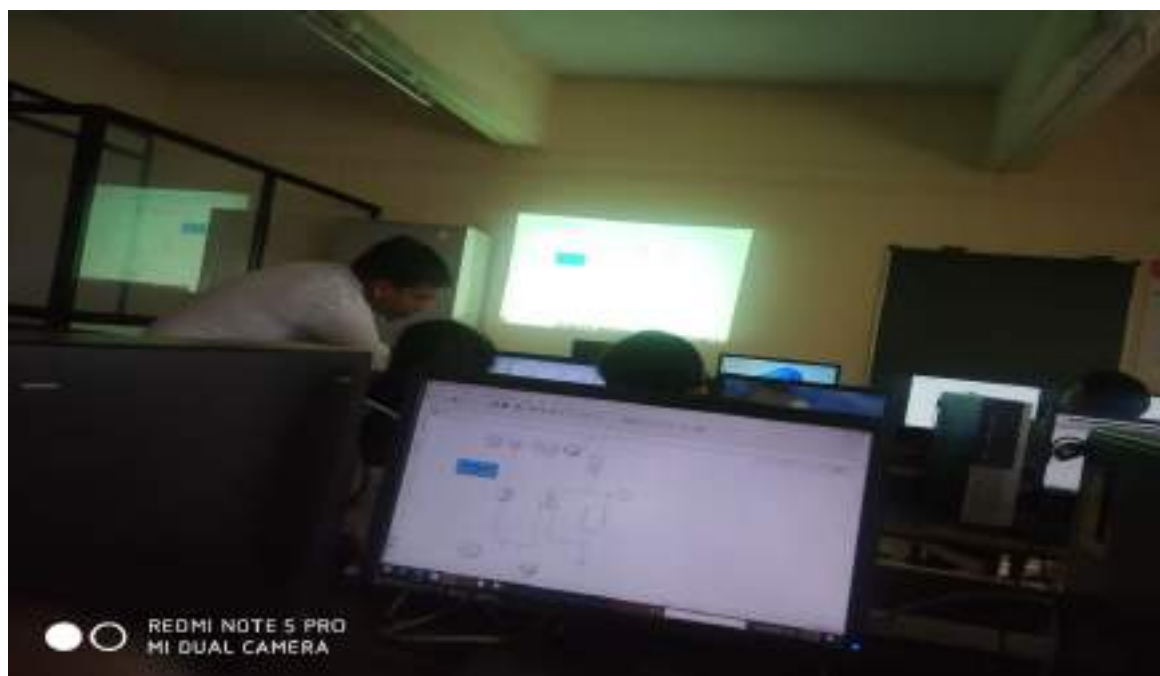
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| Activity Title | “Faculty Development Program Day 3” Session:2 |
| Name Of Guest Speaker | Mr.A.L.Jamadar |
| Topic | Hands on Matlab |
| Organization Name | Assistant Professor ,Sharad Institute of Technology College of Engineering ,Yadrav |
| Day And Date | Tuesday, December 27, 2022 |
| Venue | Computer Lab (Electrical) |
| Time | 11.30 AM to 1.30 PM |

On second Session was started at 10.00 A.M with hands-on session on “Decision Making Branching and Looping “Mainly , second session was focused on hand-on practice for some simple to complicated problems. As another approach of programming, Simulink block modelling was also an area which was taught to the participants. In the afternoon session, Dr. U A Patel explained different aspects of “Simulink Block Set” and later the participants were allowed to have practice on making Simulink block models.



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| Activity Title | “Faculty Development Program Day 3” Session :3 |
| Name Of Guest Speaker | Mr.A.L.Jamadar |
| Topic | Hands on Matlab |
| Organization Name | Assistant Professor ,Sharad Institute of Technology College of Engineering ,Yadrav |
| Day And Date | Tuesday, December 27, 2022 |
| Venue | Computer Lab (Electrical) |
| Time | 2.00 PM to 4 PM |

In the Third sessions, the speaker discussed, the course of writing scripts to simulate real life problems, we may encounter many problems of reading large amount of data. Further, it would be better if we don't have to input values of many variables at a time and that too frequently. To avoid this file management has got significant impact on the simulation time. So, keeping in view file management aspect.



In a post-lunch session, to check the knowledge gained by the faculties during this third day FDP, using short questions, program outputs and preparing program on their own, was arranged in the form of a suitably designed quiz which was carried out to conclude the training part of this special FDP. Mr.G.V.Pujari , proposed vote of thanks .

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|--------------------------|---|
| Activity Title | “Faculty Development Program Day 4” Visit to FIE Research Session 1 and Session 2 |
| Organization Name | FIE,Research |
| Address | Fie Research Institute, 22/44, Ganganagar P.O., Near Sanjay Founders, Station Road, Ichalkaranji-416116. Dist.Kolhapur (Maharashtra State) INDIA. |
| Day And Date | Wednesday December 28, 2022 |
| Time | 9.30AM to 1.30PM |

Fie Research Institute (FRI) is an autonomous, independent R & D body under D.S.I.R., Govt.of India. FRI is situated in Ichalkaranji a small town in the Kolhapur district of Maharashtra State.



The objects of the research association are:-

- a) To establish or acquire, equip and maintain or assist scientific laboratories, workshops,

institutes or organizations

- b) To encourage and finance scientific research and to extend technical and financial assistance where necessary for the promotion of such research.
- c) To organize or make available facilities for higher training in industrial and scientific research with a view to providing facilities for the extension of Indian Industry.
- d) To prepare, edit, print, publish, issue and circulate books, magazines, papers, periodicals, circulars and other literary undertakings of or bearing upon research in science and industry

Fie Research Institute

Fie Research Institute is an autonomous R & D Body approved by Department of Science & Technology, New Delhi. It has designed, developed and commercialised many Engineering projects benefiting many Industries throughout India. Many projects developed by this Institute are import substitute and are appreciated from time to time by Govt.of India.

Fie Research Institute is also an NABL accredited Calibration and Testing Laboratory for Force, Hardness, Dimensional, Torque, Pressure and Thermal Parameters.

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| Activity Title | “Faculty Development Program Day 4” Session 3 |
| Name Of Guest Speaker | Mr.B.K.Sarakar |
| Topic | IPR Activity |
| Organization Name | ADBIGA Innovation Llp Founder (Project Director) |
| Day And Date | Wednesday , December 28, 2022 |
| Venue | Seminar Hall |
| Time | 2.00 PM to 4 PM |

After Lunch break, the s technical session started at 2:00 PM with the continued by Dr.B.K.Sarakar , resource person. He discussed the matter with patents and copyrights with case studies. He gave various examples about publication of paper in journals by academicians. The concluding interactive session was conducted by the resource person with intense involvement of the participants.

Speaker highlighted on

1. Intellectual Property Rights and its protection
2. Basic understanding of the IPR
3. Patents, Copyrights and Trademark criteria
4. Publication of paper in journals by academicians and Researcher



The speaker gave wonderful lecture and received huge response from the audience. Mr.Y.Y.Kamble, proposed vote of thanks.

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| Activity Title | “Faculty Development Program Day 5” Session 1 |
| Name Of Guest Speaker | Dr.Satish Idury |
| Topic | Funding opportunities |
| Organization Name | Assistant Professor ,Sharad Institute of Technology College of Engineering ,Yadrav |
| Day And Date | Thursday , December 29, 2022 |
| Venue | CAD Lab |
| Time | 9.30 AM to 11.00AM |

On first session of fifth day, Dr.Satish highlighted research Funding Opportunities and proposal preparations for Academicians for a rapid dissemination and experience to engineers and scientists working in the research and development. The workshop also have insighted on promoting excellence in research by understanding how to get bodies like DST, CSIR, DRDO, and MHRD etc.... and to create awareness for writing good Research proposals.

Major Contents:

- An Overview on funding Agencies for Indian research scholars and Funding Opportunities for Project Proposals like DST, MHRD, DRDO and AICTE etc.
- How to write a good Proposal for funding.



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| Activity Title | “Faculty Development Program Day 5” Session 2 |
| Name Of Guest Speaker | Dr.G.S.Patel |
| Topic | Introduction to Scopus and Web of Science Relevant Perspective |
| Organization Name | Assistant Professor ,Sharad Institute of Technology College of Engineering ,Yadrav |
| Day And Date | Thursday , December 29, 2022 |
| Venue | CAD Lab |
| Time | 9.30 AM to 11.00AM |

During the Second session of Fifth day , Dr.G.S.Patel discussed how to identify Fake/Cloned/ Predatory Journals, how to avoid publishing in fake and dubious impact factor journals, how to check Databases like UGC Care, Scopus, Web of Science, ABDC etc. He also elaborated the importance of ORCID and DOI in research papers. In addition, discussed how to choose open access journals .It was an interactive and informative session, and it will help the participant to identify the journals more effectively and avoid the publication in predatory journals.



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| Activity Title | “Faculty Development Program Day 5” Session 3 |
| Day And Date | Thursday , December 29, 2022 |
| Venue | CAD Lab |
| Time | 2.00 PM to 2.30 PM |

VALEDICTORY PROGRAMME

The Faculty Development Programme was concluded with a valedictory function on 29 th December , 2022.

Dr.S.K.Shikalgar emphasized on the importance of research and how SITCOE has significantly and constantly working and growing in the field of innovative research. Dr.G.S.Patel addressed has aspiration towards the original research work which is equally contributing towards the society policing and internal security. He also explains about how different research methodology is important for generalizing the research findings to the society in order to function on ground reality. This FDP will not only helped the participants in their research work but also helped them to know patent filing procedures

Vote of thanks, on behalf of all the organizing committee members of the institute was given by Mr.G.V.Pujari to conclude the valedictory programme

Glimpses OF THIS FDP

