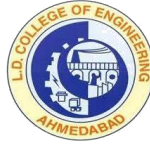


Report on  
One week Faculty Development Programme (FDP)  
**RESEARCH METHODOLOGY: TOOLS & TECHNIQUES**

Date: 11<sup>th</sup> -16<sup>th</sup> February, 2019 | Venue: Vijay Jani Seminar Hall

**ORGANIZING COMMITTEE**  
**CHIEF PATRON**  
**Dr. G. P. Vadodaria, Principal**

**CONVENER**  
**Prof.(Dr.) S. M. Mehta, Head Mechanical**



**COORDINATORS**  
**Prof. (Dr.) Ragesh G. Kapadia**  
**PROFESSOR-MED LDCE**  
**Prof. (Dr.) U. A. Patel**  
**ASST. PROFESSOR-MED LDCE**  
**CO-COORDINATORS**  
**PROF. H.A. Shukla    PROF. N. H. Pancholi**  
**PROF G.N. Sutaria    PROF. Mayur Makwana**



**ISTE GUJARAT SECTION**  
**Prof. K. M. Bhavsar                      Prof. N. K. Patel**  
**Chairman                                      Secretary**

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## **ISTE-GTU approved one week FDP on Research Methodology: Tools & Techniques**

### **ABOUT LDCE**

**L D College of Engineering** was started in the year 1948 with the vision to emerge as a 'center for excellence' offering technical education and research advancement of society and humankind. We dedicate and commit ourselves to achieve, sustain and foster unmatched excellence in Technical Education. The Institute also offers post graduate programmes in Mechanical Engineering and Computer Engineering to develop scientific and engineering manpower. The programmes are designed to include courses of study, seminars and project/thesis through which a student may develop his/her concepts and intellectual skills. To, this end, we will pursue continuous development of infrastructure and enhance state-of-the art equipment to provide our students a technologically up-to-date and intellectually inspiring environment of learning, research, creativity, innovation and professional activity and inculcate in them ethical and moral values.

### **ABOUT MECHANICAL ENGINEERING DEPARTMENT**

MED offers B.E. in Mechanical & Automobile Engineering and M.E in CAD/CAM, Cryogenics and IC/Automobile Engineering. The department has highly qualified faculty members, state of the art laboratories and infrastructures. Under Siemens center of excellence (CoE) various state of the art laboratory facilities are available such as for Rapid Prototyping (RP) lab, CIM Lab, Process Instrumentation lab, MCMT lab, Automation Lab., Mechatronics Lab., Product design & validation Lab. and Advanced Mfg. Lab. Apart from this Govt. of Gujarat approved CoE of Welding Technology has also been established..

### **ABOUT FDP**

The one week long FDP programme provided participants a comprehensive understanding of '**Research Methodology: Tools & Techniques**' and conducting scientific experiments for collecting data, and analyzing the data to have fruitful conclusions. The programme was designed to be generic in nature for satisfying the needs of faculty pursuing their M.Tech and Ph.Ds from academic institutions and industry personnel carrying out research in any field. Various sessions were delivered on the basic principles of scientific research, design of experiments, data collection, and statistical tools for analyzing data, oral/written communication of research and dissemination the research outcome.

### **OBJECTIVES OF THE PROGRAMME**

- To explicate the faculty members and research scholars about process of conducting quality research through selection of appropriate research design and methodology.
- To acquaint the participants about various software packages and tools available for simulation and data analysis.
- To explain the participants about how to prepare research proposal and various funding agency

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## **ABOUT PARTICIPANTS**

There were total 31 participants from various engineering institution across Gujarat which are AICTE approved institutions and affiliated to GTU.

## **COURSE CONTENTS**

- Keynote on research Methodology
- Research Design
- Literature Survey
- Patent Search methodology
- Advanced simulation software tools
- Experimental research
- Design of Experiments (DoE)
- Research data collection and presentation
- Scientometrics
- Research opportunities in CE
- Research facilities and Instrumentation at CoE Welding
- Modeling and Simulation using MATLAB
- Introduction to Engineering equation Solver (EES)
- Simulink a tool for researcher
- Reference Manager
- Ethics in research
- Characteristics of a researcher
- Latex for thesis Writing
- Uncertainty Analysis
- Writing Research proposal and Funding opportunity
- Writing quality Research paper

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## EMINENT SPEAKERS

### Details of expert faculty members for FDP with brief profile

External	Internal
1. Dr. S A Chaniwala Professor Department of Mechanical Engineering S.V.N.I.T, Surat	1. Dr. Ragesh Kapadia Professor, Mechanical Engineering Department, LDCE, Ahmedabad
2. Dr. R N Patel Additional Director Nirma Institute of Technology, Ahmedabad	2. Dr. U A Patel Mechanical Engineering Department LDCE, Ahmedabad
3. Dr. Axay J Mehta Assoc. Professor, IITRAM, Maninagar, Ahmedabad	3. Dr. S. M. Mehta Professor & Head, Mechanical Engineering Department, LDCE, Ahmedabad
4. Dr. Dhaval M Patel Professor VGEC, Chandkheda, Ahmedabad	4. Dr. N M Bhatt Professor Mechanical Engineering Department, LDCE, Ahmedabad
5. Dr. Jatinkumar Ravjibhai Patel Assistant Professor, PDPU, Gandhinagar	5. Prof.(Dr.)M C Chudasma Professor & Head Electrical Engineering Department LDCE, Ahmedabad
6. Dr. S J Thanki Principal, SVMIT, Bharuch	6. Prof.(Dr.)D. D. Trivedi Associate Professor Electrical Engineering Department LDCE, Ahmedabad
7. Dr. C B Bhatt Principal Government MCA College MANINAGAR-569	7. Prof.(Dr.)V R Patel Associate Professor Mechanical Engineering Department, LDCE, Ahmedabad
8. Shri Ragesh Bateriwala Director, Keepsake Centre of Excellence (CoE) Welding	8. Prof.(Dr.)Alpesh Joshi Associate Professor General Department, LDCE, Ahmedabad
9. Shri Deepak Pandya Life Skill Trainer	
10. Shri Jignesh Patel Director Khodiyar CAD center	

**ISTE –GTU Sponsored and approved FDP**  
**on**  
**“Research Methodology: Tools & Techniques”**  
**Department of Mechanical Engineering, L. D. College of Engineering**  
**Schedule for FDP**

DAY	TIME	MON	TUE	WED	THU	FRI	SAT
Date		11/02/2019	12/02/2019	13/02/2019	14/02/2019	15/02/2019	16/02/2019
Breakfast/ Tea 10:00 am to 10:30 am							
S1	10:30 am to 12:00 am	Inaugural Function Dr. Navin Sheth (VC GTU) Dr. G P Vadodaria (Principal LDCE) Dr. S A Channiwal (SVNIT, Surat)	Patent Search Methodology  Dr. Padmin Buch	Design of Experiments Dr. D M Patel	Research facilities and Instrumentation Mr. Ragesh Bateriwalala	Reference Manager Dr. V R Patel	Collaborative research Dr. N. M. Bhatt
S2	12:00 am to 1:30pm	Keynote Address on What is Research, RM and Process Dr. S. A. Channiwala	Advanced Simulation Software Tools 1 Mr. Jignesh Patel	Research data collection tools and techniques Dr. D M Patel	Mathematical Modeling in Engineering Dr. S S Pathan	Presenting Papers Ethics in Research Dr. Alpesh Joshi	latex for thesis writing Dr. D D Trivedi Writing
Lunch Break 1:30 pm to 2:30 pm							
S3	2:30 pm to 4:00 pm	Research Design Dr. C. B. Bhatt	Advanced Simulation Software Tools 2 Mr. Jignesh Patel	Scientometric Prof. (Dr.) D S Sharma	Introduction to Simulation Tools (EES) Dr. Jatin Patel	Characteristics for researcher	How to write quality Research paper in Journal Dr. S J Thani
S4	4:00 pm to 5:30 pm	Literature Review Dr. S. M. Mehta	Experimental Research Dr. R. N. Patel	Research Opportunities in Control Engineering Dr. Axay Mehta	MATLAB Simulink Dr. U A Patel	Research Proposal and Funding opportunity Dr. M C Chudasama	Concluding remarks Valedictory Function Dr. R. G. Kapadia

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## INAUGURAL SESSION

**Dr. Navin Sheth, VC GTU**, Ahmedabad was the Chief Guest, **Dr. S. A. Channiwala**, Professor MED, SVNIT, Surat and **Mr. Jignesh Patel** - Vice President (Khodiyar CAD Centre, Ahmedabad) were the Guest of Honor and **Dr. G P Vadodaria**, Principal of LDCE was the president of the inaugural function of the one week FDP on Research Methodology: Tools & Techniques. Prof Hardik Shukla had played the role of Master of ceremony. All the participants along with invited faculty members and guest were also present during the inauguration of FDP. As per the Indian tradition, the FDP was inaugurated with prayer and lighting of the lamp.

**Dr. S M Mehta**, Head Mechanical had welcomed the gathering. **Dr. Ragesh G Kapadia**, coordinator, had briefed about the FDP and its importance. He explained various outcome of the program. He had given brief outline of program and requested to all participants to enrich their knowledge from this FDP by effective participation.

**Dr G P Vadodaria**, Chief Patron of program had congratulated the Department of Mechanical Engineering for organizing such a program which indirectly benefits to society.

**Dr. S. A. Channiwala**, Guest of Honor and Keynote Speakers of inaugural function had shared his views for the program. He gave motivational and inspirational talk to participants to deeply involve in research field.

**Shri. Jignesh Patel**, Guest of Honor, gave best wishes to Department for organizing the FDP.

**Dr. Navin Sheth, VC GTU**, Chief Guest of the program highlighted the need of research and innovation in the university to make education more relevant for making a better society for the future.

**Dr. N M Bhatt**, Prof, MED has presented a vote of thanks for the inaugural function

## KEYNOTE SPEECH

**Dr. S. A. Channiwala** had delivered keynote speech and explained the process of research in great detail. He pointed that **‘RESEARCH IS THE WAY OF LIFE.’** He ended his speech with **LORD KRISHNA** speech about **“karmenva dhikarsye”**

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## FEW GLIMPSES OF INAUGURAL FUNCTION OF STTP ON 11<sup>TH</sup> FEB'2019

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## ABOUT THE EMINENT SPEAKERS AND THEIR EXPERT TALKS

	<p><b>Dr. S. A. Channiwala</b>, Professor- Department of Mechanical Engineering, SVNIT, Surat</p> <p><b>Topic:</b> Uncertainty Analysis: A Practical Approach</p>
<p><b>Dr. C. B. Bhatt</b></p> <p><b>Topic:</b> Research Design</p>	
	<p><b>Dr. S. M. Mehta</b></p> <p><b>Topic:</b> How to read Research paper and Literature Review</p>
<p><b>Dr. P. Buch</b></p> <p><b>Topic:</b> Patent Search Methodology</p>	
	<p><b>Mr. Nimesh Patel</b></p> <p><b>Topic:</b> Software Skill for Research</p>



<p><b>Dr. R. N. Patel</b></p> <p><b>Topic:</b> Experimental Research</p>	
	<p><b>Dr. D M Patel</b></p> <p><b>Topic:</b> Design of Experiments</p>
<p><b>Prof. D S Sharma</b></p> <p><b>Topic:</b> Data Analysis and Presentation</p>	
	<p><b>Dr. Axay Mehta</b></p> <p><b>Topic:</b> Research Opportunities in Control Engineering</p>
<p><b>Mr. Ragesh Bateriwalala</b></p> <p><b>Topic:</b> Research facilities and Instrumentation</p>	

	<p><b>Dr. S S Pathan</b></p> <p><b>Topic:</b> Mathematical Modelling in Engineering</p>
<p><b>Dr. Jatin Patel</b></p> <p><b>Topic:</b> Introduction to Simulation Tools (EES)</p>	
	<p><b>Dr. U A Patel</b></p> <p><b>Topic:</b> Modeling and Simulink</p>
<p><b>Dr. V R Patel</b></p> <p><b>Topic:</b> Reference Manager</p>	
	<p><b>Dr. Alpesh Joshi</b></p> <p><b>Topic:</b> Presenting Papers Ethics in Research</p>

	<p><b>Deepak Pandya</b></p> <p><b>Topic:</b> Characteristics for researcher</p>
<p><b>Dr. M C Chudasama</b></p> <p><b>Topic:</b> Research Proposal and Funding opportunity in research</p>	
	<p><b>Dr. N. M. Bhatt</b></p> <p><b>Topic:</b> Collaborative research</p>
<p><b>Dr. D D Trivedi</b></p> <p><b>Topic:</b> Latex for thesis writing</p>	
	<p><b>Dr. S. J. Thanki</b></p> <p><b>Topic:</b> How to write quality Research Paper in Journal</p>

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## PHOTOS OF THE FDP



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## **FEEDBACK BY PARTICIPANTS**

- “Thank you very much for an engaging and motivating for few days. The workshop was well- structured, insightful and rich in content.” – MAHESHKUMAR JADAVJIBHAI AGHARA
- “The workshop helped me to identify area of research which I wouldn't have looked at before. Also helped me to ignite my own thought process.” JALASHREE DUSHYANTKUMAR TRIVEDI

Most participants felt that the correct direction and knowledge for conducting scientific research was obtained in the workshop. Technical sessions empowered participants to do research in forward way to strengthen the Nation.

## **VALEDICTORY SESSION**

The FDP was concluded with valedictory function on 16<sup>th</sup> FEB'2019. In the Valedictory function Principal Dr G P Vadodaria, Mr. Jignesh Patel from Khodiyar CAD Center, Dr. S M Mehta- Head of MED, Dr.R. G. Kapadia, Dr. Utkarshkumar A Patel- Coordinators of the programme, Organizing Committee members Prof. H A Shukla, Prof. N H Pancholi Prof. Sutaria and Prof. Mayur Makwana, were present. The highlights of the FDP were given by Dr. R G Kapadia. The valedictory speech was given by Dr.G P Vadodaria and he congratulated the Coordinators and Organizing Committee for successfully conducting FDP, he also appreciated the FDP theme. All the participants were distributed with the participant certificates on successful completion of one-week short term training program by dignitaries on the Dias.

The vote of thanks was given by Dr. Utkarshkumar A Patel, FDP Coordinator. He highlighted the immense contribution of the Organizing Committee members and experts. He presented a special thanks to patron of program and the Principal of LDCE Dr. G P Vadodaria and also the Head of Department Prof. (Dr.) S.H Mehta. He also showed his gratitude towards young faculties Prof. H A Shukla, Prof. N H Pancholi Prof. Sutaria and Prof. Mayur Makwana for facilitating the event.

He heartily thanked all the speakers who took pain to travel from their places to LDCE campus and spared their valuable time. He also thanked all the participants who made this event a grand success by participating wholeheartedly.

The valedictory session ended with the national anthem and group photo.

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## GLIMPSE OF VALEDICTORY FUNCTION



## GROUP PHOTO OF PARTICIPANTS OF STTP AT LDCE A'BAD

