# Institute of Technology
# Nirma University

PROSPECTUS | 2016

## Under Graduate Programmes

www.nirmauni.ac.in

NIRMA UNIVERSITY
INSTITUTE OF TECHNOLOGY
NAAC ACCREDITED 'A' GRADE

## VISION

*Shaping a better future for mankind by developing effective and socially responsible individuals and organizations.*

## MISSION

*Institute of Technology emphasizes the all-round development of its students. It aims at producing not only good professionals, but also good and worthy citizens of a great country, aiding in its overall progress and development.*

*It endeavours to treat every student as an individual, to recognize their potential and to ensure that they receive the best preparation and training for achieving their career ambitions and life goals.*


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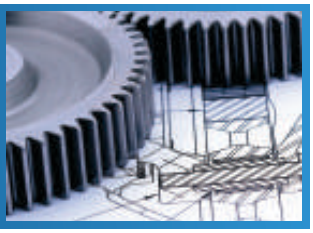

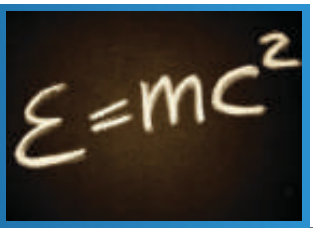

# Nirma Education & Research Foundation

Nirma University was established by the initiative of Nirma Education and Research Foundation (NERF). The renowned industrialist and philanthropist Dr Karsanbhai K. Patel, the founder of Nirma Group of Industries, established the NERF in 1994 with a view to promote and support higher education in India.

The NERF chaired by Dr Karsanbhai K. Patel is a trust that crystallized his long cherished dream of providing world-class education and inculcating the spirit of social relevance among the young students of the country.

he following institutions have been established under the aegis of the NERF:

- 1995 Institute of Technology (earlier known as Nirma Institute of Technology)
- 1996 Institute of Management (earlier known as Nirma Institute of Management)
- 1997 Institute of Diploma Studies (earlier known as Nirma Institute of Diploma Studies)*
- 2003 Institute of Pharmacy
- 2004 Institute of Science
- 2007 Institute of Law
- 2014 Institute of Architecture

All of the above institutes are the constituents of Nirma University that was established by the NERF in 2003.

In addition to the above the NERF also runs a school- 'Nirma Vidyavihar'. The objective of the school is to provide value-based education. The philosophy evolves around 'Schooling, as it should be' with innovative and fundamental academic practices. The School is among the most sought after schools in Ahmedabad.


# Board of Trustees

**Dr. Karsanbhai K. Patel** (Chairman)
President, Nirma University

**Shri Ambubhai M. Patel**
Managing Trustee

**Shri Rakeshbhai K. Patel**
(Member)
Vice Chairman, Nirma Ltd.

**Shri Hirenbhai K. Patel**
(Member)
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**Shri K. K. Patel**
(Joint Managing Trustee)
Vice President, Nirma University

**Shri R. D. Shah**
(Member)
Chartered Accountant

# Nirma University

तमसो मा ज्योतिर्गमय

Nirma University is one of India's leading universities based in Ahmedabad (Gujarat). The University was established in the year 2003 as a Statutory University under a special act passed by the Gujarat State Legislative Assembly. It is recognised by the University Grants Commission (UGC) under Section 2 (f) of the UGC Act. The University is duly accredited by National Assessment and Accreditation Council (NAAC). The University is a member of Association of Indian Universities (AIU) and the Association of Commonwealth Universities (ACU). Dr Karsanbhai K. Patel, Chairman, Nirma Group of Companies and Chairman, NERF is the President of the University.

Functioning under the aegis of NERF, the University consists of Faculty of Engineering and Technology, Faculty of Management, Faculty of Pharmacy, Faculty of Law, Faculty of Science, Faculty of Architecture and Faculty of Doctoral Studies and Research.

The six constituent institutes, spread across the sprawling lush green 125 acre campus of the University, are Institute of Technology, Institute of Management, Institute of Pharmacy, Institute of Law, Institute of Science and Institute of Architecture. The graduate, postgraduate and doctoral level programmes offered by these institutes are rated highly by accreditation agencies, industry, business magazines and students.

The University is acclaimed for its holistic education that strives to develop not only academic competence but also human character. Today it is identified with cutting edge research, robust academic programmes, quality teaching-learning process and over-all personality development interventions of its students. The state-of-the-art campus provides refreshing environment, stimulates intellectual growth and creativity.


# Board of Governors

**Dr Karsanbhai K. Patel**
Chairman, Nirma Limited,
Chairman, Nirma Education and Research Foundation,
President, Nirma University

**Shri Ambubhai M. Patel**
Managing Trustee, Nirma Education and Research Foundation

**Shri Rakeshbhai Patel**
Vice Chairman, Nirma Limited

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**Shri J. P. Joshipara**
Academician

**Dr P. N. Bhagwati**
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Chairman, Bhagwati Sphero Cast Limited

**Dr Pankajbhai Patel**
Chairman and Managing Director
Zydus Cadila Health Care, Ahmedabad

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Dean, Faculty of Management, Nirma University

**Shri G. Ramachandran Nair**
Executive Registrar (Secretary)

**Dr Anup K. Singh**
Director General, Nirma University

**Shri Pankaj Joshi**
IAS, Principal Secretary, Higher and Technical Education,
Education Department, Government of Gujarat,
Gandhinagar

**Shri R. D. Shah**
Chartered Accountant, Trustee
Nirma Education and Research Foundation

**Prof. N. R. Madhava Menon**
IBA-CLE Chair in Continuing Legal Education
NLSIU, Bangalore

**Shri Kamalbhai Trivedi**
Advocate General
Gujarat High Court, Ahmedabad

**Shri Vipinbhai S. Parikh**
Advocate

**Prof. Utpal Sharma**
Dean, Faculty of Architecture, Nirma University

# Life Sketch of the President, Nirma University

**Dr. Karsanbhai K. Patel**
President
Nirma University

*"Education is a potent driver of change. It empowers the learner with the most powerful weapon which can change the world. It makes life worth living. Education, particularly higher education is the need of the hour ..."*

The University draws much of its inspiration and strength from its founder, Dr Karsanbhai K. Patel, Chairman, Nirma Limited and founder President of Nirma Education and Research Foundation and Nirma University. Dr Karsanbhai K. Patel has been conferred with 'Padma Shri' Award in the year 2010. He is also the recipient of the 'Udyog Ratna' Award-1990, 'Gujarat Businessman' Award-1998, Ernst & Young 'Lifetime Achievement' Award-2006, 'Sardar Vallabhbhai Patel Vishwa Pratibha Award- 2009', The Baroda Sun 'Lifetime Achievement' Award- 2009 and 'Chemtech Award of Hall of Fame'. Dr Patel was awarded Honorary Doctorate of Humane Letters by Florida Atlantic University, USA for Business and Marketing acumen and philanthropy in the year 2001. He was also awarded Honorary D. Lit by Devi Ahilya Vishwavidhyalaya, Indore in 2007.

Dr Patel is renowned for his contribution to industrial development in the country. In the last 20 years, he has turned his attention to the growing challenges in education. Among many social projects that he has initiated, Nirma Education and Research Foundation (NERF) is monumental of his commitment to the society.

# Director General, Nirma University

**Anup K. Singh, Ph. D.**
Director General
Nirma University

*"India is fast emerging as a knowledge society and becoming integrated with other knowledge societies of the world. A university is the engine of a knowledge society. Higher education is a significant contributor of national development and growth... "*

Anup Singh, PhD, is an eminent academician and thought leader. He did his PhD from the University of Allahabad and Post Doctoral Fellowship from the University of Michigan, Ann Arbor. He was a visiting scholar at the J.L. Kellog Graduate School of Business Administration, Northwestern University, Evanston. He has held various top management/administrative positions in organisations of repute.

He has many publications to his credit, comprising Books, Research Papers in International and National Journals, Case Studies, Book Chapters in addition to paper presentations at international level. He is a recipient of various awards for his teaching and excellence.


# Message from the Director's Desk

**Dr. P. N. Tekwani**
Director (I/c)
Institute of Technology, Nirma University

Today, the world is looking for Engineering Graduates who can contribute for the development and upliftment of mankind. To cater to this demand, Institute of Technology, Nirma University has followed the Mission of all-round development of its students. The Engineering Graduates coming out of the Institute must not only serve as good professionals, but also as good and worthy citizens. With this prime focus, the Institute provides a very conducive environment for the overall development of students. The curriculum is designed by taking inputs from various stakeholders also, such as Alumni, Industries, Research Organizations and Recruiters.

Apart from the Core Courses, which are vital for developing the Engineering fundamentals, a variety of Supplementary and Soft Skill courses are also integrated in the curriculum for holistic studies.

The teaching-learning processes are set in such a way that the students continuously remain engaged and they constantly gain the knowledge and develop the skills. The laboratories are well equipped for imparting experiential learning and also for realizing the innovative ideas of the students. Teaching through various methodologies gives a very balanced blend, including regular blackboard teaching, software simulations, multi-media and web-enabled teaching.

The campus remains vibrant because of adequately planned co-curricular and extra-curricular activities under various forums. These activities help students developing other essential skills to be ready for professional careers. Life-long learning attitude is inculcated amongst the students through various activities like; industry visits, expert talks by industry experts and professionals, seminars, workshops, innovative assignments, project-based learning, practical training, and participation in various project competitions.

We invite all of you to contribute for the said goal and let us together make the difference in society and uplift the mankind.

# The Institute

Institute of Technology is a leading institute offering multi disciplinary undergraduate, postgraduate and Ph.D. programmes in engineering. The institute is a constituent of the Nirma University.

Located in peaceful and sylvan surroundings, about 15 km from Ahmedabad Railway Station, it is also easily accessible from the state capital Gandhinagar. A disciplined, serene and pleasant environment envelops the campus. It blends beautifully with the green landscaping, aesthetic elegance of arches and the vibrant pursuit of knowledge by the young aspirants. The academic ambience gives full scope for group activities, which are plenty, as also to individual pursuits for development on preferred tracks.

The institute shares the Nirma University campus with five other institutions: Institute of Management, Institute of Pharmacy, Institute of Science, Institute of Diploma Studies and Institute of Law. All have distinguished record of achievements. Students joining the Institute of Technology have therefore, an opportunity of interaction with the academic community of the entire Nirma University complex. The academic environment generated by the interaction between professional disciplines has a stimulating influence, especially in the formative years of young students. Exposure to such environment helps the students to develop good communication skills, an integrated personality and greater competitive spirit.

The dedication and commitment with which the students and faculty have worked over the past sixteen years have paid rich dividends and this has made the institute the most preferred one among the student fraternity. The students of this institute were consistently securing top ranks in examinations even when it was affiliated to Gujarat University. The performance of a student in the examinations is not the sole criterion of the quality of education acquired; nevertheless, it is an important indication of the effectiveness of the academic inputs.


**Nation**
**Society**
**Students**

| We are | | | | |
|---|---|---|---|---|
| Teachers | Counselors | Mentors | Researchers | Trainers |
| Channels we use | | | | |
| On campus | Virtual | Partners | Collaboration | Digital interventions |
| Roles we play | | | | |
| Teachers | Facilitators | Leaders | Managers | Employment providers |
| We do | | | | |
| Research | Educators | Publications | Patent | Consultancy |
| Our Keystones | | | | |
| Faculty | HR | ITES | Infrastructure | Serene Environ |
| Our Vision and Mission | | | | |

## NU - We are


# Special Achievements

## Rankings

- A research study on Indian Institutes of Engineering & Sciences has ranked the Institute at **47th** position in Top 50 for research performance, which is published in **Current Science 2009**
- The Institute has been ranked **19th** in Top 20 India's Best Colleges and 2nd in West Zone by India Today in **2015**

  Ranked in first **Top 25** Engineering Colleges across the country as per survey conducted in **India Today** in **2007, 2009** and **2010**
- The Institute has been ranked **29th** in Top 100 Engineering Colleges and **8th** among self-financed colleges across the country by **Outlook Magazine** in **2015**

  Ranked **28th** in Top 100 Engineering Colleges and **9th** among self-financed colleges across the country by Outlook Magazine in **2014**

  Ranked **32nd** in Top 75 Engineering Colleges and **10th** among self- financed colleges across the country by Outlook Magazine in **2013**

  Ranked **34th** in Top 75 Engineering Colleges and **9th** among self-financed colleges across the country by Outlook Magazine in **2012**

  Ranked **30th** in Top 75 Engineering Colleges and **8th** among self-financed colleges across the country by Outlook Magazine in **2011**

  Ranked **22nd** in first Top 50 Engineering Colleges and **6th** among self-financed colleges across the country by Outlook Magazine in **2010**

  Ranked **17th, 14th and 13th** in the list of Top 35 Private Engineering Colleges published by Outlook magazine, in **2007, 2008 and 2009** respectively
- The Institute is ranked **74th** amongst India's Best Engineering Colleges in Top 130 Colleges, **27th** in Top Private Colleges and **4th** in the West Region as per the survey conducted by **The Week** in **2015**

  Ranked **64th** in Top Engineering colleges across the country and **16th** in Top 75 Private Engineering Colleges as per the survey conducted by The Week in **2014**

  Ranked **57th** in Top 130 Engineering colleges across the country and **20th** in Top 50 Private Engineering Colleges as per the survey conducted by The Week in **2013**

  Ranked **50th** in Top 100 Engineering colleges across the country as per the survey conducted by The Week in **2012**

Ranked **8th** in Top 70 engineering colleges in **2011** and at **5th** and **2nd** in **2010 & 2011** respectively amongst preferred engineering colleges in West Zone as per the survey conducted by The Week

- The Institute is ranked **6th** in Top 50 Engineering Colleges across the country, **6th** in first top 10 talent hub colleges, **8th** in top 10 technology hub colleges, **9th** in top 10 international exposure and **8th** in top 10 in Infrastructure colleges as per survey conducted in **Electronics For You** in **2011**

  Ranked **6th** in Top 40 Private Colleges across the country as per survey conducted in Electronics For You in **2010**

  Ranked **3rd** in first Top 5 among Private Colleges across the country as per survey conducted in Electronics For You in **2009**

- The Institute is ranked **11th** in Top Engineering Colleges of Super Excellence by **Competition Success Review-GHRDC** Engineering College Survey in **2013**

  Ranked **18th** in Top 110 engineering colleges across the country and listed in the Top engineering colleges of Excellence category by Competition Success Review-GHRDC Engineering College Survey in **2011**

  Ranked **16th** in Top 75 engineering colleges across the country by Competition Success Review-GHRDC Engineering College Survey in **2010**

  Ranked **12th** in Top 25 engineering colleges across the country by Competition Success Review-GHRDC Engineering College Survey in **2009**

- The Institute is Listed in the **AAAA** category of Engineering Colleges per the survey conducted by **Careers 360** in **2015**

  Ranked **14th** in Top Engineering Colleges in Gujarat State as per the survey conducted by Careers 360 in **2014**

  Listed in the **2 Star** category of Engineering Colleges per the survey conducted by Careers 360 in **2013**

  Listed in the **AA+** category of Engineering Colleges per the survey conducted by Careers 360 in **2012**

  Ranked **39th** in Top Engineering Colleges in Gujarat State as per the survey conducted by Careers 360 in **2011**

  Ranked **47th** in Top 60 engineering colleges for Research Output as per the survey conducted by Careers 360 in **2010**

- The Institute is ranked **24th** among Private Colleges in first top 50 across the country as per survey conducted by **Hindustan Times** in **2010**

- The Institute is ranked **5th** in the **DataQuest CMR T-School Survey** across the country and **5th** in Top 10 T-Schools in the West Zone in **2015**

  Ranked **12th** in the DataQuest CMR T-School Survey across the country and **2nd** in Top 10 T-Schools in the West Zone in **2014**

  Ranked **17th** in the DataQuest CMR T-School Survey across the country in **2012**

  Ranked **26th** in the DataQuest CMR T-School Survey across the country in **2011**

  Ranked **38th** in the DataQuest CMR T-School Survey across the country in **2010**

- The Institute is ranked **32nd** in Top 50 India's Best Engineering Colleges as per the survey conducted by **Business Barons** in **2013**

  Ranked **32nd** in Top 50 India's Best Engineering Colleges as per the survey conducted by Business Barons in **2011**

- The Institute is ranked **17th** in Top 50 Colleges across the country in **Silicon India MCA Colleges Survey** in **2013**

  Ranked **16th** in Top 50 Colleges across the country and **4th** in Top 10 Colleges in West region in Silicon India MCA Colleges Survey in **2012**

  Ranked **17th** in Top 20 MCA colleges across the country and **4th** in Top 10 colleges in West region in Silicon India MCA Colleges Survey **2011**

- The Institute is ranked **40th** in 200 Top India's Best Engineering Colleges and **11th** in India's Top Private Universities in the Education World Engineering Colleges Ranking Survey in **2015**

  Ranked **70th** in Top 100 India's Best non-IIT Engineering College in the Education World Engineering Colleges Ranking Survey in **2013**

- The Institute is listed in **A+ category** Engineering colleges as per the survey conducted by **Chronicle** in **2015**

- The Institute is listed in **Top 50** Engineering colleges as per the survey conducted by **Career Links** in **2015**

- The Institute is ranked **12th** in Top 50 Engineering colleges as per the survey conducted by **Time Engineering Success** in **2015**

# Awards

## ISTE Awards

- National Award for Engineering College having Best Overall Performance for the year 2002
- National Award for Best Principal for the year 2002
- National Awards for the Best Teacher in Gujarat state in year 2002, 2003, 2004, 2005, 2007, 2008, 2009, 2010, 2012, 2013 & 2014
- National Awards for Best Faculty Chapter Award for the year 2007-08, 2008-09, 2009-2010 & 2010-11, 2011-12, 2012-13, 2013-14, 2014-15 & 2015-16
- National Awards for Best Student Chapter Award for the year 2003, 2005, 2006, 2007, 2010, 2012 & 2014
- National Award for Best Clean & Green Campus Award for the year 2015.
- Best Student Award in the year 2012 & 2015
- SGSITS National Award for Best Research by Young Teachers of Engineering Colleges for the year 2009
- ISTE-IPCL National Award for Best M.Tech. Thesis in Chemical Engineering (Energy System)-2015
- Best M.Tech Thesis award in Chemical Engineering in the year 2012, 2013 & 2014
- 1st Prize & 2nd Prize for Best M.Tech Thesis in Civil Engineering and Chemical Engineering respectively for the year 2010
- 1st Prize Best M.Tech Thesis in Electrical & Electronics Engineering for the year 2011
- GSFC National Award 2011 for Best M.Tech Thesis in Mechanical Engineering
- National Award for Best B.Tech Student Project in Civil Engineering and Instrumentation & Control Engineering for the year 2011
- National Award for Best B.Tech Student Project in Civil Engineering for the year 2015.

## Other Awards:

- Special Recognition Award (Educational Institute) from GESIA (Gujarat Electronics & Software Industries Association) on account of multi-dimensional contributions and performance, during the 4th Annual Award Function on 9th May 2011

## Student Awards:

- Team Nirma ROBOCON has been participating in ROBOCON National Event organized by Doordarshan since 2002 and so far have won the National Championship 7 times and represented India at International event in years 2002, 2003, 2006, 2008, 2011, 2014 and 2015 hosted by Japan, Thailand (2 times), India (2 times), Malaysia and Indonesia. In 2012, it secured the 1st Runner Up position.
- Team STALLIONS of Institute of Technology has been participating in All Terrain Vehicle (ATV) BAJA SAE India Competition for last four years and won following prizes:

o In 2015, students won the following prizes:

1. ATV Championship Trophy at L.D. College of Engineering and won a cash award of Rs.50,000/-
2. The team participated in International event of Go-Cart at Lovely Professional University, Jalandhar, where it stood first in overall best performance and won cash prize of Rs. 1 lac

o In 2014, students won the following prizes in the event:

1. GO GREEN Award: 1st prize worth Rs. 2 lacs.
2. Raftar Award for acceleration and Hill Climb of Rs.1 lac
3. Best Mentor Award to Prof N K Shah, Mechanical Engineering Department

o In 2013, students won 1st Prize worth Rs. 2 lacs for 'Go Green Mission'

o In 2012, students won cash prize of Rs.2 lac for 'Best Technology Innovation'

- A group of ten students of B. Tech. Semester-VII in Civil Engineering secured 1st Runner-up position at the National Concrete Canoe Competition (NCCC) 2015 organized by IIT Madras in association with the Indian Concrete Institute (ICI).
- A team of 8 students of final year Mechanical Engineering Department won 1st prize for Best Project in AUTO MALL Auto mobile Exhibition. The AC AUTO Rickshaw was displayed at AUTO MALL Auto mobile Exhibition held at Gujarat University Convocation Center during February 22-24, 2013.

- A team consisting of students from EC, IC and Computer Engineering participated in the Freescale Cup competition 2013 organized by Freescale Semi-conductors and IISc, Bangalore and won 2nd Prize of Rs.1 lacs as prize money.
- Team of 3rd semester students of Chemical Engineering department won 1st prize for 'Earthian Face OFF Challenge" in Earthian Sustainability program for schools and colleges organized by Wipro in 2012
- IEEE Student Branch, (WIE) Women in Engineering Affinity Group won the 2011 IEEE R10 (Region 10) WIE Section / Student Branch Affinity Group of The Year Awards with a cash bonus of US$ 250 and a Certificate
- Best Student Branch Award by Computer Society of India for the year 2011

# Important Events Hosted/Organized

The campus vibrates with varied activities like international conventions, symposia, conferences, workshops, student competitions, conclaves, short term industry relevant programmes, ISTE approved Continuing Education Programmes etc.

- Information Technology Expo, February 2000.
- XXX ISTE Annual National Convention, December 2000.
- 46th All India Library Conference of Indian Library Association, 2001.
- Seminar on Information Technology, 2001 by CII.
- NBA National Accreditator's Workshop, 2002 by AICTE.
- National Doordarshan ROBOCON 2003 2004, Robotics Competition.
- Indian Science Congress, January 2005.
- International workshop on "Monsoon Climate Variability and Change and their impacts on water, food and health", 2007.
- National Seminar on Advances in Building Management System (ABMS), November 2007.
- Advances in Remote Sensing Technology and Applications with special emphasis on Microwave Remote Sensing 2008.
- National Conference on Current Trends in Technology, NUCONE in 2006, 2007, 2008 & 2009.
- A national level seminar "NanoSys-10" on "Nanotechnology- Today and tomorrow", March 2010.
- International Symposium on VLSI Design and Test VDAT-2015.
- International Conference on Current Trends in Technology, NUiCONE in 2010, 2011, 2012, 2013 & 2015.

# Research and Consultancy Activities

All the departments are actively pursuing research in their identified thrust areas. Research output in terms of new insights helps in knowledge building and creation which in turn reflects in the teaching learning process.

**Chemical Engineering:** The faculty members are highly qualified and involved in the collaborative/joint projects with Industry/ R&D institutes and also undertake funded research projects from various agencies like DST, GUJCOST, Green Environment Services etc. A good number of research papers are published in referred international as well as national journals of repute by faculty members and research scholars. Department is having Fifteen Ph.D. students working in the thrust area of Chemical and Environmental Engineering area.

Apart from the regular academic work, the faculty members of Chemical Engineering Department are also actively involved in the consultancy such as:

- Environmental Audit [GPCB recognized Schedule –I Auditor]
- Energy Audit [BEE Certified Energy Auditor]
- Process Problem Solutions & Process Modification
- Process Equipment Design
- Determination and prediction of Phase Equilibrium and other thermodynamic properties
- Cleaner Production and Cleaner Technology
- Petroleum Product Testing and Characterization
- System Analysis & Modelling and Simulation
- Water & Waste Water Testing and Analysis
- Effluent Treatment Plant Design
- Analytical Chemistry based Testing
- Software development

**Civil Engineering:** The Department is actively involved in Research and Consultancy activities and is currently undertaking research in diversified areas of Civil Engineering like Analysis and Design of Structures, Concrete Technology, Earthquake Engineering, Remote Sensing and GIS and Environmental Engineering. Department has successfully completed research projects funded by ISRO, GUJCOST, Institution of Engineers etc. At present following research projects are under progress in the department:

- Calibration and Validation of RISAT-SAR Satellite funded by SAC, ISRO
- Use of Marine Sand in Concrete Construction funded by Adani Projects

- Study the behavior of precast beam-column junction under progressive collapse scenario - An experimental and analytical investigations funded by DST-SERB
- Dynamic Characterization of Shock Table funded by GUJCOST
- Development of Passive Damping surface coating for Advance Material Based Structural System Using PZT(Piezo) Power funded by ISRO-RESPOND Programme

Department has well-developed laboratory facilities. Consultancy and Testing services are offered by the Department to various professional organizations in areas such as Structures, Foundation, Environment and Transportation. Following are the area in which consultancy services have been offered:

- Proof checking for structural Design
- Damage Assessment of Fire affected buildings
- Non - destructive Evaluation of Structures
- Structural Health Monitoring of Structures
- Seismic Analysis and Design of Structures
- Repair and Retrofitting of Structures
- Finite Element Analysis of structures
- Environmental Engineering and Pollution Control
- Environmental Analysis and Monitoring
- Environmental Audit of Industries
- Soil Investigation, Foundation Design and Ground Improvement Techniques
- Quantity surveying
- Surveying and Geodesy work

MOU's have been signed with several research & professional organizations in order to enhance research contributions and to conduct continuing education programmes.

**Computer Science and Engineering:** The faculty members are actively involved in various research areas in the field of Computer Networking, Machine Learning, Mobile Computing, High Performance Computing, Hardware/Software Co-design, Multimedia Systems, Autonomic Computing, Image Processing, Data & Knowledge Engineering. Research publication of papers/book chapter/articles at International level also adds to the credit of the department. The department is also actively working on various projects funded by National / International funding agencies like ISRO-RESPONDs, IPR & GUJCOST.

Consultancy facilities are available in the department for Website and Mobile App Development, Software Quality Assurance, System Tuning, Visual Control Systems etc. Department imparts training in various state of the art technologies to students/corporate personnel.

**Electrical Engineering:** The faculty members of Electrical Engineering Department are actively involved in research and development. Many faculty members have pursued their Ph.D. from renowned institutes like IITs, IISc, NITs, and at the same time, many of the faculty members are pursuing Ph.D. Following are some of the areas in which faculty members have expertise and consultancy assignments have also been successfully undertaken in the same:

- Software Development for Various Industrial Applications
- Power Electronics, Industrial Drives, Industrial Process & Control
- Switched Mode Power Supplies, UPS, Control of Converters and Inverters
- Energy Conservation, Power Factor Improvement, Load Calculations
- Power Quality, Active and Passive Power Filters
- Computer Aided Design of Electrical Equipment
- Transmission Line Design
- Testing: Induction Motor upto 5 HP Rating, Transformers upto 11 kV, Insulators upto 33 kV, LV Cable, Relay Testing, Transformer Oil Testing
- PCB Designing
- Microprocessor and Microcontroller Related Developments
- Digital Signal Processing Hardware and Software Design
- Digital Logic Design on FPGA
- Wireless Communication and Networks
- RF Circuits Design and testing
- Antenna System Design

- Optical Communications and Networks
- Analog and Digital VLSI Design
- Image Processing
- Testing and Verification of VLSI Design
- Embedded System Design
- Soft Computing Applications in Control Engineering
- Advanced Process Control
- Robotics and Control
- PLC & SCADA based Instrumentation & Automation

**Mechanical Engineering:**

The Department offers consultancy and testing services to the industries in the various areas such as

- Redesign of Heat Setting Chambers for Stenter machine
- Design of Transportation System for Stenter machine
- Thermal Insulation Properties Evaluation.
- Materials of Construction for Ammonia / Urea Plant
- 3D Geometric Modelling using Solid Works
- Re-design of the Flyer (a component in Roving Frame of Textile Machine).
- Testing of Thermal Conductivity and Flammability for cement based insulation.
- Thermal Conductivity Determination of Thermal Insulations as per ASTM/ISO Standards.
- Testing of various properties of Thermal Insulations such as Compressive Strength, Water Absorption, Vapour Transmission, Thermal Resistance, Linear Shrinkage, etc. as per ASTM/BIS Standards.
- Finite Element Analysis of a Cryogenic Vessel.
- Finite Element Analysis of Gate Valve
- Finite Element Analysis of Ball Valve

The Department has also undertaken various research projects funded by ISRO, Dept. of Science and Technology, Govt. of India and GUJCOST. Few of them are

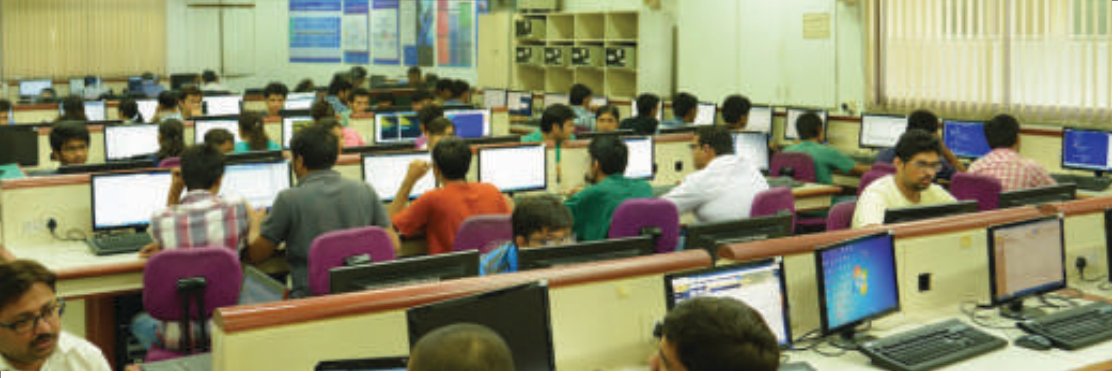
- Process development for minimization of springback deformation and enhancement of profile accuracy of CFRP reflectors.
- Understanding of immersed friction stir welding of aluminum alloys sponsored.
- Experimental Investigation of life cycle analysis and combustion characteristic of CI Engine operating on Esterified Oil and its blends with Bio Additives.
- Experimental Investigations on Pump as Turbine (PAT) for Micro Hydropower Plants.
- Experimental and Theory studies on Effect of Particle Size of Lignite on Kinetics, specific Gasification Rate, Calorific Value of Gas and Conversion Efficiency of Gasifier Fueled with Lignite.





## National Laboratory for Testing and Development of Thermal Insulations

This laboratory is first of its kind in the country established for the testing and development of thermal insulations as per various National and International Standards. The Laboratory is the outcome of a project under the National Facilities in Engineering and Technology with Industrial Collaboration (NAFETIC) Scheme of the All India Council for Technical Education (AICTE), New Delhi. The Laboratory has MoUs with more than twenty-five industries associated with thermal insulations for the utilisation of the test facilities. The total cost of the project is approximately Rs. 160.0 Lakhs. The Nirma Education and Research foundation (NERF) has funded the major expense of the Laboratory besides providing all the infrastructure needed for the establishment of the Laboratory. The prestigious setup in the Laboratory include a Guarded Hot Plate System used for thermal conductivity determination in the temperature range of -20ºC to 550ºC according to ASTM C177 and ISO 8302. An Advisory Committee comprising of eminent personalities associated with the area of thermal insulations/heat transfer has been formed to provide professional guidance for the functioning of the Laboratory. The laboratory facilities are being actively utilized by various industries for the testing of the quality of thermal insulations.



# Academic Programme

## B. Tech. (Four Years, Eight Semesters)

1. Chemical Engineering
2. Civil Engineering
3. Computer Engineering
4. Information Technology
5. Electrical Engineering
6. Electronics & Communications Engineering
7. Instrumentation & Control Engineering
8. Mechanical Engineering

## M. Tech. (Two Years, Four Semesters)

1. Chemical Engineering (Environmental Process Design)
2. Civil Engineering (Computer Aided Structural Analysis & Design)
3. Computer Science & Engineering
4. Computer Science & Engineering (Information & Network Security)
5. Computer Science & Engineering (Networking Technologies)
6. Electrical Engineering (Power Electronics, Machines and Drives)
7. Electrical Engineering (Electrical Power Systems)
8. Electronics & Communication Engineering (VLSI Design)
9. Electronics & Communication Engineering (Communication Engineering)
10. Electronics & Communication Engineering (Embedded Systems)
11. Instrumentation & Control Engineering (Control & Automation)
12. Mechanical Engineering (CAD/CAM)
13. Mechanical Engineering (Thermal Engineering)
14. Mechanical Engineering (Design Engineering)
15. Mechanical Engineering (Computer Integrated Manufacturing)

## M. Tech. (by Research)

M. Tech. (by Research) Programme in engineering are offered depending on available expertise.

## Master of Computer Applications (MCA) (Three Years, Six Semesters)

## Ph. D. Programmes

Ph. D. programmes in Engineering are offered depending on available expertise.

## Eligibility & Procedure and Mode of Admission

Candidate must have passed 12th Science Examination with Physics, Chemistry and Mathematics with the percentage of marks as to be decided by the Government of Gujarat under the rules of admission and appeared in JEE (Main) 2016 for admission to B. Tech. Programmes.

Seats (including NRI/NRI Sponsored) will be filled in by us as per guideline of Government of Gujarat.

| No. | Particulars | Amount ( in Rupees) |
|---|---|---|
| 1. | Tuition Fee (Per Annum) | 151000 |
| 2. | Other Fees | |
| | a University Enrollment (One Time) | 400 |
| | b University Fees – UG (Semester End Examination, Sessional Exam + Initial Registration, Semester Grade Report) (Per Annum) | 5000 |
| | c Seminal, Orientation, Welcome Kit (One Time) | 1000 |
| | d *Other Fees (Per Annum) | 4600 |
| | Total Other Fees (a+b+c+d) | 11000 |
| 3. | Deposits | |
| | Caution Money Deposits (Refundable) | 1000 |
| | Library Deposits (Refundable) | 4000 |
| | Total Deposit | 5000 |
| | Total (1+2+3) | 167000 |
| 4. | Eligibility Certificate (if required) | 500 |

* Fee determined by the Fee regulatory committee in pursuance to Hon'ble Supreme Court judgment towards the cost of revision of the pay scales vide letter No: FRC/FEE/2011-14/SC/2012/266 dated 24th December,2012. The Copy of the said order of the Fee regulatory committee is already available on our website. While paying Fees Cheques or DD should be as per CTS-2010.

Transportation charges as prescribed will be extra, if applicable.

## International Students

15% supernumerary seats are available for admission to PIO (Persons of Indian Origin) & foreign students. Out of this about one-third i.e. 5% is reserved for Children of Indian Workers in Gulf Countries and South East Asia.

Candidate seeking admission to these seats should also meet the eligibility criteria. All the admission will be on the merit basis.

The fee for PIO & Foreign students is US$ 6000 or equivalent Indian Rupees per year. The fee for Children of Indian Workers in Gulf countries and South East Asia is US $ 4000 or equivalent Indian Rupees per year.

A onetime processing fee of Rs. 25000/- (non-refundable) is to be paid by PIO / Foreign students & Children of Indian workers in Gulf Countries and South East Asia.

For further details, please contact the Assistant Registrar (Academic), Nirma University.

# Infrastructure

## Computing Facility:

- Servers : 23
- Systems/Laptop:- 1450
- 256 Mbps (1:1) Internet Bandwidth on Lease Line connectivity

## Available software:

## List of the Software in CSE Department:

### APPLICATION SOFTWARE

1. MS OFFIC PRODEESSIONAL
2. CIRCUIT MAKER 2.2
3. MICROSOFT OFFICE 2000 (20 LIC.)
4. MS OFFICE XP PROSESSIONAL (20 LIC.)
5. MS OFFICE 2010 PROFESSIONAL (30 LIC.)
6. MS OFFICE 2013 STANDARD (420 LIC.)
7. MACRO MEDIA DIRECTOR 8.0
8. ADOBE INDESIGN 1.5
9. ADOBE PREMIERE 6.0
10. ADOBE AFTER EFFECTS 5.0
11. ADOBE WEB COLLECTION
12. MS FRONT-PAGE 98 & 2000
13. SYSTEM DESIGN SOFTWARE
14. POPKIN SOFTWARE 2001 (SYSTEM ARCHITECTURE)
15. RATIONAL ROSE WITH 10 USERS LICENSE
16. MICROSOFT DREAM SPARK
17. MICROSOFT PUBLISHER
18. MICROSOFT PROJECT
19. MICROSOFT PROJECT PRO. (2013- 5 LIC.)
20. MICROSOFT VISIO PRO. (2013-20 LIC.)
21. STRAR OFFICE 6.0
22. RT LINUX
23. DK4 DESIGN SUIT
24. MULTISIM 9.0
25. LIQUEFY PRO 5.0
26. NET.Z1.1 (LAN TRAINNER S/W.)
27. TURNITIN
28. ENCASE® ACADEMIC V7 PROGRAM

**COMPILERS/LANGUAGES:**

1. MICROSOFT VISUAL BASIC 4.0
2. MICROSOFT VISUAL C++ 4.0
3. BORLND DBASE FOR DOS
4. BORLAND C++ 3.1
5. C++BUILDER 6
6. COBOL – 85 /DOS 1.003
7. MICROSOFT VISUAL STUDIO 6.0
8. MICROSOFT VISUAL STUDIO .NET (2005)
9. MICROSOFT VISUAL STUDIO .NET (2013-10 SET)
10. SYBASE- POWERBUILDER (31 SET)
11. MICROSOFT JBUILDER
12. LEX & YACC FOR WINDOWS
13. LPA PROLOG
14. VISUAL STUDIO PROFESSIONAL (2015 – 60 SET

### SYSTEM SOFTWARE

**OPERATING SYSTEMS:**

1. WINDOWS NT 4.0 (3 SET)
2. MICROSOFT BACK OFFICE SERVER 4.5 (MSPROXY, MSSQL, MSEXCHANGE,MSSITE SERVER, MSSMS 2.0)
3. WINDOWS NT TERMINAL SERVER
4. WINDOWS 2000 ADVANCE SERVER (2)
5. WINDOWS 2003 STD. SERVER EDITION
6. SCO UNIX 5.0
7. NOVELL NETWARE 5.0 (100 USER LIC.)
8. WIN-2000 PROFESSIONAL
9. WINDOWS XP PROFF. (3-COPY & 120 PAPER LIC.)
10. MS-DOS (121 COPY)
11. WINDOWS XP PROFESSIONAL
12. RED HAT LINUX 7.3 / 9.0 PROFESSIONAL
13. RED HAT LINUX ENTERPRISE ES 2.1
14. APPLE IMAC
15. WINDOWS VISTA BUSINESS
16. WINDOWS 7 PROFESSIONAL (190 Lic)
17. WINDOWS 8.1 (741 LIC.)
18. WINDOWS SERVER STD 2012 R2 (10 LIC.)
19. WINDOWS 10 (2 LIC)

**DATABASE MANAGEMENT SOFTWARE:**

1. ORACLE 8 FOR WINDOWS-NT (CLIENT SERVER)
2. ORACLE 8I FOR WINDOWS-NT (CLIENT SERVER)
3. ORACEL 10G (UNLIMITTED USER LIC.)
4. SQLSERVER STD 2012 (5 LIC.)

**MULTIMEDIA SOFTWARE:**

1. ADOBE WEB PREMIUM CS 5

**ANTI VIRUS SOFTWARE:**

1. PROTECTURE PLUS 2.6
2. NORTON ANTI VIRUS
3. MCAFEE VIRUS SCAN
4. ESET NODE 32 CORPARATE EDITION
5. ESCAN ANTI VIRUS SOFTWARE

# List of Software in Other Departments of Institute of Technology:

**Civil Engineering**

1. GIS MAP INFO 9
2. MAP BASIC
3. VERTICAL MAP
4. PRO SHAKE
5. LIQUEFY PRO
6. PRIMAVERA
7. STAAD – PRO
8. ETABS
9. SAP 2000
10. AUTOCAD
11. MIDAS GEN SOFTWARE
12. ABAQUS
13. MS Project
14. ORIGINLAB PROFESSIONAL V2016

**Electronic and Communication Engg.**

1. GENESYS (10 Lic.)
2. MULTISIM (10 Lic.)
3. MENTOR GRAPHICS: Front-End and Back-End Design Suite (25 Lic.)
4. XILINX ISE 13.1 (25 Lic.)
5. XILINX EDK 9.2
6. XILINX SYSTEM GENERATOR 13.1
7. VISUAL DSP
8. XILINX CHIPSCOPE 6.3
9. OPSIM
10. ORCAD
11. TI CCS
12. ALTERA QUARTUS 2 (Web Edition)
13. ALTIUM Designer
14. TCAD Software
15. KEIL (10 Lic.)
16. MICROWIND (5 Lic.)
17. Visual TCAD Software (03 Lic.)
18. Xilinx Vivado Software (25 Users)
19. HFSS

**Chemical Engg.**

1. Aspen. HYSYS 2004.2
2. HTRI Exchanger Suite 7
3. Super Pro.

**Electrical Engineering**

1. MAGNET V 7.5 (2 Lic.)
2. ETAP V 4.7.0 - (5 Lic.)
3. PSIM V 6.0 (5 Lic.)
4. SPEED (1 Lic.)
5. ANSYS V.10.0 (5 Lic.)
6. PSCAD Version 4.6 (25 Lic.)
7. Motorsolve V 4.1 (5 Lic.)
8. MATLAB 14B (15 Lic)
9. RSLogix 500_8.10
10. Code Composer Studio V 3.3
11. Lab tool 48uxp
12. Ecosense Along with Solar Photovoltaic Training and Research Kit
13. TINA 9.3 - Design Suite Version 9.3.80.273 SV-DS
14. ST2305 Relay control by PC
15. Control Desk 5.3 Along with dSPACE (ACE1104_PX4CL)

**Instrumentation and Control Engg.**

1. MATLAB 6.5 (20 Lic.)
2. LABVIEW 10(50 Lic)
3. TwinCat(15 Lic)
4. CX PROGRAMMER

**Mechanical Engg.**

1. ANSYS 8.0 (5 Lic.)
2. ANSYS 15 (5 Lic.)
3. CREO Parametric (ProE) (50 Lic.)
4. AutoCAD 2014 (125 Lic.)
5. AutoCAD Inventor 2014 (125 Lic.)
6. AutoCAD 2015 (125 Lic.)
7. AutoCAD Inventor 2015 (125 Lic.)
8. Master CAM 7.0 (1 LIc.)
9. Hyperworks 13.0 (125 HWU)
10. Automation Studio (3 Lic.)
11. CATIA V5 R20 (5 Lic.)
12. CAM Express 7 (NX CACAD) (20 Lic.)
13. MathCAD 14.0 (30 Lic.)
14. Fluent 6.3 & Gambit 2.4 (25 Lic.)
15. Automation Studio (3 Lic.)
16. OriginLab Professional (1 Lic.)
17. Dynaform (1 Lic.)
18. Minitab

**Mathematics & Humanities**

1. Digital Mentor

## Transportation

Transportation facility is provided to students from different locations in City to the Institute and back. For this, NERF has its own fleet of buses which ply on predecided routes in Ahmedabad and Gandhinagar.

## Hostel Accommodation

Limited accommodations are available for PG Students only. However, guidance is provided for hostel accommodation available outside the campus, at different places in Ahmedabad City.

## Bank

For the benefit of the students, and staff members, Kalupur Commercial Co-operative Bank is having its branch working on the campus.

## Student Store

A students' store runs on a no profit no loss basis and provides all necessary materials like stationery, instrument etc. to students.

## Students Section

This Section looks after Admissions, Registrations, Students' records and verifications, Examinations, Scholarships and Concessions. It also issues various certificates and transcripts.

## Canteen

A modern canteen building provides hygienic and wholesome food, snacks and beverages.

## Play Grounds

Playgrounds for Cricket, Volleyball, Football and other games are maintained on the campus. Indoor games facilities have also been created. A full-fledged gymnasium facility is also available for students.

## Key Office Bearers

**Shri B. J. Patel**
Deputy Registrar, Institute of Technology, Nirma University

**Prof. Umedbhai Patel**
In charge-Student Section

**Shri Jitendra Gadhavi**
Head – Corporate Relations, Institute of Technology, Nirma University

**Ms. Hiral Patel**
Librarian, Institute of Technology, Nirma University

# Library Resource Center

The Library aims to facilitate learning, teaching, research, training and consultancy activities at the Institute. The Institute of Technology Library is one of the best engineering libraries in the State.

Web-based open source library software called KOHA has been adopted at the Library Resource Center so as to make it fully automated. KOHA facilitates automated circulation (issue & return) of the books and speedy access to bibliographies, locations and availability information of the books stocked in the library. A web based catalogue is also available on the internet for inquiring about the books.

Apart from this, the center has also adopted latest information technology mediums like CD, DVD, Multimedia Kits, Bar-Code Scanners, Text as well as Graphic Scanners and biometric readers for the convenience of the participants.

The library portal facilitates access to digital resources like journals, magazines, videos, CDs, etc and also provides all relevant and useful information about the library in addition to linking the Central Library Resource Center of the University.

## The Library offers the following services

Reading Facilities, Reference, Circulation, Photocopying, Video CDs Viewing, Computerized Information Search, Library Orientation Programme, Newspaper Clipping, Current Awareness Services, Inter Library Loan, New Arrival List, Selective Dissemination Service, Online Journal Access, Remote Login Facility.

## Resources

The collection is mainly strong in engineering and technology; however good information sources on humanities and social sciences are also available. The Library has a collection of over 55,000 books, 4409 bound volumes, 243 current subscriptions to journals, magazines and newspapers, 2020 standards. Apart from this more than 700 e-journals are available in the online journal databases (like ASCE - American Society of Civil Engineers, IEEE/IET Electronic Library Online, ACM - Association of Computing Machinery Digital Library, & Science Direct) subscribed by the Library. The non-book materials collection includes 4172 CDs/DVDs/VCDs/Floppies, 265 Video Cassettes, and 281 Audio Cassettes.

Moreover one unique resource (video lecture series) from NPTEL (National Programme on Technology Enhanced Learning) has been added to the Collection. There are 170 complete video courses , each of forty hours duration in engineering branches and core Science Programmes produced by IIT and IISc Professors, These lectures can be accessed from anywhere on the NU campus through the Library home page.

## Institutional Membership

The Library is an Institution Member of:

The British Library – Ahmedabad, Institute of Engineers – Kolkata, Indian Society for Earthquake

Technology (IETE), Developing Library Network (DELNET), Indian Geotechnical Society (IGS),

American Information Resource Center – Mumbai.

## Digital Library

Keeping in tune the global developments we are creating an institutional repository using DSpace Software (Digital Library Software). We are inputting institutional information like, faculty papers, thesis, and dissertations in PDF format at DSpace. Students can access this digital information anywhere in the campus through our server.

## Book Bank Service

The Library Resource Center provides book bank facility to the students of Institute of Technology. The main purpose of this service is to help the needy meritorious students.

# Pedagogy

Institute lays great emphasis on student centric teaching rather than a teacher centric learning. Implementation of learner centric teaching is made feasible by adoption of well-developed system of Outcome Based Education (OBE). Keeping in view of the Graduate attributes as demanded by the stakeholder, Institute has revised the Programme Educational Objectives (PEOs), Progamme Outcomes (POs) and Course Learning Outcomes (CLOs) of every programme and courses, respectively. All the outcomes are achievable and tangible. A closed-loop system, encompassing 360o, feedback is practiced for monitoring the system of course delivery. Institute, being a catalyst of change has done a drastic curriculum reform has judiciously amalgamated legacy courses (core and humanities) with future courses (the one which are emerging and will emerge).

The diversification of the course was done keeping in view of the need of 21 century work-places. The workplace demands students having global, environmental and societal awareness that can provide solutions and innovation for the societal benefit.

The innovations and initiatives encompass depth and breadth of programs. The commitment was also to introduce lifelong learning courses, enrichment courses, and value added courses among other equally important ancillary courses.

Courses such as Critical Thinking, Ethics and Values will impart holistic development, whereas the industry oriented courses will smooth the transition from campus to corporate easy and without riders.

The following new courses are introduced at the under graduate level:

i. Yoga
ii. Critical Thinking
iii. IT & Network Security
iv. Ethics & Values
v. Capstone course
vi. Fractional Credit – Short Course by the eminent expert
vii. Community Services
viii. New Soft-Skill Courses in B. Tech.
ix. English / Foreign Languages
x. Communication Skills for Engineers
xi. ICT Tools
xii. Engineering Economics
xiii. Law for Engineers
xiv. Research & Innovations
xv. Organizational Behaviour

The institute makes use of an appropriate mix of pedagogical tools to train students to handle professional responsibilities. These include lectures by an appropriate mix of in-house and visiting faculty, expert lectures, discussions, seminars, project assignments and visits to industries and project sites. Continuous evaluation and counseling are important parts of the academic programme.

## The Approach to Learning

- Rigorous coaching & continuous evaluation
- Credit based system with weightage of different components of study.
- Learning through classroom teaching, practical work, industry visits, project work and video lectures through multi media.
- Academic rigor and innovative pedagogical tools
- Emphasis on field based projects and interaction with practitioners
- Faculty guidance and advisory system with Faculty as Counselors to students
- Continuous enhancement of Communication Skills
- Promoting use of computers in every learning activity.
- Continuous up gradation of state of the art knowledge and skills.
- Active participation of students in creative co-curricular activities

## Courses and Assessment

Nirma University has a credit based evaluation system. It is devised to motivate students for systematic and continuous study. Term assignments, laboratory and project work are given great importance and are continuously assessed. Moreover, there is a Semester End Examination for theory courses. The institute has also initiated a number of measures to bring the curricula and assessment system of its programmes in conformity with international norms. Open book examination is one of them. Provision is also made for remedial teaching wherever necessary.

Special attention is given to improve English language and Communication Skills of the students. Supplementary courses that promote self-development, societal and environmental awareness are also offered. For talented and motivated students, there is a provision of Audit courses. These are additional and optional courses to cultivate familiarity with emerging or advanced interdisciplinary topics.

## Discipline - The Keyword

The Institute has earned a name for quality education. This is due to efforts and devotion of well-qualified faculty of the institution. The academic calendar for the whole year is notified in the beginning and is strictly adhered to. Students' attendance is compulsory and shortfall is notified. It is expected from every student that he/she should conduct himself/herself with discipline, decency and dignity both inside and outside the campus. The institute sends progress reports of the students to their parents periodically with a view to keep them informed.

## Counseling

Student counseling is a distinguished feature of the institute. Each faculty member is assigned about 15 students. The faculty meets them periodically and reviews their attendance, submissions, academic performance and provides necessary guidance for improvement. In addition to this, the Institute also provides the services of a professional psychological counselor who can be approached for any other issues that hinder the learning processes of the students.

# Alumni Association (NITAA)

The fifteenth batches of UG students and ten batches of PG students have graduated from the institute. All activities necessary to fully integrate the Alumni Association with the developmental efforts of the institute are being actively planned. Regular contact with the alumni is maintained and efforts for their full participation in the activities of the institute are being made. Alumni get together is an annual event. NITAA is also giving scholarships to bright and needy students.

Free scholarship of an amount to be determined by the President will be awarded to the students of all the faculties at Under graduate and Post Graduate levels on merit-cum-means basis. Institute offers the amount equal to 50% and 100% interest on the loan obtained by students admitted under different courses of University from the Nationalized or Scheduled Bank will be awarded on merit-cum-means basis. The President will decide the number of scholarship to be awarded in above categories for considering the merit-cum-means basis. Alumni Association of the Institute also awards scholarships. Students admitted in the Institute under the SC/ST, OBC, PwD categories are eligible to get scholarship as per the norms prescribed by Government Authorities.

# Scholarships

To encourage the meritorious students and help the meritorious students, on the basis of merit –cum-means the University provides the scholarships as under:

## A. Category – I (Based on merit only)

| | Details | | Amount (p.a.) |
|---|---|---|---|
| 1. | 5 Top students | : | Rs. 1,00,000/- each |
| 2. | Other 20 students | : | Rs. 90,000/- each |
| 3. | Another 25 students | : | Rs. 50,000/- each |

The above scholarships renewed every year subject to the following conditions:

1. During the entire year the conduct of the student should be good.
2. The student should maintain merit and get PPI of 7.0 and above and should pass all courses of study in the first attempt in the year.
3. The student should not be caught in unfair means in any of the examinations conducted either by the Institution or by the University.
4. The student should maintain full attendance except the absence with genuine reasons for which the permission of the HoI should be obtained particularly in case of illness.

## B. Category – II (Merit Cum Means)

| | Details | | Amount (p.a.) |
|---|---|---|---|
| 1. | 25 Top students whose parents' total annual income is upto Rs. 2.5 lacs | : | Rs. 90,000/- each |
| 2. | Other 25 students whose parents' total annual income is upto Rs. 4.0 lacs | : | Rs. 50,000/- each |
| 3. | Another 25 students whose parents' total annual income is upto 6.0 lacs | : | Rs. 25,000/- each |

**The above scholarships awarded subject to the following conditions:**

1. All the conditions narrated under Category - I above made applicable
2. The students should be within top 500 in the merit list of the students admitted.

Two different merit lists are prepared and the number of scholarships are distributed proportionately to each category. The merit list is prepared as under:

1. The list for the students admitted on the basis of the merit of JEE only which is 35%
2. The another merit list is prepared on the basis of the students admitted through ACPC

The number of scholarships as mentioned above is maximum and may vary from year to year depending upon the number of NRI seats filled – in every year.

The students admitted under the Non Resident Indian (NRI) or Person of Indian Origin (PIO), Foreign Nationals (FN) or Children of Indian Workers in Gulf Countries (CIWGC) categories will not be eligible for such scholarships. The President will have power to make any exception in the above rules framed. However, in case of doubt, if any, in interpretation of any clause, the decision of the President will be final.


# Networking Initiative

## MoU with Industries

- Building Energy Efficiency Project (BEEP)
- INFOSYS Technologies, Bangalore
- enti INNOVATIONS Pvt Ltd.
- Mitsubishi Electric India Pvt. Ltd.
- NORD Drive Systems Pvt. Ltd.
- Tata Consultancy Services iON
- Gujarat Industrial Development Corporation
- IEEE (Institute of Electrical and Electronics Engineers)
- IBM Technologies
- Dr. Fixit Institute of Structural Protection & Rehabilitation
- InspirOn Engineering Pvt Limited

## MOU with Educational Institutions / Research Organizations

- Ahmedabad Textile Industry's Research Association
- Institute of Plasma Research
- Indian Institute of Technology, Gandhinagar
- Piramal Pharmaceutical Development Services Pvt. Ltd
- Intas Biopharmaceuticals Ltd
- Cadila Pharmaceuticals Ltd.
- B.V. Patel Pharmaceutical Education & Research Development (PERD)
- Indian Space Research Organization
- Physical Research Laboratory

## MOU with Foreign Universities

- Memorial University of Newfoundland, Canada
- Saxion University of Applied Sciences, Netherlands
- Royal Melbourne Institute of Technology
- Florida Atlantic University
- Columbia University
- University of Southern California


WORKSHOP
BUILDING INSULATION MATERIAL


MEMORANDUM OF UNDERSTANDING


Institute of Technology, Nirma University
Management Colloquium
Management Events
Workshops

# Industry Institute Interaction Cell

At Institute of Technology, Nirma University there is a separate dedicated placement cell for Industry Institution Interaction. Industry Institutions Interaction Cell [III Cell] which takes care of all the training and placement related activities. This cell is fully equipped with all modern infrastructures.

III Cell facilitates industrial projects, internships and visits. III Cell also facilitates guest and expert lecture from key domain experts from various Industries. III Cell also arranges various workshops and training programs to improve the communication, technical and behavioral skills.

Key activities carried out by III Cell are as given under:

## Campus Placements

On Campus Placement Process are organized by inviting various leading organizations for the placements of final year students for jobs. It fulfills dual purposes, On one hand it secures an offer for student when they pass out and on the other it helps the industry avail the best of the fresh talents available in the region.

## Industry Meet

III Cell organizes industrial meet at the institute. Two such meets have been organized earlier by the III CELL. Both the meets proved fruitful for the students, faculty and the industry personnel. Future plans for next meet will be announced shortly.

## Industrial Training for the Students

Training is the integral part of the learning. It makes them industry ready to face for real world problems. Students are placed at various industries for a period 6 to 8 weeks and under supervision and guidance of respective industry personnel. Students also go to Industry for full time projects in Final Sem/Year. The faculty guide is assigned during the same for regular monitoring and evaluation..

## Career Orientation Programmes

Programme to orient students about industry demands and expectations are regularly organized. Additional seminars are undertaken by the students in each semester to improve learning in the areas like Literature Survey, Resume development, Personality Development, Group Discussion and Presentation Skills. Moreover, opportunities for enhancement of communication skills are provided.

## Few of the leading companies visited IT NU

- Accenture India Private Limited
- ADANI Group
- ATUL Limited
- ALCATEL Lucent
- Airvana Networks
- Amazon
- BASF
- Bayer Crop Science Limited
- Birla Cellulosic Limited
- BNR International Limited
- Capgemini India Co. Private Limited
- Caterpillar India Pvt Ltd.
- CG CoreEl Logic Systems Ltd
- Cognizant Technology Solutions
- Crompton Greaves Limited
- Cybage Software Private Limited
- Deloitte Consulting India Private Limited
- DIRECT I
- DIAKIN Air Cond. Ltd
- DLF Limited
- Dolphin Steel Construction LLC
- Eicher Motors Limited
- Einfochips Limited
- EMCO Limited
- Emerson Process Management
- Erricson India Private Limited
- ESSAR Limited
- FINANCIAL Technologies
- FACTSET
- FLD Smith Limited
- FORD India
- Gammon India Limited
- Goldman Sachs
- GENERAL Motors
- General Electric - GE
- GNFC [Gujarat Narmada Fertilizer Valley Corporation]
- GSFC [Gujarat State Fertilizers Corporation]
- Gujarat Gas Limited
- Gujarat Maritime Board
- GSPC
- Hazira LNG Private Limited
- Hewlett Packard India Private Limited
- Hindustan Uniliver Limited
- ICICI Bank
- ISHI Systems
- Indian Oil Corporation Limited
- Infosys Technologies Limited
- Intel
- Jacobs Engineering Private Limited
- JK Laxmi Cement Limited
- JMC Projects (India) Limited
- Jyoti Limited
- Larsen & Toubro Infotech Limited
- Larsen & Toubro Limited
- Linde Process Limited
- Mahindra & Mahindra Limited
- MAQ Software
- Microsoft India Private Limited
- Misys International Financial Services
- Motorola India Private Limited
- Maruti
- Morgan Stanley
- Mu Sigma
- National Instruments Systems (India) Pvt Ltd
- Nokia Siemens Limited
- Oracle India Private Limited
- Persistent Systems Pvt. Ltd
- Philips Limited
- Reliance Industries Limited
- Reliance Communication
- Sabarmati Gas Pvt. Limited
- SAMSUNG India Electronics Limited
- Secure Meters Limited
- SHAPOORJI Pallonji & Co. Limited
- Siemens Limited
- ST Microelectronics Private Limited
- Synopsys (India) Private Limited
- Snap deal
- Tata Consultancy Engineers Private Limited
- Tata Consultancy Services Limited
- Tata Power Company Limited
- Thermax Limited
- Thorogood Associates
- Torrent Power [AEC] Limited
- Torrecid
- Transformers & Rectifiers (India) Ltd
- TVS Motor Company Limited
- UGS Software
- United Phosphorus Ltd
- Vedanta Resources Plc.
- Wipro Technologies Limited
- Zensar Technologies Limited

# Looking Beyond Curriculum

## Student Associations

The Institute makes all possible efforts for all round development of each and every student by way of extra curricular as well as co-curricular activities. To arrange such activities, there are many student forums. These branch wise student associations are formed to serve as the pivots, around which the diverse activities revolve and play a significant role in the development of the students. Through out the year, these associations arrange many activities like expert lectures by eminent speakers, different competitions, debates, quiz, etc. Students also organize blood donation camps, "Cry" card sale, blood disease awareness programmes, etc. The institute also encourages students of different departments to organize national / state level technical festivals including a national level mega event NU-Tech. Apart from branch wise associations, student chapters of national / international professional bodies are also operative such as IEEE, SAE, CSI, ISA, ROTRACT, ISTE etc.

## Co-curricular Activities

The Institute also gives equal importance to projects, industrial visits and training during vacations to support their curricular work. Seminars enable students to develop many skills. They develop searching skills through internet,

e-journals, books and journals on a specific topic. They also enhance the library reading, writing and presentation skills. Special programmes on humanities, communication skills, computers, foreign languages are offered to students on a regular basis. Two additional courses on career orientation have been added in the curriculum, so that students are sensitized about their potential and can plan their career. National competitions such as ROBOCON, SAE-BAJA, etc. provide the incentive to work beyond classroom hours in interdisciplinary areas.

## Extra Curricular Activities

Sport events are regularly organized every year. Programmes like High Altitude Trekking Camp and Motor Bike Expedition are also planned during the summer vacation. This inculcates the spirit of adventure and builds teamwork among students.

Alongwith the regular academic courses, the Institute carries out cultural activities, literary events, fine arts etc. to develop various required skills among the students. Events like "Annual Garba Mahotsav", "Freshers' Talent", "ABHIVYAKTI", "VAUDEVILLE-Cultural Festival", Celebration of Independence day & Republic day, Farewell function for the graduating students, Felicitation on the Foundation day, Alumni get together are some of the regular events of the institute.

## Orientation for Freshers

The Institute organizes a unique orientation programme of five days for the new entrants. Various lectures on Time Management, Coping with stress, Human relations, Positive attitude, Communication skills, etc. are delivered by eminent speakers to the students. This programme enables the students and faculty to interact with each other, understand each other and it also provides smooth transition from school life to a new environment of professional studies.

# Departments

## Role of Departments

Departments play a pivotal role in developing and implementing academic programmes. There are six departments viz: Chemical Engineering, Civil Engineering, Computer Science & Engineering, Electrical Engineering, Mechanical Engineering, and Mathematics & Humanities. Each department has different sections according to the programmes/specialties handled by it. The institute has evolved a participatory model of administration through which all proposals of budgetary allocation, academic development, curricular reforms, laboratory updates etc. first originate at the section level and then finalized at the department and higher level. In this context the role of the faculty in the total process of teaching-learning assumes great importance.

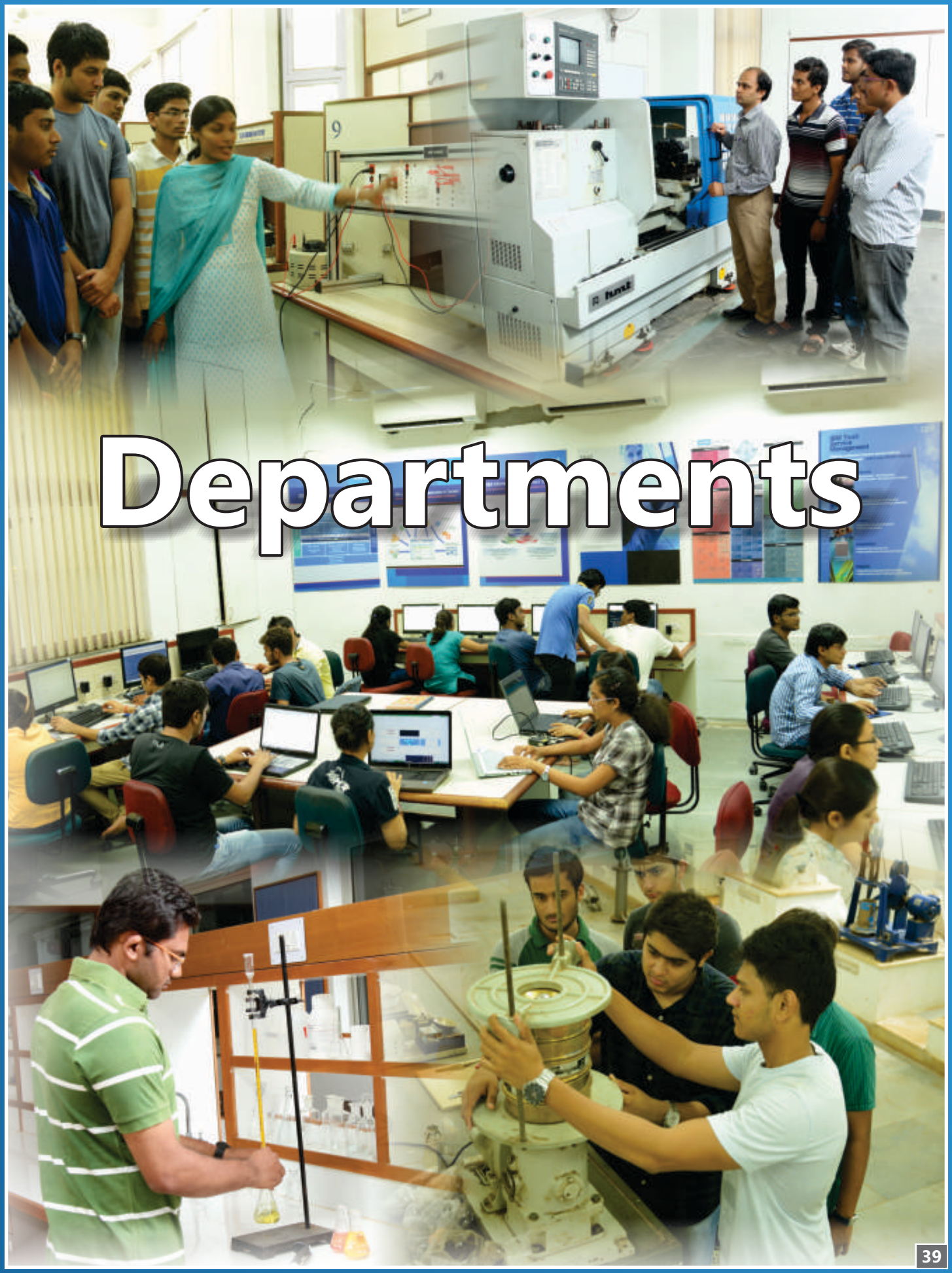
## Faculty

Through a judicious recruitment policy and enlightened approach, University has ensured that the institute is staffed by a well-qualified and competent faculty to shoulder the responsibilities of maintaining high standards of education in the institute. In keeping with the aims outlined in the mission statement, the faculty members remain fully conscious of their dual role both as teachers to impart efficiently technical knowledge to students as well as counselors to guide them for their overall development.

## Faculty Development Programmes

The teachers are encouraged to update their knowledge and skills through various training and learning modes. Constant efforts are being made by the Management to achieve this aim. Some of the initiatives taken in this direction are listed below.

1. Deputation for higher studies for M. Tech and Ph. D. in India and abroad.
2. In-service registration to pursue Ph. D. programmes.
3. Participation in reputed conferences and seminars on technical subjects.
4. Participation in collaborative research projects.
5. Promotion of consultancy.
6. Training in industries and specialized testing work etc.
7. To organize and conduct national / state level training programmes for professionals.



# Departments

# Chemical Engineering

The department offers degree in B. Tech. M.Tech. and Ph. D. in Chemical Engineering. The department comprises of different major areas like Core Chemical Engineering, Environmental Process Design, Energy Systems, Process Plant Design and Chemistry.

## Programmes Offered:

- **B. Tech. in Chemical Engineering**
- **M.Tech. in Chemical Engineering (Environmental Process Design)**
- **Ph. D. in Chemical Engineering**

# B. Tech. in Chemical Engineering

**Dr. S. S. Patel**
HOD

**Curriculum:** Main Subjects

**Basic Sciences:** Physics, Organic chemistry, Physical & Analytical Chemistry, Calculus, Linear Algebra, Art of Programming, Mechanics of Solids, Environment and Energy Studies.

**Applied Technology:** Engineering Graphics, Mechanical Workshop Practice, Elements of Electrical Engineering, Electrical Workshop Practice

**Value Added Courses:** English, Communication Skills, Economics, Management, Critical Thinking, Ethics and Values, Foreign Languages, Yoga and Meditations, Community Services, ICT Tools and Security, Creativity Research and Innovations, Law for Engineers, Entrepreneurship, Organizational Behavior, Fractional Courses, Capstone Courses

**Engineering:**

Organic Chemistry, Fluid Flow Operations, Chemical Process Industries, Solid Fluid Operations, Heat Transfer Operations, Process Calculations, Chemical Engineering Thermodynamics, Mass Transfer Operations, Instrumentation and Process Control, Process Equipment Design, Chemical Reaction Engineering, Hydrocarbons Technology, Environmental Pollution Control and Safety Management, Modeling & Simulation, Mini Projects, Minor and Major Projects based on the basic fundamentals of Chemical Engineering, Transport Phenomena, Plant Utilities and Energy Efficiency.

**Electives Subjects:**

Food Technology, Non-Conventional Energy Sources, Dye and Dye Intermediates, Unit Processes, Nanotechnology, Advance Separation Techniques, Fertilizer Technology, Polymer Technology, Chemical Engineering Economics and Plant Design, Pharmaceutical Technology, Process Optimization, Air Pollution Control techniques, Environment Management, Bio-Chemical Engineering, Catalytic Reaction Engineering, Process Integration, Advances in Chemical Process Control, Applied Chemical Process Thermodynamics, Solid Waste Treatment Techniques, Advanced Chemical Analytical Instrumentations.

**Project, Seminar and Industrial Training.**

## Laboratory Facilities

Well-equipped laboratories:

- Mass Transfer Operations
- Fluid Flow Operations
- Chemical Reaction Engineering
- Instrumentation & Process Controls
- Heat Transfer Operations
- Solid Fluid Operations
- Transport Phenomena
- Modeling & Simulation
- Hydrocarbons Technology
- Environment Laboratory
- Computing Laboratory
- Sophisticated Analytical Instrumentation Laboratory

## Software

- ASPEN. HYSYS 2004. 2, HTRI Exchanger Suite 7, SuperPro Designer, Scilab etc.

## Continuing Education Programmes

Department has conducted AICTE/ISTE approved Short Term Training Programmes on:

- Energy Management & Optimization in Chemical Process Industries
- Improving global competitiveness in industry by application of CP/CT tools
- Recent advances in catalysis and its applications
- New horizon of Bio-process engineering and Nano-biotechnology applications
- Process Simulators in Chemical Engineering
- Environmental Monitoring and Analysis
- Environmental Management for Sustainable Industrial Development
- Resource Conservation through Process Design and Integration
- Sustainable Development & Environmental Management
- Future Frontiers in Catalysis
- Environment Studies

National Level Seminars conducted by Department are:

- Recent trends in Catalysis and Catalyst- 2013
- Nanosys 2010 -Nanotechnology: Today and Tomorrow
- Nanoways2009 -Nanotechnology: Today and Tomorrow
- Nanotechnology and Its Recent Trends-2008

## Student Activities

Chemical Engineering Students' Association (ChESA) is a student organization in Chemical Engineering Department. ChESA, in its 16th year, continues to acknowledge the efforts of students that nurture the legacy of our future torchbearers. ChESA organizes National Level Symposium "Chemozale" every year. This year it will be organized as a "Chemology" under NU-Tech 2017. ChESA also organizes seminars, lecture series, social activities, competitions, workshops, sports activities at department and institute level. Such activities provide a platform for its members to evolve their organizational skills along with their technical skills.

## Resource persons:

- Shri K. U. Mistry, Chairman, Gujarat Pollution Control Board, Gandhinagar.
- Shri R. M. Cursetji, Head –Technology Development, Sud- Chemie- India Pvt Ltd. , Ankleshwar.
- Dr. R. V. Jasra, Head, R & D Division, RILVMD, Vadodara.
- Dr. D. Rajeshwar, Director, R & D Center, RIL Mumbai.
- Shri Shakarbhai Patel, Chairman, GESCSL, Vatva, Ahmedabad
- Dr. C. B. Upasani, Jyoti Om Laboratories, Ankleshwar
- Shri A. K. Jindal, General Manager, L&T Water Division, Pune
- Dr. Jubin Varghese, Water Programme Manager, SIEMENS, Banglore
- Shri R. A. Soni, Dy. General Manager-Process, Alpha Project Services Pvt. Ltd. , Vadodara.

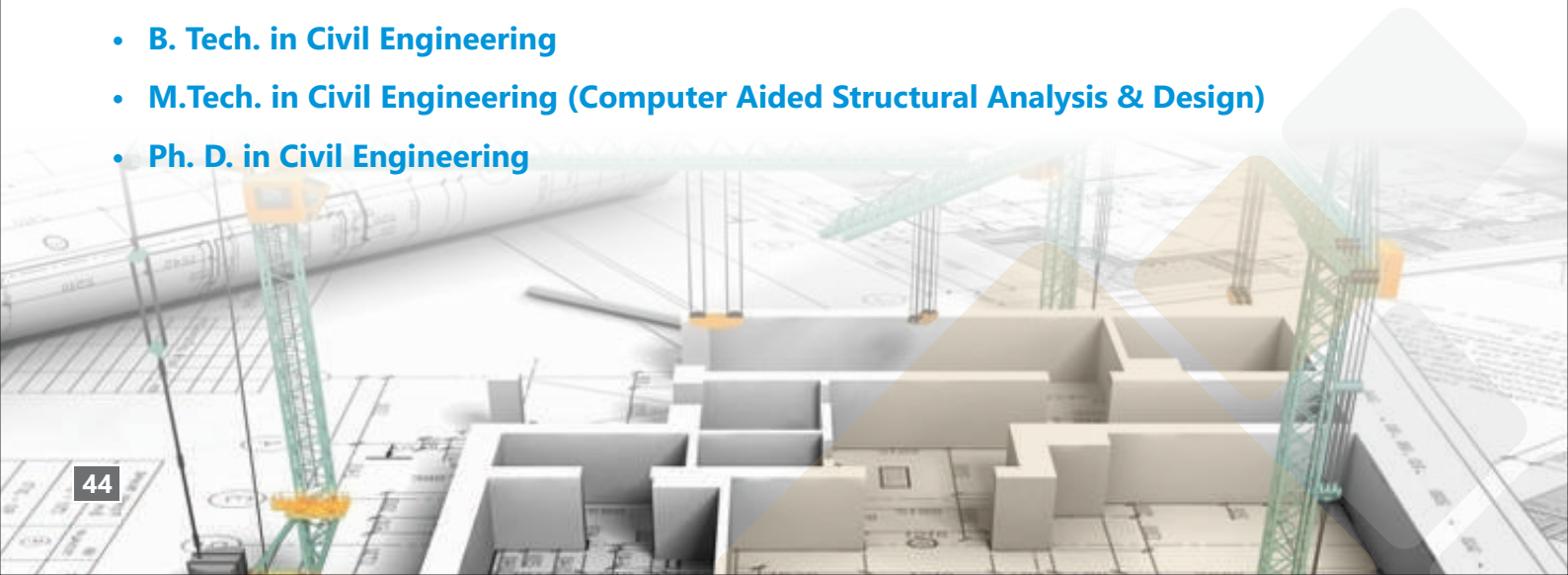
## Faculty in Chemical Engineering Department

| | |
|---|---|
| **Dr. S. S. Patel**<br>Professor and Head | Ph.D. (IIT Delhi) |
| **Dr. J. P. Ruparelia**<br>Professor | Ph.D. (IIT Bombay) |
| **Dr. R. K. Mewada**<br>Professor | Ph.D. (ICT Mumbai) |
| **Dr. M. H. Joshipura**<br>Professor | Ph.D. (Nirma University) |
| **Dr. P. D. Shah**<br>Associate Professor | Ph.D. (D. D. University Nadiad) |
| **Dr. F. J. Patel**<br>Associate Professor | Ph.D. (Nirma University) |
| **Prof. N. R. Shah**<br>Associate Professor | M.E. (Chem. Engg. )<br>Pursuing Ph. D. (Nirma University) |
| **Dr. J. L. Mamilla**<br>Assistant Professor | Ph.D. (IIT, Kanpur) |
| **Prof. R. N. Reddy**<br>Assistant Professor | M.Tech. (Chem. Engg. )<br>Pursuing Ph. D. (Nirma University) |
| **Dr. S. G. Pillai**<br>Assistant Professor | Ph.D. (Gujarat University) |
| **Prof. L. V. Bora**<br>Assistant Professor | M.E. (Chem. Engg. )<br>Pursuing Ph. D. (Nirma University) |
| **Prof. P. P. Saxena**<br>Assistant Professor | M.Tech. (Chem. Engg. )<br>Pursuing Ph. D. (Nirma University) |
| **Prof. N. P. Chokshi**<br>Assistant Professor | M.E. (Chem. Engg. )<br>Pursuing Ph. D. (Nirma University) |
| **Prof. P. A. Saxena**<br>Assistant Professor | M.E. (Chem. Engg. )<br>Pursuing Ph. D. (Nirma University) |
| **Prof. N. A. Patni**<br>Assistant Professor | M.Phil. (Energy)<br>Pursuing Ph. D. (Nirma University) |
| **Prof. S. P. Sharma**<br>Assistant Professor | M.E. (Envt. Engg. )<br>Pursuing Ph. D. (Nirma University) |
| **Dr. A. H. Dwivedi**<br>Assistant Professor | Ph.D. (Gujarat University) |
| **Prof. R. R. Patel**<br>Assistant Professor | M.Tech. (Chem. Engg. )<br>Pursuing Ph. D. (Nirma University) |
| **Prof. A. Chaudhary**<br>Assistant Professor | M.Sc., Pursuing Ph.D. (IIT, Delhi) |

# Civil Engineering

## Programmes Offered:

- B. Tech. in Civil Engineering
- M.Tech. in Civil Engineering (Computer Aided Structural Analysis & Design)
- Ph. D. in Civil Engineering



# B. Tech. in Civil Engineering

**Dr. Paresh Patel**
HOD

**Curriculum: Main Subject Areas**

**Basic Sciences:** Calculus, Linear Algebra, Engineering Mathematics, Chemistry, Physics, Environment and Energy Studies, Art of Programming, Mechanics of Solids, Elements of Electrical Engineering

**Basic Technology:** Engineering Graphics, Electrical Workshop Practices, Mechanical Workshop Practices, ICT Tools and Security

**Supplementary Courses:** Communication Skills, English / Foreign Language, Critical Thinking, Yog and Meditation, Ethics & Values, Community Services, Entrepreneurship, Capstone Course

**Soft Skill Courses:** Economics for Engineers, Creativity and Innovation, Law for Engineers, Organizational Behaviour

**Project Based Learning:** Seminar, Mini Project – I, Mini Project-II, Minor Project, Full semester Major Project

**Core Technology:**

- Building and Town Planning, Surveying
- Concrete Technology, Building Construction Materials
- Building Construction, Advanced Construction
- Construction and Project Management, Professional Practice
- Structural Mechanics and Design of concrete & steel Structures
- Earthquake engineering
- Geology & Geotechnical Engineering, Foundation Engineering
- Fluid Mechanics, Water Resources and Irrigation
- Transportation Engineering – Road, Bridges, Railway, Airport
- Environmental Engineering – Water and wastewater treatment, Air pollution

**Department Electives:**

- Advanced Structural Mechanics, Prestressed Concrete, Earthquake Resistant Design, Maintenance and Rehabilitation of Structures, Numerical and Statistical Methods in Engineering,
- Reinforced Earth and Geosynthetics, Earthquake Geotechnical Engineering,
- Sustainable Building Technologies, Building Systems and Services, Advanced Construction Technologies,
- Docks, Harbour and Airport Engineering, Urban Transportation Planning, Traffic Engineering and Design,
- Advanced Wastewater Treatments and Environmental Management, Hazardous Waste Management and Legislation, Advances in Environmental Engineering,
- Advanced Fluid Mechanics, Hydraulic Structures,
- Disaster Management,
- Urban Planning and Management, Infrastructure Management, Geomatics, Application of GIS in Civil Engineering, Land and Property Management,

**Institute Electives:** Offered by other departments of Institute

**University Electives:** Offered by other institutes of University

**Minor Specialization:**

Student can opt for minor specialization offered by the department wherein, student has to study three subjects of specialized area over and above conventional courses offered during the programme. Presently, department offers minor specialization in Structural Engineering.

## Laboratory Facilities

Well-equipped laboratory facilities are available in following areas:

- Material Testing
- Cement & Concrete
- Structural Engineering
- Geotechnical Engineering
- Transport Engineering
- Surveying & GIS
- Environmental Engineering
- Structural Dynamics and Earthquake Engineering
- Computing Laboratory

## Computer Facilities:

The department has access to Internet facility, Web based resources like ASCE, Science Direct journals, & E-books and Video based Lecture Series. Department has professional software's like STAAD/Pro, SAP2000, ETABS, MIDAS GEN, ABAQUS, PROSHAKE (Ground Response Analysis Software), Liquefi-Pro, Primavera, MS Projects, MapInfo, Geomedia Pro and AutoCAD. Apart, department has access to common computing software's like ANSYS, MATLAB etc.

## Continuing Education Programmes

The department has organized various continuing education programmes related to diverse areas of Civil Engineering. Some major programmes organized since past five years are listed below.

- Emerging Trends in Earthquake Resistant Design and Construction of Structures
- Structural Steel Design - Limit State Method
- Geomatics in Infrastructure Design and Management: Water Sector
- Geotechnical Aspects of Earthquake Engineering for Infrastructures Development
- Diagnosis, Repair and Protection of Concrete Structures
- Admixtures for High Performance Concrete
- Emerging Trends in Construction Chemicals
- Application of Geo-Informatics for Infrastructure Project Development and Management
- Professional Development Course on "Admixtures for High Performance Concretes"
- Professional Development Course on Emerging Trends in Construction Chemicals
- Training Programme on Advanced Foundation Design
- Training Programme on Concrete testing and Rehabilitation of Structures
- ISTE STTP on Sustainable Development and Environmental Management
- Repair, Restoration and Renewal Engineering (3R) of Concrete Structures
- ISTE workshop on Engineering Mechanics
- Analysis and Design of Bridge Structures
- Evaluation, Repair and Protection of Structures against Corrosion
- Hands on Training on Microwave Remote Sensing Software
- Earthquake Resistant Design and Retrofitting of Structures
- Waterproofing - Myths, Reality and Strategic Approach
- Refresher course on Construction Technology and Management

## Student's Activities

A student association named Organization of Civil Engineering Students (OrCES) organizes every year student event of National Level Techno-Management Colloquium NU-TECH that comprises competitions like Paper presentation, Model Making, Green Building Design, Bridge Design, Earthquake Resistant Design of Building, Quiz etc. OrCES covers social activities under the name of "SETU" therein activities like clothes distribution, stationary item distribution, Literacy campaign etc. are conducted regularly.

## Resource Persons

- **Dr. Y. M. Desai,** Professor, IIT Bombay, Mumbai
- **Dr. G R Reddy,** Scientist, CSIR-BARC, Mumbai
- **Dr. Nagesh Iyer,** Former Director, CSIR-SERC, Chennai
- **Shri S. H. Vora,** L & T - ECC, Ahmedabad
- **Prof. P. H. Shah,** Former Head, Civil Engineering Department, Nirma University
- **Dr. B. S. Munjal,** Sr. Scientist, SAC-ISRO, Ahmedabad
- **Shri Pavan Bakeri,** Director, Bakeri Engineering and Industries Ltd. , Ahmedabad
- **Prof. Gaurang Joshi,** SVNIT, Surat

## Faculty in Civil Engineering Department

| | |
|---|---|
| **Dr. P. V. Patel**<br>Professor | Ph.D. (Structural Engineering),<br>MSU Baroda |
| **Dr. U. V. Dave**<br>Professor | Ph.D. (Structural Engineering),<br>IIT Bombay |
| **Dr. P. R. Patel**<br>Professor | Ph.D. (Geomatics),<br>IIT Bombay |
| **Dr. S. P. Purohit**<br>Professor | Ph.D. (Structural Engineering),<br>IIT Bombay |
| **Prof. S. P. Thakkar**<br>Assistant Professor | M.E. (Structural Engineering),<br>Pursuing Ph. D. (Nirma University) |
| **Prof. Jahanvi Suthar**<br>Assistant Professor | M.E. (Structural Engineering),<br>S. P. University, V. V. Nagar,<br>Pursuing Ph. D. (Nirma University) |
| **Prof. D. D. Joshi**<br>Assistant Professor | M.Tech. (Structural Engineering),<br>Pursuing Ph. D. (Nirma University) |
| **Prof. Tejas Joshi**<br>Assistant Professor | M.Tech. (Structural Engineering),<br>Pursuing Ph. D. (Nirma University) |
| **Prof. Utsav Koshti**<br>Assistant Professor | M.Tech. (Structural Engineering) |
| **Prof. Hemang Dalwadi**<br>Assistant Professor | M.Tech. (Transportation Engg. ) |
| **Prof. Divya Bhatt**<br>Assistant Professor | M.Tech. (Water Resources)<br>IIT, Kanpur |
| **Dr. H. M. Rangwala**<br>Assistant Professor | Ph.D. (Geotechnical Engg. ),<br>IIT, Roorkee |
| **Prof. Sunil Raiyani**<br>Assistant Professor | M.Tech. (Structural Engineering),<br>IIT Kharagpur |
| **Prof. Alka Shah**<br>Assistant Professor | M.E. (Geotechnical Engg. ), |
| **Prof. Bishnu Tripathi**<br>Assistant Professor | M.Tech. (Transportation Engineering) |
| **Prof. Hemanth Kamplimath**<br>Assistant Professor | M.Tech. (Transportation Engg. ) |
| **Prof. Geetha Shivaji**<br>Assistant Professor | M. E. (Infrastructure Engineering) |

# Computer Engineering

## Programmes Offered:

- B. Tech. in Computer Engineering
- B. Tech. in Information Technology
- M.Tech. in Computer Science and Engineering
- M.Tech. in Computer Science and Engineering (Networking Technologies)
- M.Tech. in Computer Science and Engineering (Information & Network Security)
- Master of Computer Applications (M. C. A)
- Ph. D. in Computer Science & Engineering

# B. Tech. in Computer Engineering

**Dr. Sanjay Garg**
HOD

**Curriculum: Main subjects**

**Basic Science:** Physics, Chemistry, Calculus, Linear Algebra, Art of Programming, Mechanics of Solids, Elements of Electrical Engineering, Environmental Studies, Engineering Graphic, Electrical Workshop Practice, Mathematical foundation of Computer Science, Applied Mathematics, ICT Tools & Security, Probability Statistics and Numerical Analysis

**Humanities:** English, Communication Skills, Economics for Engineers, Foreign Language, Law for Engineers, Creativity & Innovation, Organizational Behaviour

**Engineering Sciences:** Basic Electronics, Digital Systems, Object Oriented Programming, Data Communication, Computer Organization, Data Structures, Computer Peripherals Workshop, Theory of Computation, Database Management Systems, Computer Networks, Operating System, Web Designing, Design and Analysis of Algorithms, Software Engineering, Compiler Construction, Interfacing with Microprocessors, Artificial Intelligence, Open Source Development Lab

**Department Electives:** . net Technologies, Java Technologies, Objective C Programming, Embedded C Programming, LAMP Technologies, Mobile Applications Development Technologies, Advanced Computer Network, Machine Human Interface, Computer Graphics and Visualization, Main Frame Systems, Network Security and Encryption, Cloud Computing, Software Testing, Business Analysis and Optimization, IT Industry Management, Machine Learning, Data Mining, Parallel and Distributed computing, Advanced Data Structures, Natural Language Processing, Database Administration, System Administration, Digital Image Processing, Wireless Networks, System Software, Information Retrieval and Analysis, Data Compression, Network Programming, Web Security, Big Data analytics

**Supplementary Courses:** Entrepreneurship, Community Services, Ethics and Values, Fractional Course, Capstone Courses, Yoga & Meditation, Critical Thinking

**Electives from other discipline:** Satellite Communication, Embedded Systems, Wireless sensor Networks, Fiber Optic Communication, Biomedical Engineering, Programmable Logic Controller, Building Automation, Micro Controller and its application, processes control Technologies, Industrial Instrumentations, Modelling and Simulation, Robotic Engineering, Mechatronics, Hydraulics and pneumatics, Cryogenics, Value Engineering, Supply chain Management, Total Quality Management, Production Management, Renewable Energy Sources, Quality management, Elements of Micro Electro Mechanical System, Disaster Risk Management, Project Management, Remote Sensing GIS and GPS Technology, Earth Quack Engineering, Finite Element Methods for Engineers

**University Electives:** Elective courses from other faculties of the University like Faculty of Law, Faculty of Management, Faculty of Science, Faculty of Pharmacy & Faculty of Architecture are also offered.

**Project Based Learning:** Courses like Seminar or Mini/Minor/Major Project are kept in every semester to encourage problem solving and application of the theoretical knowledge acquired. Full semester Major Project work is encouraged to be carried out at industry or at R & D Institute.

## B. Tech. in Information Technology

**Curriculum:** Main subjects

**Basic Sciences & Humanities:** As offered in B. Tech. in Computer Engineering

**Engineering Science:** Basic Electronics, Digital Systems, Object Oriented Programming, Communication Engineering, Computer Organization, Data Structures, Computer Peripherals Workshop, Theory of Computation, Database Management Systems, Data Communication Networks, Operating System, Web Designing, Design and Analysis of Algorithms, Software Engineering, Network Protocols, Information Retrieval Systems, Network Programming, Open Source Development Lab

**Department Electives:** . net Technologies, Java Technologies, Objective C Programming, Embedded C Programming, LAMP Technologies, Mobile Applications Development Technologies, Advanced Computer Network, Machine Human Interface, Computer Graphics and Visualization, Main Frame Systems, Network Security and Encryption, Cloud Computing, Software Testing, Business Analysis and Optimization, Advanced Computer Network, Machine Human Interface, Computer Graphics and Visualization, Main Frame Systems, Network Security and Encryption, Cloud Computing, Software Testing, Business Analysis and Optimization, IT Industry Management, Machine Learning, Data Mining, Parallel and Distributed computing, Advanced Data Structures, Natural Language Processing, Database Administration, Artificial Intelligence, System Administration, Digital Image Processing, Wireless Networks, System Software, Data Compression, Compiler Construction, Web Security, Data Analytics

**Electives from other discipline:** Satellite Communication, Embedded Systems, Wireless sensor Networks, Fiber Optic Communication, Biomedical Engineering, Programmable Logic Controller, Building Automation, Micro Controller and its application, processes control Technologies, Industrial Instrumentations, Modelling and Simulation, Robotic Engineering, Mechatronics, Hydraulics and pneumatics, Cryogenics, Value Engineering, Supply chain Management, Total Quality Management, Production Management, Renewable Energy Sources, Quality management, Elements of Micro Electro Mechanical System, Disaster Risk Management, Project Management, Remote Sensing GIS and GPS Technology, Earth Quack Engineering, Finite Element Methods for Engineers

**University Electives:** Elective courses from other faculties of the University like Faculty of Law, Faculty of Management, Faculty of Science, Faculty of Pharmacy & Faculty of Architecture are also offered.

**Project Based Learning:** Courses like Seminar or Mini/Minor/Major Project are kept in every semester to encourage problem solving and application of the theoretical knowledge acquired. Full semester Major Project work is encouraged to be carried out at industry or at R & D Institute.

## Computer/ Laboratory facilities

- Well equipped laboratories with state of the art systems loaded with required software are available for each programme of the department.
- Necessary networking equipment such as routers, switches, wireless access points, Add-on devices etc. are available.
- Special Systems like Multicore Machines, Graphics Workstations, iMac, Simputer, FPGA design kit, DSP kits, Wireless Sensor Network are available for experimentation.
- Rapid Development and Analysis tools such as Oracle, Microsoft Visual Development Tools, Real Time Linux, Electronic System Design Tools for Embedded System, VLSI Design Tools, Rational Rose etc are available. Many open source software such as Linux, MySql, Tomcat Servers, Network Simulators, System Simulator etc are also used extensively.
- Department has setup for Center of Excellence / Research Centre with various international alliances like CISCO, NVIDIA etc.
- Internet access is available on all the computers in the laboratory & Wifi enabled campus.

## E-Learning Facilities

- Setup for online test, e-assignments, e-assessment and various other teaching learning activities.
- Extensive utilization of ICT tools such as course website, course blog, NPTEL videos etc. for effective teaching learning activities.
- Dedicated high speed Internet connection to provide access to online e-learning material on the web.

## Continuing Education Programmes

As a part of continuing Education Programme the department has carried out number of Short Term Training Programmes for teachers and industry professionals.

## Students Activities

There are three branch specific student association ACES (Computer Engineering), Infocrats (Information Technology), AMS (MCA Programme). There are other associations like CSI students chapter, ISTE student chapter, IEEE student chapter and Rotract Club of which student can become member and carryout or participate in co-curricular & Community related activities for overall self development. Activities carried out are National / State Level, Technical Festivals with Programmes like Paper Presentation, Robotics, Quiz, Management Games, Programming Contest, Debate etc. Extension activities like literacy programme in villages, programs for under privileged, help to oldage homes, Blood Donations etc. are also organized regularly by regularly by student chapter.

## Resource Persons

- **Prof. Arup R. Dasgupta**
  Director, Scanpoint Geomatics Ltd. Ahmedabad
- **Dr Asim Banerjee**
  DAIICT, Gandhinagar
- **Dr. Borko Fuhrt**
  Florida Atlantic University, USA
- **Dr D C Jinwala**
  SVNIT, Surat
- **Dr. K. Chandrashekharan**
  NIT Surathkal
- **Dr Krishna Prasad**
  IIT-Gandhinagar
- **Dr. Nitant Dube**
  SAC-ISRO, Ahmedabad
- **Dr. Sanjay Chaudhary**
  IET, Ahmedabad University
- **Dr Shrinivas Sampalli**
  Dalhousie University, Halifax Canada

## Faculty In Computer Science & Engineering Department

| | | | |
|---|---|---|---|
| **Dr. Sanjay Garg**<br>Professor & Head | M. Tech<br>Ph.D. | **Dr. Sharda Valiveti**<br>Senior Associate Professor | M.E.<br>Ph.D. |
| **Dr. Priyanka Sharma**<br>Professor | M. Tech<br>Ph.D. | **Prof. Vijay Ukani**<br>Associate Professor | M.Tech.<br>Pursuing Ph.D. |
| **Dr. Madhuri Bhavsar**<br>Professor | M.E.<br>Ph.D. | **Dr. Kamalkumar Mehta**<br>Associate Professor | M.Tech.<br>Ph.D. |
| **Prof. K. P. Agrawal**<br>Senior Associate Professor | M.E.<br>Pursuing Ph.D. | **Dr. Ankit Thakkar**<br>Associate Professor | M.Tech.<br>Ph.D. |
| **Dr. Vibha Patel**<br>Senior Associate Professor | M.E.<br>Ph.D. | **Dr. Priyank Thakkar**<br>Associate Professor | M.E.<br>Ph.D. |
| **Prof Gaurang Raval**<br>Associate Professor | M.E.<br>Ph.D. | **Prof. Zunnun Narmawala**<br>Associate Professor | M.Tech.<br>Pursuing Ph.D. |

| | |
|---|---|
| **Prof. Tejal Upadhyay**<br>Assistant Professor | M.E.<br>Pursuing Ph.D. |
| **Prof. Saurin Parikh**<br>Assistant Professor | M.C.A.<br>Pursuing Ph.D. |
| **Prof. Sonia Mittal**<br>Assistant Professor | M.C.A.<br>Pursuing Ph.D |
| **Prof. Deepika Shukla**<br>Assistant Professor | M.C.A.<br>Pursuing Ph.D. |
| **Prof. Swati Jain**<br>Assistant Professor | M.Tech.<br>Pursuing Ph.D. |
| **Prof. Smita Agrawal**<br>Assistant Professor | M.C.A.<br>Pursuing Ph.D. |
| **Prof. Rasendu Mishra**<br>Assistant Professor | M.C.A.<br>Pursuing Ph.D. |
| **Prof. Monika Shah**<br>Assistant Professor | M.E.<br>Pursuing Ph.D. |
| **Prof. Rupal Kapdi**<br>Assistant Professor | M.E.<br>Pursuing Ph.D. |
| **Prof. Preeti Kathiria**<br>Assistant Professor | M.C.A.<br>Pursuing Ph.D. |
| **Prof. Jaiprakash Verma**<br>Assistant Professor | M.C.A.<br>Pursuing Ph.D. |
| **Prof. Pooja Shah**<br>Assistant Professor | M.Tech.<br>Pursuing Ph.D. |
| **Prof. Jitendra Bhatia**<br>Assistant Professor | M.Tech.<br>Pursuing Ph.D. |
| **Prof. Vishal Parikh**<br>Assistant Professor | M.Tech.<br>Pursuing Ph.D. |
| **Prof. Darshana Upadhyay**<br>Assistant Professor | M.Tech. |
| **Prof. Parita Oza**<br>Assistant Professor | M.Tech. |
| **Prof. Malaram Kumhar**<br>Assistant Professor | M.Tech. |
| **Prof. Jigna Patel**<br>Assistant Professor | M.E.<br>Pursuing Ph.D. |
| **Prof. Rajan Datt**<br>Assistant Professor | M.C.A.<br>Pursuing Ph.D. |
| **Prof. Manish Chaturvedi**<br>Assistant Professor | M.Tech.<br>Pursuing Ph.D. |
| **Prof. Anitha Ashishdeep**<br>Assistant Professor | B.E.<br>Pursuing M.Tech. |

| | |
|---|---|
| **Prof. Devendra Vashi**<br>Assistant Professor | M.C.A.<br>Pursuing Ph.D. |
| **Prof. Vipul Chudasama**<br>Assistant Professor | M.E.<br>Pursuing Ph.D. |
| **Prof. Sapan Mankad**<br>Assistant Professor | M.Tech.<br>Pursuing Ph.D. |
| **Prof. Rushabh Shah**<br>Assistant Professor | M.C.A.<br>Pursuing Ph.D. |
| **Prof. Usha Patel**<br>Assistant Professor | M.Tech. |
| **Prof. Prajakta Rathod**<br>Assistant Professor | M.E. |
| **Prof. Jitali Patel**<br>Assistant Professor | M.E.<br>Pursuing Ph.D. |
| **Prof. Kruti Lavingia**<br>Assistant Professor | M.Tech. |
| **Prof. Pimal Khanpara**<br>Assistant Professor | M.Tech.<br>Pursuing Ph.D. |
| **Prof. Tarjani Vyas**<br>Assistant Professor | M.Tech.<br>Pursing Ph.D. |
| **Prof. Shivani Desai**<br>Assistant Professor | M.Tech. |
| **Prof . Dhaval Jha**<br>Assistant Professor | M.Tech. |
| **Prof. Vivek kumar Prasad**<br>Assistant Professor | M.Tech.<br>Pursuing Ph.D. |
| **Prof. Dvijesh Bhatt**<br>Assistant Professor | M.Tech. |
| **Prof. Ajaykumar Patel**<br>Assistant Professor | M.Tech. |
| **Prof. Jaladhi Vyas**<br>Assistant Professor | M.Tech. |
| **Prof. Anuja Nair**<br>Assistant Professor | M.Tech. |
| **Prof. Daiwat Vyas**<br>Assistant Professor | M.Tech. |
| **Prof. Anitha Modi**<br>Assistant Professor | M.E. |
| **Prof. Preksha Parikh**<br>Adhoc Assistant Professor | M. Tech<br>Pursuing Ph. D |
| **Prof. Punit Saswadkar**<br>Adhoc Assistant Professor | M. Tech |

# Electrical Engineering

## Programmes Offered:

- B.Tech. in Electrical Engineering (EE)
- B.Tech. in Electronics and Communication Engineering (EC)
- B.Tech. in Instrumentation and Control Engineering (IC)
- M.Tech. in Electrical Engineering (Power Electronics, Machines & Drives)
- M.Tech. in Electrical Engineering (Electrical Power Systems)
- M.Tech. in Electronics and Communication Engineering (VLSI Design)
- M.Tech. in Electronics and Communication Engineering (Communication Engineering)
- M.Tech. Electronics and Communication Engineering (Embedded Systems)
- M.Tech. in Instrumentation and Control Engineering (Control and Automation)
- Ph.D. in Electrical Engineering
- Ph.D. in Electronics and Communication Engineering
- Ph.D. in Instrumentation and Control Engineering

# B.Tech. in Electrical Engineering

**Basic Sciences:** Calculus, Linear Algebra, Chemistry, Physics, Environment and Energy Studies

**Applied Technology:** Art of Programming, Mechanics of Solids, Elements of Electrical Engineering, Engineering Graphics, Electrical Workshop Practices, Mechanical Workshop Practices, Mini Project I and II, Minor Project

**Humanities:** Communication Skills, English / Foreign Language, Entrepreneurship, Law for Engineers, Creativity and Innovation, Organizational Behavior

**Engineering Sciences:** Mathematics for Electrical Engineers, Thermal and Hydraulic Prime Movers, Analog Electronic Circuits, Network Analysis and Synthesis, Electrical Engineering Materials, Electrical Transducers and Measurements, ICT Tools and Security, Fundamentals of Electrical Power System, DC Machines and Transformers, Digital Electronic Circuits, Fundamentals of Power Electronics, Control System Engineering, Engineering, Electromagnetics, Engineering Economics, Analysis of Electrical Power System, Rotating AC Machines, High Voltage Engineering, Power Electronic Converters, Utilization of Electric Power, Microprocessor and Microcontroller, Power System Operation and Control, Electrical Drives and Traction Systems, Testing, Commissioning and Maintenance of Electrical Equipment, Electrical Machine Design, Digital Signal Processors for Electrical Engineering, Power System Protection and Switchgear, Seminar

**Dr. P. N. Tekwani**
HOD

**Department Electives Courses:** Students to choose department elective courses from the list of prescribed courses.

**Institute and University Elective:** Interdisciplinary courses offered by other disciplines

**Supplementary Courses:** Critical Thinking, Yog and Meditation, Ethics and Values, Community Services, Fractional Course, Capstone Course

**Major Project for Full Semester**

## B.Tech. in Electronics and Communication Engineering

**Basic Sciences, Applied Technology, and Humanities Courses:** Same as in Electrical Engineering Programme.

**Engineering Sciences:** Vector Calculus, Complex variables and Differential equations, Electronics Devices & Circuits I and II, Digital Circuits, Signals & Systems, Network Analysis, Linear Control Systems, Probability Distributions and Numerical methods, Electronics Design, Tools and Packages, Communication System, Electrical Machines and Drives, Integrated Circuits and Applications, Modern Measurement and Instrumentation, Microprocessor and Micro Controllers, Digital System Design, Microprocessor & Computer Architecture, Digital Signal Processing, Digital Communication, Embedded Systems, Fiber Optic Communication, Data Communication & Networking, Electromagnetics Engineering, Antenna and Wave Propagation, Microwave Communication, Seminar.

**Departmental Electives:** Digital Integrated Circuit Design, System Modeling and Design, Estimation and Detection Theory, Telecom Networks, Analog Integrated Circuit Design, Modern Processor Architecture, Error Control Coding, Satellite Communication, Testing and Verification of Electronic Circuits, Multimedia System, Wireless Communication, Wireless Sensor Network, High Performance VLSI Design, Image Processing, RF Communication Circuits, Broadband Network

**Institute and University Elective:** Interdisciplinary courses offered by other branches

**Supplementary Courses:** Same as in Electrical Engineering Programme

**Major Project for Full Semester**

## B.Tech. in Instrumentation and Control Engineering

**Basic Sciences, Applied Technology, and Humanities:** Same as in Electrical Engineering Programme.

**Engineering Sciences:** Control Theory, Signals and Systems, Control System Design, Nonlinear & Digital Control, Analog and Digital Electronics, Network Analysis and Synthesis, Applied Electronics, Applied Electrical Technology, Industrial Electronics, Industrial Drives & Control Microprocessor, Micro Controller and its Applications, Digital Signal Processing, Control System Components, Transducers and Measurement Techniques, Electrical and Electronic Measurements, Biomedical Instrumentation Process Control, Instrumentation System, Programmable Logic Controller, System Analysis Packages, Visual Application Development, Virtual Instrumentation Lab, Seminar, Mini Project, Minor project.

**Departmental Electives:** Advanced Microcontrollers and its Applications, Embedded Controller based Design, Digital VLSI based design, Mechatronics, Advanced Sensors and Instrumentation, Analog VLSI, Cyber Physical Systems, Model Based Control, Data Communication and Industrial Networking, Power Plant Automation, Digital System Design for Instrumentation, Fuzzy Control, Electronics Communications, Advanced Control Theory, Advanced Power Electronics and Applications.

**Institute and University Elective:** Interdisciplinary courses offered by other branches

**Supplementary Courses:** Same as in Electrical Engineering Programme

**Major Project for Full Semester**

## Laboratory Facilities

- Basic Electrical Engineering
- Electrical Workshop Lab
- Electrical Circuits and Network Lab
- Electrical Machines Lab
- Switchgear and Protection Lab
- Power Electronics and Drives Lab
- High Voltage Lab
- PG Software lab
- Virtual Instrumentation Lab
- Advance process control lab
- Control System Components Lab
- Biomedical Instrumentation Lab
- Programmable Logic Controller and Computerized Process Control Lab
- Measurement & Transducer Lab
- Microprocessors & Microcontroller and Interfacing Lab
- Analog and Digital Electronics Lab
- Analog and Digital Communication Lab
- Digital Signal Processing Lab
- Project Lab
- VLSI Design Lab
- Testing & Verification of VLSI Design Lab
- FPGA Design Lab
- Television Engineering Lab
- Computer Hardware & Networking Lab
- Fiber Optic Communication Lab
- Antenna Engineering Lab
- PG Project Lab
- PCB Design Lab

## Computer Facilities

### Computer Systems

The department has 134 terminals in EC labs, 43 terminals in IC labs, 60 terminals in EE labs and a separate computer center with the capacity of 44 terminals and a server.

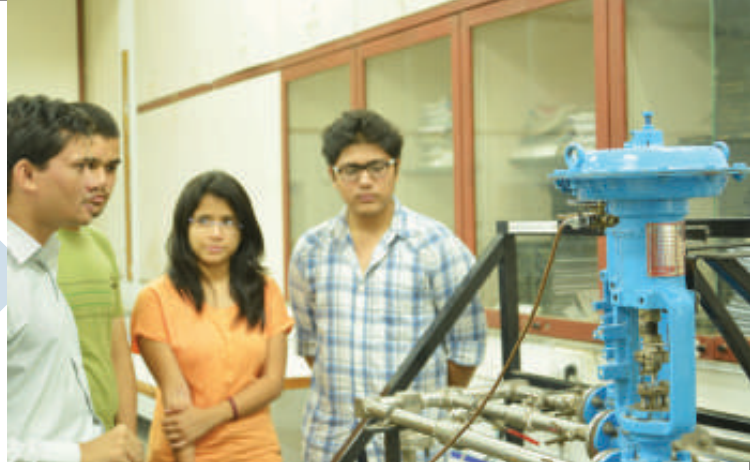
### Software:

GENESYS, MULTISIM, MENTOR GRAPHICS: FRONT-END AND BACK-END DESIGN SUITE, XILINX ISE 13, XILINX EDK 13, XILINX SYSTEM GENERATOR 13, TANNER TOOLS, VISUAL DSP, XILINX CHIPSCOPE 6.3, XILINX VIVADO OPSIM, ORCAD, TI CCS, ALTERA QUARTUS 2 (Web Edition), KEIL MDK-PRO-ED, ALTIUM Designer, MAGNET, SPEED, MOTORSOLVE, ETAP - POWER STATION, PSCAD, PSIM, ANSYS MULTIPHYSICS V 10, MATLAB 2014B, CODE COMPOSER STUDIO, LABVIEW V 10, TwinCat, CX PROGRAMMER, GX-DEVELOPER-FX MITSUBISHI PLC PROGRAMMING SOFTWARE, DEVICE SIMULATOR TCAD., HFSS

## Continuing Education and Short Term Training Programmes (STTPs)

- Advanced Control of Modern Power Electronics Converters and Drives
- Condition Monitoring of Electrical Apparatus - Trends and Techniques
- Electrical Machine Analysis using Finite Element Packages
- Recent Trends in Electrical Drives
- Recent Trends in High Voltage Engineering, Measurement and Testing Techniques
- MATLAB for Analysis and Simulation of Electrical, Electronics and Control Systems
- Recent Trends in Power System Protection
- Design, Analysis and Control of Advanced Electrical Machines
- National Workshop on "Modern Trends in Power System Analysis
- Advances in Power Engineering - Technology & Tools
- Emerging Trends in Electrical Power Engineering – Particulars & Practices
- Trends and Innovations in Electrical Power Engineering
- Applications of Modern Power Electronics in Industries and Utilities
- Training programme on "Electrical Machines and Drives" for the Technical Associates / Engineers of Nirma Limited, Bhavnagar Plant.
- Training / workshop on "Design of Permanent Magnet Brushless Motor and Concepts of PWM Signal Generation" for Duke Plasto Techniques Pvt. Ltd., Palanpur.
- Training Programme on "Design of Magnetic Components for Power Electronic Converters" and "Design of Passive Filters" for Engineers of Hitachi Hi – Rel Power Electronics Pvt. Ltd., Gandhinagar.
- Training Programme on "Operation and Maintenance of Electrical Systems" for Engineers of IFFCO, Kalol
- Executive Training Programme for Indian Air Force
- Training programme for Executive of Kalpataru Power Transmissions Ltd, Gandhinagar and Zambian delegates
- Training programme "Electrical Engineering for Non-Electrical Engineers" for Adani Group, Mundra (twice)
- Training programme on Turbine-Generator control for professionals of Hi-Rel Electronics Ltd., Gandhinagar
- Staff Development Programme on Inculcating Research Aptitude in Engineering Faculty
- Guiding Master's Thesis: from Problem Formulation to Completion
- Advances in Communication: The Backbone of Convergence
- Signal Compression and Error Resilience
- Enhancing Skills of Engineering Faculty
- Digital Design using FPGAs and CPLDs
- DSP/Embedded System Design using Programmable Logic
- Advances in Microelectronics
- Embedded Systems
- Overview of VLSI Design and Technology
- RF Circuit Design
- Training Programme for SAC-ISRO Scientist on Digital Signal Processing and Communication Engg (Twice)
- Training Programme for SAC-ISRO Scientist on Embedded Systems
- Recent Trends in Antenna Design
- MIMO Wireless Communication Systems
- Advanced Signal & Image Processing
- Advances in Electronics and Communication Engineering (Twice)
- Simulations in Wireless Communications
- Antenna Theory and Design
- Performance Analysis of MIMO Wireless Communication Systems
- Workshop on Embedded Systems
- Training programs for Navy officers at INS Valsura on Embedded Systems using Microcontroller and FPGA and Digital Signal Processing - An Analytical Approach

- PLC Programming
- MATLAB for analysis and simulation of Electronics, Control and Electrical systems
- PLC, HMI and SCADA
- Current Trends in Industrial Instrumentation and Automation
- Embedded System Design
- Advance in control and automation
- Design and development of automation using Labview
- Process Control : Theory, Applications and Advances
- Workshop on Soft Computing Techniques
- Workshop on Application of LabVIEW: Instrumentation, Communication and Signal Processing"
- Teachers Training Program
- Recent Trends in Communication Engineering
- Workshop on Security of Embedded Systems



## Student Activities

- Electrical Engineering Students' Association (EESA) organizes extracurricular and co-curricular activities. A National Level Technical Symposium, "VIDHYUT ADBHUTAM", was a splendid event organized by EESA every year (2006-2011) which aims at recognizing and promoting some of the most intellectual brains in the country. Since 2012, institute has decided to organize a joint tech-fest of all the branches of Engineering "NUTECH." EESA is actively participating in the NUTECH by contributing towards all aspects of NUTECH. EESA focuses on technical activities like guidance for competitive examinations, expert lectures for career guidance etc. EESA carries out various extension activities as a part of its social responsibilities. A one day technical symposium "Scintilla" comprising of various technical events like Paper presentations, Mock placements, A-V quiz etc is one of the regular event of EESA. Apart from this, EESA organizes various event during the first year orientation and a basic Robotic Workshop "Gyan Aarambh" in which the newly joined students are taught the making of autonomous Robot.
- Student organization of Electronics and Communication Engineering (ECO) organize different co-curricular activities like series of expert lectures, workshops on various technical and professional skills, hardware design contest and extra-curricular activities of societal significance. ECO had successfully organized its flagship event, a National level student symposium "Prevoyance" during 2006-2011. From 2012, institute organize a joint tech fest involving all branches of Engineering "NUTECH." ECO is actively participating in "NUTECH" and conducted many quality events like EC based quiz, Corduino, 24 Hour live designing, reverse electronics, electronics contraption, line and light follower competition, workshop on 6th Sense Technology etc. under the track "EC-Tronics" in the year 2015. In addition to this, ECO also organizes "ECO Day" exclusively for the students of EC Branch, IT-NU since 2013. It provides a platform for students to understand new technology, showcase their innovative projects and interaction with faculty and alumni. ECO also organizes social activities like Sweet distribution for all university workers, peon, gardeners, security and sweepers, blood donation camp, and helping socially needy children. ECO also organized "TI analogy hardware design contest" in collaboration with TI, Bangalore and EdGate Technology, Bangalore in the year 2014.
- Student Association of Instrumentation and Control Engineering, under ISA (International Society of Automation) organizes various extra and co-curricular activities regularly. ISA organized its flagship annual event TECHNOFORA (2000-2011), the national level technical festival with various events. Technofora'14 with more than 20 events, was among the best tech-fests of western region of the country. ISA's other flagship events include SPRINTZ and ROBOSAPIANS. Since 2012, institute has decided to organize a joint tech fest of all the branches of Engineering "NUTECH". ISA is actively involved in the NUTECH. ISA also carries out technical activities like robotic workshops, technical quiz, interaction with alumni etc. ISA also carries out various extension activities as a part of its social responsibilities.
- IEEE-Students Branch organizes National Level Symposium TECHNODYSSEY.

## Key Resource Persons

- Prof. Dr. K. Gopakumar, Professor and Chairman, Department of Electronic Systems Engineering, IISc, Bangalore
- Shri Piyush Shah, Managing Director, Hitachi Hi-Rel Power Electronics Pvt. Ltd., Gandhinagar
- Shri Dhirenbhai Shah, Director, Hitachi Hi-Rel Power Electronics Pvt. Ltd., Gandhinagar
- Shri. S. M. Takalkar, M.D., Takalkar Power Engineers and Consultants Pvt. Ltd., Vadodara
- Shri G. K. Panchal, Adviser to M/s. Yadav Measurement P. Ltd., Udaipur
- Prof. Axay Mehta, Associate Professor, IIT-RAM, Ahmedabad
- Shri Varunesh kumar, M.D., Veeral Controls Pvt. Ltd., Gandhinagar
- Prof. B. R. Parekh, HOD - Electrical Engineering Department, BVM, Vallabh Vidhynagar
- Prof. S. A. Kanitkar, Former Professor & Head (Electrical Engg. Deptt.), MSU, Baroda
- Dr. Hina Chandwani, Associate Professor, Electrical Engg. Dept., MSU, Baroda
- Shri. G. V. Akre, Director, Hivoltrans Electricals Private Limited, Halol
- Shri R. Ramesh, R & D Manager, Veeral Controls Pvt. Ltd., Gandhinagar
- Shri Vinod Patel, R & D Manager, AMTECH Electronics, Gandhinagar
- Shri M. K. Shah, Director , Electrical Research & Development Association (ERDA), Vadodara
- Dr. Rahul Dubey, Associate Professor, DAIICT, Gandhinagar
- Dr. I. N. Kar, Professor, IIT Delhi
- Dr. M. Gopal, Director, School of Engineering, SNU
- Shri Jayesh Gandhi, MD, Harikrupa Automation Pvt. Ltd., Ahmedabad
- Shri K. Subramaniam, M.D., MASIBUS, Gandhinagar
- Shri Rajan Vasa, CONTECH Software, Gandhinagar
- Dr. Chetan Bhatt, Professor and Principal, GEC, Gandhinagar
- Dr. K. S. Dasgupta, Director, Indian Institute of Space Science & Technology, Thiruvananthapuram
- Dr. S. C. Sahasrabudhe, Former Director, DAIICT, Gandhinagar
- Shri Pratul Shroff, CEO, e-infochips Ltd, Ahmedabad
- Shri Samir Shroff, Founder CEO and Director, Pronesis, Ahmedabad
- Shri Nilesh Desai, Deputy Director, SAC, ISRO, Ahmedabad
- Dr. Anjan Ghosh, Vice Chancellor, Tripura University
- Shri Rajeev Jyoti, Group Head, Antenna Systems Area, SAC-ISRO, Ahmedabad
- Dr. K V V Murthy, IIT Gandhinagar
- Prof. Usha Neelkanthan, Professor and Head, EC Engg, LD college of Engineering, Ahmedabad


## Faculty in Electrical Engineering Section

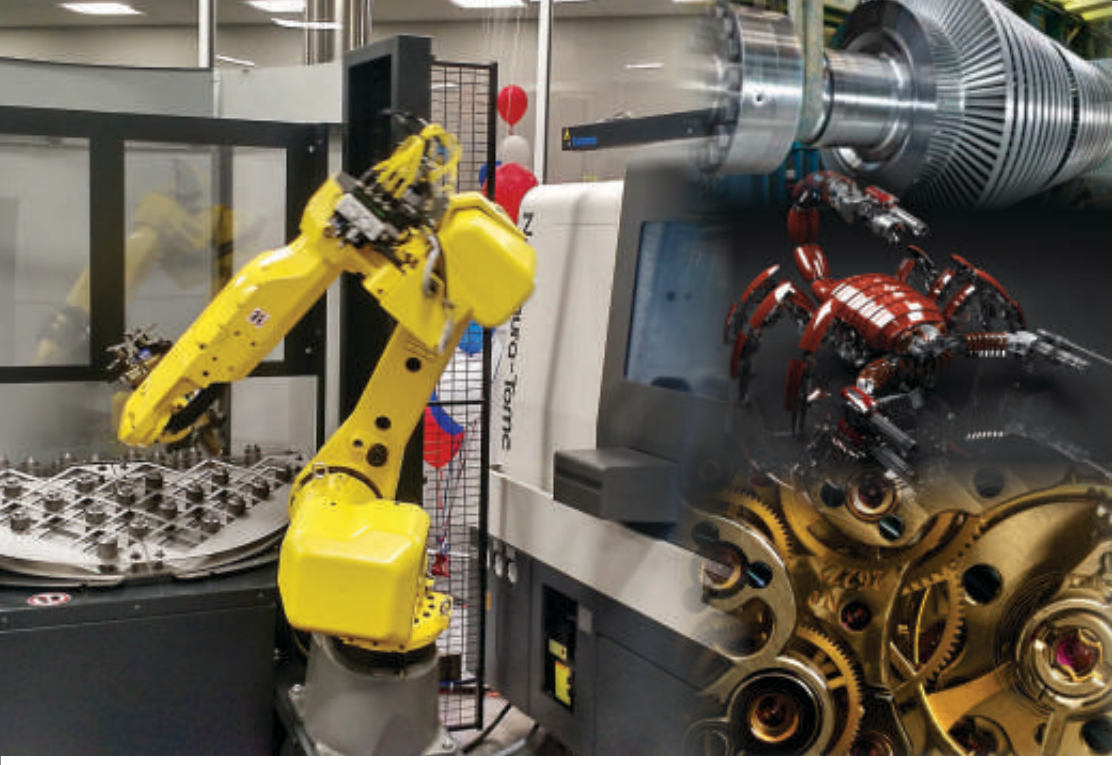
| | |
|---|---|
| **Dr. P. N. Tekwani**<br>Professor and Head<br>(EC, IC and Electrical Engg.) | Ph.D. (IISc, Bangalore) |
| **Prof. U. A. Patel**<br>Professor | M.E. (Automation & Control) |
| **Dr. S. C. Vora**<br>Professor | Ph.D. (IISc, Bangalore) |
| **Prof. A. N. Patel**<br>Assistant Professor | M.E. (Power Apparatus & Systems), Pursuing Ph.D. (KSVV, Gandhinagar) |
| **Prof. T. H. Panchal**<br>Assistant Professor | M.E. (Power Apparatus & Systems), Pursuing Ph.D. (GTU, Ahmedabad) |
| **Prof. M. T. Shah**<br>Assistant Professor | M.Tech. Electrical Engg. (Power Apparatus & Systems), Pursuing Ph.D. (Nirma University) |
| **Prof. P. N. Kapil**<br>Assistant Professor | M.Tech. Electrical Engg. (Power Apparatus & Systems), Pursuing Ph.D. (Nirma University) |
| **Prof. S. N. Jani**<br>Assistant Professor | M.Tech. Electrical Engg. (Power Apparatus & Systems) |
| **Prof. C. B. Bhatt**<br>Assistant Professor | M.Tech. Electrical Engg. (Power Apparatus & Systems) |
| **Prof. C. R. Mehta**<br>Assistant Professor | M.E. (Automation & Control) Pursuing Ph.D. (Nirma University) |
| **Prof. S. S. Kanojia**<br>Assistant Professor | M.Tech. (Integrated Power Systems) |
| **Prof. M. C. Shah**<br>Assistant Professor | M.Tech. (Power Electronics, Machines & Drives) |
| **Prof. S. Godwal**<br>Assistant Professor | M.Tech. (Power System) |
| **Prof. D. M. Mehta**<br>Assistant Professor | M.E. (Microprocessor System and Applications) |
| **Prof. G. B. Buch**<br>Assistant Professor | M.E. (Electrical Power Engg.) |
| **Prof. D. J. Vaghela**<br>Assistant Professor | M.E. (Industrial Electronics) |
| **Prof. H. Amrolia**<br>Assistant Professor | M.Tech. (Power Electronics, Machines & Drives) |
| **Prof. M. V. Gojiya**<br>Assistant Professor | M.Tech (Automation & Control / Power System) |
| **Prof. V. M. Dholakiya**<br>Assistant Professor | M. Tech. (Electrical Power Systems) |
| **Prof. D. K. Rathod** | M.Tech. (Power Electronics, Machines & Drives) |
| **Prof. D. L. Joshi** | M.Tech in Electrical Engineering (Electrical power System) |
| **Prof. S. Sahoo**<br>Assistant Professor | M.Tech. (Power Electronics & Electrical Drives) |
| **Prof. S. N. Doshi** | M.Tech in Electrical Engineering (Electrical power System) |

## Faculty in Electronics and Communication Engineering Section

| | |
|---|---|
| **Dr. D. K. Kothari**<br>Professor, and Section Head | Ph.D. (MNNIT, Allahabad) |
| **Dr. N. M. Devashrayee**<br>Professor | Ph.D. (Kurukshetra University) |
| **Dr. Dhaval Pujara**<br>Professor | Ph.D. (Nirma University) |
| **Dr. N..P. Gajjar**<br>Professor | Ph. D.(Nirma University) |
| **Dr. Usha Mehta**<br>Professor | Ph.D. (Nirma University) |
| **Dr. Y N Trivedi**<br>Professor | Ph. D. (IIT Kanpur) |
| **Prof. Manisha Upadhyay**<br>Senior Associate Professor | M.E. (Comm. Engg.),<br>Pursuing Ph.D. (Nirma University) |
| **Dr. Tanish Zaveri**<br>Professor | Ph.D. (SVNIT Surat) |
| **Dr. Amisha Naik**<br>Associate Professor | Ph.D. (Nirma University) |
| **Dr. Sachin Gajjar**<br>Associate Professor | Ph.D. (Nirma University) |
| **Dr. Mehul Naik**<br>Associate Professor | Ph.D. (KSVV, Gandhinagar) |
| **Prof. Vijay Savani**<br>Assistant Professor | M.Tech. (VLSI Design)<br>Pursuing Ph.D. (Nirma University) |
| **Dr. Ankur Pandya**<br>Assistant Professor | Ph.D. (M.S. University) |
| **Dr. Chetna Chauhan**<br>Assistant Professor | Ph.D. (Gujarat University) |
| **Prof. Piyush Bhatasana**<br>Assistant Professor | M.Tech. (Microelectronics)<br>Pursuing Ph.D. (Nirma University) |
| **Prof. Vaishali Dhare**<br>Assistant Professor | M.Tech. (VLSI Design),<br>Pursuing Ph.D. (Nirma University) |
| **Prof. Rachna Sharma**<br>Assistant Professor | M.Tech. (Signal Processing and Communication Engineering) |
| **Prof. Dhaval Shah**<br>Assistant Professor | M.S. (Communication Engg.)<br>Pursuing Ph.D. (Nirma University) |
| **Prof. Bupendra Fatania**<br>Assistant Professor | M.E. (Communication Engg.)<br>Pursuing Ph.D. (Nirma University) |
| **Prof. Akash Mecwan**<br>Assistant Professor | M.Tech. (VLSI Design)<br>Pursuing Ph.D. (Nirma University) |
| **Prof. Ami Vora**<br>Assistant Professor | M.Tech. (Computer Engineering) |
| **Prof. Dipesh Panchal**<br>Assistant Professor | M.Tech. (VLSI Design) |
| **Prof. Ruchi Gajjar**<br>Assistant Professor | M.E. (Communication Engg.)<br>Pursuing Ph.D. (Nirma University) |
| **Prof. Aarti Gehani**<br>Assistant Professor | M.Tech. (Communication Engg.),<br>Pursuing Ph. D. (Nirma University) |
| **Prof. Amit Degada**<br>Assistant Professor | M.E. (Communication Systems) |
| **Prof. Jayesh Patel**<br>Assistant Professor | M.Tech. (VLSI Design)<br>Pursuing Ph.D. (Nirma University) |
| **Prof. Khyati Vachhani**<br>Assistant Professor | M.E. (Electronics and Communication) |
| **Prof. Hardik Joshi**<br>Assistant Professor | M.E. (Electronics and Communication) |
| **Prof. Twinkle Bhavsar**<br>Assistant Professor | M.E. (Communication Engineering) |
| **Prof. Bhavin Kakani**<br>Assistant Professor | M.E. (Image Processing) |
| **Prof. Rina Parikh**<br>Assistant Professor | M.Tech. (Communication Engineering) |

## Faculty in Instrumentation and Control Engineering Section

| | |
|---|---|
| **Dr. D. M. Adhyaru**<br>Professor, and Section Head | Ph.D.<br>(IIT Delhi) |
| **Dr. J. B. Patel**<br>Senior Associate Professor | Ph.D. (KSVV, Gandhinagar) |
| **Prof. H. K. Patel**<br>Associate Professor | M.Tech. (Power Electronics)<br>Pursuing Ph.D.<br>(KSVV, Gandhinagar) |
| **Prof. Sandip A Mehta**<br>Assistant Professor | M.Tech. (Microelectronics & VLSI ), Pursuing Ph.D. (Nirma University) |
| **Prof. Jalpa Shah**<br>Assistant Professor | M.E. (Microelectronics)<br>Pursuing Ph.D. (DAIICT) |
| **Prof. Vishal M. Vaidya**<br>Assistant Professor | M.E. (Applied Instrumentation) |
| **Prof. Vidita Tilva**<br>Assistant Professor | M.Tech. (Control & Automation) |
| **Prof. R. L. Zadfiya**<br>Assistant Professor<br>University) | M.Tech. (Instrumentation)<br>Pursuing Ph.D. (Nirma |
| **Prof. Nital S. Patel**<br>Assistant Professor<br>University) | M.E. (Applied Instrumentation)<br>Pursuing Ph.D. (Nirma |
| **Prof. Ankit K. Sharma**<br>Assistant Professor | M.Tech. (Electronics, Inst. & Control Engg), Pursuing Ph.D. (Nirma University) |
| **Prof. Alpesh Patel**<br>Assistant Professor | M.E. . (Applied Instrumentation) |
| **Prof. Harsh Kapadia**<br>Assistant Professor | M.Tech. (Instrumentation & Control) |



# Mechanical Engineering

## Programmes Offered:

- B.Tech. in Mechanical Engg.
- M.Tech. in Mechanical Engg. (CAD/CAM)
- M.Tech. in Mechanical Engg. (Thermal Engg)
- M.Tech. in Mechanical Engg. (Computer Integrated Manufacturing)
- M.Tech. in Mechanical Engg. (Design Engineering)
- Ph.D. in Mechanical Engg.

# B.Tech. in Mechanical Engineering

**Dr. Rajesh Patel**
HOD

**Courses offered:**

**Basic Sciences:** Physics, Chemistry, Mathematics, Art of Programming, Elements of Electrical Engineering, Environmental Studies.

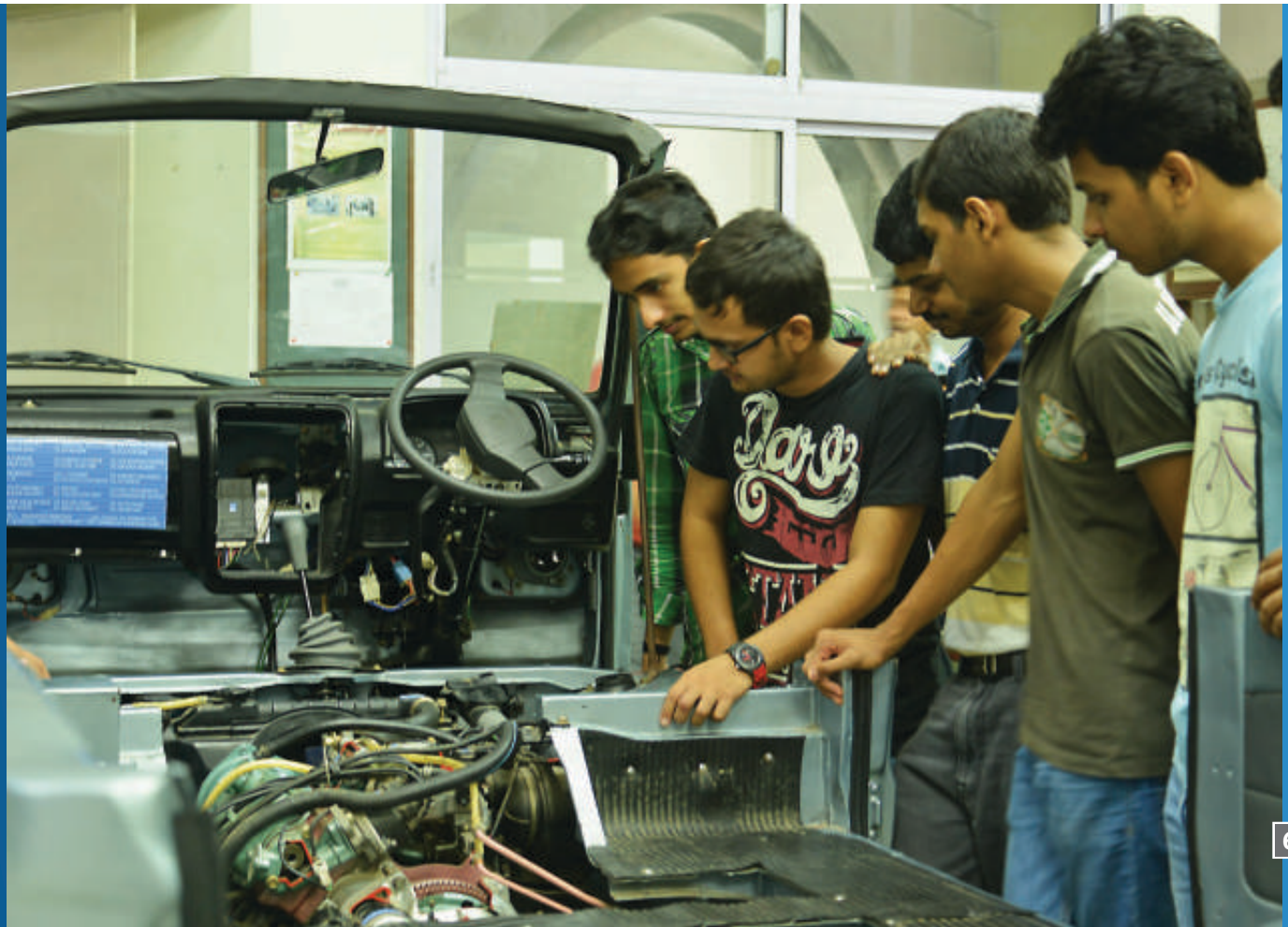
Humanities: English, Communication Skills, Economics, Entrepreneurship, Yoga and Meditation, Critical Thinking, Foreign Language, Ethics and Values, Community Services, Creativity Research and innovation, Law for Engineers, Organizational Behaviour.

**Basic Technology:** Engineering Drawing, Workshop Practice, Industrial Drafting, Thermodynamics, Fluid Mechanics & Heat Transfer, ICT Tools.

**Core Technology:**

- Power Plant Technologies, Fluid Power Engineering, Refrigeration & Air-Conditioning, Alternative Energy Sources, Heat Exchangers, IC Engines and Automobile Engineering.
- Kinematics, Dynamics of Machinery, Mechanics of Solids, Machine Design, Control Engineering
- Manufacturing Processes, Material Technology, Production Technology, Metrology & Instrumentation, CAD/CAM, Production & Industrial Management.
- Industrial Training, Seminar and Project.
- Large number of electives covering entire gamut of Mechanical Engineering.

The Department also offers Institute Electives like Mechatronics, Robotics, Hydraulic & Pneumatics etc.



## Laboratory Facilities

- Dynamics of Machines
- Fluid Mechanics and Fluid Power
- Heat Transfer
- Alternate Energy Sources
- Refrigeration and Air Conditioning
- I.C. Engines and Automobile Engineering
- Elements of Mech. Engineering Lab
- Materials Technology
- Metrology and Instrumentation
- Production Technology
- Manufacturing Processes
- Workshop
- CAD/CAM Center
- Robotics
- Thermal Insulation Lab

## Computer Facilities

The department has modern computer centers with all terminals connected to network.

**Available Software:** Creo, ANSYS, AutoCAD, MASTERCAM, Hyperworks, HTRI, I-DEAS, Fluent, Nx CACAD 100, Robocell, SciLab, CATIA, Automation Studio, Math CAD, Original Lab Professional, DynaForm

## Continuing Education Programmes

- STTP on Recent Trends in Mechanical Engineering
- Training program on Materials of Construction for Ammonia / Urea Plant for Industrial Personnel.
- STTP on Advances in Metal Forming.
- CEP on Mechatronics for Industry Personnel
- Training program on Flow, temperature & pressure measurement for stentor machine for Industry Personnel
- Training Program on Introduction to Engineering Materials for Industrial Personnel.
- Training Program on Mechanical Engineering Concepts for Design of Power Electronics Devices for Industry Personnel.
- STTP on Software for Mechanical Engineers.
- STTP on Advances in Mechanical Engineering
- ISTE Workshop on Computational Fluid Dynamics under National Mission on Education through ICT.
- ISTE Workshop on Thermodynamics under National Mission on Education through ICT
- ISTE Workshop on Heat Transfer under National Mission on Education through ICT
- Workshop on Fundamental of Bearing Maintenance
- National seminar on Pressure Vessel Design
- Training program of Advance Finite Element Analysis using ANSYS
- Training of Technical Associates of Industry at Ingersoll Rand (I) Ltd.
- Corporate Level Training on Mechanical Engineering for Non Mechanical Engineers at Adani Port, Mundra
- Corporate Level Training on Thermal Insulation and Heat Exchanger at IFFCO, Kalol
- STTP on Advances in Automobile Engineering
- Workshop on Heat Treatment of Steels for industry personnel
- STTP on Recent Advances in Casting Process
- National Seminar on Thermal Insulating Materials
- Training programme for Pro-E Software, C and C++, MASTERCAM, D.G. Sets, Cryo Insulation.

## Student Activities

Mechanical Engineering Students' Association (MESA) organizes various extra curricular and co-curricular activities regularly to name a few, AUTOCALYPSE - Automobile Technical Symposium under extension activity for school students, MATHRIX (Mathematical Quiz), Technognosia (Robotic Workshop). Lectures of experts from academia, industries and research organizations are also organized regularly.

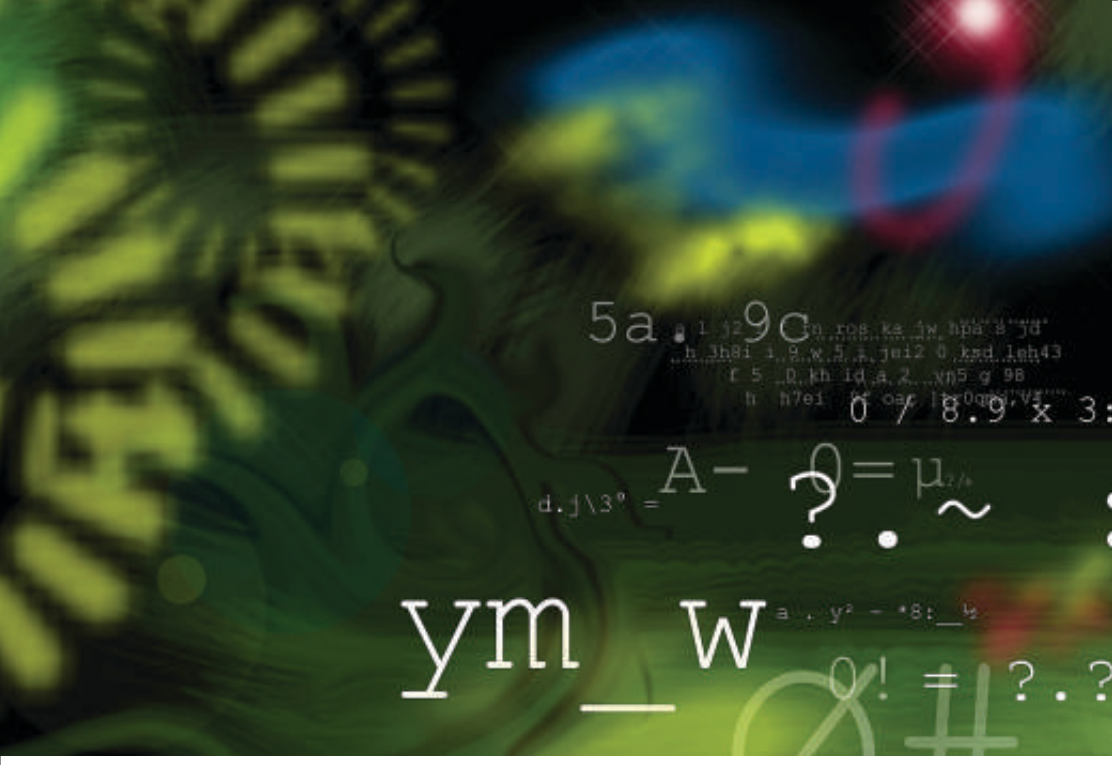
## Resource Persons

- Prof. A. Ganesh, Technical Director, Cummins (I) Ltd., Pune
- Prof. S A Channiwala, Professor, SVNIT, Surat
- Dr. Pulak Mohan Pandey, Associate Professor, IIT Delhi, New Delhi
- Dr. Jyotirmay Banerjee, SVNIT, Surat
- Prof. S B Soni, Retired Professor, L D College of Engineering, Ahmedabad
- Shri Sanjay Desai, RBD Engineers, Ahmedabad
- Shri Harsh Patel, Dr. Dinesh and Ramesh Enterprise, Ahmedabad
- Shri Rajesh Sampat, Vice President, InspirOn Engineering, Ahmedabad



## Faculty in Mechanical Engineering Department

| | |
|---|---|
| **Dr. R. N. Patel**<br>Professor & Head | M.E. (Turbo Machines)<br>Ph.D. (IIT Bombay) |
| **Dr. V. J. Lakhera**<br>Professor | M.E. (Thermal Sciences)<br>Ph.D. (IIT Roorkee) |
| **Dr. K. M. Patel**<br>Professor | M.Tech. (Manufacturing Engg)<br>Ph.D. (IIT Delhi) |
| **Dr. B. A. Modi**<br>Professor | M.Tech. (Manufacturing Engg.)<br>Ph.D. (IIT Delhi) |
| **Prof. R. R. Trivedi**<br>Sr. Associate Professor | M.Tech. (CAD/CAM)<br>Pursuing Ph.D. (IIT Bombay) |
| **Prof. B. K. Mawandiya**<br>Sr. Associate Professor | M.Tech. (Indl. Engg.& Mgmt)<br>Pursuing Ph.D. (IITKGP) |
| **Prof. S. J. Joshi**<br>Sr. Associate Professor | M.Tech. (Engg. Materials)<br>Pursuing Ph.D. (RGPV) |
| **Dr. A. M. Lakdawala**<br>Associate Professor | M.Tech. (Thermal Engg.)<br>Ph.D. (IIT Bombay) |
| **Prof. N. K. Shah**<br>Associate Professor | M.Tech. (Thermal Engg.)<br>Pursuing Ph.D. (IIT Bombay) |
| **Dr. S. V. Jain**<br>Associate Professor | M.E (Alternate Hydro Energy Systems),<br>Ph.D. (Nirma University) |
| **Prof. N. D. Ghetiya**<br>Associate Professor | M.Tech. (Manufacturing Engg.)<br>Pursuing Ph.D. (Nirma University) |
| **Dr. M.B. Panchal**<br>Associate Professor | M.Tech. (Aerospace Engineering)<br>Ph.D. (IIT Roorkee) |
| **Dr. P I Jagad**<br>Associate Professor | M.Tech. (Cryogenics)<br>Ph.D. (IIT Bombay) |
| **Prof. J. M. Dave**<br>Assistant Professor | M.E. (CAD/CAM), Pursuing Ph.D. (Nirma University) |
| **Prof. D. J. Shah**<br>Assistant Professor | M.Tech. (CAD/CAM) |
| **Prof. V. M. Bhojawala**<br>Assistant Professor | M.Tech (Design Engg.)<br>Pursuing Ph D. (SVNIT Surat) |
| **Prof. A. M. Gohil**<br>Assistant Professor | M.E. (CAD/CAM)<br>Pursuing Ph.D. (Nirma University) |
| **Prof. M. M. Chauhan**<br>Assistant Professor | M.E. (CAD/CAM),<br>Pursuing Ph.D. (Nirma University) |
| **Prof. B. A. Shah**<br>Assistant Professor | M.E. (Cryogenic Engg.) |
| **Prof. D. V. Patel**<br>Assistant Professor | M.Tech. (CAD/CAM) |
| **Prof. D. B. Shah**<br>Assistant Professor | M.Tech. (CAD/CAM),<br>Pursuing Ph.D. (Nirma University) |
| **Prof. A. S. Singhal**<br>Assistant Professor | M.Tech. (Thermal Engineering) |
| **Prof. S. N. Mehta**<br>Assistant Professor | M.E. (CAD/CAM) |
| **Prof. A. A. Bhatt**<br>Assistant Professor | M.E. (Cryogenics) |
| **Prof. T. N. Raval**<br>Assistant Professor | M.Tech. (Thermal Engineering) |
| **Prof. M. A. Makhesana**<br>Assistant Professor | M.Tech. (Industrial Process Equipment Design)<br>Pursuing Ph.D (Nirma University) |
| **Prof. M. A. Fultariya**<br>Assistant Professor | M.Tech. (Thermal Engineering) |
| **Prof. Darshit Upadhyay**<br>Assistant Professor | M.Tech. (Thermal Engineering),<br>Pursuing Ph.D. (Nirma University) |
| **Prof. N. P. Raval**<br>Assistant Professor | M.Tech. (CAD/CAM) |
| **Prof. Hiren M. Prajapati**<br>Assistant Professor | M.Tech. (CAD/CAM) |
| **Prof. Rudresh D. Makwana**<br>Assistant Professor | M.E. (CAD/CAM) |
| **Prof. Keyur P Hirpara**<br>Assistant Professor | M.Tech (Mechanical) |
| **Prof. Saumil Desai**<br>Assistant Professor | M.E. (Machine Design) |
| **Prof. Shebaz Memon**<br>Assistant Professor | M.Tech. (Thermal Engineering),<br>Pursuing Ph.D. (Nirma University) |
| **Prof. Vishal Mehta**<br>Assistant Professor | M.Tech. (Design Engineering) |
| **Prof. Sudhanshu Kumar**<br>Assistant Professor | M.Tech. (Thermal Engineering) |
| **Prof. Vivek Khadaliya**<br>Assistant Professor | M.E. (IC Engines) |



# Mathematics and Humanities


## Subjects offered under Mathematics Section

Calculus, Linear Algebra, Vector Calculus, Complex Variable and Differential Equations, Applied Mathematics, Mathematics for Chemical engineering, Engineering mathematics, Mathematics for Electrical Engineers, Mathematics for Instrumentation and Control Engineers, Probability Distribution and Numerical Methods, Probability Statistics and Numerical Analysis, Mathematics for Mechanical Engineers, Applied Linear Algebra and Matrix Computation, Numerical Methods and Optimization Theory, Mathematical foundation, Fundamental Mathematics I and II, Probability & Statastics.

## Subjects offered under Humanities:

English, Foreign Languages, Communication Skill, Critical Thinking, Ethics and Values, Engineering Economics for Engineers, Communication skills for Engineers, Elements of basic communication, Professional Communication, Personality Development, Corporate Communication. Creativity and Innovation, Entrepreneurship

## Subjects offered as Institute Electives:

Entrepreneurship Development, Introduction to Accounting, Technical Writing, Applied Literature, Elements of Marketing Management, Human Resource Management, English Literature, Banking & Finance, Probability & Statistics.

Students are given practical training of Numerical methods using C & C++ in the computer lab.

## Laboratory Facilities:

The department is equipped with the state of the art Language Laboratory to facilitate self learning of students for various subjects such as English, Communication Skills and Personality Development etc. The students make use of the software 'Digital Mentor'. The laboratory has 30 computers and students are given intensive practice.

Available Software: Digital Mentor & Tense Buster.

**Prof. U. A. Patel**
I/c. HOD

## Resource Persons:

1. Dr. M. N. Mehta
2. Dr. K. R. Pardashani
3. Dr. R. P. Jadeja
4. Shri Rohit Patel, Consultant,
5. Prof. Ranjana Harish
6. Dr K Kotecha

## Faculty in Mathematics and Humanities Department

| | |
|---|---|
| **Prof. U. A. Patel**<br>I/C Head | M.E. (Electrical) |
| **Shri K. B. Pathak**<br>Assistant Professor | M.Sc., M.Phil.<br>Pursuing Ph.D. |
| **Shri P. S. Vellala**<br>Assistant Professor | M.A. (Economics),<br>UGC-NET, Pursuing Ph.D |
| **Dr. Richa P. Mishra**<br>Assistant Professor | M.A., Ph.D. |
| **Shri Amitayu Chakraborty**<br>Assistant Professor | M.A., UGC NET JRF |
| **Dr. Samir Mahajan**<br>Assistant Professor | M.Sc. (Economics)<br>Ph.D. |
| **Dr. Sandeep Malhotra**<br>Assistant Professor | M.Sc., M.Phil.,<br>Ph.D. |
| **Ms. Ujala Shamnani**<br>Assistant Professor | M.A., GSLET |
| **Ms. Debapriya Goswami**<br>Assistant Professor | M.A., UGC NET |
| **Dr. K. Ambika**<br>Assistant Professor | Ph.D. |
| **Dr. Anu Goyal**<br>Assistant Professor | Ph.D. |
| **Dr. Rajani Suthar**<br>Assistant Professor | Ph.D. |
| **Dr. Amit Mishra**<br>Assistant Professor | Ph.D. |
| **Ms. Payal A. Oza**<br>Assistant Professor | M.Sc. (Maths) |
| **Ms. Monika D. Gupta**<br>Assistant Professor | M.Sc. (Maths) |
| **Ms. Dhara R. Patel**<br>Assistant Professor | M.Sc. (Maths) |
| **Ms. Swati Sehgal**<br>Assistant Professor | M.A. (German) |
| **Ms. Shalamali Ranade**<br>Assistant Professor | M. A. (French) |


# How to Study

## Time Management:

Time allocation and management is essential for the satisfactory handling of academic work.

Naturally, priorities should be set according to the needs, with more time allocated to higher priorities.

## Study Time:

If study is the highest priority in the next few years, student should ensure that it gets most attention and the best hours of the day.

A specific number of hours per week should be put a side especially for study. Students should spent approximately three hours per week in private per subject. This is a very general guideline.

## Pattern:

Early establishment of routine is recommended. It is important for students to organise their routine in a way that allows time for study as well as for other commitments, recreation and leisure. Once the pattern is -established and sustained; there is a higher probability of success in academic work.

## Lectures and Lecture Notes:

Students can maximize the benefit of lecture by adopting these techniques.

1. Before the lecture, do some reading to get general idea of the topic and become familiar some of the new technical words. There is no need to study or memorize all the material.

2. Pay special attention during the first few minutes when the lecturer may be giving the framework of the lecture. Everything will then fall into the place as lecture proceeds.

3. Take concise, systematic lecture notes. It is best to arrange than under topics with main and subordinate points.

It is always advisable to leave a very wide margin beside lecture notes. When reviewing notes or referring to reference books, summaries can then be written in the margin.

At the end of lecture, if there is time, quickly go over what has been recorded in the lecture notes. Check spelling, underline headings or break long sentences into points. This will help in learning the material when reviewing it (as soon as possible - the same night is recommended).

## Study Approaches:

The best study methods also happened to be the best methods for preparing for examinations, since examination questions will require the solution of problems and drawing of comparisons. Try the following steps for approach to study:

Survey the materials to be studied-notes, text books or reference books. Go through them quickly once to gain a general concept and decide which part is to be done more thoroughly than others.

Question what the lecture is about, what the writer intends to convey, how the events happened. Jot down as many questions as possible from surveying the material.

Read the material in sections, with the questions in mind; study them to find the answer to those questions. This reading is with a purpose and helps concentration as well. Study again more slowly and critically.

Recall what has just been studied. Make notes to test retention or simply jot down points. These short summaries will help revision before examinations.

Review the sections just read and recalled. Go over them again to explore relationship of similarity and difference. Think of concrete examples to illustrate principles.

Discuss actively what has been learnt with fellow students, lectures and tutors.


# Ragging – Zero Tolerance

As per guideline of the UGC, ragging is strictly prohibited inside and outside the University campus. The Anti-Ragging Committee constituted for this purpose by the Institute is empowered to take an immediate action against any untoward incident and also to counsel the fresher. Students seeking admission shall have to furnish undertaking in this regard. To enhance familiarity and to acclimatize the fresher to the academic and social environment of the campus, the institute organizes an orientation session in the first week of the new academic calendar.

The student will also be required to give an undertaking in the proforma and signed by the candidate and his/her parent/guardian to the effect that he/she is aware of the University's approach towards ragging and the punishment to which he/she shall be liable, if found guilty of ragging.

All the students admitted under the institute will have to observe and abide by the discipline rules prescribed by the University / Institute and he / she will submit to the disciplinary jurisdiction of the Head of the Institution / Director General and other competent officers or authorities or bodies of the University as the case may be and in this respect he / she has to submit the declaration in the proforma at the time of admission. UGC regulations are also available on website www.ugc.ac.in.

# The Learning at Institute of Technology

### COURSE WORK
The main mode of learning at the Institute includes classroom activity, laboratory work, tutorials, and site visits

### INDUSTRY EXPOSURE
Industry visits, training in industry, experts from industry deliver lectures and seminars, and industry projects

### EXPOSURE TO TRENDS AND DEVELOPMENTS
Organizing workshops, seminars, conferences etc. on topics of current interest

### GROUP LEARNING
Students are encouraged to learn in groups and group projects are also a part of the academic life at the Institute

### LEARNING FROM PEERS
Students are encouraged to learn from senior students and the Institute organizes special sessions and workshops that are conducted by senior students

### COMMUNICATION SKILLS DEVELOPMENT
Some of the regular features at Institute campus are group discussions, debates, elocution, newsletters and magazines of various student bodies; opportunity to attend special classes to enhance English Language skills

### SOCIAL RESPONSIBILITY
Contribute to the society at large by participating in activities like relief programmes for the earthquake and natural calamities affected, participate in social work through Rotract Club etc.

### EXTRACURRICULAR ACTIVITIES
Participate in cultural events, student festivals, sports and personality development programmes

### CO-CURRICULAR ACTIVITIES
Participate in technical competitions, exhibitions, festivals throughout the country; prepare for TOEFL, GATE, GRE and CAT; participate in international projects; and participate in events and activities of student bodies of various engineering departments

NIRMA UNIVERSITY
INSTITUTE OF TECHNOLOGY
NAAC ACCREDITED 'A' GRADE

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