



SARDAR VALLABHBHAI NATIONAL
INSTITUTE OF TECHNOLOGY
SURAT

www.svnit.ac.in



*We shape the leaders,
thinkers, and change-
makers for tomorrow.*



CAMPUS BROCHURE

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Sardar Vallabhbhai National Institute of Technology



PROF. ANUPAM SHUKLA
DIRECTOR
SVNIT (SURAT)



MESSAGE FROM DIRECTOR

Sardar Vallabhbhai National Institute of Technology, established in 1961, remains committed to excellence and growth in every facet of undergraduate and postgraduate education. We offer greener campus with a positive working environment, excellent infrastructure, professional development opportunities, vibrant extra-curricular activities, and community engagement. We emphasize on the development of core human values, mental and physical well-being of our students. The institute aims to be a globally accepted leading academic institute that provides a more holistic and multidisciplinary education, creating knowledge, and catalyzing excellent and innovative quality research in science, engineering, and technology, contributing to the development of nation and humanity at large.

The quality of our infrastructure, the teaching and learning methods ensure overall development of the students. Placement of all our students in growth-oriented organizations where they will have unlimited opportunity to learn and grow along with the company's growth, has always been the aim of our institution. The students of the earlier batches have carved out a niche for themselves as assets to their organizations. This fact is reinforced by enthusiastic response from the corporate world in the form of placements. To strengthen the Industry-Institute interaction, Career Development Cell of the institute encourages the companies for internship to B. Tech. final year students (one semester) and to M. Tech. students (up to 1 year) in their second year as dissertation work.

The institute has introduced a new curriculum as per the National Education Policy (NEP 2020) from the academic year 2023-24 for all its programmes which allows holistic development of the student and enhances the skill through vocational training and professional level experience learning. The institute is starting a new programme in B.Tech. Artificial Intelligence under the Department of Artificial Intelligence from the academic year 2023-24, and two M.Tech. programmes in Computer Science and Engineering with specializations in Data Science, and Information Security & Privacy. A Dual Degree programme B.Tech. + MBA is started from the academic year 2024-25 where after three years of B.Tech., a student can study the next two years for MBA.

I wholeheartedly welcome the organizations that regularly visit our campus for placement and I invite others to visit us or contact our placement staff for new recruitments. It is indeed an honour to present our students to your esteemed organizations and we look forward to your cooperation in the placements of our students. We are confident that these young graduating students would be an asset to your organization through their technical and managerial capabilities and their talent for innovation.

MESSAGE FROM HEAD (PROF. INCHARGE) CAREER DEVELOPMENT CELL (CDC)

Sardar Vallabhbhai National Institute of Technology (SVNIT) has established itself as one of the premier institutes of the country. The educational programmes of the institute are designed to instill team work and leadership in addition to technical skills. We regularly update our curriculum to include the latest developments in the field. Through rigorous course work, we make sure that our students have adequate technical and analytical skills. From this academic year we are introducing 4 B.Tech. new courses (Industrial Chemistry, Engineering Physics, Mathematics and Computing, Electronics and VLSI Engineering) and 5 Years IPG (B.Tech.+M.Tech.) in Artificial Intelligence and M.Tech. programmes along with Dual-Degree B.Tech./MBA programme. Also, the curriculum of all programmes has been revised keeping in view National Educational Policy 2020.

We at the Career Development Cell provide a launching pad for the students to make it to the best organizations in the country. We act as an interface between the recruiters and the students, and help the students to arrive at well-informed decisions. We also regularly conduct programmes to help students to hone their soft skills. With our student volunteers we make sure that the recruitment process is smooth for both the recruiters and the students. The Career Development Cell has maintained cordial relationship with the recruiters and this has resulted in increased placement for our students.

Our alumni have achieved overall success in all spheres of activities and the feedback we receive from our recruiters is the testimony for this.

I, on behalf of CDC look forward to welcoming the recruiters for the placement of our talented students at SVNIT, Surat.



DR. HEMANTKUMAR B. MEHTA
PROF. & HEAD, CDC
SVNIT (SURAT)





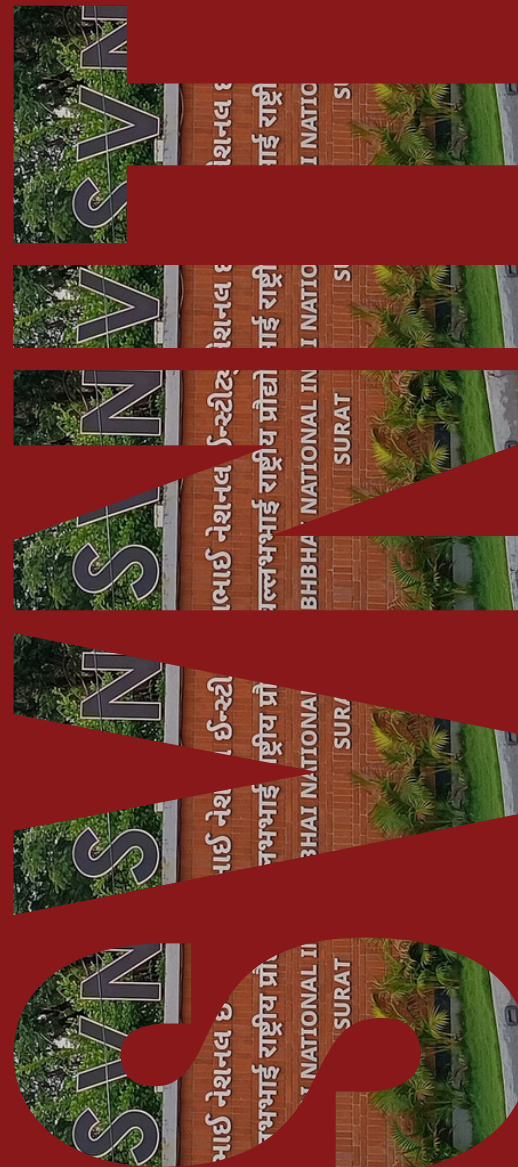
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WHO ARE WE?

This Institute was established in 1961 as one of the RECs for imparting technical education in Civil, Mechanical and Electrical Engineering. In the year 1983-84 the Under Graduate programmes in Electronics Engineering was introduced and in the year 1988-89 the UG programmes in Computer Engineering and Production Engineering was started. In the year 1995-96, UG programme in Chemical Engineering was introduced. In exercise of the powers conferred by section 3 of the University Grants Commission (UGC) Act, 1956, the Central Government on the advice of the University Grants Commission, has declared the Sardar Vallabhbhai Regional College of Engineering & Technology (SVREC), Surat to Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat with status of “Deemed University” with effect from 4th December 2002. The Institute has been granted the status of ‘Institute of National Importance’ w.e.f. Aug. 15, 2007. At present, the Institute is offering 11 UG Programmes, 21 PG Programmes, 01 Five Years IPG (B.Tech.+M.Tech.) Programme, 01 MBA Programme and 3 M.Sc. Five Years Integrated Programmes including doctoral programme in all above branches.

VISION

Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat, perceives to be a globally accepted centre of excellence in technical education catalyzing absorption, innovation, diffusion and transfer of high technologies resulting in enhanced quality for all the stakeholders.

MISSION

The mission of the Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat is to be a leading technical Institute not only at national level but also at International level for imparting training to manpower as per the needs of technology. It is also envisaged to provide the necessary infrastructure to take up research work and to provide the mechanism to interact with industries effectively.



ABOUT OUR PROGRAMMES

B.Tech. (4 Years)

- Civil Engineering (1961)
- Electrical Engineering (1961)
- Mechanical Engineering (1961)
- Electronics & Communication Engineering (1982)
- Computer Science & Engineering (1988)
- Chemical Engineering (1995)
- Artificial Intelligence (2023)
- Electronics & VLSI Engineering (2024)
- Engineering Physics (2025)
- Industrial Chemistry (2024)
- Mathematics and Computing (2024)

5 Year Integrated B.Tech. and M.Tech.

- Artificial Intelligence (2024)

5 Year Integrated M. Sc

- Chemistry (2007)
- Mathematics (2007)
- Physics (2007)

M.B.A. (2 Years)

- Business Analytics (2024)

M.Tech. (2 Years)

Civil Engineering

- Environmental Engineering (1973)
- Geotechnical Engineering (1973)
- Urban Planning (1973)
- Structural Engineering (1974)
- Water Resources Engineering (1987)
- Transportation Engineering & Planning (2007)
- Construction Technology & Management (2020)

Electrical Engineering

- Power Electronics & Electrical Drives (2006)
- Power Systems (2012)
- Control and Automation (2020)

Mechanical Engineering

- Mechanical Engineering 1974)
- Turbo Machines (1983)
- CAD/CAM (2007)
- Thermal System Design (2007)
- Manufacturing Engineering (2013)

Electronics Engineering

- Communication Systems (2005)
- VLSI & Embedded Systems (2012)

Computer Science & Engineering

- Computer Science & Engineering (2006)
- Data Science (2023)
- Information Security & Privacy (2023)

Chemical Engineering

- Chemical engineering (2005)



- B.Tech. Admission Through
JEE-Mains (JoSAA)

- M.Sc. Admission Through
JEE-Mains (JoSAA)

- M.Tech. Admission Through
GATE (CCMT)

- M.B.A. Admission Through
CAT/GRE/GMAT/XAT/
CMAT/MAT & Equivalent
Examination





VISION

The Career Development Cell of SVNIT, Surat envisions empowering students with skills and opportunities for holistic career growth and success.

MISSION

The mission of the Career Development Cell is to offer guidance, resources, and platforms to nurture talent and enhance employability of the students at SVNIT, Surat.



ABOUT CAREER DEVELOPMENT CELL (CDC)

The placement of any institute is a reflection of its academic endeavor. The CDC section of SVNIT not only facilitates but nurture students to get internships in various companies by providing opportunity in real work environment. It also strives to enhance technical, interpersonal and communication skills of the students. There by preparing them for the professional world. The Section relentlessly explores different areas of opportunities in the field of Engineering and Technology for Placement.

The placement of final year students starts in the beginning of the academic year. An invitation is sent to all the companies who visited earlier as well as to new companies in June-July. A requisition form along with the invitation is provided to seek the company's profile and information. After obtaining willingness of the companies, they are prioritized and a schedule is prepared along with the merit list of students who are interested. Based on the prepared schedule, a company is intimated to visit the campus on an allotted day and makes pre-placement talk, conducts tests and interviews, and selects the candidates.

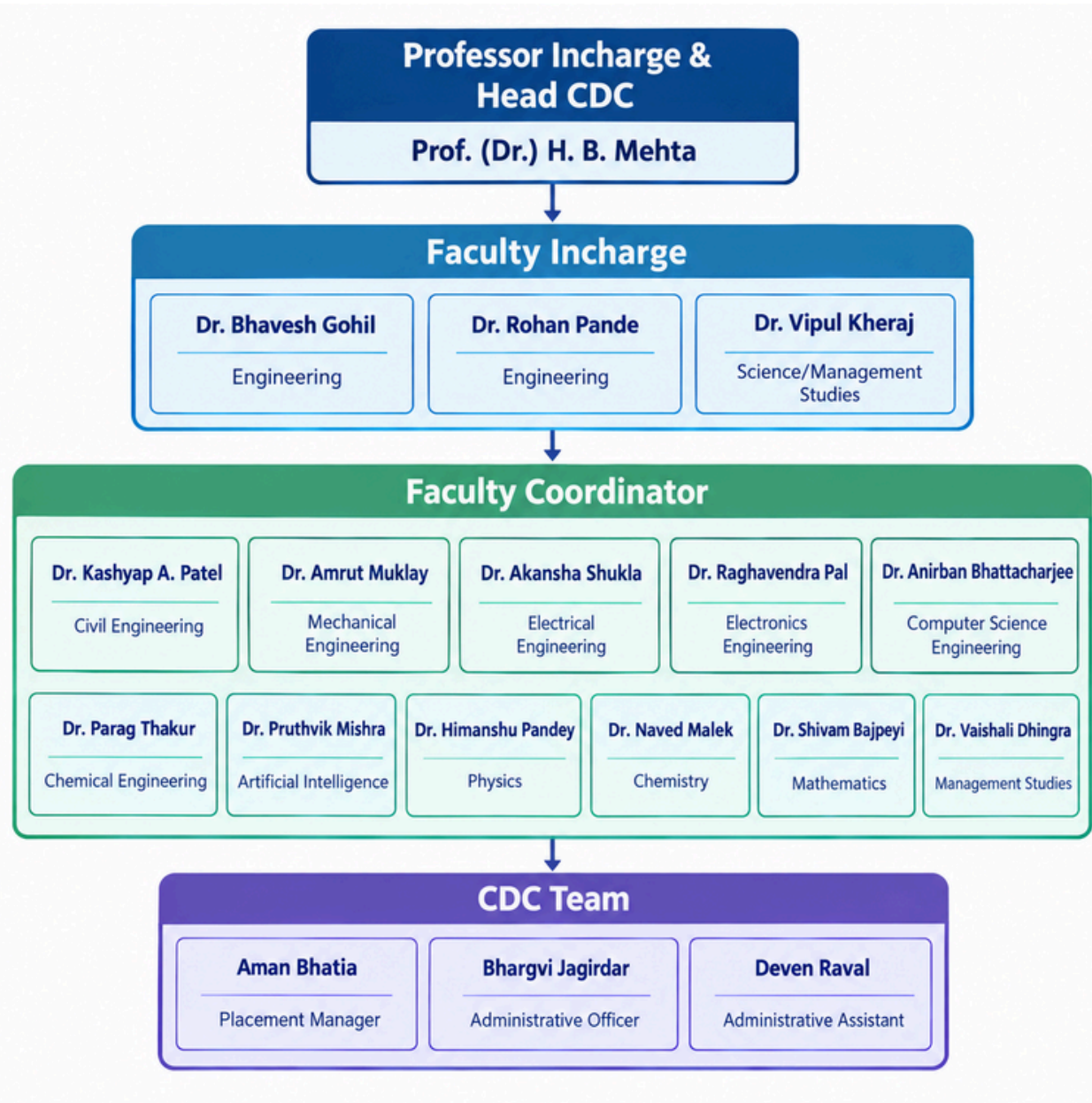
Further, to strengthen the Industry-Institute interaction, CDC section encourages the companies for internship to B.Tech. 3rd year students (maximum 8 weeks in summer vacation) and M.Tech. students (maximum 11 month) in their 2nd year as a dissertation work.

Recruitment Process

The placement process for the session shall consistently begin in the month of August. The process for the typical placements/internships shall be as under:

- Students register to attend the Placement Session.
- Career Development Cell welcomes companies for campus recruitment programme.
- Interested companies contact the Career Development Cell and submit a Job Notification Form for the profile offered.
- Declaration of the accessible job offer(s) as per Job Notification Form and Career Development Cell.
- Registration of interested students for companies.
- Criteria check via Career Development Cell according to Job Notification Form prerequisites.
- Short listing of eligible students.
- Schedule allotment to the company as per availability.
- Selection process by the Company.
- Declaration of result.

CAREER DEVELOPMENT CELL (CDC) STRUCTURE





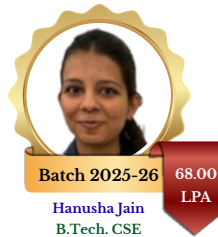
RECRUITERS



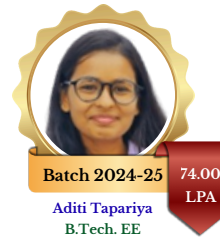




WALL OF FAME



Hanusha Jain
B.Tech. CSE
Atlassian



Aditi Tapariya
B.Tech. EE
Google



Shahi Arya
B.Tech. CSE
Google



Ranajoy Sadhukhan
M.Tech. VLSI
Nvidia



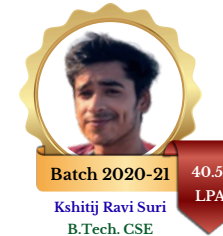
Vaibhav Srivastava
M.Tech. VLSI
Nvidia



Rishabh Mishra
M.Tech. VLSI
Nvidia



Dalal Vedant
B.Tech. CSE
Nutanix



Kshitij Ravi Suri
B.Tech. CSE
Nutanix



Rishabh Kumar
B.Tech. CSE
Nutanix



Parthkumar Shah
B.Tech. CSE
Nutanix



Pradeepsingh Bhat
B.Tech. ECE
Nutanix



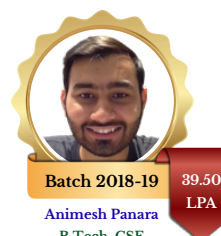
Nikunj Khokar
B.Tech. CSE
Deshaw



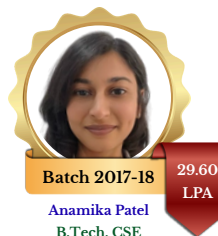
Abhijeet Mathur
B.Tech. CSE
Deshaw



Sourabh Varshney
B.Tech. CSE
Deshaw



Animesh Panara
B.Tech. CSE
Microsoft



Anamika Patel
B.Tech. CSE
Deshaw



Vineet Kumar Jha
B.Tech. CSE
Deshaw



Akash Nimare
M.Sc. Physics
Zulip



Palash Oswal
B.Tech. CSE
Endurance International Group



Manav Prajapati
B.Tech. CSE
Google



THIRD NATIONAL CONCLAVE OF NIT T&P HEADS





STUDENT CHAPTERS



CES

Civil Engineering Society (CES) is the technical student chapter of Sardar Vallabhbhai National Institute of Technology, run by the students from the department of civil engineering (DoCE). The main motive of CES is to create awareness among students about the developments in civil engineering and to impart software expertise and practical knowledge about the various subdivisions of Civil that help students choose their future path and be an asset to society.



CEV

CEV is one of the most prestigious technical student societies at the National Institute of Technology, Surat. With 100+ regular members every year and increasing, CEV aims to spread knowledge and awareness about technology, sciences, management, economics & finance within and outside college boundaries. To suffice our Mission and Vision's need, we organize talks, workshops, productive competitions like Case-study and technical quizzes. Started back in 2013 from a hostel room, CEV has its legacy of producing some of the most celebrated alumni from the college. It aims at developing a person from every dimension of knowledge, personality, and perception.



CHES

The Chemical Engineering Society was instituted on 16th January 2014. Affiliated to the American Institute of Chemical Engineers (AIChE), ChES aims to spread knowledge and experience to the future chemical engineers about chemical engineering education and its applications. The faction provides a platform for the chemical engineering community of SVNIT where they can discuss, plan, execute and debug their problems among their peers. Events and seminars conducted by ChES focus on both building the public understanding of technical issues and the individual curiosity of the enthusiasts.



CHRD

CHRD (Centre for Human Resource Development) is a student chapter that inculcates aesthetic values in the students and creates human resources. We, in CHRD, curate every kind of talent and believe in the overall development of an individual, including cultural aspects. CHRD aims to nurture the talent of students interested in arts, dramatics, music, dance, photography, movie-making & designing. We provide a platform to discuss and develop their creative ideas and, in turn, their personality.



EES

In 2014, the Sardar Vallabhbhai National Institute of Technology (SVNIT) established the Electrical Engineering Society as a departmental student chapter with the goal of advancing and promoting the study of electrical engineering. Throughout the academic year, EES holds a variety of technical, managerial, and informal events for the benefit of students' overall growth. Additionally, EES hosts a variety of workshops on subjects that aid in students' engineering skill development as well as interactive seminars with knowledgeable individuals to provide them the right direction. In the upcoming year, we also hope to broaden our perspective on technical endeavors and information exchange.



IIIE

To create awareness about Industrial Engineering among the students of various technical institutes of the region. To organize seminars, presentations and project competitions for the students. To conduct guest lectures by industry people. To organize Industrial visits for students. To organize various workshop and personality development programmes for students. To help students in exploring the career prospects in different industries. To explore the Innovative ideas out of students about the Industrial developments. To motivate and develop the students for entrepreneurship.





DRISHTI

DRISHTI is engaged in spreading technical knowledge at SVNIT and is made up of a group of curious people who are eager to share what we have learned via our experiences and experiments through a variety of workshops, seminars, events, and hands-on application. Drishti actively participates in many competitions like ROBOCON, International Rover Challenge (IRC), International Rover Design Challenge (IRDC), Azeotropy (IIT Bombay Techfest), Texas Innovation Design Challenge, International Mars Hackathon etc. We also develop various technologically oriented projects such as Exoskeleton, Rover, Centrifugal Pump, Prefabricated Building, Computer Vision & ML applications, and so on. DRISHTI's aim is to encourage curious minds to develop their technical skills in a constructive manner while also improving their social quotient by providing a real-time opportunity to work as a team in a healthy competitive environment.



IETE

ISF (IETE Students' Forum) SVNIT is the official student chapter of the electronics department of SVNIT. As its name suggests, it is a students' forum of IETE (Institution of Electronics and Telecommunication Engineers). ISF-SVNIT is one of the two Surat sub-centres of the national institution of IETE. The Institution of Electronics and Telecommunication Engineers focuses on the advancement of the Science and Technology of Electronics, Telecommunication and related areas. Towards this end, the Institution promotes and conducts basic engineering and continuing technical education programmes for human resource development. We at ISF work towards realizing this goal in the student community of SVNIT, by conducting various workshops, seminars, webinars and competitions related to recent technological topics in the industry to keep the students updated and ready for entering the industry.





SAE

SAE (Society of Automotive Engineer) is one the technical student chapter of SVNIT. There are two teams in the student chapter ‘Team Phoenix Racing’ and ‘Team Phoenix Aero’ working in the fields of Automobiles and Aeronautics respectively. Team Phoenix Racing is a team of enthusiastic and passionate aspiring automobile engineers. Team has made its mark in various national level competitions including Student Formula car, All terrain vehicle, Electric go-kart. During their stint the team is in constant endeavor to design, manufacture and test vehicles with excellent performance and efficiency in a cost-effective manner. Team Phoenix Aero is a team of aviation enthusiasts who aim to discover and create aerial vehicles’ uncharted cosmos and develop solutions to real-world problems. Established in August 2019, the team has seen significant growth. The keen interest in aero-modeling and growing curiosity in this field has motivated us to become the team we are today.



CONVEX

Convex is the photography club of CHRD. Every event ever that happened in SVNIT is directly a part of Convex because they are always there to capture those moments which can be cherished forever. From orientations to workshops to marathons to mega nights to fests, everything links back to Convex, as the exclusive photography club of our institute.



PHYSICS CLUB

We are a club that focuses on bringing out various insights in a broad spectrum of Physics topics. We aim to play a pivotal role in enhancing the co-curricular domain of Physical Science through various activities. We form a platform for people who are interested or passionate to pursue their career in Physics at Sardar Vallabhbhai National Institute Of Technology Surat, and those who love to spread Physics to the world. We conduct talks, workshops, quizzes and research oriented contests and events to achieve the goals mentioned above.





LAC

LAC is among the oldest established student chapters of the Institute. It is the official quizzing, speaking and literature chapter of SVNIT. The committee has been playing an active role in the personal and professional development of the students since its establishment. The committee has three main pillars namely Quizzing, Reading, and Speaking. A wide array of events related to the aforementioned pillars are conducted throughout the year for the students of the institute. These events, in addition to helping the students in developing a wide range of soft skills such as teamwork, leadership, public speaking, self-confidence to name a few, also provide a platform to come together and interact with their peers. Every year a new committee is formed through the process of interviews. The committee members regularly partake in the club's activities which additionally help them in learning management and organizational skills. The committee is guided by Dr. Kalpana Maheria as the Chairperson along with Dr. Chetan Patel and Dr. Sumit Khare as the Co-chairpersons.



SCOSH

The Society for Cultivation of Science and Humanities (SCOSH) is a student chapter of SVNIT that aims to develop and nurture scientific temperament among students. We conduct various events year-round to instill the culture of science entertainingly. Our main aim is to build a human stack-exchange and thus build a strong scientific community across the nation. With our guiding motto, "small steps make a big one" we carry forward our goal of creating a scientific society with a great team. At SCOSH, we integrate our passion for science with other skills such as content writing, management, administration and technical skills. SCOSH has been a witness to many great journeys that started here with a small step and we look forward to being a part of many more.



CHINTAN PRATISHTHAN

Chintan Pratishthan is a student group led by the B.Tech., M.Tech., M.Sc., and Ph.D. students of SVNIT. This group's initial objective was to look into many crucial national issues and find better ways to incorporate technological advancements to fulfill the requirements of our society today. The group as a whole is eager to help whenever feasible with any efforts that benefit our society and people. We also host a variety of events, including talk programmes with distinguished authorities in their fields, celebrations of cultural occasions, business excursions, workshops, and more.



KIRDAAR

Kirdaar is the dramatic wing is all about performing, acting, improvising, directing, writing, almost any sort of art form you can wrap your head around. The most versatile, multitalented, and chill club of CHRD. For us, Emotions are everything around here (After the old CRC lawns, obviously!) This isn't just any theatrical club, Kirdaar aka 'role', is what we persist in being. It teaches members to meet the real them by reliving different characters, to experience various personalities, and dwell in the uncharted waters of mystery. When you join Kirdaar, you don't join a club; you join a family. Once a wise man said, and we quote, "Kirdaarhameshasaathrehtahai.... ApnahoyaApnaya".



CINEPHILIA

Cinephilia - the movie-making club of CHRD, is a small independent group of movie enthusiasts who came along to learn about movies. A movie isn't just shots edited together to present a story; it is a collective effort of director, writer, cinematographer, soundtrack editors, and more. This student chapter shows a culture of acting, directing, and shooting in small feature movies. These movies please the heart like smelling the orchid in the valley of garlands and deliver a heart-touching message through their screenings.





STUDENT ACTIVITIES

- Rangmanch
- Nukkad Natak
- Aahwan
- Dance Jam
- Dance workshop
- Channak
- Sculpture Workshop
- Rangavali
- Art Walk
- Rangeela
- Resin Workshop
- Encore
- Improv
- Soiree
- I Design
- Shamiyana
- Cinebattle
- CHRD Orientation
- Reel Making Competition
- Film Making Workshop
- Photography Workshop
- Workshop on Adobe Illustrator
- Minimal Poster Design Competition
- Let's Talk It Out – Session on Mental Wellbeing



CENTRAL LIBRARY

The Central Library is one of the key central facilities of the Institute. The primary goal of the Library is to support the educational, research and innovation programs of the Institute by providing physical and digital access to intellectual information.

The Library is well-managed and acts as the knowledge hub of the entire Institute. It has a rich and comprehensively high quality of information resources in the field of Science and Technology. It serves as a creative and innovative partner in supporting the teaching, learning and research activities of the Institute and contributes significantly to the Institute's mission of academic excellence.

In 2017 the Institute Library shifted to its new building. The new building is planned on modular principles based on the requirements of the Institute Library. It has three spacious floors. The new Library building is centrally air-conditioned and occupied with three lifts operating in the building. For better security, the library building is integrated with RFID system, CCTV camera and fire alarm system.

The unique feature of this Library building is “Green building” Louvers are provided on three side walls, a semi-transparent dome at the centre of the building and roof is installed with solar panels.





B.Tech.
Artificial Intelligence

5 Year Integrated B.Tech. and M.Tech.
Artificial Intelligence

Ph.D.
Artificial Intelligence

DEPARTMENT OF ARTIFICIAL INTELLIGENCE

Technological advancements in Artificial Intelligence (AI) are reshaping the global economy and significantly influencing societal well-being. Recognizing the strategic importance of this domain, the Department of Artificial Intelligence was established at Sardar Vallabhbhai National Institute of Technology, Surat in 2023 to foster cutting-edge research and high-quality education in AI and its interdisciplinary applications.

The department is committed to advancing knowledge across core and emerging areas such as Machine Learning, Deep Learning, Generative AI, Natural Language Processing, Computer Vision, Soft Computing, and the intersection of AI with Science. Its academic framework is designed to balance theoretical rigor with practical relevance, enabling students to address real-world challenges.

At present, the department offers B.Tech., Integrated Postgraduate (IPG) (B.Tech + M.Tech), and Ph.D. programs in Artificial Intelligence. Admissions to the B.Tech. and IPG program are conducted through the Joint Seat Allocation Authority (JoSAA). All programs are designed to build a strong foundation in AI while promoting specialization in advanced domains, preparing graduates for impactful careers in both industry and academia at a global level.

DEPARTMENT VISION

Global excellence in fostering ethical AI innovation for social good.

DEPARTMENT MISSION

The mission of Department of Artificial Intelligence is to:

- To impart quality and value-based technical education with fundamentals in the field of AI.
- To provide rigorous and interdisciplinary education programme.
- To integrate ethical consideration into AI research development and deployment practices.
- Collaborate with industry and to encourage entrepreneurship skills to apply AI innovation in real world scenarios.



COURSES WE STUDY

UG and PG students are learning various core subjects:

- Introduction to Computer Science
- Introduction to Programming
- English and Professional Communication
- Basic Electrical and Electronics Engineering
- Fundamentals of Engineering Mathematics
- Data Structures
- Object Oriented Programming
- Energy and Environmental Engineering
- Linear Algebra and Statistics
- Digital Electronics and Logic Design
- Indian Value System and Social Consciousness
- Computer Organization
- Database Management Systems
- Design and Analysis of Algorithms
- Discrete Mathematics
- Signals and Systems
- Artificial Intelligence
- Operating Systems
- Automata and Formal Languages
- Computer Networks
- Microprocessor and Interfacing Techniques
- Machine Learning
- Data Science
- Information Security and Cryptography
- Deep Learning
- Cloud Computing
- Reinforcement Learning
- Intelligent Multiagent and Expert Systems

Students are learning various optional core subjects:

- Object Oriented Programming
- Micro processor and Interfacing Techniques
- Information Security and Cryptography
- Reinforcement Learning

Labs we have



- Computing Laboratory -1
- Computing Laboratory – 2
- Computing Laboratory – 3
- High Performance Computing Laboratory
- Robotics Laboratory
- Generative AI Laboratory





B.Tech.
Chemical Engineering

M.Tech.
Chemical Engineering

Ph.D.
Chemical Engineering

DEPARTMENT OF CHEMICAL ENGINEERING

Established in 1995, the Department of Chemical Engineering, SVNIT, Surat offers programs leading to Bachelor's, Master's and Ph.D. Degree in Chemical Engineering. The department is proud to have a strong faculty-student relation. The department has built a comprehensive research infrastructure with some topnotch facilities for carrying cutting-edge research. The department strives to provide conducive environment for creative and dynamic research work. The faculty members are granted several R&D projects from organizations like DST, SERB, GUJCOST, CSIR, etc. and have high quality research publications and patents. The department actively conducts faculty development programs, short term training programs and workshops for engineering faculty and industry personnel. Currently, the Department has 19 faculty members with expertise in various domains of chemical engineering having focus on sustainable and greener approach in the field of chemical engineering.

COURSES WE STUDY

UG and PG students are learning various core subjects:

- Chemical Engineering Thermodynamics
- Fluid Flow Operations
- Process Calculations
- Mechanical Operations
- Heat Transfer Operations
- Mass Transfer Operations
- Chemical Reaction Engineering
- Process Dynamics and Control
- Process Modelling and Simulation
- Transport Phenomena

Students also learning various specialized courses like:

- Safety and Pollution Control in Chemical Process Industries
- Introduction to Macro-molecules
- Membrane Technology
- Novel Separation Techniques
- Microfluidics and Nanofluidics
- Polymer Science and Technology
- Corrosion Science and Engineering
- Bioprocess Engineering



RESEARCH AND CONSULTANCY

Department has executed more than 50 research projects funded by various funding agencies like:

- Department of Science and Technology (DST), Government of India
- Indian Space Research Organization (ISRO)
- Gujarat Council on Science and Technology (GUJCOST)
- Department of Science and Technology, Gujarat
- Naval Research Board (NRB)
- Defense Research and Development Organization (DRDO)

Department has also executed various consultancy work for the industrial problems.

Faculties and students of department have published more than 1000 research papers in the journals of international reputes. These research articles has been cited by more than 10,000 research articles of high impact.

Department has received more than 20 patents for various research work. Faculties have contributed in various books and book chapters published in the leading publishers like Elsevier, Springer-Nature and Taylor and Francis publication.

Labs we have



- Heat Transfer Operations
- Fluid Flow Operations
- Mass Transfer Operations
- Chemical Reaction Engineering
- General Chemical Technology
- Computer Aided Design
- Instrumentation and Process Control Laboratory
- Mechanical Operations Laboratory
- Safety and Pollution Control in Chemical Process Industries

Sophisticated analysis tools like Dynamic Light Scattering (DLS), BET surface area analyzer, HPLC, gas chromatography and many other research facilities are available in department.





B.Tech.
Civil Engineering

M.Tech./M.S. (R)
Construction Technology & Management
Environmental Engineering
Geotechnical Engineering
Structural Engineering
Transportation Engineering & Planning
Urban Planning
Water Resources Engineering

Ph.D.
Civil Engineering



DEPARTMENT OF CIVIL ENGINEERING

The Department of Civil Engineering was established in 1961 as one of the pioneer departments of the Sardar Vallabhbhai Regional College of Engineering & Technology (SVRCET). Initially, Bachelor of Engineering programme was offered by the department. The nomenclature of the programme was changed to Bachelor of Technology in 2002 after conversion of SVRCET to Sardar Vallabhbhai National Institute of Technology, Surat (SVNIT) as a premier technical education institution. The B.Tech. programme in Civil Engineering is accredited by the National Board of Accreditation, New Delhi in TIER I category of institutions. The syllabus of the under graduate programme in Civil Engineering is designed to inculcate the core theoretical and practical fundamentals of the subjects along with professional ethics and human values.

In addition to the under graduate programme, the department also offers Seven post graduate programmes with specialisations mentioned above. The research programme leading to doctoral degree is also offered in diverse areas of civil engineering. The department is hosting more than 100 full-time research scholars in addition to part time research scholars. The Department of Civil Engineering at SVNIT Surat focuses on an overall inclusive growth of students to make them professionally competent and socially relevant.

One of the unique features of the UG programme is opportunity to study final year at Indian Institute of Technology-Bombay (IIT-Bombay) under early induction in M.Tech.& Ph.D. program. The Department of Civil Engineering, SVNIT Surat has entered into an MoU with the Department of Civil Engineering, IIT Bombay to facilitate five (max) students of B.Tech. Civil Engineering programme at SVNIT to IIT Bombay for their final year study. More than 25 students have been benefited by this scheme since 2015 and doing exceptionally well in the field of research and development.

All these academic activities of the department are effectively handled by 45 faculty members; including adjunct, guest and visiting faculty members; with specialization in various areas of civil engineering.

The Centre of Excellence in 'Water Resources and Flood Management' is established under the aegis of the Department of Civil Engineering, wherein the high-end research and development activities related to Hydraulics, Water Resources Engineering and Flood Management are undertaken to benefit the society at large.

The department has also been recognised for its academic, research and development activities at the regional, national and global levels. The department has research collaborations with Queensland Technical University Australia, University of Salford Manchester, London South Bank University London, Royal Academic of Engineering UK,

Technical University Munich Germany, University of North Carolina Charlotte USA, Toronto Metropolitan University Canada, Florida Atlantic University USA, University of reading UK, University College London UK, Northumbria University, UK and many more. The department has signed MoUs with national laboratories like CSIR- Central Road Research Institute, CSIR-Central Building research Institute and major industrial groups like L & T. The graduates of the department at bachelor, master and doctoral programs have explored advance career opportunities in premier technical institutions and organisations in India and abroad. The faculty members are contributing towards development of codes of practices published by the Bureau of Indian Standards and Indian Roads Congress. The department has very active and successful professional association with several government and industrial organisations through extension activities like research projects, consultancy assignments, training programmes, workshops, conferences and advisory services. Department is also facilitating activities of various professional societies like Indian Building Council, Indian Plumbing Association, Indian Concrete Institute, Institute of Urban Transport (India) and Indian Green Building Council.

The faculties of the department are recipients of renowned awards and fellowships. The department has an impressive publication record in peer reviewed international and national indexed journals and conferences. After completion of challenging and eventful journey of six decades with the help of immeasurable contribution of its students, staff and faculty members, department is looking forward for newer challenges and opportunities to show its mettle for solving developmental issues related to environmental conservation, economic efficiency and social equity.

COURSES WE STUDY

- Hydraulic Engineering
- Basic Transportation Engineering
- Mechanics of Solids
- Geotechnical Engineering
- Environmental Engineering
- Concrete Technology
- Structural Analysis
- Geomatic Surveying
- Building and Town Planning
- Highway Engineering
- Professional Ethics
- Economics and Business Management
- Estimation and Cost Analysis
- Design of Concrete and Steel Structures
- Heavy Construction & Project Management
- Water Resources Engineering

RESEARCH AND CONSULTANCY

Prominent Projects and Publications in last 3 Years-

- Sponsored Research Projects : 15
- Consultancy Research Projects : 300 +
- Total Funding Received : Rs. 6 Cr +
- Publications : 200 +
- Patents : 10 +

Labs we have



- Construction Management Lab
- Environmental Engineering Lab
- Solid Waste Management Lab
- Environmental Audit Lab
- Geotechnical Engineering Lab
- Advanced Geotechnical Lab
- Computational Geomechanics Lab
- Geo-Environmental Engineering Lab
- Geo-synthetic Testing Lab
- Rock Mechanics Lab
- Geology and Geophysical Lab
- Engineering Mechanics Lab
- Strength of Material Lab
- Concrete Technology Lab
- Structural Analysis Lab
- Advanced Concrete Technology Lab
- Structural Computational Mechanics
- Heavy Structure Lab
- Earthquake Engineering Lab
- Experimental Stress Analysis Lab
- Transportation Engineering Lab
- Traffic Simulation Lab
- Transportation System Planning Lab
- Pavement Engineering Lab
- Urban Studio
- Urban Cartography Lab
- Urban Informatics Lab
- Water Resources Engineering Lab
- Geospatial Technologies Lab
- Computational Hydraulic Lab
- Advanced Hydraulic Lab





B.Tech.
Computer Science & Engineering

M.Tech.
Computer Science & Engineering
Information Security & Privacy
Data Science

M.Tech. (R)
Computer Science & Engineering

Ph.D.
Computer Science & Engineering



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

The Department of Computer Science and Engineering offers B. Tech., M. Tech., M. Tech. (R) and Ph.D. degree. The department has various specializations like information security, artificial intelligence, machine learning, data mining, social network analysis, cloud computing, privacy preserving, cyber security, image processing, computer vision, software engineering, and cyber physical system. The department has executed several research projects sponsored by different funding agencies. The department has state of art computing desktop PCs, blade servers and super nodes for high performance computing. The department also has aerial drones, wireless network simulator software and sensor motes. The department has also signed MoU with different industries. The alumni of the department are now serving in various industries and few of them are entrepreneurs.

COURSES WE STUDY

UG and PG students are learning various core subjects:

- Fundamental of Computer Programming
- Discrete Mathematics
- Probability and Statistics
- Theoretical Computer Science
- Data Structure
- Algorithm Design and Analysis
- Computer Organization and Architecture
- Operating System
- Computer Network
- Database Management System
- System Software
- Distributed System
- Information Theory and Coding
- Software Engineering
- Object Oriented Technology
- Microprocessor and Interfacing
- Web Programming.

Students also learning various specialized courses like:

- Cloud Computing
- Data Science
- Information Security
- Blockchain Technology
- Artificial Intelligence
- Wireless Network and Mobile Computing
- Digital Forensics
- Cyber Laws
- High Performance Computing
- Machine Learning
- Deep Learning
- Social Network Analysis
- Esthetical Hacking
- Image Processing
- Computer Vision
- Cryptography

RECENT PROMINENT PROJECTS, SRPS, CRPS, PUBLICATIONS, PATENTS

Department has executed several projects, few of them are as follows:

- Information Security Education and Awareness Programme (ISEA Project) funded by MCIT/DIT, Govt. of India.
- A Secure Data Aggregation System and an intrusion Detection System for Wireless Sensor Networks, DIT Project, Govt. of India.
- Indian Digital Heritage (IDH) - Hampi DST sponsored project on Immersive Navigation for Walk through Application, Research project proposed jointly by DAIICT, Gandhi Nagar and SVNIT, Surat, DST, Govt. of India.
- Collaborative Data Processing and Resource Optimization for Post Disaster Management and Surveillance using Internet of Things sponsored vide Administrative Approval by MeitY (DeitY), Govt. of India.
- Capacity Building for Human Resource Development in Unmanned Aircraft System (Drone and Related Technology), HRD Division, MeitY, to be implemented jointly by the Programme Management Unit (PMU) and identified implementing agencies.

The department has executed more than 10+ Government funded research projects and consultancy, 1000+ research publications in reputed journals and conferences. Four patents are granted to the department.

Labs we have



B.Tech. & M.Tech. Labs

- Computing Lab (4 Labs)
- B.Tech. Project Lab
- M.Tech. Project Lab
- Microprocessor Lab

Research Labs

- Network Security
- High Performance Computing
- Data Science
- Digital Forensics
- Computer Graphics and Vision





B.Tech.
Electrical Engineering

M.Tech.
Control and Automation
Power Electronics & Electric Drives
Power Systems

Ph.D.
Electrical Engineering

DEPARTMENT OF ELECTRICAL ENGINEERING

The Department of Electrical Engineering (DoEE) is one of the oldest department, and it was established in 1961. Currently, the department offers B. Tech. in Electrical Engineering and B. Tech. Minor in Electrical Engineering for other discipline students, along with M. Tech. in Power Electronics and Electrical Drives, M. Tech. in Power Systems and M. Tech. in Control and Automation. Also, the department offers a PhD programme in the research areas of power electronics and electrical drives, power systems, renewable energy, control systems, electric vehicles, and other areas of electrical engineering. The department provides consultancy and electrical testing services to various industries and government and semi-government organizations.

COURSES WE STUDY

B.Tech. :

- Fundamentals of Computers and Programming
- Electronics Devices & Circuits
- Electric Circuits
- Digital Circuits
- Introduction to Data Science
- Numerical Methods Applications for Electrical Engineering
- Electrical Machines
- Power Systems
- Electromagnetic Field Theory
- Signals & Systems
- Control Systems
- Power Electronic Converters
- Electrical & Electronic Measurements
- Electrical Drives
- Microprocessors & Microcontrollers
- Electrical Machine Design and Instrumentation

M.Tech. & Ph.D. :

- Power Electronics
- Modelling of Electrical Machines and DC Drives
- Real-Time simulations of power electronic circuits
- AC Drives
- Digital Control of Power Converters
- Adaptive Control & Soft Computing
- Digital Signal Processing
- Computer Aided Power System Analysis
- Power System Protection
- Restructuring in Power Systems
- High Voltage Engineering & EHV AC Transmission
- Renewable Energy Sources
- Application of Power Electronics to Power Systems
- Renewable Energy Sources and their Control
- Linear System Theory
- Robust and Optimal Control
- Industrial Automation
- Process Dynamics & Control
- Advanced Control & Instrumentation
- Advanced Automation and System Identification & Adaptive Control



RECENT PROMINENT PROJECTS, SRPS, CRPS, PUBLICATIONS, PATENTS

- Sponsored Research Projects : 15
- Consultancy Research Projects : 9
- Publications : 1000 + (Including Journals and Conferences)

The following are some of the titles of the sanctioned projects:

- Design and Control of Renewable Energy based AC Microgrid Systems
- Design and development of soft controller for PV integrated MPPT based multilevel inverter system
- Control of wind, solar microgrid power generation in an isolated system
- Development of enhanced Predictive Current Control and Predictive Torque Control strategies for Open-end Winding Permanent Magnet Synchronous Motor Drive with less torque ripple for Electric Vehicles
- Development of Control Algorithms for Shunt and Series connected Custom Power Devices
- Development of Stochastic Filtering, Deposition and characterization of silicon multi layer structures for solar photovoltaic applications and Hardware Implementation of 3SS Inverter Configuration in Solar Grid-Tied Systems for Effective Energy Utilization Using Wide Bandgap Switches.

Labs we have



B.Tech. & M.Tech. Labs

- Computer Lab
- Control Lab
- Testing Lab
- Measurement Lab
- Power System Lab
- Power Electronics Lab
- Electrotechniques Lab
- PG Project Lab
- UG Project Lab
- Microprocessor Lab
- Electrical Machines Lab
- Drives Lab
- DSP Lab
- Instrumentation Lab

Research Labs

- Advanced Power Electronics Lab
- Advanced Power Systems Lab
- Advanced Drives Lab
- High Voltage Lab
- Multi-Facility Research & Development
- Robotics Lab
- Vehicle lab
- Power & Control Research Lab





B.Tech.

Electronics & Communication Engineering
Electronics & VLSI Engineering

M.Tech.

Communication Systems
VLSI & Embedded Systems

Ph.D.

Electronics Engineering

DEPARTMENT OF ELECTRONICS ENGINEERING

The Department of Electronics Engineering was established in the year 1982. The department offers B.Tech. program in Electronics and Communication Engineering with an intake of 140, B.Tech Program in Electronics and VLSI Engineering with intake of 60, M.Tech (Communication Systems and VLSI & Embedded System) with intake of 15 and 30 respectively and Ph.D. with a current strength of 60 research scholars. The department also offers Minor degree in Electronics and Communication Engineering for UG students to explore interdisciplinary knowledge. The research is carried out in various fields of Electronics and Communication Engineering such as Machine Learning, Data Communication Networks, Signal processing, Wireless Communication, VLSI Design, Embedded Systems, Optical communication Artificial Intelligence, Machine learning, Semiconductor micro-nano devices, etc. Currently we have 30 skilled and experienced faculty members of various domains of Electronics Engineering.

Department is facilitated with well-equipped laboratories for UG, PG and PhD students. Department is growing in all dimensions in terms of research facility, student strength, infrastructure, advanced teaching/learning methodologies, and industrial collaboration. Department has organized around 25 Short Term Training Programs and 5 International Conferences in last five years. Department is progressing with more than 1000 publications in reputed National/International journals and conferences. In last five years, department has set a good record of 12 patent & design grants and research projects worth of more than 5 crores funded by various agencies like DST, SERB, MeitY, ISRO, DRDO and SMDP. We have collaborations with industries like TCS, Neutroon and Efftronics.

- Analog and Digital Electronics
- Communication Systems
- Signal Processing
- VLSI Design
- Embedded Systems
- Semiconductor Device Physics and Modeling
- Fiber optics
- Machine Learning
- Information Theory
- Computer Architecture and Organization



COURSES WE STUDY

- Data Structures and algorithms
- Data Communication Networks
- Machine Learning
- Deep Learning
- Analog and Digital Electronics
- Communication Systems
- Signal Processing
- VLSI Design
- Embedded Systems
- Semiconductor Device Physics and Modeling
- Fiber optics
- Information Theory
- Computer Architecture and Organization

RECENT PROMINENT PROJECTS, SRPS, CRPS, PUBLICATIONS, PATENTS

- Sponsored Research Projects : 20+
- Consultancy Research Projects : 4
- Total Funding Received : Rs. 5 Cr +
- Publications : 1000+
- Patents : 12

Labs we have



B.Tech. & M.Tech. Labs

- 5G use case Lab
- Electronics Circuits Lab
- Digital Electronics Lab
- Embedded Systems
- Electronics System Design (ESD)
- Microprocessor Lab
- Microwave lab
- Simulation Lab
- Basic Communication Lab

Advanced Research Labs

- Internet of Things and Networking Lab
- 5G and Beyond Lab
- Communication Research Lab
- Avionics Lab
- VLSI Design Lab
- Sensor Research Lab
- Semiconductor Manufacturing and
- Testing Center (SMTTC)





B.Tech.
Mechanical Engineering

M.Tech.
CAD/CAM
Manufacturing Engineering
Mechanical Engineering
Thermal System Design
Turbo Machines

Ph.D.
Mechanical Engineering



DEPARTMENT OF MECHANICAL ENGINEERING

The Department of Mechanical Engineering is the largest oldest department of the institute (since 1961). The department has more than 56 faculty members with doctoral qualification having an average age of 35-40 years. The student strength of the department is more than 1200 for UG program in Mechanical Engineering, 5 PG programs (CAD/CAM, Manufacturing Engineering, Mechanical Engineering, Thermal System Design, Turbo Machines), one industry-driven M.Tech. by research program and Full time/part-time Doctoral programs. The department has 26 well-developed laboratories to provide practical knowledge on fundamental studies to UG and PG students, a Central Workshop facility and a Sophisticated Instrumentation Centre (SIC). SIC caters to the need of not only research scholars (PG and Ph.D.) but also nearby industries for testing and consultancy work.

COURSES WE STUDY

UG and PG students are learning various core subjects:

- Elements of Thermal and Fluid Systems
- Engineering Mechanics
- Fundamentals of Computer and Programming
- Engineering Mathematics
- Engineering Thermodynamics
- Engineering Drawing
- Applied Electrical and Electronics Engineering
- English and Professional Communication
- Measurement and Instrumentation
- Theory of Machines
- Fluid Mechanics
- Heat Transfer
- Dynamics of Machines
- Industrial Engineering
- Tribology and Mechanical Vibration
- CAD-CAM

Students also learning various specialized and application courses like:

- Applied Thermal Engineering
- Power Plant Engineering
- Computational Fluid Dynamics
- Additive Manufacturing
- Advance Engineering Materials
- Electric Vehicles
- Robotics
- Computer Aided Machine Design
- Rocket Propulsion
- Industry 5.0

RECENT PROMINENT PROJECTS, SRPS, CRPS, PUBLICATIONS, PATENTS

- Consultancy Research Projects (CRPs) : 55 (Rs. 1.3 Cr.)
- Ongoing Sponsored Research Projects (SRPs) : 22 (Rs. 5.1 Cr.)
- Filed Patents : 25+
- Granted Patents in last 5 years : 22+
- Design Registrations : 35+
- Publications : 350 + Articles in the SCI and Scopus indexed journals.

Department has executed several projects, few of them are as follows:

- A novel approach for continuous fabrication of tailored blanks for automotive applications.
- A Loop Heat Pipe based Novel Battery Thermal Management System for Hybrid Electric Vehicle/Electric Vehicle.
- Investigation on a Novel Stacked Minichannel Heat Sink using Efficient Coolants.
- Study of Slurry Erosion Behavior of High Entropy Alloy coatings.
- Low cost selective powder deposition process for 3D printing of metal/ceramic composites for industrial applications.
- Combustion Dynamics of Rocket Engine and its active Control using high energy plasma Discharge for phase desynchronization.
- Development of multi-material welding approach for ultrahigh strength steel and aluminium alloys to promote light weighting and green mobility in the automobile sector.
- Development, Characterization and performance evaluation of multi-phase composite panels.

Labs we have



Workshops

- Welding Shop, Assembly Shop
- Machine Shop, Fitting Shop
- Smithy Shop, Carpentry Shop

B.Tech. Labs

- Metallurgy ,ICAE, CAD-CAM
- Mechanical Measurement
- Refrigeration & Air Conditioning
- Fluid Machines, Machining Processes
- Machine Drawing, Tribology
- Manufacturing Technology
- Heat & Mass Transfer
- Production Technology
- Dynamics of Machines

M.Tech. Labs

- FEM, Heat Transfer, CIM
- Advanced Fluid Dynamics, RGD
- Metal Forming, CAD, Software Lab

Research Labs

- Cryogenics
- Renewable Energy
- Advanced Manufacturing
- Decision Support System
- Industrial Automation





B.Tech.
Industrial Chemistry

M.Sc.
Five Years Integrated Chemistry

Ph.D.
Chemistry

DEPARTMENT OF CHEMISTRY

The Department of Chemistry is a dynamic multidisciplinary research centre for research work in all fields of chemical sciences. The emphasis at the curricular level is to provide a broad coverage of all branches of chemistry in keeping with the interdisciplinary nature of the subject today.

The Department of Chemistry was started in 1961-62, which imparted education of engineering chemistry to B.Tech.-I and B.Tech.-II (Chemical Engineering) students. In October 2002, Sardar Vallabhbhai Regional College of Engineering and Technology (SVRCET) was converted into Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat. Chemistry Department, earlier working under the aegis of the Department of Applied Sciences and Humanities, has recently started working as an independent department as a Department of Applied Chemistry.

At present 88 Ph.D. students have been registered in the Department. Necessary research facilities and infrastructure are also available for the varied areas of research work currently undergoing in the department viz. corrosion, catalysis, ion exchange, polymers, organic synthesis, supramolecular chemistry, drug delivery, ionic liquids, inorganic chemistry, nanomaterials, mass spectrometry, microchip and capillary electrophoresis.

RECENT PROMINENT PROJECTS, SRPS, PATENTS

- Research Projects completed : 18
- Ongoing Research Projects : 12
- Patents : 11



COURSES WE STUDY

- Stoichiometry, Solutions and Gases
- Atomic Structure and Chemical Bonding
- Qualitative and Quantitative Analysis
- Fundamentals of Organic Chemistry
- Basic Industrial Chemistry
- Chemistry of s- and p-block Elements
- Chemistry of d- and f-block Elements
- Hetero Functional Groups and Heterocycles
- State and Properties of Matter
- Quality Control and Quality Assurance
- Coordination and Bioinorganic Chemistry
- Organic Reaction Mechanism
- Equilibrium and Changes
- Dyes and Drugs
- Biomolecules and Cell Biology
- Organometallic Chemistry
- Pericyclic Reactions and Photochemistry
- Analytical Chemistry
- Physical Methods of Structure
- Determination
- Unit Process in Chemical Industries
- Interpretative Molecular Spectroscopy
- Molecules in Motion and Reaction Dynamics
- Polymer Chemistry
- Chemistry in Industries
- Materials Chemistry
- Reaction Mechanism in Coordination Chemistry
- Synthetic Approaches in Organic Chemistry
- Atomic Spectroscopy and Electron Microscopic Techniques
- Computational Chemistry
- Symmetry, Spectra and Magnetism
- Chemistry of Natural Products
- Physical Aspects of Molecular Spectroscopy
- Purification and Separation Techniques
- Quantum Chemistry
- Heterocycles and Organic Synthesis
- Research Methodology in Chemistry

Elective Subject like:

- Surfactant Chemistry
- Chemistry of Nanomaterials
- Green Chemical Processing
- C-H Functionalization
- Catalysis
- Medicinal Chemistry
- Supramolecular Chemistry
- Nuclear Chemistry
- Mathematics for Chemistry
- Optics
- Fundamentals of Computer & Programming

Labs we have



- Computing Lab
- B. Tech. Lab
- Organic Chemistry Lab
- Inorganic Chemistry Lab
- Physical Chemistry Lab
- Sophisticated Lab

Research Labs

- Polymer & Phytochemistry
- Ionic Liquid
- Nano & Supramolecular Chemistry
- Surface Chemistry
- Organic Synthesis & Phytochemistry
- Catalysis and Ion Exchange
- Functional Nanomaterials & Analytical Chemistry
- Biomaterial
- Catalysis and Synthetic Methodology
- Organocatalysis and Materials Chemistry
- Atmospheric Chemistry
- Supramolecular Bio/Nano Sensors
- Coordination Chemistry
- Organic and Bio Organic





B.Tech..
Mathematics and Computing

M.Sc.
Five Years Integrated Mathematics

Ph.D.
Mathematics

DEPARTMENT OF MATHEMATICS

In 2023, the Department of Mathematics received its current status. Since 2009, it has been Applied Mathematics & Humanities (Department of Mathematics & Humanities (2021 to 2023), and before that, it was a part of the Applied Sciences and Humanities Department. Throughout these years, the department has evolved into one of the epicenters of research in India. Since 2007, the department has been offering its own 5 years Integrated M.Sc. Degree Program in Mathematics, in which students are enrolled through Joint Entrance Examination (JEE Mains). From current year 2024 Department is going to start Bachelor of Technology in Mathematics and Computing (MaC). The department offers courses in Mathematics to undergraduate and postgraduate students in Engineering and other Science courses. A number of alumni from this department have attained prestigious positions in teaching and research in India and abroad. The department has highly qualified faculty members including 3 Professors, 5 Associate Professors, and 8 Assistant Professors, who have extensive expertise in Fluid Mechanics, Special functions, Algebra, Integral Transforms, Approximation theory, Mathematical modeling, Magnetic fluid dynamics, Biomathematics, Data Mining, Finite element modeling. More than 270+ students have enrolled in the department for Five Years Integrated M.Sc., and 86+ Ph.D. students are presently pursuing research.

RECENT PROMINENT PROJECTS, SRPS, PUBLICATIONS

Sponsored Research Projects (SRPs) in last 5 years: 12 (Rs. 2.16 Cr.)

Ongoing Sponsored Research Projects (SRPs) : 5 (Rs. 1.14 Cr).

Funded Agencies like :

- Department of Science and Technology (DST)
- National Board for Higher Mathematics (NBHM)
- Indian Space Research Organisation (ISRO)
- Gujarat Council on Science and Technology (GUJCOST)

Publications : 799 + Papers in the SCI/SCIE and Scopus indexed journals.

Published in last 5 years : 116 H index papers and 95 i 10 index papers



COURSES WE STUDY

- Calculus, Advanced Calculus
- Element of Analysis
- Analytical Geometry
- Discrete Mathematical Structure
- Data Structure & Algorithm
- Design and Analysis of Algorithms
- Database Management System
- Numerical Analysis , Complex Analysis
- Linear Algebra, Abstract Algebra
- Elementary Number theory
- Ordinary Differential Equations
- Partial Differential Equations
- Mechanics, Continuum Mechanics
- Probability and Statistics
- Metric Space
- Topology and Functional Analysis
- Fluid Dynamics
- Optimization Techniques
- Higher Transcendental Functions
- Calculus of Variations & Integral Eq.
- Measure Theory and Integration
- Advanced Mathematical Modelling and Simulation
- High Performance Computing
- Professional Ethics
- Economics and Business Management
- Fuzzy Logic and Computation
- Computational Fluid Dynamics
- Natural Language Processing
- Image Processing and Mining
- Deep Learning
- Computational Finance and Financial Econometrics
- Measure Theory and Integration
- Uncertainty theory and Computation
- Foundations of Robotics, Innovation
- Incubation and Entrepreneurship
- Quantum Computing
- Finite Element Methods and Computations
- Error Correcting Codes
- Cloud Computing, Hybrid Algorithms
- Reinforcement Learning
- Financial Instruments and Risk Management
- Nonlinear and Robust Control Optimization
- Theoretical and Computational Neuroscience
- Stochastic Finance
- Computational Heat and Mass Transfer.

Elective Subject like:

- Advance Mathematical Methods
- Stochastic Differential Equations
- Mathematical Modelling
- Integral and Wavelet Transform
- Mathematical Finance
- Fuzzy Set Theory
- Block Chain Technology
- Evolutionary Algorithms
- Advanced Numerical Analysis and computation
- Computational Fluid Dynamics in Porous Media

Labs we have

- UG & PG Students
Computer Lab (2 Lab)
- DST-FIST Project Lab





B.Tech.
Engineering Physics

M.Sc.
Five Years Integrated Physics

Ph.D.
Physics

DEPARTMENT OF PHYSICS

The Department of Physics offers an 5-Year Integrated Master of Science, PhD. and B.Tech. Engineering Physics degrees. It offers advanced applied courses such as Computational Physics, Basic and Digital Electronics, Electronics and Optical Communication, Microprocessors, Semiconductor Devices, Solar Cell Technologies, Thin-Films and Vacuum Technology, Nano-science and Nano-technology, Remote Sensing, Global Navigation Satellites, etc. in addition to the principal core subjects such as Classical and Quantum Mechanics, High Energy Physics and Condensed Matter Physics. The department has state-of-art equipment in laboratories for both, the academics programs as well as high-end research.

To promote interdisciplinary learning, students are offered global electives that enable them to explore contemporary courses from various departments, including Computer Science and Engineering, Electronics and Communication Engineering, Electrical Engineering, Mechanical Engineering, and Management. Some of these courses include Data Structures, Artificial Intelligence, Machine Learning, Object-Oriented Technology, Sensors and Transducers, Optimization Methods, Mechatronics, and Introduction to Quantum Computing, among others.

RECENT PROMINENT PROJECTS, SRPS, CRPS, PUBLICATIONS, PATENTS

- Research Projects completed : 22
- Ongoing Research Projects : 08

The Department witnesses extensive research funded by various agencies, as well as publications in reputed journals year-round. The Department of Physics has also been supported by the FIST grant by the Department of Science and Technology with funding amounting to 1.2 crores. In addition, the department has also been serving the industries in the vicinity with the relevant consultancy projects. The Alumni Network is widespread, with various alumni working in some of the world's top companies and research institutes around the globe.



COURSES WE STUDY

- Waves and Mechanics
- Basic Electronics
- Thermodynamics and Statistical Physics
- Numerical Methods and Computer Programming
- Electromagnetic Theory
- Semiconductor physics
- Solid State Physics
- Quantum Mechanics
- Optics
- Mathematical Methods in Physics
- Classical Mechanics
- Laser and Photonics
- Atomic and Molecular Physics
- Statistical Mechanics
- Digital Electronics
- Plasma Physics
- Nuclear Physics
- Condensed Matter Physics
- Computational Physics
- Particle Physics
- Thermal Physics
- Basics of Electromagnetics
- Introduction to Python Programming
- Introduction to Mathematical Physics
- Quantum Physics and Applications
- Electrodynamics and its Applications
- Introduction to Quantum Computation
- Nuclear and Particle Physics
- Plasma Science and Applications

Elective Subject like:

- Mathematics for Physical Sciences
- State and Properties of Matter
- Discrete Mathematical Structure
- Data Structure
- Fundamentals of Artificial Intelligence
- Interpretative Molecular Spectroscopy
- Material Science
- Basic of Astronomy and Astrophysics
- Solar Cell Technology
- Nano-science and Nano-technology
- Electronics and optical communication
- Remote Sensing
- Astrophysics and Space Science
- Microprocessor and Microcontrollers
- Characterization Techniques
- Density Functional Theory
- Elementary Excitation in Solids
- Simulations and Modelling
- Advanced Crystallography
- Electromagnetic Communication
- Global Navigation Satellite System
- Quantum Field Theory
- Thin Films and Vacuum Technology
- Nuclear Science and Techniques
- Non Destructive Testing
- Microwave Plasma

Labs we have



- General Physics Lab
- Optics Lab
- Electronics Lab
- Computational Lab
- Nuclear Physics Lab
- Spectroscopy Lab
- Microprocessor Lab
- Nanotechnology Laboratory

Research Labs

- Optoelectronic Materials and Devices Lab
- Thin Film Lab
- High Energy Physics Lab
- Crystal Growth & Materials Research Labs
- High Energy Physics Lab
- Nano-Bio Physics Lab
- Advanced Materials Lab
- Condensed Matter and Low-Dimensional Systems Lab
- Advanced Simulation Lab
- Plasma Research Lab
- Atmospheric Physics Lab
- Nuclear Physics Research Lab





M.B.A.
Business Analytics

Ph.D.
Management

DEPARTMENT OF MANAGEMENT STUDIES

In a ground-breaking move, Sardar Vallabhbhai National Institute of Technology (SVNIT) has recently established the Department of Management Studies, ushering in a new era of academic excellence and holistic education. This strategic initiative reflects SVNIT's commitment to stay at the forefront of educational innovation, meeting the dynamic needs of the industry and to shape the future leaders in the field of management. The Department of Management Studies is poised to make a significant impact on the landscape of management education. With a forward-thinking curriculum, learned faculty and a commitment to research and innovation, the department is set to cater the need of business world by providing a new generation of leaders.

For many years, the Department of Management Studies effectively addresses the soft and professional skills requirements of both undergraduate and postgraduate students. viz. Professional Ethics, Economics and Business Management; Marketing Management; Personnel Management; Innovation, Incubation and Entrepreneurship; and Economics and Business Management. Under the able supervision of the faculty, more than a dozen PhDs have been completed in areas like Techno-Entrepreneurship, Foreign Institutional Investments, Women Entrepreneurship, Green Supply Chain Management, Green Brand Equity, Consumer Behaviour, and a more than half a dozen PhDs are undergoing in areas like Industry 4.0; Green HRM, Social Entrepreneurship, Online Learning; and Environment Social and Governance, till date.

The Department of Management Studies is set to launch a new postgraduate program, the Master of Business Administration (MBA) in Business Analytics, starting from the academic year 2024-25. The goal of the MBA program in Business Analytics is to furnish students with a profound comprehension of leveraging technology and data for achieving business success. This program is designed to cultivate a robust understanding of business and management principles while empowering students with the analytical skills necessary to dissect intricate data and formulate decisions driven by data insights.



COURSES WE STUDY

- Business Statistics (Analytics Core)
- Management Accounting (Management Core)
- Organizational Behaviour and Principles of Management (Management Core)
- Managerial Economics (Management Core)
- Analytics in Operations Management (Analytics Core)
- Business Computing and Prescriptive Analytics (Analytics Core)
- Financial Management (Management Core)
- Marketing Management (Management Core)
- Human Resource Management (Management Core)
- Research Methodology (Analytics Core)
- Descriptive Analytics, Data Visualization and Analytics (Analytics Core)
- Data Base and Mining for Managers
- Business Communication Skills
- Business Analytics (Analytics Core)
- Marketing Analytics (Analytics Core)
- Financial Analytics (Analytics Core)
- Econometrics (Management Core)
- Capstone Project (Management Core)
- Advanced Business Analytics (Analytics Core)
- Predictive Analytics (Analytics Core)
- Managing Digital Transformation (Management Core)
- Integrative Project and Dissertation

DEPARTMENT VISION & MISSION

- The Department of Management Studies aspire to be at the forefront of technical and managerial education, shaping future leaders who not only excel in their chosen fields but also contribute significantly to the global landscape. We aim to foster an environment that encourages creativity, critical thinking, and a spirit of innovation among our students through a dynamic curriculum, cutting-edge research, and industry collaborations.
- The mission of Department of Management Studies is to cultivate a transformative learning environment that empowers students with the knowledge, skills, and ethical values essential for excelling in the ever-evolving landscape of business and technology. The department is committed to staying dynamic and responsive to the evolving needs of the industry, thereby ensuring the relevance and currency of the programs.

Labs we have



- General Physics Lab
- Optics Lab
- Electronics Lab
- Computational Lab
- Nuclear Physics Lab
- Spectroscopy Lab
- Microprocessor Lab
- Nanotechnology Laboratory

Research Labs

- Optoelectronic Materials and Devices Lab
- Thin Film Lab
- High Energy Physics Lab
- Crystal Growth & Materials Research Labs
- High Energy Physics Lab
- Nano-Bio Physics Lab
- Advanced Materials Lab
- Condensed Matter and Low-Dimensional Systems Lab
- Advanced Simulation Lab
- Plasma Research Lab
- Atmospheric Physics Lab
- Nuclear Physics Research Lab





DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

The recently established Department of Humanities and Social Sciences (DoHSS) at SVNIT, Surat, reflects a strategic initiative to enhance the employability skills of engineering students. This department focuses on improving language proficiency among engineers, recognising the critical role effective communication plays in their professional success.

The department adopts a dual approach, combining academic research with practical skill development. Faculty members, well-versed in linguistics and language pedagogy, engage in research endeavours to improve language skills specifically tailored to the needs of engineers. This research contributes to a newly formed research area that addresses the unique linguistic challenges in the engineering domain. The department also offers foreign language courses to prepare engineering students for a globalised professional environment.

The department's PhD program retains a vital position in the institute's academic structure, providing a distinctive interdisciplinary platform connecting the sciences, technology, and the liberal arts with an intellectually diverse faculty specialising in Linguistics, English Language Teaching, Contemporary Literature, Postcolonial Studies, Diasporic Literature, Cultural Studies, Film Studies, etc. The department fosters critical thinking, ethical reflection, and a socially informed worldview among students across disciplines.

The Department is actively working to establish a state-of-the-art language lab. This facility will serve as a hub for language learning, offering students a technologically advanced environment to hone their communication skills. The lab will feature interactive tools and resources designed to enhance linguistic proficiency and the practical application of language in engineering contexts.

Through its integrated approach to teaching, research, and interdisciplinary engagement, the Department of Humanities and Social Sciences serves as a critical intellectual anchor within the technological ecosystem of the institute. By fostering analytical depth, ethical awareness, and communicative competence, the department not only complements technical education but also prepares students and scholars to navigate and shape the complexities of contemporary society with insight, empathy, and responsibility.



COURSES WE STUDY

- English and Professional Communication - I for B.Tech. and M.Sc. first and second semester students (All Dept.).
- Indian Value System and Social Consciousness for B.Tech. and M.Sc. first and second semester students (All Dept.).
- English and Professional Communication - II for M.Sc. second-semester students (Dept. of Mathematics).
- Global Elective - Foreign Language Course in German and French for all B.Tech. and M.Sc. students in the fifth and sixth semesters (All Dept.).
- Global Elective - Indian Constitution and Polity for B.Tech. & M.Sc. sixth semester students (All Dept.).
- Global Elective - Human Values and Professional Ethics for B.Tech. & M.Sc. sixth semester students (All Dept.).
- Global Elective - Inner Clarity for B.Tech. & M.Sc. sixth semester students (All Dept.).
- Academic Writing for M.Sc. ninth-semester students (Dept. of Mathematics).
- Business Communication Skills for MBA second semester students (Dept. of Management Studies).

DEPARTMENT VISION

To foster linguistic competence, critical thinking, and interdisciplinary research with the aim of providing holistic insights into human experiences, societies, and cultures.

DEPARTMENT MISSION

M1: To provide a collaborative environment that encourages intellectual curiosity, embracing diverse perspectives and stimulating intellectual growth.

M2: To empower students and researchers to become agents of social change by fostering a literary sensibility that is responsive to issues of justice, equity, and representation.

M3: To enhance students' employability by systematically improving soft skills such as teamwork, leadership, negotiation, and public speaking, as well as proficiency in English and other relevant languages used in global communication.

M4: To foster original research and creative scholarship that challenges hegemonic discourses, promotes inclusivity, and contributes to the expansion of literary and cultural knowledge.

Labs we have

- Language Lab
- Research Scholars Lab



SVNIT LINES

ENGINEERING
INNOVATION
EXCELLENCE
IMPACT



EXPLORE
Opportunities



DEVELOP
Skills



CONNECT
Industry



ADVANCE
Careers



EMPOWER
Futures