



GOVERNMENT ENGINEERING COLLEGE, MODASA



EC ENGINEERING DEPARTMENT

INFORMATION BOOKLET

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Dr. Alpesh H. Dafda

MESSAGE FROM THE HEAD OF DEPARTMENT

Electronics & Communication Department

Dear Students & Faculty members, Warm greetings to all.

The Electronics & Communication Engineering Department was established in the year 1984 and is considered one of the oldest and most successful concrete pillars of Government Engineering College, Modasa. The department offers a Bachelor of Engineering in Electronics & Communication with an intake capacity of 30 students. The department has highly qualified faculty members and all 16 laboratories are equipped with the latest technology equipment and instruments. The department provides teaching in the area of Analog and Digital Communication, VLSI Design, Embedded Systems, Signal Processing, Antenna and Microwave Engineering, and Microprocessors. The Department of Electronics & Communication Engineering has a vision to deliver technical programs that meet the changing needs of society and industry, preparing determined and goal-oriented engineers with high ethical values and strong analytical skills.

The Department of Electronics & Communication Engineering emphasizes developing technical skills and creating awareness about the needs of industries through industry-institute interaction, technical seminars, workshops, and specialized training in thrust areas. Students are encouraged to think innovatively through project works and research in fields like satellite communication and wireless networks, with the department providing a full-fledged departmental library and computer center to support overall personality and technical development.

The Electronics & Communication Engineering program is committed to maintaining high academic standards and quality assurance. The department consistently works towards excellence in technical education and infrastructure to ensure our students remain in tune with the rapid advancements in the global electronics field.

ABOUT THE INSTITUTE

Government Engineering College, Modasa was established in 1984 under the Directorate of Technical Education, Gujarat State, Gandhinagar in North Gujarat region with a view to spread out technical education in the region and hence promote industrial development. The institute was affiliated with Hemchandracharya North Gujarat University (HNGU), Patan from 1984 to 2007. The institute is affiliated to Gujarat Technological University; Ahmedabad from 2008. It is recognized by All India Council for Technical Education (AICTE), New Delhi.

The institute was started with two undergraduate courses, with an intake of 60 each. At present it runs seven under graduate courses and two post graduate courses. Each department has well established laboratories, computer centers and well qualified staff.

VISION AND MISSION

VISSION

To be a Leading Institution on Ensuring Academic Excellence, Research, Nurturing Innovation and Entrepreneurial Attitude to produce competent technocrats for service to Nation.

MISSION

- To be a student centric institute imbibing experimental, innovative and lifelong learning skills, addressing societal problems.
- To create a conducive ecosystem for research, innovation and extension services.
- To inculcate entrepreneurial attitude and values amongst learners.
- To collaborate with Industries and other institutions to strengthen symbiotic relations.
- To mentor aspiring Institutions to unleash their potential, towards nation building.



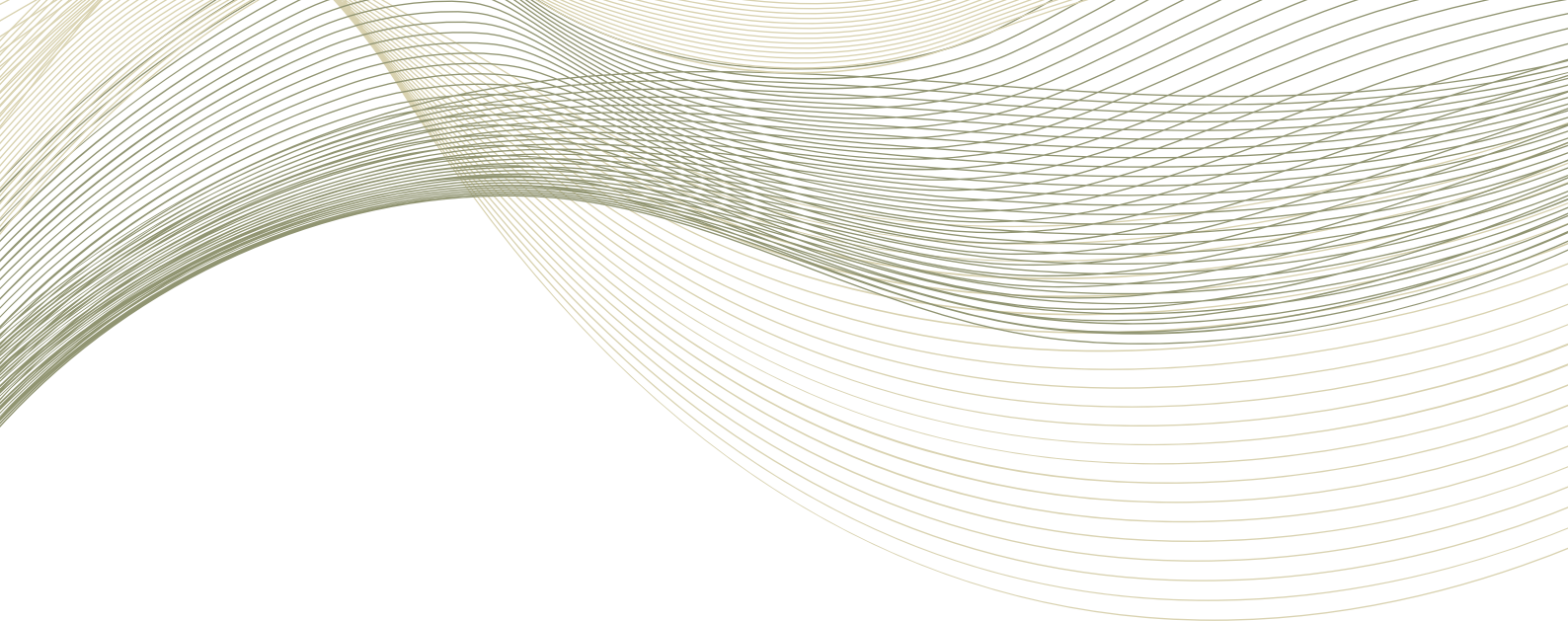
ABOUT THE DEPARTMENT

➤ ELECTRONICS & COMMUNICATIONS DEPARTMENT

The department of Electronics & Communication was established in the year 1984 is one of the oldest and successfully running the engineering branch of G.E.C. Modasa. The Department offers a four-year course in electronics and communication with 120 intakes.

The department was established with the mission to deliver technical programs and services to meet the changing needs of the society and industry, thereby contribute to the overall techno-economical development of the state. The department is persistently committed to enhancing technical knowledge with high ethical values.

The department of E.C. is accommodated in building No. 4. It has laboratories in thrust areas of Analog and Digital Electronics, Communications, Antenna, Microwave, VLSI Design, and Signal Processing. Department has a Computer Center with the latest computer facilities. All labs are well equipped with the latest types of equipment to keep the students in tune with the advancement in the field of Electronics & Communication. The department is also equipped with a full-fledged departmental library.



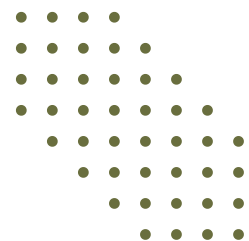
VISION AND MISSION OF THE DEPARTMENT

VISION

To strive for academic excellence, enhance industry- institute interaction to create competent technocrats in relevant areas for addressing ever changing needs of society.

MISSION

- To ensure dissemination of knowledge through effective teaching and learning process.
- To strengthen collaboration with industries.
- To prepare the students with multidisciplinary competence for their successful career and service to the society.



FACULTY AND STAFF (EC ENGINEERING)

DR. JEETENDRAKUMAR VADHER

Designation : Principal
Qualification : M. Tech. (IIT-Madras), Ph.D. (HNGU-Patan)
Experience : 28 Years
Area of Interest : Production, Manufacturing, CAD/CAM
Industrial Engineering, Automation
Email : jeetendra.vadher@gecmadasa.ac.in
Website : <http://jeetendravadher.in/>

SHILPA K RANA

Designation : Assistant Professor
Qualification : M.Tech (ECSE)
Experience : 11 Years
Area of Interest : RF and Microwave
Email : shilprana@gmail.com

MR. KETU RAMANBHAI PATEL

Designation : Assistant Professor
Qualification : M.E. (CSE)
Experience : 12 Years
Area of Interest : Analog and Digital Communication,
Wireless Communication,
Electromagnetics
Email : ketu@gecmadasa.org

SAMEER H. MANSURI

Designation : Assistant Professor
Qualification : M. E. (Communication Engg.)
Experience : 10 Years
Area of Interest : RF and Microwave, Embedded
System design
Email : mansurisameer@gmail.com

MANISH CHAUHAN

Designation : Assistant Professor
Qualification : M. E.
Experience : 05 Years
Area of Interest : Digital Electronics, Micro Processor
and Controller, Optical Communication,
Linear IC
Email : manish68848@gmail.com

DR. ALPESH H. DAFDA

Designation : Associate Professor and Head
Qualification : Ph.D.
Experience : 24 Years
Area of Interest : Wireless and Wired Communication
Image Processing and Applications
and ML
Email : alpesh.dafda@gecmadasa.ac.in

PROF. (DR.) NIRAV D. PATEL

Designation : Assistant Professor
Qualification : Ph.D.
Experience : 15 Years
Area of Interest : Wireless Communication
Email : nirav@gecmadasa.org

DR. BHAVIK ARVINDBHAI BRAHMBHATT

Designation : Assistant Professor
Qualification : Ph.D.
Experience : 07 Years
Area of Interest : Power Electronics, Digital Signal
Processing, Embedded System
Email : bhavik.brahmbhatt@gecmadasa.ac.in

PRIYANK V PATEL

Designation : Assistant Professor
Qualification : M.E.E.C.
Experience : 09 year
Area of Interest : VLSI , IMAGE Processing ,Sports
Email : pvp.fetr@gmail.com
Website : <https://sites.google.com/view/priyankpatelgec/home>

LABORATORIES



ANALOG ELECTRONICS AND DIGITAL ELECTRONICS LABORATORY

Analog Electronics and Digital Electronics laboratory provides the platform for the students to understand the behavior of the circuit related to Analog Electronics and Digital Electronics. The laboratory is equipped with the different experimental set-ups like Lab Station, digital trainer kits provided to the students to do hands on for observing the response of the circuits and to carry out the testing of the circuits.

VLSI & EMBEDDED SYSTEMS LAB

It provides the platform for the students to understand the architecture and interfacing of microprocessor, microcontroller, Field Programmable Gate Array (FPGA) and Complex Programmable Logic Device (CPLD). This laboratory is equipped with the different experimental set-ups. Facility is provided to the students to do hands on for testing their programming codes



DIGITAL COMMUNICATION LAB

It deals with the analysis and manipulation of signals. The equipments like Digital Storage Oscilloscope (DSO), Lab Station Amplitude, frequency and phase shift keying Trainer Kits and modulation kits for mobile communication, AM-FM Modulation-Demodulation kits are available in this laboratory.

GOVERNMENT ENGINEERING COLLEGE,MODASA
EC ENGINEERING DEPARTMENT

NEWSLETTER

PRAGATI 2K26



PRAGATI-2K26 was successfully organized by the Technopreneur Club of Government Engineering College, Modasa on 23 January 2026 at the Learning Resource Centre (LRC) Building. The event celebrated the spirit and values of the Indian Constitution through a variety of creative, cultural, and literary activities. The program featured competitions in singing, dancing, poetry recitation, speech, and short film presentations, providing students with an opportunity to showcase their creativity and confidence. Around 15 enthusiastic participants actively took part in the event. A special expert talk by Dr. Usha Rathod, Principal of Tatva Gyanshakti School, Modasa, inspired students with valuable insights into constitutional values, civic responsibility, and national integrity. The event concluded on a positive note, promoting unity, creativity, and patriotism among students and faculty members.

DEPARTMENTAL ACTIVITIES

INDUSTRIAL VISIT

On 13 February 2026, 20 students from the 6th and 8th Semesters of the Department of Electronics and Communication Engineering visited Azista BST Aerospace, Sanand, Ahmedabad, under the guidance of faculty members. The visit provided valuable exposure to satellite assembly, integration, environmental testing, cleanroom operations, and advanced space technologies. Students observed satellite subsystems, thermal vacuum, vibration, and EMI/EMC testing facilities, gaining practical insights into aerospace engineering and satellite communication beyond classroom learning. The visit was coordinated by Prof. P. V. Patel.



INDUSTRIAL VISIT TO DHYAN AUTOMATION MACHINERY PVT. LTD.



On 13 March 2026, students of the 5th and 7th Semester visited Dhyan Automation Machinery Pvt. Ltd., a leading manufacturer of industrial automation and special-purpose machinery, under the guidance of Prof. Alpesh Dafada and Prof. Ketu Patel. The visit provided firsthand exposure to modern automation technologies, CNC machines, PLC-based control systems, and industrial manufacturing processes. Students also learned about quality assurance, safety practices, and the role of automation in improving industrial productivity and efficiency. The visit was also coordinated by Prof. K. R. Patel.

INDUSTRIAL VISIT TO SP AUTOMATION PRIVATE LIMITED

On 13 March 2026, students of the 5th and 7th Semester visited SP Automation Private Limited, Ahmedabad, under the guidance of Prof. Alpesh Dafada and Prof. Ketu Patel. The company specializes in the manufacturing of AC drives, electrical panels, control panels, and industrial automation solutions. During the visit, students gained practical exposure to automation system design, PLC-based control panels, quality testing, and industrial safety practices, enhancing their understanding of modern manufacturing and automation technologies.

DEPARTMENTAL ACTIVITIES

EXPERT LECTURE ON ENVIRONMENTAL SCIENCE, SUSTAINABILITY AND RENEWABLE ENERGY

On 10 April 2026, the Department organized an Expert Lecture on Environmental Science, Sustainability, and Renewable Energy by Prof. Alpesh Dafda, HOD EC, to enhance students' awareness of sustainable development and environmental conservation.



The lecture highlighted the importance of renewable energy technologies, resource conservation, and ecofriendly practices in addressing global environmental challenges. Students actively participated in the interactive session and gained valuable insights into building a sustainable future through responsible engineering and innovation.

POSTER PRESENTATION



The Department organized a Final Year Internship Poster Presentation to evaluate students' internship work and prepare them for professional technical presentations. The event was coordinated by Prof. P. V. Patel. Final-year students presented posters showcasing their internship projects, methodologies, and key outcomes. Faculty members evaluated the presentations based on technical knowledge, innovation, communication skills, and overall presentation quality. The activity enhanced students' confidence, technical understanding, and readiness for industry and academic presentations.

RESEARCH & OUTREACH

ACHIVEMENTS

Prof. B. Brahmbhatt, Prof. S. Banker, Prof. J. Chakravorty and Prof. C. Bariya, published “Technical and Economic Assessment of Metaheuristic Optimization Techniques for a High DER-Integrated IEEE 118-Bus Power System in Electricity Markets” in International Journal of Advanced Technology and Engineering Exploration (ISSN: 2394-7454), Vol. 13, Issue 138, dated 16/05/2026 (Publisher: ACCENTS Journals, a Unit of ACCENTS; CiteScore: 2.8).

Prof. S. A. Vahora, Prof. B. Brahmbhatt, and Prof. N. N. Maltare published “A Fuzzy-IoT Irrigation Framework with LoRa-Based Connectivity for Climate-Resilient Agriculture in Semi-Arid Regions” in Advances in Engineering and Intelligence Systems (ISSN: 2821-0263), Vol. 5, Issue 1, pp. 97–113, March 2026 (SJR: 0.377; CiteScore: 3.1).

Prof. S. Rana and Dr. A. K. Sarvaiya published “A Comprehensive Review of SIW PIN Diode Attenuators for High-Frequency Wireless Communications” in Analog Integrated Circuits and Signal Processing (ISSN: 1573-1979), Vol. 126, Issue 22, December 2025 (Publisher: Springer; Impact Factor: 1.9; Scopus CiteScore: 2.5–3.9).

PARTICIPATION

Faculty Name	Training/ Program	Organization	Duration
Prof. A. H. Dafda	Participated in one week training program on Quantum Computing :Principles, Algorithms and Applications	Vidush Somany Institute of Technology and Research, KSV, Gandhinagar	29/12/2025 – 02/01/2026
Prof. A. H. Dafda	Participated in one week training program on Foundations of Quantum Technologies QT-00 & QT-01	DTE, i-Hub, Ahmedabad	20/04/2026 – 24/04/2026
Prof. K. R. Patel	Participated in Short Term Skill Development Course on Entrepreneurship Development for the Space Sector	DTE, i-Hub, Ahmedabad	05/01/2026 – 10/01/2026
Prof. K. R. Patel	Participated in Introduction to Industry 4.0 and Industrial Internet of Things	SWAYAM-NPTEL Online Course	19/01/2026 – 10/04/2026
Prof. S. H. Mansuri	Participated in one week training program on Foundations of Quantum Technologies QT-00 & QT-01	DTE, i-Hub, Ahmedabad	20/04/2026 – 24/04/2026
Prof. S. H. Mansuri	Participated in Industrial Training at Themis Automation Pvt Ltd	Themis Automation Pvt Ltd, Ahmedabad	15/06/2026 – 27/06/2026
Prof. S. H. Mansuri	Participated in Introduction to Industry 4.0 and Industrial Internet of Things	SWAYAM-NPTEL Online Course	19/01/2026 – 10/04/2026
Prof. B. A. Brahmbhatt	Participated in Exploring Research Opportunities and Impactful Research	LDCE, Ahmedabad	04/05/2026 – 08/05/2026

PARTICIPATION

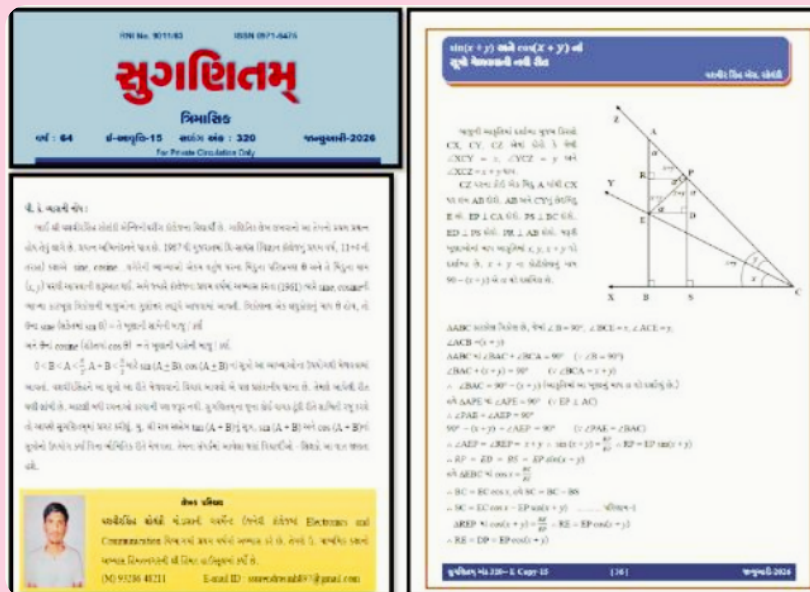
Faculty Name	Training/ Program	Organization	Duration
Prof. B. A. Brahmbhatt	Participated in Industrial Training at Themis Automation Pvt Ltd	Themis Automation Pvt Ltd, Ahmedabad	15/06/2026 – 27/06/2026
Prof. B. A. Brahmbhatt	Participated in Signal Processing Techniques and Its Application	SWAYAM-NPTEL Online Course	24/01/2026 – 15/04/2026
Prof. P. V. Patel	Participated in Industrial Training at Themis Automation Pvt Ltd	Themis Automation Pvt Ltd, Ahmedabad	15/06/2026 – 27/06/2026

- ✦ **Dr. N. D. Patel** from EC Department was awarded a Doctorate of Philosophy (Ph.D.) by Ganpat University following his Viva-Voce on 10/05/2025 (Notification No. 35/2025, F. No. 57/GUNI/PhD./FOET/631/2025). His thesis, titled “Investigation of Spectral Efficiency in Massive MIMO for Various Design Parameters and Fading Scenarios,” was submitted in Electronics and Communication Engineering under the Faculty of Engineering and Technology, U. V. Patel College of Engineering, Ganpat University, under the guidance of Dr. Vijay K. Patel.
- ✦ **Prof. S. H. Mansuri** from EC Department had his design patent for an “Octagonal Frequency Reconfigurable Slotted Patch Antenna” accepted and published by the Controller General of Patents, Designs and Trademarks, Department of Industrial Policy and Promotion, Ministry of Commerce and Industry (Application No. 440489-001), on 13/12/2024.
- ✦ **Prof. P. V. Patel** from EC Department became the Khelmahakumbh District-level Champion in badminton doubles on 07/01/2025.



Tanvee Tarunkumar Kadia (220160111003) from Electronics and Communication wrote and published a Gujarati poetry collection titled “Sanvednakshar,” featuring original works on life, human emotions, inspiration, patriotism, spirituality, and core values, published under their own label, Shrivi Publication, on 17/05/2026.

Tanvee Tarunkumar Kadia (220160111003) participated in the State-Level Yuva Utsav 2025 held at Morbi, Gujarat, representing Vedant Global School, Morbi, in the Poetry Writing Competition and securing 1st Rank, on 28/12/2025.



Solanki Yashvirsinh Surendrasinh (250160111033) from Electronics and Communication developed an original method and mathematical proof for the trigonometric identities $\sin(x + y)$ and $\cos(x + y)$ during Class 12 studies. This research was recently published in the mathematics magazine Suganitam (pages 37–39), on 17/05/2026.

CREATIVE CORNER



✦ Drawn by: Solanki Pavan Ashish Kumar (Sem-5, EC, Roll No. 240160111029)

FACULTIES PURSUING PH.D

Faculty Name	Research Area	Ph.D Pursuing from University
Prof. Shilpa Rana	Microwave Filter Design	Gujarat Technological University
Prof. Sameer Mansuri	Antenna Design	Gujarat Technological University