Microcontroller & Digital Signal Processing

One of the best embedded micro-controller laboratories equipped with low end to high end micro-controller platforms like 8051, fast C8051f120 - CIP51 core, PIC, ARM-M3, ARM-M4 and Texas Make TMS320F 28335 floating point processors. In addition, the lab also provides a recent platform of FPGA and supporting software and compliers like KEIL, Micro-C, Code Composer Studio and Altium.

Power Electronics and Drives

The sophisticated laboratory for power electronics and drives has been developed to conduct basic and advanced experiments for understating and implementing the control strategies of power electronics devices. The lab has the facilities of chopper and inverter modules, Digital Storage Oscilloscope, Harmonic analyzer, most advanced DSPACE — ACE 1103 Kit and AC-DC Drives based on DSP control.

Electrical Machines

The operation of electrical power system and industries are based on electrical machines such as transformers, induction machines, synchronous machines and direct current machines. To demonstrate the working principle of these machines and to evaluate their performance characteristic, a fundamental lab on Electrical Machines has been established with ample number of machine sets and in house developed experimental panels.

High Voltage Engineering

100 kV AC/DC cascade transformers and 150 kV impulse voltage generation facilities are exclusively available in HV lab along with sphere gap assembly, electrolytic tank, horn gap arrestor, BDV and Tan-Delta Kit.

Programmable Logic Controller Lab

Industrial automation and process control play a very important role in the manufacturing industries which extensively use programmable logic controllers. Realizing these industrial needs, the department has introduced the new course on PLC with dedicated lab. The lab has Schneider Electric Make PLC Kit M340 Series, P20302 with 1024 digital & 256 analog I/O, Unity Pro S and SCADA Vijio Citect.

Simulation Laboratory

The computer laboratories are equipped with 50 computers having i7 processors to operate Hi-Tech simulation software in field of electrical machines, power system and electronics. The curriculum offers exclusive courses on simulation to acquire the knowledge for the following globally recognized licensed simulation software.

PSpice · MAGNET · SRM Power Tools · dSPACE · MATLAB · CYME International T&D · PowerWorld Corporation

Other Laboratories

In addition to above labs, the department also has the basic labs on Network Analysis, Control Engineering, Industrial Instrumentation, Electrical Measurement and Digital Electronics.

Major Recruiters

Larsen & Toubro · Alstom · Schneider Electric · CEMA · adani · Gujarat State Fertilizers & Chemicals Ltd. · John Energy Ltd. · Essar · Atlanta Electricals Pvt. Ltd. · Jyoti Ltd. · Polycab Wires & Cables · ABB · Tata Consultancy Services

And Many more...

CHARUSAT
CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY

। ऋते ज्ञानान्न मुक्तिः ।

cspit
Chandubhai S Patel Institute of Technology

M & V Patel Department of ELECTRICAL ENGINEERING

Contact

Charotar University of Science and Technology,
CHARUSAT Campus, Changa, Dist-Anand, 388421
T: +91-2697-265011, 265048
E: ee.cspit@charusat.ac.in
W: www.charusat.ac.in

Scope of Electrical Engineering

Electrical Engineering (EE) is one of the most popular and fastest growing engineering programmes in India and abroad. EE has been one of the major driving forces of high technology over the past few decades. It involves the in-depth study of electricity, electronics and computers application for the development of electrical and electronics equipments, power generation & transmission systems, electrical machines and control of electric power grid. EE is also rapidly growing in other than core areas such as wireless communications, mobile technologies, nanotechnology, biotechnology and biomedical engineering. In present growth scenario of our country, there are ample opportunities for the EE graduate in both private and public sectors like railways, civil aviation, electricity boards & utility companies, electrical design and consultancy firms and all types of manufacturing industries.

About The Department

M & V Patel Department of Electrical Engineering is established in 2000 since the inception of Chandubhai S. Patel Institute of Technology. The EE department is committed to excel both in teaching and research. EE department currently offers B. Tech., M. Tech., and Ph. D. Programs. The department is having highly qualified and experienced faculties with minimum qualification of ME / M Tech. Research activities are carried on Power Systems, Power Electronics, Advanced Microcontrollers & Renewable Energy. The department was accredited by National Board of Accreditation in 2008.

Bachelor of Technology	120 Seats
Master of Technology	18 Seats (Power System)
Doctor of Philosophy	12 Research Scholars (Pursuing)

Curriculum

The curriculum of EE mainly focus on power system design, operation & control; electrical machines; circuit analysis; control engineering; power system protection and high voltage engineering. Looking at the industrial demand, the curriculum of EE at CHARUSAT has been designed to give an in-depth practical exposure to our students to forge a bright career path in electrical engineering. Following courses are exceptionally offered at CHARUSAT for the undergraduate course in EE along with conventional courses.

Computer Applications in Electrical Engineering; Micro - controllers and their Applications; Programmable Logic Controllers; Digital Signal Processing; Power Electronics Drives and their Control; Power System Stability and Control; Energy Conservation & Management

Salient Features of Electrical Engineering Department

- State-of-art infrastructure for classrooms and labs
- Curriculum based on the present day demand of industries, utilities & research organizations. It is reviewed and updated on regular basis.
- Contribution of leading academicians and engineers from industries in designing curriculum.
- Practical exposure to relate theoretical concepts through hi-tech laboratories with sophisticated instruments.
- Highly qualified faculties : PhDs and ME/M Tech degrees.
- Courses on communication skills and personality development in each semester.
- Career counseling, mock interviews, free coaching for competitive exam such as GATE, GPSC, UPSC.
- Industrial tours, visits and training; short term training courses; summer internship for students.
- Academies on Microcontrollers, PLC and Power System.
- University Industry Interaction Cell (UIIC), Entrepreneur Cell, Incubation Centre, MOUs with industries.
- Access to research publications of IEEE, Science Direct and other reputed E -Journals.
- Research publications & research projects funded by National Funding Agencies.
- Students counseling, Parents-Teachers Meeting.
- Sponsorship to students to develop their technical skills and imaginations through "Innovation Club g i-Club".
- Sports, National Service Scheme (NSS).

Student Activities & Achievements

Extracurricular activities play an integral role in the career development of students during and after college life. CHARUSAT provides strong platform to enrich students lives beyond academics and the students enjoy this activities during the year.

- IETE-ISF CSPIT Chapter
- IEEE Students Chapter
- "KADAM" —A Step for Social Upliftment
- "Quill" Magazine: Written and Edited by students
- Engineers Day Celebration; Technical Festivals - "Cognizance"; Cultural Festivals- "Spoural", "Vrund" - Garba Festival, Youth Festivals -Inter college competitions

Team "Prithvi" - Students of Electrical and Mechanical Engineering have won the championship on "Electrical Solar Vehicle Championship" from all over Asia in 2015. Another Team "Ojswat" stood third in the competition organized by "SAE - Supra" in 2014.

Laboratories in Electrical Engineering

Power System Protection Lab

A specialized laboratory developed by faculties and students of department for power system protection. The lab is equipped with the conventional electromechanical and sophisticated numerical relays for transformer, generator, motor, bus bar and transmission line protection. ABB Make REJ 525, SPAU 130C, REM 543, ICM21kp; Siemens Make 7SJ600; Alstom Make MICOM 444, CDG11, CDD21, CDD32EG are installed on experimental panels for the demonstration of power system protection relaying concepts.