

The Department has well equipped laboratories with wide-ranging hardware and software for imparting sufficient hands-on training to the students. Guidance and requisite facility is made available to the students towards completion of their UG projects, which forms an important part of their curriculum. The following laboratories are nested within the department:

- **Analog Electronics Lab:** This laboratory supports design of simple and complex analog electronic circuits using discrete components. The laboratory is well equipped with general purpose and special instruments that enable testing, verification and performance analysis of designed circuits.

General Purpose Instruments: Arbitrary Waveform Generators, Digital Function generators, Digital Signal Oscilloscopes (30 MHz, 100 MHz), Power Supplies (60W, 90W, 300W), Multimeters, Bread Boards, Soldering Stations, LCR meters etc.

Special Instruments: 500 MHz Spectrum Analyzer, PCB Prototype machine, 6 GHz Waveform Generator, 200 MHz Mixed Domain Oscilloscope.

- **Digital Electronics Lab:** This laboratory supports the training and project needs of the students in the area of digital electronic design.

General purpose instruments: Basic Logic kits, Combinational Circuit kits like Full adders, Multiplexers, Demultiplexers, Encoders, Decoders etc., Sequential kits like Flip-Flops, Counters etc., Soldering Stations, Waveform Generators etc.

Special instruments: Standalone 36 Channel Logic Analyzer

- **Microprocessor/Microcontroller Lab:** The purpose of this laboratory is to enable students to build a firm background in microprocessor hardware as well as software. This laboratory provides facilities to familiarise students with the software and hardware of microprocessors and gain enough experiences to meet the demand of the microprocessor era.

General Purpose Instruments: 8085 and 8086 Microprocessor kits, 8051/ARM/PIC Microcontroller trainer kits and Development boards, Microcontroller Programmers, Raspberry Pi and Arduino Boards, Interfacing modules,

Special Instruments: 36 Channel logic analyzer, IOT trainer Kits.

- **Microwave Lab:** The microwave lab is used to design and analyze the characterization of RF and Microwave components. This lab is equipped to carry out basic microwave

measurements, such as impedance, power, frequency, VSWR, etc., using waveguide technology.

General Purpose Instruments: GUN power supply, VSWR meter, Klystron power supply, Television and VCR functioning set up, Microwave test bench series, Transmission line trainer, RF power meter, RF detector, Waveguide twists, Circulators (2-port and 3-port), Directional couplers etc.

Special Instruments: Pick up Horn antenna, Antenna Training System, Parabolic Reflector set up, RADAR setup.

- **Communication Lab:** Communication lab focuses on training the students in both analog and digital transmission/reception of signals. Students here are trained to construct circuits for analog and digital modulations.

General Purpose Instruments: Analog and Digital Communication Kits like, AM, FM, PAM, PWM, PPM, Arbitrary Waveform Generators, Digital Function Generators, Digital Signal Oscilloscopes (30 MHz, 100 MHz) etc.

Special Instruments: Optical fiber trainer, GSM trainer, GPRS trainer, CDMA trainer, FHSS Trainer, PN sequence generator.

- **Data Communication Lab:** This lab is used to study different digital modulation schemes like ASK, FSK, PSK etc. The lab is equipped with different modulation/ de-modulation kits and emphasis is laid on understanding the basics of different digital modulation schemes.

General Purpose Instruments: ASK, FSK, PSK kits, Arbitrary Waveform Generators, Digital Function Generators, Digital Signal Oscilloscopes (30 MHz, 100 MHz) etc.

- **Computation/ Simulation Lab:** This laboratory houses more than 30 computers and provides full internet access. The lab is equipped with various CAD tools like SystemVue, Cadence, Xilinx, MATLAB etc. and supports the general purpose computing needs of students.
- **Photovoltaic Lab:** This is a special purpose lab and is used to make students acquainted with design and installation of photovoltaic based system. Besides, an elective course is also offered to students from this lab.

Special Instruments: Photovoltaic trainer kit, DC Programmable power supply,
Programmable electronic load