DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

BASIC ELECTRICAL AND ELECTRONICS LABORATORY

The basic Electrical and Electronics laboratory is utilized forperforming experiments related to fundamentalsof Electrical and Electronics Engineering, Engineering subject common to allfirst year undergraduate students of the college.We are all surrounded by electrical and electronic devices. Electrical and Electronics Engineering, a core discipline, is devoted to study of the principles of electricity to develop machines, devices and systems. The study of electrical and electronic is pivotal to both, electrical and electronics engineering students. This Lab covers all the basic devices that serve as the most basic building block of almost all electronic and electrical devices. This Lab lays a firm foundation of what is to be learned throughout the engineering curriculum.

NETWORK ANALYSIS LABORATORY

The network analysis lab is a very basic skill set needed by all who want to do major in Electronics, instrumentation or electrical engineering. This Lab aims at equipping students with the analysis and techniques, which will be used throughout the engineering curriculum. This Lab develops a general aptitude expected out of engineering students, by virtue of which they can understand and analyze basic electrical and electronic circuits.

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ELECTRONIC DEVICES LABORATORY

Diode and Transistors are basic building blocks to almost all electronic equipments. This Lab provides a comprehensive introduction to the electronic properties of semiconductors, technology, the theories and practices of the most important electronic devices, and their impacts on the performance of integrated circuits. The Lab also provides a practical perspective on electronic devices.

DIGITAL ELECTRONICS LABORATORY

The digital electronics laboratory is intended forperforming experiments for the Digital Electronics subject at second year undergraduate students ofElectronics and Communication Engineering, Information Technology and Computer Science and Engineering. This lab is equipped with Digital Electronics Trainer Boards, breadboards, powersupplies, electronic components, various digital ICsto design and test various digital circuits.

ANALOG ELECTRONICS LABORATORY

This laboratory is intended for performing laboratory exercises and the minor projects for subjects likeanalog electronic devices & circuits and analogintegrated circuits of the second year undergraduate students. It is well equipped with the sufficientnumbers of experimental trainer boards,oscilloscopes, function generators, power supplies,multi-meters and electronic components.

ELECTRONIC INSTRUMENTATION LABORATORY

This laboratory focuses on training the second yearUG students on measuring techniques. This lab isused for measuring different parameters liketemperature, pressure, strain, and speed along withmeasurement of resistance, inductance,capacitance and frequency. The lab consists ofdifferent measuring instruments like thermocouplemodule, pressure transducer module, strain gaugemodule, magnetic sensor and photoelectric sensorand various bridge circuits. This lab is adequatelyequipped with function generators, CROs, DSOs,voltmeters, ammeters, multi-meters etc.

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COMMUNICATION LABORATORY

This Laboratory is used to understand the principlesof analog and digital communication engineering atsecond year UG level. The lab isequipped with various modulation and demodulationtraining boards for AM, FM, SSB, DSP, ASK, FSK,PSK, Delta, adaptive delta, TDM-PCM techniquesand sufficient number of CROs, function generatorand DSOs.

COMMUNICATION NETWORKS &TRANSMISSION LINELAB

The Communication networks and transmission line serves as the backbone in integrating the circuit components in a microwave device. Thus, the understanding of the electromagnetic wave propagation in free space and transmission lines are very critical in designing a communication system. ThisLab introduces students to the concept of transmission lines, which forms the basis for understanding RF and microwave technology. Students will understand the need for transmission lines and also the complexities involved in dealing with high-frequency systems.

EMBEDDED SYSTEM LABORATORY/ROBOTICS LABORATORY

This lab is equipped with 8085 and 8086microprocessor kits and interfacing devices todevelop programming skills of Third year undergraduate students on microprocessor and itsinterfacing with other devices.A processor is the heart of today's technology. All computers and automation that we see all around has a microprocessor or microcontroller as its core. This Lab is an introduction to microprocessors and microcontrollers. This Lab covers 8086 microprocessors which are the father of all current processors. The Lab also covers Microcontroller 8051 and embedded systems which are used extensively in various electronic applications. . This lab also used by students of third yearand final year working on various projects.

ADVANCE SIMULATION LABORATORY

This is a state of the art UG/PG level lab togive an insight of circuit simulation to thestudents. The lab has excellent computingfacilities with sufficient number of advance computers. This lab have various latest important softwares such as MATLAB, Labview, Microwind Software, TINA Pro Software and Xilinx Software used forsimulation of

electronics circuits and systems.The lab focuses to implement the innovativeideas and develop theintellect of students about complex circuits.

DIGITAL SIGNAL PROCESSINGLABORATORY

This laboratory is intended for performingexperiments for Digital signal processing at thirdyear and first year PG levelDigital signal processing is one of the key components of all communication systems. The goal of DSP is usually to measure, filter and/or compress continuous real-world analog signals. This Lab will introduce the basic concepts and techniques for processing signals. The Lab emphasizes intuitive understanding and practical implementations of the theoretical concepts.Additionally, Lab provides the learners fairly comprehensive coverage of the basic principles and practical aspects of modern digital circuits and systems. This lab supports students fordoing UG/PG projects.

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ANTENNA LABORATORY

This Lab is concerned with three important aspects of telecommunications: fixed site antennas, radio wave propagation, and small antennas proximate to the body. Antennas are the essential communication link. Antennas for cellular phones and all types of wireless devices link us to everyone and everything. Antennas provide the vital links to and from everything out there. The future of antennas reaches the stars.

TV AND RADAR ENGINEERINGLABORATORY

Television, which now is considered one of the most basic amenities, is one of the strongest medium of mass communication. Radar is used greatly in defense. It is very important for an electronics and communication engineer to understand the basics behind these technologies. This Lab introduces field of TV&RADAR, right from beginning to latest trend so that they can contribute to the development, procurement, manufacture, and application of TV&RADAR system.

ADVANCED COMMUNICATION SYSTEMS LABORATORY

This Laboratory is used to understand the advanced theory of microwave techniques and wireless & optical fiber communication systems. This lab is used to conduct experiments at third and fourth year UG level. This lab is equipped with 5 microwave benches to measure VSWR, antenna gain, dielectric constant, radiation pattern etc. This lab also consists of optical fibre trainers for link design, WDM, laser, optical transducer CDMA, CDSS & FHSS and baseband transmitter and receiver.

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Seminar Hall