Programme Educational Objectives (PEOs) are established through a consultation process. PEOs are broad statements that describe the career and professional accomplishments that the graduates should achieve three to five years after graduation.

The Electronics programme graduates will

PEO 1:

Practice the morality of their profession consistent with a sense of social responsibility and develop their engineering design, problem –solving skills and aptitude for innovations as they work individually and in multi-disciplinary teams.

PEO 2:

Communicate effectively and manage resources skillfully as members and leaders of the profession.

PEO 3:

Be receptive to new technologies and attain professional competence through lifelonglearning such as advanced degrees, professional registration, publications and other professional activities.

PROGRAM SPECIFIC OBJECTIVES

In completion of the BSc degree the Electronics graduates will be able to

PSO1: Apply the fundamental concepts of electronics to design a variety of components and systems for applications including signal processing, image processing, communication, networking, embedded systems, VLSI and control system.

PSO2: Select and apply cutting-edge engineering hardware and software tools to solve complex Electronics problems.

PROGRAM OUTCOMES

On completion of the BSc degree the Electronics graduates will be able to

PO1

Utilize the basic knowledge in mathematics and science in Electronics field.

PO2

Identify, formulate and solve complex problems to achieve demonstrated conclusions using mathematical principles and applied sciences.

PO3

Design system components that meet the requirement of public safety and offer solutions to the societal and environmental concerns.

PO4

Apply research based knowledge to design and conduct experiments, analyze, synthesize and interpret the data pertaining to Electronics field problems and arrive at valid conclusions.

PO5

Construct, choose and apply the techniques, resources and modern integrated tools required for real time applications.

PO6

Apply the contextual knowledge to assess societal, health, safety and cultural issues and endure the consequent responsibilities relevant to the professional engineering practice.

PO7

Examine the impact of engineering solutions in global and environmental contexts and utilize the knowledge for sustained development.

PO8

Develop consciousness of professional, ethical and social responsibilities as experts in the field of Electronics.

PO9

Perform effectively as a member/leader in multidisciplinary teams.

PO10

Communicate the technical activities to systematizing society for documentation and presentation.

PO11

Demonstrate knowledge and understanding of the engineering and management principles to manage projects in multidisciplinary environment.

PO12

Demonstrate resourcefulness for extant issues and lifelong learning.

COURSE OUTCOMES

ELE1B01 Basic Electronics & Network Theorems

CO1: To learn the basics of electronic components
CO2: To learn the basics of testing and measuring instruments
CO3: To learn the circuit assembling
CO4: To study circuit troubleshooting

ELE2B02 Electronic Circuits

CO1: To learn fundamentals of electronics
CO2: To learn the circuit assembling
CO3: To study circuit trouble shooting
CO4: To study different modes of operations of amplifiers and oscillator circuits

A12(General)-Sensors and Transducers

CO1: Use concepts in common methods for converting a physical parameter into an electrical quantity
CO2: Classify and explain with examples of transducers, including those for measurement of temperature, strain, motion, position and light.
CO3: Choose proper sensor comparing different standards and guidelines to make sensitive measurements of physical parameters like pressure, flow, acceleration, etc
CO4: Predict correctly the expected performance of various sensors
CO5: Locate different type of sensors used in real life applications and paraphrase their importance
CO6: Set up testing strategies to evaluate performance characteristics of different types of sensors and transducers and develop professional skills in acquiring and applying the knowledge outside the classroom through design of a real-life instrumentation system.

ELE3B05 Digital Electronics

CO1: To equip the students with detailed knowledge in digital electronics, digital IC's in the 74XXSeries.
CO2: Many of the ideas are important to learn microprocessors.
CO3: To learn different number systems, logic gates, comparators, flip flops etc

A13 Data Communication & Optical Fibers

CO1: Understand and apply the knowledge to identify the different types of network topologies and protocols.
CO2: Understand the basic protocols of computer networks and how they can be used to assist in network design
and implementation.
CO3: Understand and characterize different components of an optical fiber communication system.

CO4: Define optical sources and detectors. Describe LED, laser diodes and photo diodes.

A14 Microprocessor Architecture & Programming

CO1: Recall and apply a basic concept of digital fundamentals to Microprocessor based personal computer system.
CO2: Identify a detailed s/w & h/w structure of the Microprocessor.
CO3: Illustrate how the different peripherals (8255, 8253 etc.) are interfaced with Microprocessor.
CO4: Distinguish and analyze the properties of Microprocessors & Microcontrollers.
CO5: Analyze the data transfer information through serial & parallel ports.
CO6: Train their practical knowledge through laboratory experiments

ELE4B06 Analog Integrated Circuits

CO1:To equip the students with detailed knowledge of Analog IC's like OPAMP 741, IC 555 etc.
CO2: To learn the basics of Amplifiers, filters, wave form generators, comparators, Multivibrators and voltage regulators.

ELE5B10 Electromagnetic Theory

CO1: To equip the students with basic knowledge in Electromagnetic Theory, which is important in the field of communications
CO2: To learn the Electrostatics, Magneto statics and Electrodynamics

ELE5B11 Microcontroller & Interfacing

CO1: Gain comprehensive knowledge about architecture and addressing modes of 8051
CO2: Write assembly language program in 8051.
CO3: Implement the middle level programming and interfacing concepts in 8051
CO4: Use external interfaces in various embedded system projects

ELE5B12 Network Theory

CO1: Apply the knowledge of basic circuital law and simplify the network using reduction techniques
CO2: Analyse the circuit using Kirchhoff's law and Network simplification theorems
CO3: Infer and evaluate transient response, Steady state response, network functions
CO4: Obtain the maximum power transfer to the load , and Analyse the series resonant and parallel resonant circuit

ELE5D02 (Open Course) Digital Fundamentals

CO1: To equip the students with detailed knowledge in digital electronics
CO2: To learn different number systems, logic gates, counters, flip flops etc

ELE6B13 Communication Systems

CO1: Understand the basic concepts of the analog and digital communication systems
CO2: Evaluate modulation index, bandwidth and power requirements for various analog modulation schemes including AM,FM and PM
CO3: Analyze various analog pulse modulation and demodulation techniques including AM, FM and PM
CO4: Understand and Analyze various digital modulation and demodulation techniques including ASK, FSK, PSK BPSK and QPSK

ELE6B14 Principles of DSP

CO1: Use concepts of trigonometry, complex algebra, Fourier transform, z-transform to analyze the operation on signals and acquire knowledge about Systems.
CO2: Classify systems based on linearity, causality, shift-variance, stability criteria and represent transfer function of the selected system;
CO3: Evaluate system response of a system using Z-transform, convolution methods, frequency transformation technique, DFT, DIF-FFT or DIT-FFT algorithm, window techniques;
CO4: Employ signal processing strategies at multidisciplinary team activities
CO5: Assess the techniques, skills, and modern tools necessary for analysis of different electrical signals.Also develop creative and innovative designs that achieve desired performance criteria within specified objectives and constraints, understand the need for lifelong learning and continuing professional education

ELE6B15 Microwave Theory & Techniques

CO1: Equip the students with basic understanding of Microwave theory and techniques

ELE6B16a(Elective) Optical CommunicationCourse outcomes

CO1:Understand and characterize different components of an optical fiber communication system.
CO2.Understand and analyse various propagation modes in optical fiber; explain attenuation,Signal Degradation and Pulse Broadening in optical fiber.
CO3:Define optical sources and detectors. Describe LED, laser diodes, PIN diodes and photo diodes.

Program Structure- Complementary

COURSE OUTCOMES

ELE1C01 Electronic Devices
CO1:To learn the basics of electronic components
CO2: To learn the basics of testing and measuring instruments
CO3:To learn the circuit assembling
CO4:To study circuit troubleshooting

ELE2C02 Electronic Circuits
CO1: To learn fundamentals of electronics
CO2: To learnthe circuit assembling
CO3: To study circuit trouble shooting
CO4: To study different modes of operations of amplifiers and oscillator circuits

ELE3C03 Digital Electronics
CO1: To equip the students with detailed knowledge in digital electronics, digital IC's in the 74XXSeries.
CO2: Many of the ideas are important to learn microprocessors.
CO3: To learn different number systems, logic gates, comparators, flip flops etc

ELE4C04 Communication Electronics
CO1: Understand the basic concepts of the analog and digital communication systems
CO2: Evaluate modulation index, bandwidth and power requirements for various analog modulation schemes including AM,FM and PM
CO3: Analyse various analog pulse modulation and demodulation techniques including AM, FM & PM
CO4: Understand and Analyse various digital modulation and demodulation techniques including ASK, FSK, PSK BPSK and QPSK.