Department of Electronics and Communication Science

Program Outcome (PO)

After the completion of the program the students are able to

PO1 : Relate mathematics, science, electronics fundamentals to the solution of complex scientific problems

PO2 : Design solutions for scientific problems and system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations

PO3 : Use appropriate techniques, resources, and modern tools with the limitations

PO4 : Organize effectively with the related community and society at large to comprehend and write effective reports and documentation, make effective presentations, and give and receive clear instructions

PO5 : Recognize the need for life-long learning in the broadest context of technological change

PO6 : Employ electronic principles to one's own work to manage projects and in multidisciplinary environments

Program Specific Outcome (PSO)

After the completion of the program the students are specifically able to

PSO1 : Relate the application of electronics in the emerging fields

PSO2 : Interpret the scientific and technological aspects of Electronics in day to day life

PSO3 : Employ the concepts of Electronics in scientific systems useful to society.

Course Outcome (CO)

Basic Circuit Theory

After the completion of the course the students are able to

CO1: Classify resistors, capacitors and Inductors

CO2: Simplify and identify solutions to electrical circuits.

CO3: Develop the techniques to solve simple circuits using the laws

CO4: Categorize series and parallel equivalents

CO5: Recognize resistors, capacitors, inductors and transient circuit responses

CO6: Explain components, laws and theorems required for the circuits

Basic Electronics

CO1: After the completion of the course the students are able to

CO2: Compare types of bonding and semiconductors

CO3: List out types of diodes and rectifiers

CO4: Categorize types of transistors

CO5: Discuss Field Effect Transistors

CO6: Explain Diodes, transistors & FETs

CO7: Use Diodes, rectifiers, transistors and FETs in various circuits

Electronic Devices

After the completion of the course the students are able to

CO1 : Identify the structure of various number systems and its application in digital design

CO2: Analyze various combinational and sequential circuits

CO3 : Analyze how to interface digital circuits with analog components

CO4 : Compare the different networks

CO5 : List different logical circuits

CO6 : Categorise number system and various digital circuit designs.

Electricity, Magnetism and Electromagnetism

After the completion of the course the students are able to

CO1 : Outline the concepts of Electrostatics, Dielectrics, Magnetostatics, Electromagnetic Induction

CO2 : Classify the laws in Electrostatics, Dielectrics, Magnetostatics, Electromagnetic Induction

CO3 : Compare Electrostatics and Magnetostatics

CO4 : Discuss current electricity and dielectrics

CO5 : Explain magnetostatics and electromagnetic induction

CO6 : Categorize electicity, electromagnetism and magnetism

Amplifiers and Oscillators

After the completion of the course the students are able to

CO1 : Describe Amplifiers

CO2 : Compare 555 and OPAmp circuits

CO3 : Discuss the concept of positive feedback

CO4 : Classify various types of amplifiers and oscillators

CO5 : List the application of OPAMP

CO6 : Explain amplifier, oscillator, 555 & OPAMP circuits

Basic Physics I

After the completion of the course the students are able to

CO1 : Define the basics of properties of matter, how Young's modulus and rigidity modulus aredefined and how they are evaluated for different shapes of practical relevance

CO2 : Describe the fundamentals of harmonic oscillator model, including damped and forcedoscillators and grasp the significance of terms like quality factor and damping coefficient

CO3 : Explain the general equation of wave motion in general and TM waves in stretched stringsand longitudinal waves in gases

CO4 : Recognize the general terms in acoustics like intensity, loudness, reverberation etc, andstudy in detail about production, detection, properties and uses of ultrasonic waves

CO5 : Outline the principles of acoustics and thermodynamics

CO6 : Examine Elasticity, Viscosity, surface tension, acoustics and other physical parameters and apply its application in the field of electronics

Principles of Communication

After the completion of the course the students are able to

CO1 : Relate various modulations

CO2 : Categorize modulation and demodulation techniques

CO3 : Explain analog and digital communication

CO4 : Outline sampling theorem and properties of Fourier Transform

CO5 : Use Amplitude, frequency modulations and its applications

CO6 : Compare and contrast Amplitude, frequency, analog pulse code, digital pulse modulations

Digital Electronics

After the completion of the course the students are able to

CO1 : Categorize various numbers and codes

CO2 : Compare sequential circuits

CO3 : Identify memory devices

CO4 : Use Combinational digital circuits

CO5 : Examine memory devices

CO6 : Explain sequential, combinational digital circuits, number systems

Basic Physics II

After the completion of the course the students are able to

CO1 : Define the basic concepts behind Optics, Nuclear Properties and Radio Activity

CO2 : Describe the basics in Laser

CO3 : Implement the applications of Fibre Optic

CO4 : Outline Photo electricity, properties of nuclei, radioactivity

CO5 : Discuss the polarization techniques, photo electric and voltaic cells, fission & fusion process, laser effect, types of optical fiberes and its applications.

CO6 : Examine optical principles, laser and fiber optic properties and apply its application in the field of electronics

Microprocessor

After the completion of the course the students are able to

CO1 : Describe the architecture of 8085 microprocessor

CO2 : Write assembly language programmes

CO3 : Develop programme efficiency using various addressing modes

CO4 : Experiment Interfacing of memory & various I/O devices with 8085 microprocessor

CO5 : Find the interfacing devices for its application

CO6 : Explain the building blocks of 8085 and its application.

Antenna and Television Engineering

After the completion of the course the students are able to

CO1 : Define the concept of Antenna parameters and types.

CO2 : Explain the fundamental concepts of television transmission, reception and scanning methods.

CO3 : Summarize the fundamental concepts of Wave Propagation.

CO4 : Describe the working principles of latest digital TV and HDTV, LED and OLED.

CO5 : Recognize the concept of RADAR

CO6 : Identify propagation of waves, transmission & reception of waves in TV, radar

Electrical and Electronics Instrumentation

After the completion of the course the students are able to

CO1 : Categorize DC and AC indicating instruments

CO2 : Recognize various AC and DC bridges

CO3 : Label the basic features of oscilloscope and different types of oscilloscopes

CO4 : Identify the complete knowledge of various electronics instruments/transducers to measure the physical quantities in the field of science and technology.

CO5 : Predict the application of Instrumentation Amplifier in various transducers and display devices

CO6 : Explain the applications of bridges, instruments, instrumentation amplifiers and Oscilloscopes.

Medical Electronics

After the completion of the course the students are able to

CO1 : Explain bioamplifiers

CO2 : Assess biological parameters

CO3 : Identify high energy radiation and high frequency applications

CO4 : Classify biopotential recorders

CO5 : Use bioamplifiers in biopotential recorders and in measuring biological parameters

CO6 : Identify the position of bioamplifiers in all biological measuring applications

Microcontroller

After the completion of the course the students are able to

CO1 : Describe the architecture of 8051 microcontroller

CO2 : Elaborate the operation of microcontroller

CO3 : Write the machine language programming

CO4 : Demonstrate keyboard, display, stepper motor, ADC & DAC interfaces

CO5 : Discuss the basics in Embedded System

CO6 : Explain the Concept behind Embedded System, building blocks of 8086 and its application.

Advanced Electronics

After the completion of the course the students are able to

CO1 : Classify optoelectronic devices

CO2 : Define MEMS and Nanoelectronics

CO3 : Identify operating system in smart phones

CO4 : Categorize voice and data communication

CO5 : Illustrate the applications of MEMS, optoelectronic devices

CO6 : Explain Optoelectronic devices, MEMS, Smart phones and communications

Computer Networks

After the completion of the course the students are able to

CO1 : Explain the OSI Reference Model

CO2 : Select the requirements for a given organizational structure and the most appropriate networking architecture and technologies

CO3 : Describe the functions of Physical, Data Link, Network layers in OSI model

CO4 : Define the transport, session and presentation layers

CO5 : Explain Repeaters, bridges, networks and www.

CO6 : Outline Structure, uses and Layers of Network

Consumer Electronics

After the completion of the course the students are able to

CO1 : Categorize digital devices

CO2 : Identify the principles of Microwave oven, Washing machine, airconditioner, refrigerator and digital devices

CO3 : Classify various types of microwave ovens, airconditioners

CO4 : Use of single chip controller, fuzzy logic and components in home appliances

CO5 : Predict digital devices and internet access

CO6 : Assesses Microwave oven, refrigerator, airconditioner, washing machine and digital access devices