Course Outcomes:

Sl No.	Semester	Course Title	Course Outcomes
1	I	Basic Circuit Theory and Network Analysis	Student will be able to: i) understand the basic circuit elements, circuit variables and Kirchoff's laws. ii) solve problems using mesh and node analysis and apply network theorem to analyze the various electrical circuits iii) analyse circuits in the phasor form. iv) analyse circuits in Laplace domain v) analyze the two port networks by determining the various parameters.
2	I	Mathematics Foundation for Electronics	Student will be able to: i) Solve higher differential equation and apply the concept of differential equation to real world problems ii) understand the theoretical concept of Matrix Algebra and Apply the principles of Matrix Algebra to solve various problems iiii) analyze the nature of sequence and series. iv) understand about complex numbers and functions. v) gain knowledge of various singularities and series expansions
3	II	Semiconductor Devices	Student will be able to i) define and understand the concepts of semiconductor physics. ii) explain the structure, creation of electric field and working of PN junction diodes. iii) understand different modes of operation and the various current components in BJTs iv) analyze energy band diagram of PN junction diodes, BJTs, metal-semiconductor junctions and MOS capacitors.
4	II	Applied Physics	Student will be able to i) analyse the failures of classical physics in microscopic situation and need of quantum physics ii) Acquire the theoretical information about matter in terms of quantum physics iii) learn Einstein's A, B coefficient and predict the wavelength domain of Lasing action iv) learn requirement of Miller indices for describing crystallographic planes v) understand the basic principles of thermodynamics, heat and work transfer.

5	III	Electronic Circuits	Student will be able to i) understand the working of analog circuits like rectifiers, clippers, clampers regulators etc. ii) understand BJT with different configurations and its small signal analysis iii) understand feedback amplifiers& Oscillators iv) understand power amplifiers& switching circuits v) understand working of amplifier using MOSFET &its small signal analysis
6	III	Digital Electronics and VHDL	Student will be able to 1. understand basic principles of digital circuits, different number systems and perform radix conversions 2. derive and analyze logic expressions and circuits using Boolean laws and K-map 3. design and analyze combinational circuits like adders, Comparators, multiplexers, Encoders, DeMUX, ROM etc. 4. analyse sequential circuits and design various counter circuits 5. understand the difference between different shift registers like Serial in serial out, parallel in parallel out etc. 6. have knowledge on Programmable Logic devices (PLDs) and their usage. 7. Simulate and implement combinational and sequential circuits using VHDL systems.
7	III	C Programming and Data Structures	Student will be able to i) Understand the basic terminology, write, compile and debug programs in computer programming. ii) Apply different types of control structures and arrays in a computer programming. iii) Develop programs that make use of concepts such as strings and pointers in C language. iv) Compare parameter passing techniques, structures and unions in computer programming. v). Analyze file operations, searching and sorting methods.
8	III	SEC-1: Programming with MATLAB	Student will be able to 1. use MATLAB for solving engineering problems. 2.analyze circuit operation & characteristics from simulation results. 3.generate different plots using MATLAB.

9	IV	Operational Amplifiers and its Applications	Student will be able to 1.define significance of Op Amps and its importance along with its DC and AC characteristics. 2. use OP Amp as Summer, Subtractor, Multiplier and Divider. 3. Analyze the linear and non-linear applications, waveform generators and sinusoidal oscillators using Operational Amplifier. 4. Design of Butterworth filters using Operational Amplifiers, IC-555 Timers and PLL with theory and applications.
10	IV	Signals and Systems	Student will be able to 1. Understand about various types of signals and systems, classify them, analyze them, and perform various operations on them 2. Understand use of transforms in analysis of signals and system in continuous and discrete time domain. 3. Observe the effect of various properties and operations of signals and systems. 4. Evaluate the time and frequency response of Continuous and Discrete time systems which are useful to understand the behaviour of electronic circuits and communication system.
11	IV	Electronic Instrumentation	Student will be able to 1. Understand and estimate errors in a measurement system. 2. understand analog and digital measurement instruments such as ammeter, voltmeter, ohmmeter etc. 3. Understand the operation of the different types of CROs. 4. Understand the basic principles of transducers and their applications. 5. Estimate accurately the values of R, L and C with suitable bridges.
12	IV	SEC-2: Design and Fabrication of Printed Circuit Boards	
13	V	Microprocessors and Microcontrollers	Student will be able to 1. know the history and need of 8085 microprocessors with its internal architecture and various addressing modes. 2. analyze various instructions and programs. 3. apply the knowledge for communicating various real time applications through interfacing techniques. 4: design various systems based on microprocessors and microcontroller.

14	V	Electromagnetics	Student will be able to 1. understand and interpret the physical meanings of gradient, divergence and curl, vector calculus and orthogonal coordinates. 2. Understand the principles of Electrostatics and magnetostatics using Maxwell's Equation. 3. understand steady fields and time varying fields and correlate the Poynting vector and Poynting theorem. 4. understand the wave equations, application of E.M. theory in transmission line, wave guide concept. 5. Observe the change in Maxwell's equations for time varying fields and also observe the condition at the boundary surfaces. 6. Get knowledge on propagation of EM wave in different media.
15	V	Discipline Specific Elective-1	
16	V	Discipline Specific Elective-2	
17	VI	Communication Electronics	Student will be able to 1. understand the building blocks of communication system. 2. Use of different modulation and demodulation techniques used in analog communication. 3. Understand different band-pass modulation schemes 4. Understand different base-band modulation schemes 5. Understand spread spectrum techniques and multiple access mechanisms
18	VI	Photonics	Student will be able to
19	VI	Discipline Specific Elective-3	
20	VI	Discipline Specific Elective-4	