Sr. No	Course code	Course Objective	Expected Outcome: Objectives and Goals of Learning and Training.
1	ELE-101	**UNIT 1**	This takes care of identification, construction and applications of various types of components used in experimental electronics. Further it enables students for sound identification and operations of power supply and test and measuring instruments to be used in Hi- Tech laboratory during their curriculum upto semester VI.
		UNIT 2	This unit gives complete perception regarding semiconductor diodes which is salt of electronic subjects. It is mainly used in rectification, demodulation, overload protection, attenuators and power supplies and also other applications.
		UNIT 3	This unit gives the idea to the students what is amplification of various types of signals and basic requirements to design the amplifier and the parameters associated with.
		UNIT 4	This unit introduces the students with digital electronics that is various Number Systems and their internal conversions. universal gates, different codes used in circuits, a start of moving towards various advanced digital circuits in the upcoming classes.
2	ELE-103	**TRANSISTORS**	All types of transistors have been covered to enhance the knowledge of students on the semiconductor technology over the conventional Valve electronics of diode and triode and tetrode valves getting obsolete for their high cost and high energy usage parameters. All different configuration circuits CB,CE and CC and also different Biasing technics are explained in details alongwith feedback technics and their analysis.
		Four Terminal Active Networks	Impedance, Admittance and Hybrid parameters have been explained in detail.Transistor Load line analysis and Fundamental concepts Using Transistors as an Amplifier in various configurations.
		NETWORK TRNSFORMATIONS	T AND π Networks and their inter conversions and various Theorems 1. Thevenin 2.Norton 3.Superposition and Reciprocity theorems have been included for vast knowledge enhancement. Also Resonance phenomena have been explained for consideration of the Merits and Demerits.
		Digital Electronics	Data processing circuits and Combinational circuits have been explained in details from applications point of View.
3	ELE-201	**LOW AND HIGH FREQUENCY RESPONSE OF TRANSISTOR AMPLIFIER**	Mid and Low frequency response of various different types of Waves have been covered for transformer coupled amplifiers.

		NEGATIVE FEEDBACK IN TRANSISTORS APLIFIERS	All types of feedback circuits have been explained at large. How Band Width affects gain and selectivity response have been included
		FIELD EFFECT TRANSISTOR AMPLIFIERS	A new component to the student is introduced called Field Effect Transistor and Metal Oxide Field Effect Transistor. The fourth unit is the extended study of power supply that is, filtering and regulation of the rectifier's output.
		FILTERS AND VOLTAGE REGULATORS	For the extraction of the useful band of frequencies different technics of implementing the Filter circuits have been explained. Also in order to have constant voltage power supply various Regulation technics have been included for their use in commercial market. The basic Zener regulation is the elementary technic included to start with.
4	ELE-202	**IMPEDANCE TRANSFORMATION AND COUPLED CIRCUITS.**	Tapped resonance circuits and Reactance L section circuits, Reactance T Network ,Magnetically coupled ,Iron core transformer, Singly tuned Air core transformer and doubly tuned Air core transformer circuits have been framed in syllabus for giving Competent knowledge to the Students on professional ground.
		WAVE SHAPING CIRCUITS AND FILTERS	High and Low pass RC circuits have been explained as Differentiator and Integrator respectively. Filter fundamentals including Pass and Stop bands have been included and also constant K low pass and constant K high pass circuits are included for high end understanding the concepts of Filters
		ARITHMETIC Building BLOCKS AND Clock Timer 555	Multiple bit ADDER and SUBTRACTOR Circuits have been included in the Syllabus alongwith Explanation of the Functional Diagram of Timer 555 with its applications on Ramp generator, Frequency divider and also their Stable and Astable operations .Schmitt Trigger Circuits have also been included for wave shaping of the distorted signals.
		8085 Microprocessor	Programming model of 8085 processor has been explained in detail for understanding of the each pin function. The technic of assembling and executing of 8085 programs have also been included at an introductory level.
5	ELE-204	**TRANSISTORS OSCILLATORS AND MULTIVIBRATORS.**	Use of Positive feedback in constructing the Transistor Oscillators of different types has been introduced. Switching Characteristics of Transistors in the form of Multivibrators Astable, Monostable and Bistable have been introduced.
		CLASS 'A' AND CLASS 'B' AMPLIFIERS	Different types of amplifiers are introduced in the syllabi for studying the principles of Harmonic distortion and power output and to arrive at the conclusion for the most suitable Amplifier for intended Application.
		INTIGRATED CIRCUIT FABRICATION:	Monolithic technology for the growth of IC chips has been explained in detail and also Thick and Thin film technologies have also been explained on preliminary ground.

		MICROPROCESSOR AND DIGITAL ELECTRONICS	Arithmetic, Data transfer, Branching and Machine level instructions have been introduced.
6	ELE-205	**LAPLACE TRANSFORMATION**	For analyzing of the simple networks and for the use of the partial function expansion theorem in the analysis of the Laplace Transformation has been used.
		FOURIER TRANSFORMATION	Wave Form symmetries have been included in the FOURIER TRANSFORMATION. Spectrum analysis for a recurring pulse and Typical Fourier transformations have also been discussed for the knowledge of the Students.
		FLIP FLOPS & REGISTERS	All sorts of Flip Flip circuits have been introduced for understanding digital circuit concepts.Also Role of different types of Registers available for the 4 and 8 bit data handling is fully Included for the comprehensive knowledge of the Students.
		MICROPROCESSOR ARCHITECTURE AND MICROCOMPUTER SYSTEM	Interfacing of various logical devices with 8-bit Microprocessor have been introduced and detailed Architecture has also been explained in detail for Competent information.
7	ELE-301	**ELECTRONICS THEORY**	Linear analog circuits and Voltage Regulators, Opamp theory, Opamp applications ,IC Voltage regulators and Switching Regulators have been introduced in the syllabus at Graduate level.
8	ELE-302	**ELECTRONICS THEORY**	Counters of different types based on 1. Counter techniques. 2. Simultaneous technique , Continuous technique and Successive approximation technique have been introduced and Microprocessor Programming for, Arithmetic, Data transfer, Branching and Machine level instructions have been introduced.
9	ELE-303	**ELECTRONICS THEORY**	Instrumentation technological study on Electronic Voltmeter and Multi-meter, Digital Voltmeter, CRT and Signal Generators is Included and Taught.
10	ELE-304	**ELECTRONICS THEORY**	Modulation Technics and Demodulation technics have been introduced alongwith Antenna and Satellite Communication and Electronic Communication
11	ELE-305	**Nanoscience and Nanotechnology**	
		Methods of synthesis of Nanomaterials	Different synthesis techniques to produce various nanomaterials. Introduction of CNT
		Analytical (characterization) Technique	
12	ELE-307	**NONLINEAR ELECTRONICS AND THYRISTERS**	Main focus is laid on educating students on NON LINEAR APPLICATIONS OF THE OPAMP, PHASE LOCKED LOOP PLL, THYRYSTOR-I, THYRYSTOR-II Concepts in Modern Electronics.
13	ELE-308	**ADVANCE DIGITAL ELECTRONICS AND MICROPROCESSORS**	A HIGH LEVEL STUDY ON D/A AND A/D CONVERTER CIRCUITS and High level assembly programming using various programming technics in 8 bit Microprocessor is introduced.

14	ELE-309	**ELECTRONIC COMMUNICATION SYSTEMS**	Fiber Optic technology, Radio Receiver, Television and Digital Communication have been introduced for enhancing knowledge of students in the area of Communication.
15	ELE-310	**PHYSICS OF ELECTRONICS**	Sensors and Transducers, Digital Signal Processing Electrodynamics and Semiconductor Electronics have been introduced for completeness of the syllabus of Physics topics in electronics applications.
16	ELE-311	**Transducers, Electronics Instruments and Signal Generators.**	Transducers have major role in the measurement and control systems now a days. Their knowledge will impart training to the students in the field of measurement, designing , testing and trouble shooting.