

DEPARTMENT OF ELECTRONICS

Program Specific Outcome

- The aim of course is to generate the man power with adequate theory knowledge of the Electronic circuit design, instrumentation and practical work.
- Programming techniques for microprocessor and microcontrollers and its applications.
- The practical work along with hands on experience of practical work.
- To equip students with necessary fundamental concepts and knowledge base.
- Students learn to carry out practical work, in the field and in the laboratory with minimal risk.
- They gain experience in applying skills and greater proficiency.
- 8. To impart training on circuit design, analysis, building and testing.
- 9. To prepare students for demonstrating the acquired knowledge.
- To encourage students to develop skills for accepting challenges of up-coming technological advancements.
- Apply appropriate techniques and modern instrument and equipment to study Electronic Circuit analysis for low frequency, mid frequency and high frequency, with the help of signal generator and Digital Storage Oscilloscope.
- Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, give and receive clear instructions.
- Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage project in multidisciplinary environments.
- Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.
- Understand the fundamental concepts and techniques used in digital electronics.
- Understand and examine the structure of various number systems and its application in digital design.
- The ability to understand, analyze and design various combinational and sequential circuits

Course outcome of Electronics Department

Class	Course	Outcome
F.Y.B.Sc.	ELE-101: Network Analysis and Semiconductor Diodes	<ol style="list-style-type: none"> 1. Apply knowledge to develop circuits using electronic devices. 2. Apply the concept and knowledge of electronics devices to real life problems. 3. Simulate complex circuits and understand the behaviour of the systems. 4. Understand and analyse Network theorems and junction diode.
	ELE-102: Digital Integrated Circuits	<ol style="list-style-type: none"> 1. Understand the Decimal, Binary, Octal and Hexadecimal number systems. 2. Learn the standard representation of logic functions (SOP & POS). 3. Aware about Basic postulates and fundamental theorems of Boolean algebra
	ELE-103: ELECTRONICS LAB-I	<ol style="list-style-type: none"> 1. To familiarize with basic electronic components (R, C, L, diodes, transistors), digital Multimeter, Function Generator and Oscilloscope.
	ELE-201: Analog Electronics	<ol style="list-style-type: none"> 1. Apply the concept and knowledge of integrated circuit chips to develop new systems. 2. Apply practical knowledge to solve real life problems of the society. 3. Understand of the course and create scientific temperament and give exposure to the students for independent use of integrated circuit chips for innovative applications.
	ELE-202: Linear Integrated Circuits	<ol style="list-style-type: none"> 1. Model complex circuits and simulate them. 2. Handle simulation software to analyze electronics circuits
	ELE-203: ELECTRONICS LAB-2	<ol style="list-style-type: none"> 1. Study of Fixed Bias and Voltage divider bias configuration for CE transistor. 2. Study of a Single Stage CE amplifier. 3. Study of the RC Phase Shift Oscillator.
	S.Y. B.Sc.	ELE 231: Analog Circuits and Applications

T.Y.B.Sc.	ELE-232: Instrumentation	<ol style="list-style-type: none"> 1. Understand the construction of data convertor circuits and their applications in digital circuits. 2. The ability to select a suitable measuring instrument for a given application. 3. Learn basic test instruments such as power supply, function generator, DFM and CRO and their construction and working principle.
	ELE-233 : Practical course – I	<ol style="list-style-type: none"> 1. Understand the working of transistor and its application 2. Student will perform practical on transducers and its application. 3. Learn and study the oscillator circuits.
	ELE-241: Linear Integrated Circuits & Applications	<ol style="list-style-type: none"> 1. Understand Basic differential amplifier and their applications in linear Integrated circuits. 2. Learn basic function of operational amplifier, Ideal and practical characteristics and their mathematical application. 3. Understand basic construction of active filters ,comparators and their application in electronics. 4. Students understand different types of multivibrator and wave form generator using IC 55.
	ELE 242: 8085 Microprocessor	<ol style="list-style-type: none"> 1. Learn the basic architecture of 8- bit microprocessors. 2. Write programs on 8085 microprocessor based systems. 3. Identify the addressing modes of an instruction. 4. Learn programming skills in assembly language.
	ELE-243 : Practical course – II	<ol style="list-style-type: none"> 1. Perform practical on various op amp circuits. 2. Perform practical on multivibrators using IC 555. 3. Student perform practical on 8085 programming in assembly language. 4. Student perform practical on active and passive filters.
	ELE-351: Semiconductor Physics	<ol style="list-style-type: none"> 1. Learn the fundamental concept of semiconductor like crystal structure, energy band gap, charge carrier statistics. 2. Understand the basic characteristics and operation of semiconductor devices such as p-n junctions and Zener diodes
	ELE 361: Electrodynamics	<ol style="list-style-type: none"> 1. Understand concepts in electrostatic law. 2. Conceptual understanding of the electromagnetic laws, set up a model and perform the necessary calculations.

<p>ELE 352: Basic Communication Systems</p>	<p>3. Learn electromagnetic waves and their propagation.</p> <p>1. Understand the basic concept of communication system.</p> <p>2. Understand AM , FM and demodulation.</p> <p>3. Understand antenna and radio wave propagation used in communication system.</p>
<p>ELE 362: Advanced Communication Systems</p>	<p>1. Understand basic concept of digital communication system.</p> <p>2. Understand the fiber optic communication.</p> <p>3. Understand computer network and security</p>
<p>ELE 353: 8086 Microprocessor</p>	<p>1. Understand basic architecture of 16 bit microprocessors.</p> <p>2. Write programs on 8086 microprocessor based systems.</p> <p>3. Illustrate the organization of registers and memory in microprocessors.</p> <p>4. Differentiate Minimum and Maximum Mode bus cycle.</p> <p>5. Identify the addressing mode of an instruction.</p>
<p>ELE-363: Microprocessor Interfacing Techniques and Advanced Microprocessors</p>	<p>1. Understand interrupt and interrupt service routine.</p> <p>2. Understand I/O interfacing and techniques.</p> <p>3. Understand advance microprocessor</p>
<p>ELE 354: The C Programming Language</p>	<p>1. Understand basic of the programming language</p> <p>2. Able to switch any other programming language</p> <p>3. Able to write C program for simple real life applications using structures.</p>
<p>ELE 364: Numerical Simulation in Electronics</p>	<p>1. Understand to find root of equation by different numerical methods</p> <p>2. Learn how to find out differentiation and integration of equation</p> <p>3. Solve linear equation system and simulate electronic circuits numerically.</p>
<p>ELE 355: Microcontroller 8051</p>	<p>1. Ability to differentiate microprocessor and microcontroller.</p> <p>2. Learn the architecture of 8051</p> <p>3. Able to write assembly language program for 8 bit microcontroller</p>
<p>ELE 365: Embedded Systems</p>	<p>1. identify embedded systems in various applications.</p> <p>2. write advanced microcontroller programming for real life application.</p>
<p>ELE 356: Advanced Digital System Design</p>	<p>1. Learn to design advanced digital systems.</p> <p>2. Understand the Hardware Description Languages</p>

ELE 366: Industrial and Power Electronics

(HDL).

3. Design combinational and sequential logic circuits using VHDL

1. Understand power semiconductor devices used in industries.

2. Understand the construction and working of different power semiconductor devices

3. Analyze various triggering circuits used for different semiconductor devices

4. Design power electronic circuit for real time application like rectifier and convertor etc

