

Department of Electronics
Course outcomes (Cos)

I-CIRCUIT THEORY AND ELECTRONIC DEVICES

Course Objectives:

1. Understanding the basic concepts and laws of DC and AC electrical networks and solving them using mesh and nodal analysis techniques.
2. Analyzing circuits in time and frequency domain. synthesizing the networks using passive elements.
3. Understanding the construction, working and VI characteristics of electronic devices.
4. Understanding the concept of power supply.

Outcomes:-

1. Apply concepts of electric network topology, nodes, branches, loops to solve circuit problems including the use of computer simulation.
2. Apply time and frequency concepts of analysis.
3. Synthesize the network using passive elements.
4. Know about amplifier circuits, switching circuits and oscillator circuits their design and use in electronics.
5. Design and construction of a power supply.


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II-Digital Electronics

Course Objectives:

1. Understanding the number systems, Binary codes and Complements.
2. Understanding the Boolean algebra and simplification of Boolean expressions.
3. Analyzing logic processes and implementing logical operations using combinational logic circuits.
4. Understanding the concepts of sequential circuits and to analyze sequential systems in terms of state machines.
5. Understanding characteristics of memory and their classification.

Outcomes:-

1. Develop a digital logic and apply it to solve real life problems.
2. Analyze, design and implement combinational logic circuits.
3. Classify different semiconductor memories.
4. Analyze, design and implement sequential logic circuits.


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III-Analog Circuits and Communication

OBJECTIVES:

1. To understand the concepts, working principles and key applications of linear integrated circuits.
2. To perform analysis of circuits based on linear integrated circuits.
3. To design circuits and systems for particular applications using linear integrated circuits.
4. To introduce students to various modulation and demodulation techniques of analog communication.
5. To analyze different parameters of analog communication techniques.
6. It also focuses on Transmitters and Receivers.

OUTCOMES:

1. Understand the fundamentals and areas of applications for the integrated circuits.
2. Analyze important types of integrated circuits.
3. Demonstrate the ability to design practical circuits that perform the desired operation.
4. Select the appropriate integrated circuit modules to build a given application.
5. Use of different modulation and demodulation techniques used in analog communication.
6. Identify and solve basic communication problems.
7. Analyze transmitters and receiver circuits.




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IV- MICROPROCESSOR SYSTEMS

OBJECTIVES:

1. To understand the basic architecture of 16 bit and 32 bit microprocessors.
2. To understand interfacing of a 16 bit microprocessor with memory and peripheral chips involving system design.
3. To understand techniques for faster execution of instructions and improve speed of
4. Operation and performance of microprocessors
5. To understand RISC based microprocessors.
6. To understand the concept of multi core processors.

OUTCOMES:

1. The student can gain good knowledge on microprocessor and implement in practical applications
2. Design system using memory chips and peripheral chips for 16 bit 8086 microprocessor.
3. Understand and devise techniques for faster execution of instructions, improve speed of operations and enhance performance of microprocessors.
4. Understand multi core processor and its advantages




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V-MICROCONTROLLER AND INTERFACING

OBJECTIVES:

1. To understand the concepts of microcontroller based system.
2. To enable design and programming of microcontroller based system.
3. To know about the interfacing Circuit

OUTCOMES:

1. The student can gain good knowledge on microcontrollers and implement in practical applications
2. learn Interfacing of Microcontroller
3. get familiar with real time operating system




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VI-Industrial Electronics

Learning Outcomes:

1. Identify various facilities required to set up a basic Instrumentation Laboratory.
2. Acquire a critical knowledge of various Electrical Instruments used in the Laboratory.
3. Demonstrate skills in using instruments like Rectifiers, Multimeters, Power supplies, Voltage Regulators etc. through hands-on experience..
4. Understand the Principle and operation of different Electronic Heating devices.

VII-Electronic Instrumentation

Learning Outcomes:

1. Identify various facilities required to set up a basic Instrumentation Laboratory.
2. Acquire a critical knowledge of various Electrical Instruments used in the Laboratory.
3. Demonstrate skills of using instruments like CRO, Function Generator, Multimeter etc. through hands-on experience.
4. Understand the Principle and operation of different display devices used in the display systems and different transducers
5. Comprehend the applications of various biomedical instruments in daily life like B.P. meter, ECG, Pulse oxymeter etc. and know the handling procedures with safety and security.



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