PAPER – I: CIRCUIT THEORY AND ELECTRONIC DEVICES

Objectives:

- To explain the basic concepts and laws of DC and AC electrical networks and solve them using mesh and nodal analysis techniques.
- To analyse circuits in time and frequency.
- To synthesize the networks using passive elements.
- To understand the construction, working and VI characteristics of electronic devices.
- To understand the concept of power supply.

Outcomes:

- ✓ Apply concepts of electric network topology, nodes, branches, loops to solve circuit problems including the use of computer simulation.
- ✓ Apply time and frequency concepts of analysis.
- ✓ Synthesize the network using passive elements.
- ✓ Design and construction of a power supply.

FIRST YEAR B. Sc – ELECTRONICS
SECOND SEMESTER
(Revised Syllabus under CBCS w.e.f. 2020-21)
PAPER – 2: DIGITAL ELECTRONICS

Objectives:

- To understand the number systems, Binary codes and Complements.
- To understand the Boolean algebra and simplification of Boolean expressions.
- To analyse logic processes and implement logical operations using combinational logic circuits.
- To understand the concepts of sequential circuits and to analyse sequential systems in terms of state machines.
- To understand characteristics of memory and their classification.

Outcomes:

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

OBJECTIVES:

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

OUTCOMES:

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

SECOND YEAR B. Sc – ELECTRONICS
FOURTH SEMESTER
(Revised Syllabus under CBCS w.e.f. 2021-22)

PAPER – 4: MICROPROCESSOR SYSTEMS

OBJECTIVES:

- To understand basic architecture of 16 bit and 32 bit microprocessors.
- To understand interfacing of 16 bit microprocessor with memory and peripheral chips involving system design.
- To understand techniques for faster execution of instructions and improve speed of operation and performance of microprocessors
- To understand RISC based microprocessors.
- To understand concept of multi core processors.

OUTCOMES:

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

PAPER – 5: MICROCONTROLLER AND INTERFACING

OBJECTIVES:

- To understand the concepts of microcontroller based system.
- To enable design and programming of microcontroller based system.
- To understand interfacing of peripherals.

OUTCOMES:

- ✓ The student can gain good knowledge on microcontrollers and implement in practical applications.
- ✓ Learn Interfacing of Peripherals to Microcontroller.
- ✓ Get familiarized with Real time operating system.