

Department of Electronics and Telecommunication Engineering

B.E. 3rd Sem

Course: Engineering Mathematics – III

Course Code: (3ETC01)

At the end of Engineering Mathematics – III course the student will be able:

- CO 1:** To evaluate the derivative & integration of Vector, scalar Point Function with their physical meaning & to solve Fourier Transform.
- CO 2:** To apply CR equations, Cauchy's integral Theorem, Singularity and Expansion of function using Taylor's, Laurent's series & conformal mapping.
- CO 3:** To apply numerical methods to obtain approximate solutions of mathematical problems.
- CO 4:** To apply the fundamental concepts of Ordinary Linear Differential Equations by different methods.
- CO 5:** To solve difference equations first, higher order & to solve first, higher order Homogeneous Partial Differential Equations with constant coefficients.
- CO 6:** To apply Laplace Transform to solve Differential Equations with constant coefficients.

Course: Electronic Device and Circuit

Course Code: (3ET02)

At the end of Electronic Device and Circuit course the student will be able:

- CO 1:** To understand and analyze the working of various diodes
- CO 2:** To explain the BJT and CE amplifiers using the H-parameter model.
- CO 3:** To describe the concept and topologies of amplifiers and oscillators.
- CO 4:** To analyze different types of multistage amplifiers.
- CO 5:** To classify and analyze different types of power amplifier.
- CO 6:** To understand the JFET, MOSFET and UJT.

Course: Digital System Design

Course Code: (3ET03)

At the end of Digital System Design course the student will be able:

- CO 1:** To understand number systems and its conversions, arithmetic functions.
- CO 2:** To use Boolean algebra and to apply minimization techniques to solve logic functions.

- CO 3:** To identify, analyze and design combinational Logic Circuits.
- O 4:** To identify, analyze and design Sequential Logic Circuits.
- CO 5:** To understand digital logic families, their characteristics, semiconductor memories and mapping of memories, programmable logic devices.
- CO 6:** To analyze the clocked sequential circuits.

Course: Electromagnetic Waves

Course Code: (3ET04)

At the end of Electromagnetic Waves course the student will be able:

- CO 1:** To understand the fundamentals of orthogonal coordinate systems.
- CO 2:** To analyze static Electric Field and the associated laws.
- CO 3:** To analyze static Magnetic Field and the associated laws.
- CO 4:** To classify electromagnetic waves at different boundary conditions.
- CO 5:** To describe and analyze electromagnetic wave propagation in free-space.
- CO 6:** To calculate the electromagnetic radiation from localized charges considering retardation effects.

Course: Object Oriented Programming

Course Code: (3ETC05)

At the end of Object Oriented Programming course the student will be able:

- CO 1:** To understand the basic programming concepts and statements of C++ programming.
- CO 2:** To apply the concepts of data types, functions, function overloading, friend function and virtual functions.
- CO 3:** To apply the concepts of functions, classes, constructors and destructors..
- CO 4:** To apply the concept of operator overloading.
- CO 5:** To understand inheritance in C++.
- CO 6:** To design and test the implementation of Java programming concepts.

B.E. 4th Sem

Course: Analog and Digital Communication

Course Code: (4ET05)

At the end of Analog and Digital Communication course the student will be able:

- CO 1:** To understand the necessity of modulation and identify the various components of analog and digital communication systems.
- CO 2:** To compare and contrast the strengths and weaknesses of various communication systems.
- CO 3:** To apply the concepts of Probability theory in communication systems.
- CO 4:** To analyze the performance of various pulse modulation scheme
- CO 5:** To understand basic building blocks of digital communication system and formatting of digital signal
- CO 6:** Understand concepts of information theory and analyze information transmission over communication channel.

Course: Analog Circuit

Course Code: (4ET02)

At the end of Analog Circuit course the student will be able:

- CO 1:** To understand the basics and internal structure of opamp.
- CO 2:** To analyze and design linear application of opamp.
- CO 3:** To analyze and design nonlinear application of opamp.
- CO 4:** To understand and design concepts of voltage regulator.
- CO 5:** To study and synthesize the waveform generators using IC 555 and IC 565.
- CO 6:** To comprehend the knowledge of PLL, its applications and design of filter.

Course: Network Theory

Course Code: (4ET03)

At the end of Network Analysis course the student will be able:

- CO 1:** To analyze electrical circuits using mesh and node analysis.
- CO 2:** To sketch an oriented graph of the network to determine their currents and voltages.
- CO 3:** To apply Laplace Transform for circuit analysis.
- CO 4:** To apply suitable network theorems to analyze electrical circuits.
- CO 5:** To relate various two port networks and apply two-port network theory for network analysis.

CO 6: To analyze the network in driving, positive real, transfer impedance network functions.

Course: Signals and Systems

Course Code: (4ETC04)

At the end of Signals and Systems course the student will be able:

- CO 1:** To understand the continuous time signals and systems mathematically and their classification along with the mathematical operations that can be performed on them.
- CO 2:** To understand the spectral characteristics of continuous-time periodic signals using Fourier series.
- CO 3:** To analyze the spectral characteristics of continuous-time aperiodic signals and systems using Fourier Transform.
- CO 4:** To apply the Laplace transform for analysis of continuous-time systems.
- CO 5:** To understand the Discrete Time signals and systems mathematically and understand their classification along with the mathematical operations that can be performed on them.
- CO 6:** Analyze the spectral characteristics of Discrete Time signals and systems using Discrete time Fourier Transform.

Course: Value and Ethics

Course Code: (4ET05)

At the end of Value and Ethics course the student will be able:

- CO 1:** To become more aware of themselves, and their surroundings (family, society, nature).
- CO 2:** To become more responsible in life.
- CO 3:** To handle problems with sustainable solutions, while keeping human relationships and human nature in mind.
- CO 4:** To have better critical ability.
- CO 5:** To become sensitive to their commitment towards what they have understood (human values, human relationship, and human society).
- CO 6:** To apply what they have learnt to their own self in different day-to- day settings in real life, at least a beginning would be made in this direction.

