

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Academic Year -2023-24

Course Outcomes

B.TECH.4th SEM

**Communication
Engineering (BEC401)**

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Analyze and compare different analog modulation schemes for their efficiency and bandwidth.
(CO2)	Analyze the behavior of a communication system in presence of noise.
(CO3)	Investigate pulsed modulation system and analyze their system performance.
(CO4)	Investigate various multiplexing techniques.
(CO5)	Analyze different digital modulation schemes and compute the bit error performance.

Analog Circuits (BEC402)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand and design of the various amplifiers.
(CO2)	Understand the concept of feedback topologies.
(CO3)	Design the different types of oscillators.
(CO4)	Understand the functioning of OP-AMP and design OP-AMP based circuits.
(CO5)	Apply the concept of Operational amplifier to design linear and non-linear applications.

Signal System (BEC403)

Course Outcome (CO)	Details of Course Outcomes
(C01)	Analyze different types of signals.
(C02)	Analyze linear shift-invariant (LSI) systems.
(C03)	Represent continuous and discrete systems in time and frequency domain using Fourier series and transform.
(C04)	Analyze discrete time signals in z-domain.
(C05)	Study sampling and reconstruction of a signal.

Communication Engineering Lab (BEC451)

Course Outcome (CO)	Details of Course Outcomes
(C01)	Analyze and compare different analog modulation schemes for their modulation factor and power
(C02)	Study pulse amplitude modulation.
(C03)	Analyze different digital modulation schemes and can compute the bit error performance.
(C04)	Study and simulate the Phase shift keying.
(C05)	Design a front end BPSK modulator and demodulator.

Analog Circuits Lab (BEC452)

Course Outcome (CO)	Details of Course Outcomes
(C01)	Understand the characteristics of transistors.
(C02)	Design and analyze various configurations of amplifier circuits.
(C03)	Design sinusoidal and non-sinusoidal oscillators.
(C04)	Understand the functioning of OP-AMP and design OP-AMP based circuits.
(C05)	Design ADC and DAC.

Signal System Lab (BEC453)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand the basics operation of MATLAB.
(CO2)	Analysis the time domain and frequency domain signals.
(CO3)	Implement the concept of Fourier series and Fourier transforms.
(CO4)	Find the stability of system using pole-zero diagrams and bode diagram.
(CO5)	Design frequency response of the system.

Python Programming (BCC402)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	To read and write simple Python programs
(CO2)	To develop Python programs with conditionals and loops.
(CO3)	To define Python functions and to use Python data structures -- lists, tuples, dictionaries
(CO4)	To do input/output with files in Python
(CO5)	To do searching ,sorting and merging in Python

Technical Communication (BAS401)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand the fundamental principles of technical communication and its relevance in the professional world.
(CO2)	Apply correct grammar, punctuation, and vocabulary in technical writing.
(CO3)	Analyze technical documents to identify structure, clarity, and coherence.
(CO4)	Develop various types of technical documents such as reports, proposals, and manuals.
(CO5)	Demonstrate effective oral and written communication in academic and professional contexts.

Math IV (BAS403)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand the concepts of complex numbers, analytic functions, and conformal mappings.
(CO2)	Apply contour integration techniques and Cauchy’s theorem to solve complex integrals.
(CO3)	Analyze and apply different probability distributions in real-world engineering problems.
(CO4)	Solve engineering problems using numerical techniques like interpolation and numerical integration.
(CO5)	Evaluate and interpret the results of numerical solutions and probabilistic models in practical contexts.