



COURSE OUTCOMES

B.Tech. III Sem

Course Name : Mathematics-III	
Code : BEEC-301T	
Upon completion of this course, students will demonstrate the ability to: –	
CO1	Apply Laplace Transform to solve ordinary differential equations, Integral equations and Integro-differential Equations.
CO2	Apply fourier series in the ananalysis of periodic functions in terms sine and cosine encountered in engineering problems and fourier transform to solve integral equations.
CO3	Learn the concept of differentiating, integrating and expanding of analytic functions in complex numbers and their applications such as evaluation of integrals of complex functions.
CO4	Solve partial differential equations of first order, higher order with constant coefficients and of second order using method of separation of variables.
CO5	Analyze real world scenarios to recognize when matrices are appropriate, formulate problems about the scenarios, creatively model these scenarios in order to solve the problems using multiple approaches.

Course Name : Components for Electronic Circuit Design	
Code : BEEC-302T	
Upon completion of this course, students will demonstrate the ability to: –	
CO1	Summarize the principles of semiconductor physics by describing electron behavior in periodic lattices and energy band diagrams.
CO2	Evaluate principles of semiconductor diodes, its characteristics and study different applications.
CO3	Study BJTs characteristics, their biasing methods, configurations and explore their application as amplifiers.
CO4	Examine JFET and MOSFET characteristics, including biasing and small-signal models.
CO5	Explain the processes involved in integrated circuit fabrication also study twin-tub CMOS and design resistors.



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Course Name : Digital System Design	
Code : BEEC-303T	
Upon completion of this course, students will demonstrate the ability to: –	
CO1	Develop various combinational digital circuits by using logic gates and simplifying logic expressions using number systems and Boolean algebra and classify digital logic family.
CO2	Design different arithmetic , logic circuits ,code converters and- Construct basic combinational circuits and verify their functionalities.
CO3	Illustrate and apply the knowledge of different flip flops to build sequential logic circuits
CO4	Apply the fundamental knowledge about digital electronics so as to design and analyze counters and sequence generator
CO5	Demonstrate and apply programming proficiency using the various addressing modes and instructions of the 8085 microprocessor

Course Name : Network Theory	
Code : BEEC-304T	
Upon completion of this course, students will demonstrate the ability to: –	
CO1	Apply mesh and node voltage method to model and analyze electrical circuits.
CO2	Apply network theorems for the analysis of networks.
CO3	Obtain the transient and steady-state response of electrical circuits.
CO4	Synthesize waveforms and apply Laplace transforms to analyze networks.
CO5	Evaluate different Network Functions and Analyze two port network behavior



COURSE OUTCOMES

B.Tech. III Sem

Course Name : Signals and Systems	
Code : BEEC-305T	
Upon completion of this course, students will demonstrate the ability to: –	
CO1	Understand mathematical description and representation of continuous and discrete time signals and systems
CO2	Develop input output relationship and concept of Linear Time Invariant (LTI) system and its properties.
CO3	To familiarize and Analyze continuous time periodic and aperiodic signals.
CO4	To familiarize and Analyze continuous time systems using Laplace Transform.
CO5	To familiarize and Analyze DT signals and Understand and resolve the signals in frequency domain using Fourier series and Fourier transform.

Course Name : Measurements and Instrumentation	
Code : BEEC-306T	
Upon completion of this course, students will demonstrate the ability to: –	
CO1	Gain the knowledge to select and use precise/accurate instrument for measurement of various electrical Parameters and paraphrase its technical specifications.
CO2	Acquire knowledge of Identifying and minimize errors in electrical/electronic measurement.
CO3	Gain the knowledge about analog and digital measurement.
CO4	Interpret of Measured power and frequency with the help of function generators and different analyzers.
CO5	Acquire knowledge of modern trends in telemetry systems.



COURSE OUTCOMES

B.Tech. III Sem

Course Name : Components for Electronic Circuit Design Lab	
Code : BEEC-302P	
After completion of the practical students will be able to: –	
CO1	Explain the basic concepts of different semiconductor components.
CO2	Understand the use of semiconductor devices in different electronic circuits.
CO3	Calculate different performance parameters of various circuits.
CO4	Plot and study the characteristics of semiconductor devices.

Course Name : Digital System Design Lab	
Code : BEEC-303P	
After completion of the practical students will be able to: –	
CO1	Demonstrate the different Boolean Laws & basics of K-map to realize combinational & sequential circuits
CO2	Identify the various digital ICs & understand their operation.
CO3	Describe the operation & timing constraints for latches, registers, different sequential circuits.
CO4	Solve basic binary math operations using microprocessor & explain the internal architecture & its operation within the area of manufacturing & performance.
CO5	Select programming strategies & proper mnemonics & run their program on the training boards

Course Name : Electronics Workshop I	
Code : BEEC-307P	
After completion of the practical students will be able to: –	
CO1	Explain the basic concepts of different semiconductor components with their usage physically as per their types
CO2	Use semiconductor devices in different electronic circuits and projects.
CO3	Calculate different performance parameters of active and passive devices and their datasheets.
CO4	Plot and study the characteristics of semiconductor devices.



COURSE OUTCOMES

B.Tech. IV Sem

Course Name : Microcontroller and Applications	
Code : BEEC-401T	
Upon completion of this course, students will demonstrate the ability to: –	
CO1	Demonstrate the programming model of various microcontrollers.
CO2	Design and implement 8051 microcontroller-based systems for various applications
CO3	Illustrate and program AVR / RISC microcontrollers in Integrated Development Environment
CO4	Design and implement advanced processor/controllers-based systems for various applications
CO5	Design and develop Arduino based embedded system applications.

Course Name : Analog and Digital Communication	
Code : BEEC-402T	
Upon completion of this course, students will demonstrate the ability to: –	
CO1	Explain the need of modulation and analyze various types of analog modulation.
CO2	Classify and describe AM and FM receivers and list various types of noise in electronic communication.
CO3	Explain various types of pulse modulation techniques.
CO4	Discuss various digital modulation techniques and analyze various coding algorithms.
CO5	Analyze different encoding and decoding algorithms and describe spread spectrum modulation techniques.



COURSE OUTCOMES

B.Tech. IV Sem

Course Name : Analog System Design	
Code : BEEC-404T	
Upon completion of this course, students will demonstrate the ability to: –	
CO1	Explain & Describe the basic differential amplifier using transistor and its operation & basic concepts of OPAMP.
CO2	Design OPAMP circuit for various linear applications.
CO3	Design and construct OPAMP for various non-linear applications.
CO4	Design of DC Power supply Power Supply in electronics circuit.
CO5	Design various types of sinusoidal oscillators and filters .

Course Name : Data Structure and Algorithms	
Code : BEEC-405T	
Upon completion of this course, students will demonstrate the ability to: –	
CO1	Define data structure and compare the different basic data structures such as arrays, linked lists, stacks and queues. Understand asymptotic notation and calculate complexity of algorithm
CO2	Apply the concept for solving problems like sorting, searching , insertion and deletion of data and apply the different linear data structures like stack and queue to various computing problems to select and apply stack and queue concept also
CO3	Create Linked list, doubly Linked List, circular queue, priority queue. Student will be able to handle operations like searching, insertion, deletion, traversing mechanism on Linked list
CO4	Evaluate Tree non linear data structure, Implement different types of trees and apply them to problem solutions , Students will be able to Discuss graph structure and understand various operations on graphs and their applicability .
CO5	Explain important algorithmic design paradigms Advanced algorithms based on the data structures. Shortest-Path Algorithms, , Graphs based algorithm



COURSE OUTCOMES

B.Tech. IV Sem

Course Name : Numerical Mathematics & Probability using MATLAB	
Code : BEEC-406T	
Upon completion of this course, students will demonstrate the ability to: –	
CO1	Learn and use MATLAB effectively in various applications as a simulation tool.
CO2	Find an approximate solution of algebraic and transcendental equations, system of linear equations by various numerical methods and MATLAB commands.
CO3	First order ordinary differential equations by various numerical methods and MATLAB commands.
CO4	Apply Z- transform to solve difference equations with constant coefficients.
CO5	Analyze real world scenarios to recognize when probability is appropriate, formulate problems about the scenarios.

Course Name : Programming for Problem Solving	
Code : BEEC-407T	
Upon completion of this course, students will demonstrate the ability to: –	
CO1	Recognise the basic concepts of Object-Oriented Programming and design simple java programs.
CO2	Summarise the concept of overloading and implement simple program
CO3	Acquire the knowledge of Inheritance in program development and develop programs using polymorphism.
CO4	Recognise the basic concepts of packages and interface and develop simple programs.
CO5	Summarise and implement concepts on exception handling and file streams in java programming for a given application programs.



COURSE OUTCOMES

B.Tech. IV Sem

Course Name : Universal Human Values	
Code : BEEC-408T	
Upon completion of this course, students will demonstrate the ability to: –	
CO1	Become more aware about themselves, and their surroundings (Family, Society, Nature)
CO2	Become more responsible in life, and in handling problem with sustainable solutions, while keeping human relationships and human nature in mind.
CO3	They would have better critical ability.
CO4	Become Sensitive to their commitment towards that have understand (Human Values, Human Relationship, and Human Society.)

Course Name : Microcontroller and Applications Lab	
Code : BEEC-401P	
After completion of the practical students will be able to: –	
CO1	Demonstrate the concept of Assembly languages and higher level language programming.
CO2	Interface various peripherals with 8051, Atmega 32, MSP 430 and Arduino.
CO3	Simulate the programs on different software platforms.

Course Name : Analog and Digital Electronics Lab	
Code : BEEC-403P	
After completion of the practical students will be able to: –	
CO1	Explain the practical aspects of linear and non-linear applications of OP-AMP.
CO2	Design the various wave-shaping circuits, oscillators, signal conditioners and various application based circuits using OP-AMP and Transistors
CO3	Demonstrate various concepts of analog communication
CO4	Demonstrate various concepts of analog communication .
CO4	Develop an application based project using industry based OPAMP.



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COURSE OUTCOMES

B.Tech. IV Sem

Course Name : Programming for problem solving Lab	
Code : BEEC-407P	
After completion of the practical students will be able to: –	
CO1	To choose appropriate data structure based on the specified problem definition and analysis the algorithm.
CO2	To handle operations like searching, insertion, deletion and traversing mechanism etc. on various data structures.
CO3	Apply the knowledge of Inheritance in program development.
CO4	Develop programs using polymorphism and interfaces.
CO4	Handle various exceptions using concepts of exception handling