COURSE OUTCOMES

B. Tech. First Semester
COURSE OUTCOMES

K.D.K. COLLEGE OF ENGINEERING

Department of Electronics &Telecommunication Engineering

B. Tech. First Semester

1BET01T	Applied Mathematics-I

After completion of Syllabus, the student will be able to:

1	Apply the concept of Matrix operations and inversion
2	Determine partial derivative of various functions and apply their concepts to Engineering problems.
3	Apply the concept of Beta and Gama functions to solve the problem.
4	Solve ordinary differential equations using elementary techniques and apply it to formulate mathematical models.
5	Use higher order differential equations to solve the problems in engineering field.

B. Tech. First Semester

1BET02T	Applied Physics

After completion of Syllabus, the student will be able to:

1	Develop elementary concepts of quantum mechanics and their applications.
2	Relate the structure of crystalline solids by applying knowledge of crystallography.
3	Categorize solids on the basis of band theory and study of semiconductor devices along with their applications.
4	Describe the quantum transitions and apply them to the working of lasers.

B. Tech. First Semester

1BET02P	Applied Physics Lab

After completion of Syllabus, the student will be able to:

1	Create the basic circuitries in Electronics. Demonstrate and illustrate the basic principles of operation of semiconductor diodes and transistors.
2	Differentiate between the types of semiconductors through band gap experiment. Analyze the magnetic field-based experiment to distinguish the materials.
3	Apply the concept of diffraction for the optical based devices using LASER beam. Develop the concept of fiber optic cables to determine the numerical aperture of the fiber cables and to get acquainted with its use in daily life.
4	Examine the various electrical and electronics-based parameters viz. A.C. Voltage, frequency, and phase shift and time period using CRO.
5	Practice effectively as an individual and as a member of a team.

B. Tech. First Semester

1BET03T	Programming for Problem Solving

After completion of Syllabus, the student will be able to:

1	Illustrate and explain the basic computer concepts and programming principles of C language.
2	Develop C programs to solve simple mathematical, decision making problems and problems using looping constructs.
3	Apply C programming to solve matrix addition and multiplication problems and also develop C programs to demonstrate the applications of derived data types such as arrays, searching & sorting.
4	Develop C programs to demonstrate the applications of derived data types such as functions.
5	Develop C programs to demonstrate the applications of structures, pointers & File Handling.

K.D.K. COLLEGE OF ENGINEERING

Department of Electronics &Telecommunication Engineering

B. Tech. First Semester

1BET03P	Programming for Problem Solving Lab

After completion of Syllabus, the student will be able to:

1	Understand fundamentals of C language
2	Analyze correctness in syntax and logic for the program which is developed from algorithm.
3	Apply debugging techniques according to the algorithm requirements
4	Evaluate the computational resources for a program application
5	Implement conditional branching, iteration and recursion, to decompose aproblem into functions and synthesize a complete program.

B. Tech. First Semester

1BET04T	Basics of Electrical & Electronics Engineering

After completion of Syllabus, the student will be able to:

1	Acquire basic concepts of electric and magnetic circuit.
2	Analyze AC series circuits
3	Explain construction, working and applications of single-phase transformers and electric machines.
4	Discuss 3-phase power generation and basic power system.
5	Explain operation and applications of semiconductor devices like diode and BJT.

B. Tech. First Semester

1BET04P	Basics of Electrical & Electronics Engineering Lab

After completion of Syllabus, the student will be able to:

1	Acquire basic concepts of electric and magnetic circuit.
2	Analyze AC series circuits.
3	Explain construction, working and applications of single-phase transformers and electric machines.
4	Discuss 3-phase power generation and basic power system.
5	Explain operation and applications of semiconductor devices like diode and BJT.

B. Tech. First Semester

1BAE01T-A / 2BAE01T-A	Professional communication

After completion of Syllabus, the student will be able to:

1	Apply basic communication skill and correct grammar usage.
2	Design formal written communication.
3	Prepare and illustrate their thoughts effectively through improving listening & speaking skills
4	Use of oral communication skills in order to handle themselves effectively in interview and group discussion

K.D.K. COLLEGE OF ENGINEERING

Department of Electronics & Telecommunication Engineering

B. Tech. First Semester

1BCC01P-A / 2BCC01P-A	Yoga/ Sports Recreation

After completion of Syllabus, the student will be able to:

1	Illustrate the fundamental techniques, underlying principles, and standard practices of both sports and yoga.
2	Collect practical experience in applying the principles of general and targeted physical conditioning exercises and yoga.
3	Enhance health-related fitness levels and achieve harmony between body and mind through participation in a variety of fitness activities, sports, recreational games, and yoga.
4	Practice Healthy & active living with reducing Sedentary Life style.

K.D.K. COLLEGE OF ENGINEERING

Department of Electronics & Telecommunication Engineering

B. Tech. First Semester

1BET05P	**Skill Enhancement Course (Electronics workshop I)**

After completing the practical course, students shall be able to:

1	**Explain the Basic Concepts of Different Semiconductor Components with Their types & Usage Physically.**
2	**Use Semiconductor Devices in Different Electronic Circuits and Projects.**
3	**Calculate Different Performance Parameters of Active and Passive Devices and their Datasheets.**
4	**Plot and Study the Characteristics of Semiconductor Devices.**

B. Tech. Second Semester
COURSE OUTCOMES

K.D.K. COLLEGE OF ENGINEERING

Department of Electronics & Telecommunication Engineering

B. Tech. Second Semester

2BET01T	Applied Mathematics-II

After completion of Syllabus, the student will be able to:

1	Analyze statistical data using curve fitting techniques.
2	Evaluate integrals using concepts of scalar and vector point function.
3	Apply various numerical methods to solve simultaneous equations.
4	Solve partial differential equations by various methods.
5	Use Laplace Transform techniques in engineering problems.

K.D.K. COLLEGE OF ENGINEERING

Department of Electronics & Telecommunication Engineering

B. Tech. Second Semester

2BET02T	Applied Chemistry

After completion of Syllabus, the student will be able to:

1	Illustrate qualitative and quantitative aspects of water for industrial and domestic applications.
2	Identify the types of fuels and explain working of I.C. engines.
3	Apply concepts of electrochemistry for energy storage devices and corrosion.
4	Identify and describe different types of advanced engineering materials.
5	Apply the principles of green chemistry in designing alternative reaction methodologies and use of solid waste as energy source.

K.D.K. COLLEGE OF ENGINEERING

Department of Electronics & Telecommunication Engineering

B. Tech. Second Semester

2BET02P	Applied Chemistry Lab

After completion of Syllabus, the student will be able to:

1	Estimate the soluble impurities present in the given water sample.
2	Analyze a broad foundation in energy and environment that stresses scientific reasoning and analytical problem solving.
3	Point out & operate the different instruments used in chemistry laboratory.

K.D.K. COLLEGE OF ENGINEERING

Department of Electronics & Telecommunication Engineering

B. Tech. Second Semester

2BET03T	Object Oriented Programming

After completion of Syllabus, the student will be able to:

1	Understand the principles of object-oriented programming; create classes, instantiate objects and invoke methods
2	Apply the concepts of generics and implement collection classes and develop reusable programs using the concepts of OOP.
3	Apply the concepts of Exception handling to develop efficient and error free Codes for solving classic synchronization problems.
4	Apply the concepts of Multithreading to develop efficient and error free Codes for solving classic synchronization problems.
5	Create design Pattern in Software design process.

K.D.K. COLLEGE OF ENGINEERING

Department of Electronics & Telecommunication Engineering

B. Tech. Second Semester

2BET03P	Object Oriented Programming Lab

After completion of Syllabus, the student will be able to:

1	Understand the basics of object-oriented programming using JAVA.
2	Apply the concept of classes, Java, JDK Components and develop Simple Java Programs.
3	Develop Simple Java Programs using inheritance and Exception handling.
4	Develop Multi-threading Programming and Interfaces.
5	Develop GUI applications using Applet classes, Swing components and Event handling programs.

K.D.K. COLLEGE OF ENGINEERING

Department of Electronics & Telecommunication Engineering

B. Tech. Second Semester

2BET04T	Digital Electronics Design

After completion of Syllabus, the student will be able to:

1	Describe the logic gates and apply various optimization techniques to minimize digital circuits.
2	Design basic combinational logic circuits.
3	Design applications of combinational logic circuits.
4	Design basic sequential logic circuits.

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B. Tech. Second Semester

1BIK01T-A / 2BIK01T-A	Indian Knowledge System

After completion of Syllabus, the student will be able to:

1	Illustrate the diverse dimensions of Indian knowledge traditions.
2	Analyze the contributions of ancient Indian scholars to different fields of knowledge.
3	Point out the interconnectedness of various branches of Indian knowledge.
4	Evaluate critically the relevance of Indian knowledge systems in modern society.

K.D.K. COLLEGE OF ENGINEERING

Department of Electronics & Telecommunication Engineering

B. Tech. Second Semester

2BSE07P	Skill Enhancement Course (Electronics workshop II)

After completion of Syllabus, the student will be able to:

1	Understand the various PCB design steps and design PCB for an electronic circuit.
2	To design the electronics circuits using simulation software.
3	Interface basic electronic circuits to Arduino.
4	Demonstrate Raspberry Pi to implement various electronic projects.
5	Build a mini-project based on Arduino and Raspberry-Pi.

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Department of Electronics & Telecommunication Engineering

B. Tech. Second Semester

1BCC01P-F / 2BCC01P-F	**Basics of Vedic Maths**

After completion of Syllabus, the student will be able to:

1	**Compute simple arithmetic calculations with speed and accuracy.**
2	**Generate tables of any number.**
3	**Solve products of large numbers quickly.**
4	**Solve difficult calculations like square roots and cube roots of integers speedily.**

COURSE OUTCOMES

B. Tech. Third Semester

COURSE OUTCOMES

B. Tech. Third Semester

BEETC-301T	Applied Maths- III

Upon completion of this course, students will demonstrate the ability to:

C301T.1	Apply Laplace Transform to solve ordinary differential equations, Integral Equations and Integro-differential Equations.
C301T.2	Apply Fourier series in the analysis of periodic functions in terms sine and cosine encountered in engineering problems and Fourier Transform to solve integral equations.
C301T.3	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.
C301T.4	Solve partial differential equations of first order, higher order with constant coefficients and of second order using method of separation of variables.
C301T.5	Reduce matrix to diagonal form, apply iteration to find largest Eigen value and vector, use Sylvester theorem and singular values decomposition.

COURSE OUTCOMES

B. Tech. Third Semester

BEETC-302T	COMPONENTS FOR ELECTRONIC CIRCUIT DESIGN

Upon completion of this course, students will demonstrate the ability to:

C302T.1	Understand the principles of semiconductor physics.
C302T.2	Understand the principles of semiconductor diode.
C302T.3	Understand and analyze the mathematical model of transistors.
C302T.4	Understand and analyze the mathematical model of unipolar transistors.
C302T.5	Understand the process of Integrated Circuit Fabrication.

COURSE OUTCOMES

B. Tech. Third Semester

BEETC-302P	COMPONENTS FOR ELECTRONIC CIRCUIT DESIGN LAB

After completion of the practical students will be able to:

C302P.1:	Explain the basic concepts of different semiconductor components.
C302P.2:	Understand the use of semiconductor devices in different electronic circuits.
C302P.3:	Calculate different performance parameters of transistors.
C302P.4:	Plot and study the characteristics of semiconductor devices.

COURSE OUTCOMES

B. Tech. Third Semester

BEETC-303T	DIGITAL SYSTEM DESIGN

Upon completion of this course, students will demonstrate the ability to:

C303T.1	Demonstrate the knowledge of: Logic gates, Boolean algebra including algebraic manipulation/simplification and Application of DeMorgan's Theorem, Karnaugh map reduction method.
C303T.2	Construct basic combinational circuits and verify their functionalities.
C303T.3	Illustrate and apply the knowledge of different flip flops to build Sequential digital circuits.
C303T.4	Apply the fundamental knowledge about digital electronics so as to construct and analyze digital circuits like counters and sequence generators.
C303T.5	Demonstrate and applyprogramming proficiencyusingthe various addressing modes and instructions of the target microprocessor.

COURSE OUTCOMES

B. Tech. Third Semester

BEETC-303P	DIGITAL SYSTEM DESIGN LAB

After the completion of practical, the students will be able to:

C303P.1	Demonstrate the different Boolean Laws & basics of K-map to realize combinational & sequential circuits.
C303P.2	Identify the various digital ICs & understand their operation.
C303P.3	Describe the operation & timing constraints for latches, registers, different sequential circuits.

COURSE OUTCOMES

B. Tech. Third Semester

BEETC-304T	Network Theory

Upon completion of this course, students will demonstrate the ability to:

C304T.1	Apply mesh and node voltage method to model and analyze electrical circuits.
C304T.2	Apply network theorems for the analysis of networks.
C304T.3	Obtain the transient and steady-state response of electrical circuits.
C304T.4	Synthesize waveforms and apply Laplace transforms to analyze networks.
C304T.5	Evaluate different Network Functions and Analyze two port network behaviors.

COURSE OUTCOMES

B. Tech. Third Semester

BEETC-305T	SIGNALS AND SYSTEMS

Upon completion of this course, students will demonstrate the ability to:

C305T.1	Classify different types of signals and systems
C305T.2	Illustrate the concept of Linear Time Invariant (LTI) system and its properties.
C305T.3	Analyze continuous time periodic and aperiodic signals.
C305T.4	Analyze continuous time systems using Laplace Transform.
C305T.5	Analyze DT signals and systems in frequency domain using Fourier Transform.

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COURSE OUTCOMES

B. Tech. Third Semester

BEETC-306T	MEASUREMENTS AND INSTRUMENTATION

Upon completion of this course, students will demonstrate the ability to:

C306T.1	Select and use precise/accurate instrument for measurement of various electrical Parameters and to understand its technical specifications.
C306T.2	Identify and minimize errors in electrical/electronic measurement.
C306T.3	Understand analog and digital measurement.
C306T.4	Measure power and frequency with the help of function generators and different analyzers.
C306T.4	Understand modern trends in telemetry systems.

COURSE OUTCOMES

B. Tech. Third Semester

BEETC-307P	ELECTRONICS WORKSHOP- I LAB

After completion of the practical the students will be able to:

C307P.1	Explain the Basic Concepts of Different Semiconductor Components with their usage physically as per their Types.
C307P.2	Use of Semiconductor Devices in Different Electronic Circuits and Projects.
C307P.3	Calculate Different Performance Parameters of Active and Passive Devices and their Datasheets.
C307P.4	Plot and Study the Characteristics of Semiconductor Devices.

COURSE OUTCOMES

B. Tech. Third Semester

BEETC-308T	CONSUMER AFFAIRS

After completion of the practical the students will be able to:

C308T.1	Demonstrate consumer buying process and the procedure of filing a complaint.
C308T.2	Learn how to pursue the consumer rights under consumer protection act 1986
C308T.3	Comprehend the hearings, enquiry and appeal provisions.
C308T.4	Analyze the role of industry regulators in consumer protection.

COURSE OUTCOMES

B. Tech. Fourth Semester

COURSE OUTCOMES

B. Tech. Fourth Semester

BEETC-401T	MICROCONTROLLER AND APPLICATIONS

Upon completion of this course, students will demonstrate the ability to:

C401T.1	Demonstrate the programming model of various microcontrollers.
C401T.2	Design and implement 8051 microcontroller-based systems for various applications.
C401T.3	Illustrate & program AVR / RISC microcontrollers in Integrated Development environment.
C401T.4	Design and implement advanced processor/controllers-based systems for various applications
C401T.5	Design and develop Arduino based embedded system applications.

COURSE OUTCOMES

B. Tech. Fourth Semester

BEETC-401P	MICROCONTROLLER AND APPLICATIONS LAB

After the completion of practicals, the students will be able to:

C401P.1	Demonstrate the concept of Assembly languages and higher level language programming.
C401P.2	Interface various peripherals with 8051, Atmega 32, MSP 430 and Arduino.
C401P.3	Simulate the programs on different software platforms.

COURSE OUTCOMES

B. Tech. Fourth Semester

BEETC-402T	ANALOG & DIGITAL COMMUNICATION

Upon completion of this course, students will demonstrate the ability to:

C402T.1	Demonstrate a basic need of modulation and various types of amplitude and angle modulation techniques required for analog communication.
C402T.2	Analyze various AM-FM receivers, along with the effect of noise on analog communication systems.
C402T.3	Explain the designing of digital communication systems by applying knowledge of the various pulse modulation techniques.
C402T.4	Describe various digital modulation techniques and various parameters associated with it.
C402T.5	Identify different types of channel coding techniques and analyze the different spread spectrum methods.

COURSE OUTCOMES

B. Tech. Fourth Semester

BEETC-403P	ANALOG AND DIGITAL ELECTRONICS LAB

After the completion of practical, the students will be able to:

C403P.1	Explain the practical aspects of linear and non-linear applications of OP-AMP.
C403P.2	Design the various wave-shaping circuits, oscillators, signal conditioners and various application based circuits using OP-AMP and Transistors.
C403P.3	Demonstrate various concepts of analog and Digital communication.

COURSE OUTCOMES

B. Tech. Fourth Semester

BEETC-404T	ANALOG SYSTEM DESIGN

Upon completion of this course, students will demonstrate the ability to:

C404T.1	Describe and explain the basic concepts of OPAMP.
C404T.2	Demonstrate and analyze various linear applications of OPAMP
C404T.3	Demonstrate and analyze various non-linear applications of OPAMP
C404T.4	Examine and design DC Power Supply.
C404T.5	Examine and design various types of oscillators and filters.

COURSE OUTCOMES

B. Tech. Fourth Semester

BEETC-405T	DATA STRUCTURE & ALGORITHMS

Upon completion of this course, students will demonstrate the ability to:

C405T.1	Choose appropriate data structure based on the specified problem identification and analysis the algorithm.
C405T.2	Handle operations like searching, insertion, deletion, traversing mechanism etc. on various data structures.
C405T.3	Apply concepts learned in various domains like Operating Systems, DBMS etc.
C405T.4	Use linear and non-linear data structures like stacks, queues, linked list, trees etc.

COURSE OUTCOMES

B. Tech. Fourth Semester

BEETC-406T	HSC:NUMERICAL MATHEMATICS AND PROBABILITY USING MATLAB

After completing the course, students will be able to:

C406T.1	Learn and use MATLAB effectively in various applications as a simulation tool.
C406T.2	Find an approximate solution of algebraic and transcendental equations, system of linear equations and first order ordinary differential equations by various numerical methods and MATLAB commands.
C406T.3	Apply Z- transform to solve difference equations with constant coefficients.
C406T.4	Analyze real world scenarios to recognize when probability is appropriate, formulate problems about the scenarios; creatively model these in order to solve the problems using multiple approaches.
C406T.5	Understand the impact of scientific and engineering solutions in a global and societal context.
C406T.6	Create the groundwork for post-graduate courses, specialized study, and research in mathematics.

COURSE OUTCOMES

B. Tech. Fourth Semester

BEETC-407T	PROGRAMMING FOR PROBLEM SOLVING

Upon completion of this course, students will demonstrate the ability to:

C407T.1	Describe the basic concepts of Object Oriented Programming and design simple java programs.
C407T.2	Apply the knowledge of Inheritance in program development.
C407T.3	Develop programs using polymorphism and interfaces.
C407T.4	Handle various exceptions using concepts of exception handling.
C407T.5	Implement the concepts on file streams and operations in java programming for a given application programs.

COURSE OUTCOMES

B. Tech. Fourth Semester

BEETC-407P	PROGRAMMING FOR PROBLEM SOLVING LAB

After the completion of practical's, the students will be able to:

C407P.1	Understand the basic concept of object oriented programming and design simple JAVA program.
C407P.2	Apply the knowledge of inheritance in program development.
C407P.3	Develop programs using polymorphism and interfaces.
C407P.4	Handle various exceptions using concept of exception handling.

COURSE OUTCOMES

B. Tech. Fourth Semester

BEETC-408I	INTERNSHIP

After the completion of Internship, the students will be able to:

C408I.1	Explore career alternatives prior to graduation.
C408I.2	Assess interests and abilities in their field of study by using Integrate theory and practice.
C408I.3	Develop work habits and attitudes necessary for job success.
C408I.4	Demonstrate effective management of personal behavior, ethics and attitudes.

COURSE OUTCOMES

B. Tech. Fourth Semester

BEETC-409A	UNIVERSAL HUMAN VALUES

By the end of the course, the students will be able to:

C409A.1	Become more aware of themselves, and their surroundings (family, society, nature)
C409A.2	Become more responsible in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind.
C409A.3	Understand values in relationship.
C409A.4	Understand the role of a human being in ensuring harmony in society and nature.
C409A.5	Distinguish between ethical and unethical practices at work place and would contribute for making a value based society.

COURSE OUTCOMES

B. Tech. Fifth Semester

COURSE OUTCOMES

B. Tech. Fifth Semester

BEETC-501T	EMBEDDED SYSTEM DESIGN

By the end of the course, the students will be able to:

C501T.1	Describe and analyze the Requirements & Design issues of embedded systems design.
C501T.2	Apply the knowledge of architecture and Programming for development of simple applications.
C501T.3	Describe and Demonstrate the interfacing of various peripherals with ARM Processor
C501T.4	Explain the concept of Real Time Operating System for embedded system design.

COURSE OUTCOMES

B. Tech. Fifth Semester

BEETC-501P	EMBEDDED SYSTEM DESIGN LAB

By the end of the course, the students will be able to:

C501P.1	Apply the knowledge of Instruction skill for the Development of Simple and Complex Programs.
C501P.2	Apply the programming skill for the Development of Simple application
C501P.3	Apply and Demonstrate the Concept of Interfacing for the Development of Embedded System.

COURSE OUTCOMES

B. Tech. Fifth Semester

BEETC-502T	ELECTROMAGNETIC WAVES

By the end of the course, the students will be able to:

C502T.1	Understand the different coordinate system & analyze theorems of electric Field.
C502T.2	Understand magnetic fields, Apply the Maxwell's equations to solve problems in electromagnetic field theory.
C502T.3	Analyze the propagation of wave in different transmission media.
C502T.4	Understand and analyze various parameters and characteristics of the rectangular waveguide
C502T.5	Understand principle of radiation and radiation characteristics of an antenna

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COURSE OUTCOMES

B. Tech. Fifth Semester

BEETC-503T	DIGITAL SIGNAL PROCESSING

By the end of the course, the students will be able to:

C503T.1	Analyze discrete time signals and system.
C503T.2	Process the signal in z domain for various discrete time systems.
C503T.3	Draw the structures of various discrete time systems in DFI, DFII, cascade and parallel form
C503T.4	Apply discrete Fourier transform, its properties & Analyze the discrete time systems in frequency domain
C503T.5	Understand the filter design techniques for IIR and FIR digital filters and will be able to determine parameters affecting its response.

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COURSE OUTCOMES

B. Tech. Fifth Semester

BEETC-503P	DIGITAL SIGNAL PROCESSING LAB

By the end of the course, the students will be able to:

C503P.1	Demonstrate the sampling and reconstruction of discrete time signal & perform different signal operation in developing discrete time system.
C503P.2	Analyze different properties of Z-transform.
C503P.3	Analyze different properties of discrete Time Fourier transform.
C503P.4	Analyze and process the signals in the discrete domain.
C503P.5	Design the filters to suit requirements of specific applications.
C503P.6	Apply the techniques, skills, and modern engineering tools like MATLAB.

COURSE OUTCOMES

B. Tech. Fifth Semester

BEETC-504T	**HSC:INDUSTRIAL ECONOMICS ENTREPRENEURSHIP DEVELOPMENT(ECONOMICS)**

By the end of the course, the students will be able to:

C504T.1	**Understand different types of business structure.**
C504T.2	**Acquire the knowledge of different market structures and New economic policy.**
C504T.3	**Grasp the functions of banks, taxations system and implications of Inflation.**
C504T.4	**Identify various sources of finance.**
C504T.5	**Analyze the problems of Small Scale Industries and government's policies for them.**

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COURSE OUTCOMES

B. Tech. Fifth Semester

BEETC-505PE	OPERATING SYSTEM (PE -I)

By the end of the course, the students will be able to:

C505PE.1	Explain basic concepts of operating system.
C505PE.2	Understand the process management policies and scheduling algorithms.
C505PE.3	Design various memory management techniques.
C505PE.4	Analyze process synchronization techniques.
C505PE.5	Evaluate deadlock detection and prevention mechanism.

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COURSE OUTCOMES

B. Tech. Fifth Semester

BEETC-505PE	ELECTRONIC DESIGN TECHNIQUES WITH HDL(PE-I)

By the end of the course, the students will be able to:

C505PE.1	Design digital systems through HDL language.
C505PE.2	Understand Different Modelling Style of VHDL.
C505PE.3	Develop a Test bench for various Combinational and Sequential logic Circuits.
C505PE.4	Design examples of sequence detector, Finite state machine and analysis of Asynchronous Sequential Circuits.
C505PE.5	Synthesis the concept of Timing analysis, Combinational logic synthesis and FPGA based systems.

COURSE OUTCOMES

B. Tech. Fifth Semester

BEETC-506P	ELECTRONICS WORKSHOP-II

By the end of the course, the students will be able to:

C506P.1	Understand the various PCB design steps and design PCB for an Electronic circuit.
C506P.2	Use the simulation software to design Electronic circuit.
C506P.3	Demonstrate Rasberry pi to implement various Electronics project and interface basic Electronic circuits to Arduino.

COURSE OUTCOMES

B. Tech. Sixth Semester

COURSE OUTCOMES

B. Tech. Sixth Semester

BEETC-601T	COMPUTER COMMUNICATION NETWORKS

By the end of the course, the students will be able to:

C601T.1	Describe the basics of Computer Network, Data Communication, Network topologies, transmission media and switching techniques.
C601T.2	Analyze the services and features of various protocols of Data Link Layer and MAC sub-layer.
C601T.3	Apply the concept of IP Addressing techniques and its various protocols of Network Layer.
C601T.4	Describe the transport layer, Application Layer services and its protocol Headers and analyze the congestion control protocols.
C601T.5	Explain the function of Application Layer and Presentation layer paradigm and protocols.

COURSE OUTCOMES

B. Tech. Sixth Semester

BEETC-601P	COMPUTER COMMUNICATION NETWORKS LAB

By the end of the course, the students will be able to:

C601P.1	Analyze and select various cables and Connectors used for networking with computer network security.
C601P.2	Verify the implementation results on software like NS2 and simulate different networking models and implement different networking protocols.
C601P.3	Understand different data transmission techniques using TCP and UDP Protocol for evaluating the different IP addresses for various systems.

COURSE OUTCOMES

B. Tech. Sixth Semester

BEETC-602T	INTERNET OF THINGS (IOT)

By the end of the course, the students will be able to:

C602T.1	Analyze different design levels of IoT.
C602T.2	Analyze IOT Architecture.
C602T.3	Describe network and communication aspects.
C602T.4	Design a portable IoT using Rasperry Pi and Aurdino.
C602T.5	Analyze applications of IoT in real time scenario.

COURSE OUTCOMES

B. Tech. Sixth Semester

BEETC-602P	INTERNET OF THINGS (IOT) LAB

By the end of the course, the students will be able to:

C602P.1	Understand the concept of IOT.
C602P.2	Implement interfacing of various Sensors with Arduino/Raspberry Pi.
C602P.3	Demonstrate the ability to transmit data wirelessly between different Devices.
C602P.4	Show an ability to upload/ Download sensor data on cloud and server.

COURSE OUTCOMES

B. Tech. Sixth Semester

BEETC-603T	WIRELESS SENSOR NETWORK

By the end of the course, the students will be able to:

C603T.1	Demonstrate advanced knowledge and understanding of the engineering principle of sensor design, signal processing, established digital communications techniques, embedded hardware and software, sensor network architecture, sensor networking principles and protocols
C603T.2	Demonstrate a computing science approach, in terms of software techniques, for wireless sensor networking with emphasis on tiny sensors, sensor specific programming languages, RFID technology, embedded architectures, software program design and associated hardware, data fusion.
C603T.3	Demonstrate knowledge of the associated business, legislative, safety and commercial issues; future technological advances and the way these will impact on the engineering product enterprise process.

COURSE OUTCOMES

B. Tech. Sixth Semester

BEETC-603P	WIRELESS SENSOR NETWORK LAB

By the end of the course, the students will be able to:

C603P.1	Analyze and evaluate the performance of wireless sensor network by using simulation tools (NS-2).
C603P.2	Understand the basic concepts and components of wireless sensor networks, including sensors nodes, communication protocols, data routing, network architecture and its applications.
C603P.3	Simulate and analyze wireless sensor network and involve NS-2 architecture, command line interface and simulation script language (TCL) used in NS-2.

COURSE OUTCOMES

B. Tech. Sixth Semester

BEETC-604PE	COMPUTER ARCHITECTURE (PE-II)

By the end of the course, the students will be able to:

C604PE.1	Demonstrate computer architecture concepts related to design of modern processors, memories and I/O s.
C604PE.2	Develop logic for assembly language programming using arithmetic and logical operations.
C604PE.3	Distinguish the organization of various parts of a system memory hierarchy.
C604PE.4	Describe fundamentals concepts of pipeline and vector processing.
C604PE.5	Analyze the performance of commercially available computers.

COURSE OUTCOMES

B. Tech. Sixth Semester

BEETC-604PE	DATA BASE MANAGEMENT SYSTEM(PE-II)

By the end of the course, the students will be able to:

C604PE.1	Understands basic database concepts and data modeling techniques used in data base design.
C604PE.2	Study the concept of functional dependency and perform the calculus with design database by using different normalization techniques.
C604PE.3	Study query processing and perform optimization on query processing.
C604PE.4	Understand the concept of transaction processing and different recovery techniques used in RDBMS.
C604PE.5	Study and Implement advanced database which are used in real time system.

COURSE OUTCOMES

B. Tech. Sixth Semester

BEETC-605OE	CONSUMER ELECTRONICS (OPEN ELECTIVE-I)

By the end of the course, the students will be able to:

C605OE.1	Describe various audio gadgets used in domestic and commercial applications.
C605OE.2	Describe various video gadgets used in domestic and commercial applications.
C605OE.3	Explain satellite communication technology along with DTH for day to day application.
C605OE.4	Describe various types of home appliances used in domestic life like washing machine, RO plant, Mixer, grinder, vacuum cleaner etc.
C605OE.5	Describe various types of home appliances used in domestic life like Microwave oven, printers, food processors, Induction devices, scanner and fax machines etc.

COURSE OUTCOMES

B. Tech. Sixth Semester

BEETC-606T	HSC:EFFECTIVE TECHNICAL COMMUNICATION

By the end of the course, the students will be able to:

C606T.1	Provide the graduates to use written communication in work and personal experience beyond college.
C606T.2	A cquaint student for active participation in reading and writing.
C606T.3	Teach the skills needed to successfully communicate in modern word through written materials.
C606T.4	Identify and select many types of writing frequently required in variety of careers.
C606T.5	Improve the graduates ability to differentiate among and to use facts, inferences and judgment in professional careers.

COURSE OUTCOMES

B. Tech. Sixth Semester

BEETC-607I	MINIPROJECT (INTERNSHIP)

By the end of the course, the students will be able to:

C607I.1	Understand various PCB design.
C607I.2	Interface basic Electronics circuits to Arduino.
C607I.3	Build a mini project based on Electronic components and Arduino and Raspberry Pi.

COURSE OUTCOMES

B. Tech. Seventh Semester

COURSE OUTCOMES

B. Tech. Seventh Semester

BEETC-701PE-T	AUDIO & VIDEO ENGINEERING

By the end of the course, the students will be able to

C701T.1	Analyze Color T.V. System.
C701T.2	Compare different T. V. Standards.
C701T.3	Distinguish advanced T. V. Technologies
C701T.4	Analyze audio & video recording, display and relevant consumer application.

COURSE OUTCOMES

B. Tech. Seventh Semester

BEETC-701PE-P	AUDIO & VIDEO ENGINEERING LAB

By the end of the course, the students will be able to:

C701P.1	Understand the knowledge of fundamental principles in Audio and Video Engineering.
C701P.2	Gain proficiency in operating Audio and Video equipment's such as television, camera etc.
C702P.3	Ability to troubleshoot technical issues related to Audio and Video productions.

COURSE OUTCOMES

B. Tech. Seventh Semester

BEETC-702PE-T	DATA SCIENCE & CLOUD COMPUTING

By the end of the course, the students will be able to:

C702T.1	Identify the basic concepts and Technologies involved in dealing with data science Process.
C702T.2	Apply data management for exploring and fixing data.
C702T.3	Understands different types statistical data analysis.
C702T.4	Apply and use different technologies for Data Visualization.

COURSE OUTCOMES

B. Tech. Seventh Semester

BEETC-702PE-T	MICROWAVE AND RADAR ENGINEERING

By the end of the course, the students will be able to:

C702T.1	Understand the use of active and passive microwave devices.
C702T.2	Analyze scattering matrix, different UHF components with the help of scattering parameters.
C702T.3	Understand the use of different klystrons.
C702T.4	Analyze the different power distribution Tees.
C702T.5	Identification and acquisition of technical competence in specialized areas of RADAR Engineering.

COURSE OUTCOMES

B. Tech. Seventh Semester

BEETC-702PE-P	MICROWAVE AND RADAR ENGINEERING LAB

By the end of the course, the students will be able to:

C702P.1	Analyze the various types of microwave measuring components using microwave Test Bench.
C702P.2	Characterize microwave devices in terms of directionality of communication.
C702P.3	Understand the use the working principle of non-reciprocal devices like Isolator, Circulator, Gyrator etc. and verify its result.

COURSE OUTCOMES

B. Tech. Seventh Semester

BEETC-703PE	SOFT COMPUTING

By the end of the course, the students will be able to:

C703T.1	Recognize the feasibility of applying a soft computing methodology for a particular problem.
C703T.2	Apply fuzzy logic and reasoning to handle uncertainty and solve engineering problems.
C703T.3	Apply genetic algorithm to combinatorial optimization problems.
C703T.4	Apply neural networks to pattern classification and regression problems.

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COURSE OUTCOMES

B. Tech. Seventh Semester

BEETC-703PE	OPTICAL COMMUNICATION

By the end of the course, the students will be able to:

C703T.1	Learn the basic elements and behavior of optical fiber.
C703T.2	Analyze the different kinds of losses, signal distortions in Optical fiber.
C703T.3	Classify various optical source materials, LED structures, LASER Diodes.
C703T.4	Explore the fiber optic receivers such as PIN, APD Diodes, Receiver operation and performance.
C703T.5	Understand the operational principle of WDM, SONET and Optical Amplifier.

COURSE OUTCOMES

B. Tech. Seventh Semester

BEETC-704OE	MECHATRONICS

By the end of the course, the students will be able to:

C704T.1	Model and simulate physical systems.
C704T.2	Incorporate sensors, actuators and interfacing modules.
C704T.3	Develop logic to automate, and supervise a system.
C704T.4	Design mechatronics subsystem\ system\ process to meet consumer and industry need by incorporating State-of-the-art technologies.
C704T.5	Conduct experiments to demonstrate the knowledge of Automation, Supervisory control and Human machine Interfaces.

COURSE OUTCOMES

B. Tech. Seventh Semester

BEETC-705P	PROJECT SEMINAR

By the end of the course, the students will be able to:

C705P.1	Demonstrate the ability to perform close and critical analysis based on existing literature review.
C705P.2	Demonstrate the ability to consider critically the motives and methods of scholarship and the relationship between them.
C705P.3	Formulate the problem for further analysis and design.

COURSE OUTCOMES

B. Tech. Seventh Semester

BEETC-706A	INTELLECTUAL PROPERTY RIGHTS

By the end of the course, the students will be able to:

C706A.1	Read about the concepts of Intellectual Property Rights.
C706A.2	Distinguish and understand the world of Intellectual Property.
C706A.3	Explain why it needs to be protected? How is it protected?
C706A.4	Analyze , discuss and debate about the latest legal problems confronting the world and solutions being offered.
C706A.5	Consider new and upcoming areas of Intellectual Property (IP) like bio-technology domain.

COURSE OUTCOMES

B. Tech. Eighth Semester

COURSE OUTCOMES

B. Tech. Eighth Semester

BEETC-801PE	CMOS VLSI DESIGN

By the end of the course, the students will be able to:

C801T.1	Describe and interpret the basic concepts of MOS transistors.
C801T.2	Construct the ability to design a system, components or process as per need and specifications.
C801T.3	Analyze invertor design, characteristics and applications and performance parameters of CMOS circuits.
C801T.4	Evaluate circuits using different CMOS styles and measure performance of the complex logic structures.
C801T.5	Describe data path VLSI system components.

COURSE OUTCOMES

B. Tech. Eighth Semester

BEETC-801 PE	MICRO ELECTRO MECHANICAL SYSTEMS

By the end of the course, the students will be able to:

C801T.1	Apply the principles behind the operations of MEMS Devices.
C801T.2	Choose a Micro machining technique for a specific MEMS fabrication process.
C801T.3	Understand recent advancements in the field of MEMS and Devices

COURSE OUTCOMES

B. Tech. Eighth Semester

BEENE-802PE	VLSI SIGNAL PROCESSING

By the end of the course, the students will be able to:

C802T.1	Learn various methodologies to optimize power delay and area of VLSI design.
C802T.2	Build real time processing systems.
C802T.3	Designs of algorithms structures for DSP algorithm based on algorithm transformation.

COURSE OUTCOMES

B. Tech. Eighth Semester

BEETC-802PE	SATELLITE COMMUNICATION

By the end of the course, the students will be able to:

C802T.1	Do research with capabilities in the design, development and manufacture of satellite communication systems used in a wide spectrum of applications.
C802T.2	Experience real world experience from household appliances to sophisticated satellite communication from electronics ignition to neural networks and signal processing chips and to integrate academic discipline with project based engineering applications, classroom Learning theory.
C802T.3	Able for acquisition of technical competence in specialized areas of satellite communication engineering.
C802T.4	Able to identify, formulate and model problems and Satellite communication engineering solutions based on system approach.

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COURSE OUTCOMES

B. Tech. Eighth Semester

BEETC-803P	PROJECT PHASE 2

By the end of the course, the students will be able to:

C803P.1	Analyze or design the electronics / Telecommunication / allied engineering Problems by using appreciate Methodology in a team work.
C803P.2	Interpret the communication skills of team members.
C803P.3	Use of modern tools in the field of Electronics Engineering.

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Head, Dept. of Electro & Telecomm. Engg.