Course Outcome for B.E. Electronics & Telecommunication

Class	Semester	Program	Name of the Subject	CO	Course Outcome
FE	I	BE E&TC	Physics	818101.1	To study Bragg's Law and introduced to the principles of lasers, types of lasers and applications
				818101.2	Various terms related to properties of materials such as, permeability, polarization, etc.
				818101.3	Some of the basic laws related to quantum mechanics as well as magnetic and dielectric
				818101.4	properties of materials
				818101.5	Simple quantum mechanics calculations
				818101.6	Nanotechnology and their industrial applications.
FE	I	BE E&TC	Mathematics - I	818102.1	Apply differential and integral calculus. Apart from some other applications they will have a basic understanding of Beta and Gamma functions.
				818102.2	The fallouts of Rolle's Theorem that is fundamental to application of analysis to Engineering problems.
				818102.3	The tool of Fourier series for learning advanced Engineering Mathematics.
				818102.4	To deal with functions of several variables that are essential in most branches of Engineering.The essential tool of matrices and linear algebra in a comprehensive manner.
FE	I	BE E&TC	Basic Electrical & Electronics Engineering	818103.1	Students will be able to demonstrate knowledge of circuit analysis using various basic laws and theorems of electrical circuits
				818103.2	Students will be able to demonstrate and understand definition and relationship of various AC circuits.
				818103.3	Understand working principle of PN junction diode, Zener diode and their applications.

Class	Semester	Program	Name of the Subject	CO	Course Outcome
				818103.4	Describe different configuration of Bipolar Junction Transistor.
				818103.5	Describe different configurations of FET
				818103.6	Understand operating principle Power Electronics Devices
				818103.7	Describe use of the Basic gate and Universal gate
FE	I	BE E&TC	Programming for Problem Solving	818104.1	To formulate simple algorithms for arithmetic and logical problems
				818104.2	Understand the fundamentals of C programming.
				818104.3	To test and execute the programs and correct syntax and logical errors
				818104.4	Choose the loops and decision making statements to solve the problem.
				818104.5	To decompose a problem into functions and synthesize a complete program using divide and conquer approach
				818104.6	To use arrays, pointers and structures to formulate algorithms and programs
FE	I	BE E&TC	Physics Lab	818105.1	To study Bragg's Law and introduced to the principles of lasers, types of lasers and applications
				818105.2	Various terms related to properties of materials such as, permeability, polarization, etc.
				818105.3	Some of the basic laws related to quantum mechanics as well as magnetic and dielectric
				818105.4	properties of materials
				818105.5	Simple quantum mechanics calculations
				818105.6	Nanotechnology and their industrial applications.
FE	I	BE E&TC	Basic Electrical and Electronics Engineering Lab.	818106.1	Identify electrical and electronics components/equipments.
				818106.2	Simplify D.C. network using Superposition Theorem.
				818106.3	Simplify D.C. network using Thevenin's Theorem.

Class	Semester	Program	Name of the Subject	CO	Course Outcome
				818106.4	Learn diode V-I Characteristic
				818106.5	Understand BJJ as a switch
				818106.6	Understand LED, JFET, SCR V-I characteristics
FE	I	BE E&TC	Programming for Problem Solving Lab	818107.1	Understand the fundamentals of C programming.
				818107.2	Choose the loops and decision making statements to solve the problem.
				818107.3	Use functions to solve the given problem.
				818107.4	Implement different Operations on arrays.
				818107.5	Understand strings and structures.
				818107.6	Understand the usage of pointers.
FE	II	BE E&TC	Chemistry	818201.1	Analyse microscopic chemistry in terms of atomic and molecular orbitals and intermolecular forces.
				818201.2	Distinguish the ranges of the electromagnetic spectrum used for exciting different molecular energy levels in various spectroscopic techniques
				818201.3	Rationalise periodic properties such as ionization potential, electronegativity, oxidation states and electronegativity.
				818201.4	Rationalise bulk properties & processes using thermodynamic considerations
				818201.5	List major chemical reactions that are used in the synthesis of molecules.
FE	II	BE E&TC	Engineering Graphics	818203.1	Introduction to engineering design and its place in society
				818203.2	Exposure to the visual aspects of engineering design
				818203.3	Exposure to engineering graphics standards
				818203.4	Exposure to solid modeling.
FE	II	BE E&TC	English	818204.1	To acquire basic proficiency in English including reading and listening

Class	Semester	Program	Name of the Subject	CO	Course Outcome
				818204.2	To demonstrate proficiency in the use of written English, including proper spelling, Grammar and punctuation.
				818204.3	To enhance their ability to use spoken words in interpersonal communication, small group interactions and public speaking Comprehension, writing and speaking skills.
				818204.4	Become accomplished technical communicators.
FE	II	BE E&TC	Mathematics-II	818202.1	Use mathematical tools needed in evaluating multiple integrals and their usage.
				818202.2	Apply effective mathematical tools for the solutions of differential equations that model physical processes.
				818202.3	Use tools of differentiation and integration of functions of a complex variable that are used in various techniques dealing engineering problems.
FE	II	BE E&TC	Chemistry Lab	818206.1	Upon successful completion of lab Course, student will be able to: The chemistry laboratory course will consist of experiments illustrating the principles of chemistry relevant to the study of science and engineering.
				818206.2	Estimate rate constants of reactions from concentration of reactants/products as a function of time
				818206.3	Measure molecular/system properties such as surface tension, viscosity, conductance of solutions, redox potentials, chloride content of water, etc
				818206.4	Synthesize a small drug molecule and analyse a salt sample .
FE	II	BE E&TC	Engineering Graphics Lab	818207.1	Introduction to engineering design and its place in society
				818207.2	Exposure to the visual aspects of engineering design
				818207.3	Exposure to engineering graphics standards
				818207.4	Exposure to solid modeling.

Class	Semester	Program	Name of the Subject	CO	Course Outcome
FE	II	BE E&TC	English Lab	818208.1	Students will be sensitized towards recognition of English sound pattern.
				818208.2	The fluency in speech will be enhanced.
FE	II	BE E&TC	Workshop Practices	818205.1	Students will be able to fabricatecomponents with their own hands.
				818205.2	Get practical knowledge of the dimensional accuracies and dimensional tolerances possible
				818205.3	with different manufacturing processes.
				818205.4	Assemble different components, they will be able to produce small devices oftheir interest.
SE	III	BE E&TC	Mathematics – III	818301.1	Solve field problems in engineering involving Ordinary differential equations using Laplace Transform.
				818301.2	Apply concept of Fourier and Z-transform to solve field problems in engineering
				818301.3	Formulate and solve problems involving random variables.
				818301.4	Apply statistical methods for analyzing experimental data.
				818301.5	Understand basic concept statistics, probability distribution and test of significance
SE	III	BE E&TC	Electrical Machines	818302.1	Apply knowledge of 3Ø system for measurement of 3Ø power & their parameters.
				818302.2	Describe constructional details, principle of operation, performance, starters of DC Machines
				818302.3	Analyze different parameters of transformer & also they are familiar with V-Vconnection, Scott connection, testing of transformer.
				818302.4	Use & explain constructional details, principle of operation and working of Synchronous machines.
				818302.5	Describe fundamentals of 1Ø, 3Ø induction motor.
SE	III	BE E&TC	Solid state Devices &circuits	818303.1	Understand the principles of semiconductor Physics and to acquire basic knowledge of physical and electrical conducting properties of transistor.

Class	Semester	Program	Name of the Subject	CO	Course Outcome
				818303.2	Develop the ability to understand the working of BJT / FET amplifiers.
				818303.3	Develop the skill to build, and troubleshoot solid state circuits.
				818303.4	Understand and utilize the mathematical models of semiconductor junctions and MOS transistors for circuits and systems
				818303.5	Understand the fundamental application of solid state devices in the electronic industry
SE	III	BE E&TC	Digital System Design	818304.1	Apply knowledge for conversion of different type of code.
				818304.2	Apply simplification of logical expression using K-map upto 5 variables
				818304.3	Apply basic principles to design Combinational logic circuit.
				818304.4	Apply basic principles to design Sequential logic circuit.
				818304.5	Explain basic concept of logic family and Programmable logic device
SE	III	BE E&TC	Industrial Organisation &	818305.1	understand fundamental principle of Organization and Management
				818305.2	able to know about various organizational structures and their application in industry.
				818305.3	able get information about financial sources for setting the capital for start up.
				818305.4	able to understand the utilization of available resources like men, material and machines etc
				818305.5	understand the knowledge regarding ISO standards, Industrial acts and accident avoidance.
SE	III	BE E&TC	Programming Language Lab	818306.1	Implements and understand the concept of function overloading and operator overloading.
				818306.2	Demonstrate the use of inheritance concepts with the help of programs.
				818306.3	Understand use of arrays and pointers in C++ programming
				818306.4	Demonstrate the use of polymorphism, Binding and virtual functions.

Class	Semester	Program	Name of the Subject	CO	Course Outcome
SE	III	BE E&TC	Digital System Design Lab	818307.1	To Design and implement various combinational and sequential logic circuits.
				818307.2	To implement various sequential circuits like counter and shift registers.
				818307.3	Introduce students with programmable logic device ,FPGA etc
SE	III	BE E&TC	Electronics Devices &Circuits Lab	818308.1	Verify the working of different diodes, transistors, FET and measuring instruments. Identifying the procedure of doing the experiment.
				818308.2	Design the circuits with basic semiconductor devices (active & passive elements), measuring instruments & power supplies that serves many practical purposes
				818308.3	Design and analyze the amplifier circuits using BJT and FET and study the frequency response
				818308.4	Construct, analyze and troubleshoot the designed circuits
				818308.5	Measure and record the experimental data, analyze the results, and prepare a formal laboratory report
SE	IV	BE E&TC	Biology	818401.1	To understand the structures and characteristics or functions of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes, and organelles.
				818401.2	To learn the basic principles of inheritance at the molecular, cellular and Organism levels.
				818401.3	To test and deepen their mastery of genetics by applying this knowledge in a variety of problem-solving situations.
				818401.4	To explain the mechanism of plant and animal tissue culturing.
				818401.5	To demonstrate the mechanism of recombinant DNA technology and its application in the field of Biotechnology.
SE	IV	BE E&TC	Network & Lines	818402.1	Understand basics electrical circuits with nodal and mesh analysis along with theorems
				818402.2	Appreciate resonance in electrical network
				818402.3	Apply Laplace Transform and determine network function.

Class	Semester	Program	Name of the Subject	CO	Course Outcome
				818402.4	Determine different network functions.
				818402.5	Appreciate the frequency domain technique and filters
SE	IV	BE E&TC	Analog & Digital Communication	818403.1	Demonstrate knowledge about fundamental principles, theories and concept of communication system
				818403.2	Use & explain different methods of analog communication.
				818403.3	Analyze the behaviour of a communication system in presence of noise
				818403.4	Explain different waveform coding techniques as well as digital modulation techniques
				818403.5	Analyze the bit error performance of signal
SE	IV	BE E&TC	Analog circuits	818404.1	Acquire basic knowledge of physical and electrical conducting properties of transistor.
				818404.2	Develop the ability to understand the design and working of BJT / FET amplifiers.
				818404.3	Design amplifier circuits using BJT s And FET's and observe the amplitude frequency and responses of common amplifier circuits
				818404.4	Illustrate the effect of negative feedback on different parameters of an Amplifier and different types of negative feedback topologies.
				818404.5	Illustrate the effect of positive feedback and able to design and working of different Oscillators using BJTS.
SE	IV	BE E&TC	Ent.Development programm	818405.1	Able to understand Entrepreneurial quality.
				818405.2	Understand the role of small scale enterprises in economic development of a country and Understand the linkage between small and large scale enterprises
				818405.3	Develop advanced knowledge on how to assess business opportunities to overcome failures.
				818405.4	Student can effectively combine understanding of technology and entrepreneurship in a cross- disciplinary fashion to identify and develop attractive opportunities within your field of experience.

Class	Semester	Program	Name of the Subject	CO	Course Outcome
				818405.5	Understand the concept of human resource management, Marketing management, financial management, Production and Operation management in a new enterprise.
SE	IV	BE E&TC	Electronics workshop	818406.1	Understand basics electrical circuits with nodal and mesh analysis.
				818406.2	Appreciate electrical network theorems.
				818406.3	Apply Laplace Transform for steady state and transient analysis.
				818406.4	Determine different network functions.
				818406.5	Appreciate the frequency domain techniques.
SE	IV	BE E&TC	Analog & Digital Communication Lab	818407.1	Describe different analog modulation schemes.
				818407.2	Analyze the behavior of a communication system in presence of noise.
				818407.3	Use & explain waveform coding techniques.
				818407.4	Describe different line coding.
				818407.5	Analyze system performance of digital modulation systems
SE	IV	BE E&TC	Anolog Circuits Lab	818408.1	Acquire basic knowledge of physical and electrical conducting properties of transistor.
				818408.2	Develop the ability to understand the design and working of BJT / FET amplifiers.
				818408.3	To design amplifier circuits using BJT s And FET's and observe the ample & freq. responses of CE ckt
				818408.4	Observe the effect of - ve f/b on diff. parameters of an Amplifier and differenttypes of - ve f/b topology
				818408.5	Observe the effect of positive feedback and able to design and working of different Oscillators
SE	IV	BE E&TC	Electronics network Lab	818409.1	Understand basics electrical circuits with nodal and mesh analysis.
				818409.2	Appreciate electrical network theorems.
				818409.3	Apply Laplace Transform for steady state and transient analysis.

Class	Semester	Program	Name of the Subject	CO	Course Outcome
				818409.4	Determine different network functions.
				818409.5	Appreciate the frequency domain techniques.
TE	V	BE E&TC	Microcontrollers	818501.1	To introduce students with the architecture and operation of typical microprocessors and Microcontrollers.
				818501.2	To familiarize the students with the programming and interfacing of microcontrollers.
				818501.3	Provide background knowledge and core expertise in microcontroller.
				818501.4	To understand the importance of different peripheral devices & their interfacing to 8051.
				818501.5	Provide strong foundation for designing real world applications using microcontrollers.
TE	V	BE E&TC	Electromagnetic Waves	818502.1	To apply fundamental knowledge to learn the basic laws of electromagnetism
				818502.2	To analyze the electric and magnetic fields for simple configurations under static
				818502.3	To analyze time varying electric and magnetic fields.
				818502.4	To describe the Maxwell’s equation in different forms and different media
				818502.5	To describe the propagation of EM waves.
TE	V	BE E&TC	Signals & System	818503.1	Students will describe the mathematical concepts of signal representation and its analysis
				818503.2	Students will analyze the signals and systems using fourier domain analysis
				818503.3	Students will apply the knowledge of Laplace transformation concept to analyze signal
				818503.4	Students will able to understand the use of Z-transform
				818503.5	Students will able to apply the knowledge of state space analysis and real time applications in day to day life

Class	Semester	Program	Name of the Subject	CO	Course Outcome
TE	V	BE E&TC	(PEC - I) Power Electronics	818541.1	Build and test circuits using power devices such as SCR
				818541.2	Analyse and design controlled rectifier, DC to DC converters, DC to AC inverters,
				818541.3	Learn how to analyze these inverters and some basic applications.
				818541.4	Apply the knowledge, to design the SMPS and UPS.
				818541.5	To describe the application of power electronics in day to day life.
TE	V	BE E&TC	Biomedical Instrumentation (OEC - I)	818551.1	Describe the importance of biomedical measurement in patient monitoring system.
				818551.2	Describe the application of the electronic systems in medical applications
				818551.3	Able to interpret the signals like ECG, EMG and EEG.
				818551.4	Apply the fundamental knowledge for measurement of blood pressure, body temperature And cardiac parameter
				818551.5	Describe the applications of modern imaging system like x-ray and ultrasound imaging
TE	V	BE E&TC	Microcontrollers Lab	818506.1	Understand Architecture, pins diagram, instruction and interfacing of microcontroller.
				818506.2	Learn compiling and downloading of program.
				818506.3	Interpret the program for 8051 in assembly language for given problem.
				818506.4	Describe the iteration, loop behavior implementation in the program for 8051.
				818506.5	Interface I/O devices, memory to 8051 microcontroller.
TE	V	BE E&TC	Signals & System Lab	818507.1	Apply the mathematical description and representation of continuous time and discrete time signals
				818507.2	Analyze the spectral characteristics of signals using Fourier analysis
				818507.3	Analyze the systems using Laplace transform and Z-transform.
				818507.4	Apply the fundamental knowledge for sampling and quantization of signal.

Class	Semester	Program	Name of the Subject	CO	Course Outcome
				818507.5	Understand the use of state space analysis.
TE	V	BE E&TC	Power Devices& Circuits Lab	818508.1	Design SCR firing circuit.
				818508.2	Understand the concept of power conversion AC to DC, DC to DC etc.
				818508.3	Measure the response of single phase and three phase supply.
				818508.4	Design different types of Controller.
				818508.5	Describe the 1-ϕ Half and full controlled Bridge rectifier with R and RL Load
TE	V	BE E&TC	Minor Project (Stage–I)	818509.1	Demonstrate a sound technical knowledge of their selected project topic.
				818509.2	Undertake problem identification, formulation and solution.
				818509.3	Design engineering solutions to complex problems utilizing a systems approach.
				818509.4	Conduct an engineering project
				818509.4	Demonstrate the knowledge, skills and attitudes of a professional engineer.
TE	VI	BE E&TC	control system	818601.1	Describe the fundamental concept and principle of feedback control systems
				818601.2	Analyze different transfer function methods
				818601.3	To gain knowledge regarding timedomain analysis and stability of control systems
				818601.4	Crete ability among the students to analyze control systems using root locus and frequence domain methods
				818601.5	To develop ability among the students regardng the concept of state space analysis and different controllers
TE	VI	BE E&TC	Electronics Measurement	818602.1	Explain the principle and operation for analog instruments, like LCR Q` meter, Vector voltmeter, impedance meter
				818602.2	Understand the principle and operation of Digital Instruments and its working.
				818602.3	Demonstrate operation and application of Signal generator & Signal Analyzers.
				818602.4	Demonstrate the detail study of voltage indicating device CRO and its applications.

Class	Semester	Program	Name of the Subject	CO	Course Outcome
				818602.5	Understand the working of different types of data acquisition system.
TE	VI	BE E&TC	Electronics Design	818603.1	Design and implement power supply.
				818603.2	Design and implement small signal amplifiers.
				818603.3	Design various power amplifiers and tuned amplifier.
				818603.4	Design of oscillators and wave shaping circuits for various practical applications.
				818603.5	Design of various analog integrated circuits using analog IC
TE	VI	BE E&TC	Professional Elective_II CMOS Design	818641.1	Understand the basic theory of MOS transistors..
				818641.2	Understand the basic steps of fabrication.
				818641.3	Analyze Combinational Circuit using CMOS.
				818641.4	Develop Sequential Circuit using CMOS
				818641.5	Acquire knowledge to Design of Data Processing Elements using VHDL.
TE	VI	BE E&TC	Open Elective Course – II Wireless Sensor Networks	818651.1	Describe the sensor network, sensor networks
				818651.2	Analyse the Localization and Synchronization
				818651.3	Describe the MAC layer issues
				818651.4	Describe the Network layer issues and protocols
				818651.5	Describe the day to day life application of wireless network.
TE	VI	BE E&TC	Electronis Design Lab	818606.1	Acquire basic knowledge to design, implement and troubleshoot analog circuits.
				818606.2	Develop the ability to design power supply and small signal amplifiers
				818606.3	Able to design and implement oscillators and wave shaping circuits
				818606.4	Able to design and test the analog filters.

Class	Semester	Program	Name of the Subject	CO	Course Outcome
				818606.5	Able to design and fabricate the circuit on PCB.
TE	VI	BE E&TC	Electronis Measurement Lab	818607.1	Students will understand fundamental principle of digital measurement.
				818607.2	Student will learn measurement of RMS signal amplitude, frequency and time on CRO.
				818607.3	Students will learn the signal analysis using harmonic analyzer and spectrum analyzer.
				818607.4	Student will gain knowledge about measurement with digital instrument.
				818607.5	
TE	VI	BE E&TC	Control system Lab	818608.1	Demonstrate knowledge about fundamental principles of synchronous motor
				818608.2	To understand the concept of PID Controller
				818608.3	Demonstrate knowledge about fundamental principles of stepper motor
				818608.4	To understand the concept of transient and unit step response
				818608.5	Able to understand the concept of stability by using Bode and Nyquiest plot
TE	VI	BE E&TC	Minor Project	818609.1	Demonstrate a sound technical knowledge of their selected project topic.
				818609.2	Undertake problem identification, formulation and solution.
				818609.3	Design engineering solutions to complex problems utilizing a systems approach.
				818609.4	Conduct an engineering project
				818609.5	Demonstrate the knowledge, skills and attitudes of a professional engineer.
BE	VII	BE E&TC	Digital Signal Processing	718701	Study of element of Discrete time signal and system , Linear convolution, Causality and Correlation concept understanding
				718701.1	Basic understanding of Z-Transform and inverse S-Transform, ROC and their properties.

Class	Semester	Program	Name of the Subject	CO	Course Outcome
				718701.2	Study of Fourier Transform of Discrete time signal and system, Fast Fourier Transform Algorithm understanding
				718701.3	Study of Design and Realization of Digital Filters.
				718701.4	Understanding of DSP Processors and their application.
BE	VII	BE E&TC	Professional Elective III_ Fiber Optics Commnication	718721.1	Able to know the fundamentals of Light theory and its application in optical communication.
				718721.2	Able to know the construction of various optical fiber and causes of signal degradation in fiber
				718721.3	Experience with the Knowledge of working of various optical sources and optical detectors.
				718721.4	Able to know about Optical link design for fiber optics.
				718721.5	Develop the knowledge on Optical Switching and networking technology.
BE	VII	BE E&TC	Professional Elective IV_satellite Commnication	718731.1	Describe the basic concepts and applications of satellite systems
				718731.2	Analyze, test and use various link budget, power budget.
				718731.3	Describe the concept of 2G,3G,4G and 5G system.
				718731.4	Apply the concept for measurement of various parameters of C/N ratio.
				718731.5	To describe the modern trends in satellite communication engineering.
BE	VII	BE E&TC	Open Elective Course _III Artificial Intelligence & Machine Learning	718741.1	Use appropriate search algorithms for any AI problem
				718741.2	Apply basic concept to describe neural network.
				718741.3	Apply basic knowledge to describe concept of Fuzzy logic.

Class	Semester	Program	Name of the Subject	CO	Course Outcome
				718741.4	Recognize the characteristics of machine learning that make it useful to real-world problems.
				718741.5	Able to use regularized regression and Classification algorithms.
BE	VII	BE E&TC	Communication Lab I	718705.1	Able to know the fundamentals, advantages and advances in optical communication system.
				718705.2	Familiarize with types, basic properties and transmission characteristic of optical fibers.
				718705.3	Experience with the Knowledge of working of optical transmitter and the receiver with analog and digital data transmission.
				718705.4	Able to know various losses in optical communication and reduce the losses.
				718705.5	
BE	VII	BE E&TC	Digital Signal Processing Lab	718706.1	Able to understand Analog signal and digital signal in discrete form using MATLAB
				718706.2	Understand different operation on sine, cos, step, ramp, impulse etc
				718706.3	Able to perform convolution operation
				718706.4	Able to perform DFT and IDFT operation
				718706.5	Able to understand FFT and IFFT signal operation
BE	VII	BE E&TC	Project (Stage – I)	718707.1	Demonstrate a sound technical knowledge of their selected project topic.
				718707.2	Undertake problem identification, formulation and solution.
				718707.3	Design engineering solutions to complex problems utilizing a systems approach.
				718707.4	Conduct an engineering project
				718707.5	Demonstrate the knowledge, skills and attitudes of a professional engineer.
BE	VIII	BE E&TC	Computer Network	818801.1	Describe the basic concepts of Computer Network systems.
				818801.2	Analyze various types of noisy protocols.
				818801.3	Describe the concept of circuit switching and packet switching.

Class	Semester	Program	Name of the Subject	CO	Course Outcome
				818801.4	Apply the concept for Congestion control and techniques to improve quality of service.
				818801.5	To describe the modern trends in Network Security and Public Key Algorithm.
BE	VIII	BE E&TC	Professional Elective Course – V Microwave Theory & Techniques	818821.1	Describe the basic concepts and applications of microwave systems.
				818821.2	Analyze, test and use various passive microwave components for different applications.
				818821.3	Describe the concept of microwave active tubes.
				818821.4	Apply the concept for measurement of various parameters of microwave system.
				818821.5	To describe the modern trends in microwave engineering.
BE	VIII	BE E&TC	Professional Elective Course – VI Embedded system	818831.1	Distinguish real-time embedded systems from other systems.
				818831.2	Understand the ARM processor fundamentals.
				818831.3	Design Real World Interfacing with ARM7 Based Microcontroller
				818831.4	Evaluate the need for real-time operating system and real-time algorithm for task scheduling.
				818831.5	Understand the IoT and its application design
BE	VIII	BE E&TC	Open Elective Course – IV Automotive Electronics & Electric Vehicle	818841.1	Describe the basic concepts and applications of varioussensors.
				818841.2	Analyze, test and use various types of test benches for electric vehicles.

Class	Semester	Program	Name of the Subject	CO	Course Outcome
				818841.3	Describe the concept of CI & PIengines.
				818841.4	Apply the concept for measurement of various parametersof vehicles.
				818841.5	To describe the modern trends in different smart electronically controlled hybrid vehicles.
BE	VIII	BE E&TC	Communication Lab _II	818805.1	Describe the basic concept of Microwave tubes
				818805.2	Describe the basic concept of microwave passive components.
				818805.3	Able to analyze the various parameters in microwave measurement.
				818805.4	Able to describe the working of various microwave antenna
				818805.5	Describe the basic of microwave Intergraded Circuits
BE	VIII	BE E&TC	Computer Network Lab	818806.1	Independently understand basic computer network technology.
				818806.2	Understand and explain Data Communications System and its components
				818806.3	Identify the different types of network topologies and protocols
				818806.4	Enumerate the layers of the OSI model and TCP/IP. Explain the function(s) of each layer.
				818806.5	Identify the different types of network devices and their functions within a network
BE	VIII	BE E&TC	Project	818807.1	Demonstrate a sound technical knowledge of their selected project topic.
				818807.2	Undertake problem identification, formulation and solution.
				818807.3	Design engineering solutions to complex problems utilizing a systems approach.
				818807.4	Conduct an engineering project
				818807.5	Demonstrate the knowledge, skills and attitudes of a professional engineer.