2.6.2 Attainment of Programme outcomes and course outcomes are evaluated by the institution.

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1. PROGRAM OUTCOMES - ECE

PO1	**Engineering Knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems
PO2	**Problem Analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences
PO3	**Design/ Development of Solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	**Conduct Investigations of Complex Problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	**Modern Tool Usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
PO6	**The Engineer and Society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	**Environment and Sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	**Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and Team Work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	**Project Management and Finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

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PO12	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

2. PROGRAM SPECIFIC OUTCOMES - ECE

PSO1	To understand concepts of Electronics, Computer & Communication, Communication Systems, Signal Processing, VLSI and embedded systems design have a sustainable passion to achieve successful career by fulfill societal needs.
PSO2	To solve electronics and communication engineering problems using latest hardware and software tools, along with analytical skills to arrive cost effective and appropriate solutions.

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3. LIST OF COURSE OUTCOMES (2017 REGULATION) - ECE

S.No	Course Outcome
C101/ HS8151/ COMMUNICATIVE ENGLISH	
C101.1	Speak clearly, confidently, comprehensibly, and communicate with one or many listeners using communicative strategies.
C101.2	Write coherently and flawlessly using a wide diction.
C101.3	Read different genres of texts adopting various reading strategies.
C101.4	Comprehend different spoken discourses in different accents.
C101.5	Communicate in group and to larger audience appropriately.
C101.6	Enable to understand process descriptions and present it in the relevant field.
C102/ MA8151/ENGINEERING MATHEMATICS	
C102.1	Find the eigen values and eigen vectors to diagonalise and reduce a matrix to quadratic form.
C102.2	Check the converges, diverges of infinite series
C102.3	Find the solutions of algebraic equations solved by iterative methods gets close to the required solution.
C102.4	Obtain the evaluate and envelopes of a given curves by means of radius and centre of curvature
C102.5	Calculate the maxima and minima value functions of two variables
C102.6	Find the area of plain curves and volume of solid using double and triple integrals
C103-PH6151/ENGINEERING PHYSICS	
C103.1	Discuss various crystal structures and different crystal growth techniques
C103.2	Demonstrate the properties of elasticity and heat transfer through objects
C103.3	Explain black body radiation, properties of matter waves and Schrodinger wave Equations
C103.4	Illustrate the acoustic requirements, production and application of ultrasonic.
C103.5	Examine the characteristics of laser and optical fiber
C103.6	Improve the property of the materials for the application of commercial devices
C104/ CY8151/ENGINEERING CHEMISTRY	
C104.1	Classify polymers and their utility in the industries and describe the techniques of polymerization and properties of polymers
C104.2	Relate various thermodynamic functions such as enthalpy, entropy, free energy and their importance and equilibrium constant and its significance
C104.3	Explain the photophysical processes such as fluorescence and phosphorescence and various components of UV and IR spectrophotometer
C104.4	Explain the photophysical processes such as fluorescence and phosphorescence and various components of UV and IR

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C104.5	Outline the synthesis, characteristics and the applications of nano materials
C104.6	Knowing the various applications related to photophysical laws
C105 / GE8151/ PROBLEM SOLVING AND PYTHON PROGRAMMING	
C105.1	Demonstrate algorithm, flowchart for various programs
C105.2	Do simple programs using python programming basics
C105.3	Illustrate programs by using arrays and string functions
C105.4	Develop simple programs using functions and pointers
C105.5	Design mini projects with structures.
C105.6	Develop applications using python Programming Language
C106 / GE8152/ ENGINEERING GRAPHICS	
C106.1	Construct engineering curves
C106.2	Sketch all the views of engineering objects in free hand.
C106.3	Draw the projection of points, lines and planes.
C106.4	Draw the projection of solids in any orientation.
C106.5	Develop the section and lateral surfaces of sectioned solids
C106.6	Sketch the solids in perspective and isometric approaches
C107 / GE8161/ PROBLEM SOLVING AND PYTHON PROGRAMMINGLABORATORY	
C107.1	Demonstrate algorithm, flowchart for various programs
C107.2	Do simple programs using python programming basics
C107.3	Illustrate programs by using arrays and string functions
C107.4	Develop simple programs using functions and pointers
C107.5	Design mini projects with structures.
C107.6	Develop applications using python Programming Language
C108 / BS8161/ PHYSICS AND CHEMISTRY LABORATORY	
C108.1	The student will be able to analyze the physical principle involved in the various instruments, also relate the principle to new application.
C108.2	The various experiments in the areas of elasticity, optics, mechanics and thermal physics will nurture the students in all branches of Engineering.
C108.3	The students will be able to think innovatively and also improve the creative skills that are essential for engineering.
C109 / HS8251/ TECHNICAL ENGLISH	
C109.1	Speak clearly, confidently, comprehensibly, and communicate with one or many listeners using communicative strategies.

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C109.2	Write coherently and flawlessly using a wide diction.
C109.3	Read different genres of texts adopting various reading strategies.
C109.4	Comprehend different spoken discourses in different accents.
C109.5	Communicate in group and to larger audience appropriately.
C109.6	Enable to understand process descriptions and present it in the relevant field.
C110 / MA8251/ ENGINEERING MATHEMATICS II	
C110.1	Apply the vector concepts of vector calculus in engineering disciplines
C110.2	Apply the knowledge of mathematics in solving higher order differential equations with constant coefficients.
C110.3	To have the basic knowledge of differential equation in typical mechanical fields.
C110.4	Understand and apply the knowledge of Laplace transform in solving ordinary differential equation.
C110.5	Understand the standard techniques of complex variable theory and use them to solve core engineering problems.
C110.6	Evaluate real integrals by applying concept of complex integration.
C111 / PH8253/PHYSICS FOR ELECTRONICS ENGINEERING	
C111.1	Gain knowledge on classical and quantum electron theories, and energy band structures,
C111.2	Acquire knowledge on basics of semiconductor physics and its applications in various devices,
C111.3	Get knowledge on magnetic and dielectric properties of materials,
C111.4	Have the necessary understanding on the functioning of optical materials for optoelectronics,
C111.5	Understand the basics of quantum structures and their applications in spintronics and carbon electronics.
C111.6	Gain knowledge on classical and quantum electron theories, and energy band structures,
C112/ BE8254/BASIC ELECTRICAL AND INSTRUMENTATION ENGINEERING	
C112.1	Fundamentals of semiconductor and basic theorems used in Electrical circuits
C112.2	Design amplifier circuits under CB, CE, CC Configurations.
C112.3	Design the Adders – Flip-Flops – Registers and Counters with logic gates.
C112.4	Discuss the Principles of Amplitude and Frequency Modulations and various blocks Communication Systems
C112.5	Demonstrate the working of Television systems, FAX machines and micro wave systems.
C113 /EC8251/CIRCUIT ANALYSIS	
C113.1	Develop the capacity to analyze electrical circuits, apply the circuit theorems in real time
C113.2	Design and understand and evaluate the AC and DC circuits.

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C113.3	Practical implications of the fundamentals of Ohm's law, Kirchhoff's current and voltage laws
C113.4	Accurate measurement of voltage, current, power and impedance of any circuit
C113.5	DC analysis, Transient analysis and Frequency analysis of a given circuit depending on types of elements
C113.6	Practical implementation of the fundamental electrical theorems and modeling of simple electrical systems
C114/ EC8252/ELECTRONIC DEVICES	
C114.1	Describe the principle and characteristics of semiconductor diode
C114.2	Analyze various transistor configurations
C114.3	Construct large signal modeling and small signal modeling of a transistor
C114.4	Describe the principle of operation and characteristics of special Semiconductor diodes
C114.5	Discuss the operation of various semiconductor photo devices and power electronic devices
C114.6	Implement real time applications using electronic devices
C115/ EC8261/CIRCUITS AND DEVICES LABORATORY	
C115.1	Identify the basic devices and its configurations
C115.2	Analyze the resistive circuits with different sources
C115.3	Obtain the resonance for different configurations of RLC
C115.4	Explain the response of RLC circuit with different inputs
C115.5	Understand the operation of basic solid state devices
C115.6	Plot the response of wave shaping circuits
C116 / GE8261/ ENGINEERING PRACTICES LABORATORY	
C116.1	Gets exposure regarding Joining operations in engineering materials.
C116.2	Carry out the basic machining operations in engineering materials.
C116.3	Carry out basic home electrical works and appliances
C116.4	Measure the electrical quantities
C116.5	Understand basic electronic components.
C116.6	Integrate the components and gates using soldering practices.
C117-EC6211 CIRCUITS AND DEVIVES LABORATORY	
C117.1	Explain UNIX Operating system and usage of file system.
C117.2	Apply Shell Commands for a given task using filter and pipe commands.
C117.3	Develop and implement the Shell scripts in VI editor.
C117.4	Develop C Program on Unix environment.
C117.5	Apply File handling in C to copy, merge and display the given file.

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C201 / MA8352/LINEAR ALGEBRA AND PARTIAL DIFFERENTIAL EQUATIONS	
C201.1	Analyze Partial Differential Equations in various methods.
C201.2	Ability to have knowledge about the fundamentals of magnetic circuits, energy, force and torque of multi-excited systems.
C201.3	Computing the solutions of the heat equation, wave equation and the Laplace equation subject to boundary conditions
C201.4	Deduce the Gaussian function in Self reciprocal form using Fourier Transforms.
C201.5	Formation of finite difference method in Z-transforms.
C202/ EC8393/FUNDAMENTALS OF DATA STRUCTURES IN C	
C202.1	Do simple programs using basic concepts of C.
C202.2	Design programs with derived data type and files.
C202.3	Solve the problem by applying linear data structures.
C202.4	Finding solutions to various problems using FIFO& LIFO.
C202.5	Sort and search the data by applying various algorithms.
C203/ EC8351/ELECTRONIC CIRCUITS- I	
C203.1	Acquire knowledge of Working principles, characteristics and applications of BJT and FET
C203.2	Acquire knowledge of Frequency response characteristics of BJT and FET amplifiers
C203.3	Analyze the performance of small signal BJT and FET amplifiers -single stage and multi stage amplifiers
C203.4	Apply the knowledge gained in the design of Electronic circuits
C203.5	Analyze Amplifier frequency response
C203.6	Acquire knowledge Cascade, Cascade configurations
C204/ EC8352/SIGNALS AND SYSTEMS	
C204.1	Categorize the signals based on their properties.
C204.2	Analyze the Continuous Time & Discrete Time systems.
C204.3	Apply Laplace and Fourier Transform to Analyze Continuous Time signals.
C204.4	Apply Laplace Transform and convolution integral to Analyze Continuous Time LTI systems.
C204.5	Apply Discrete Time Fourier Transform and Z-transform to Analyze Discrete Time LTI signals.
C204.6	Describe the mathematical modelling of DT systems.
C205 / EC8392/DIGITAL ELECTRONICS	
C205.1	Apply the laws of Boolean algebra to simplify circuits and Boolean algebra

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	expressions
C205.2	analyze the different methods used for simplifications of Boolean expressions and digital logic families
C205.3	Design and implement Sequential circuits
C205.4	Study the various types of memory devices and understand the concept PLD's
C205.5	Design and implement synchronous and asynchronous sequential circuits
C205.6	Design and implement Sequential circuits
C206 / EC8391/CONTROL SYSTEMS ENGINEERING	
C206.1	Analyze various types of feedback amplifiers.
C206.2	Design of oscillators, tuned amplifiers, wave-shaping circuits and multivibrators.
C206.3	Demonstrate the feedback amplifiers using SPICE Tool.
C206.4	Demonstrate the oscillators and tuned amplifiers using SPICE Tool.
C206.5	Demonstrate the wave-shaping circuits and multivibrators using SPICE Tool.
C207/ EC8381/FUNDAMENTALS OF DATA STRUCTURES IN C LABORATORY	
C207.1	Do simple programs using basic concepts of C.
C207.2	Design programs with derived data type and files.
C207.3	Solve the problem by applying linear data structures.
C207.4	Finding solutions to various problems using FIFO& LIFO.
C207.5	Sort and search the data by applying various algorithms.
C208 / EC8361/ANALOG AND DIGITAL CIRCUITS LABORATORY	
C208.1	Design and test BJT/JFET Amplifiers
C208.2	Differentiate cascade and cascade amplifiers
C208.3	Analyze the limitation in bandwidth of single stage and multistage amplifier
C208.4	Simulate and analyze amplifiers circuits using pspice
C208.5	Design and test the combinational digital logic circuits
C208.6	Design and test the sequential digital logic circuits
C209/ HS8381/ INTERPERSONAL SKILLS / LISTENING & SPEAKING	
C209.1	Take international examination such as IELTS and TOEFL
C209.2	Participate in Group Discussion.
C209.3	Successfully answer questions in Interviews.

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C209.4	Make effective Presentations.
C209.5	Participate confidently and appropriately in conversations both formal and informal
C210 / MA8451/PROBABILITY AND RANDOM PROCESSES	
C210.1	The method of analyzing of feedback amplifiers
C210.2	Design LC and RC oscillators and analyze its performance
C210.3	Analyze performance of tuned amplifiers.
C210.4	The concept and working of wave shaping circuits
C210.5	To design and analyze the functions of multivibrators
C210.6	The fundamentals of blocking oscillators and time base generators
C211/ EC8452/ELECTRONIC CIRCUITS II	
C211.1	The method of analyzing of feedback amplifiers
C211.2	Design LC and RC oscillators and analyze its performance
C211.3	Analyze performance of tuned amplifiers.
C211.4	The concept and working of wave shaping circuits
C211.5	To design and analyze the functions of multivibrators
C211.6	The fundamentals of blocking oscillators and time base generators
C212/ EC8491/COMMUNICATION THEORY	
C212.1	Can be able to design different types of AM system
C212.2	Design angle modulated communication systems.
C212.3	Apply the concepts of Random Process to design a Communication systems
C212.4	Analyze the noise performance of AM and FM systems
C212.5	Able to understand various source coding technique
C212.6	Could analyze the different types of receivers.
C213 / EC8451/ELECTROMAGNETIC FIELDS	
C213.1	Analyze field potentials due to static electric fields
C213.2	Explain how materials affect electric fields
C213.3	Analyze field potentials due to static magnetic fields
C213.4	Explain how materials affect magnetic fields.
C213.5	Perform the relation between the fields under time varying Situations
C213.6	Discuss the principles of propagation of uniform plane waves

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C214 / EC8453/LINEAR INTEGRATED CIRCUITS	
C214.1	Able to learn the basic building blocks of linear integrated circuits such as op-amps.
C214.2	Design linear and non linear applications of operational amplifiers
C214.3	Design applications using analog multiplier and PLL
C214.4	Design ADC and DAC using operational amplifiers
C214.5	Analyze special function ICs
C214.6	Generate waveforms using operational amplifiers Circuits
C215 / GE8291/ ENVIRONMENTAL SCIENCE AND ENGINEERING	
C215.1	Realize the importance of ecosystems and the importance of biodiversity.
C215.2	Describe about Environmental pollution and their effects.
C215.3	Design the techniques which require optimum use of natural resources in future.
C215.4	Understand that Environmental Pollution / problems cannot be solved by mere laws.
C215.5	Explain importance of women and child education and HIV /AIDS.
C215.1	Realize the importance of ecosystems and the importance of biodiversity.
C216 / EC8461/CIRCUITS DESIGN AND SIMULATION LABORATORY	
C216.1	Analyze various types of feedback amplifiers.
C216.2	Design of oscillators, tuned amplifiers, wave-shaping circuits and multivibrators.
C216.3	Demonstrate the feedback amplifiers using SPICE Tool.
C216.4	Demonstrate the oscillators and tuned amplifiers using SPICE Tool.
C216.5	Demonstrate the wave-shaping circuits and multivibrators using SPICE Tool.
C216.6	Demonstrate the voltage and current time base circuits using SPICE Tool.
C217 / EC8462/LINEAR INTEGRATED CIRCUITS LABORATORY	
C217.1	Design amplifiers, oscillators, D-A converters using operational amplifiers.
C217.2	Construct and design intergrater and differentiater circuit using IC 741
C217.3	Design filters using op-amp and performs an experiment on frequency response.
C217.4	Analyze the working of PLL and describe its application as a frequency multiplier
C217.5	Design DC power supply using ICs.
C217.6	Analyze the performance of filters, multivibrators, A/D converter and analog multiplier using SPICE
C301 / EC8501/DIGITAL COMMUNICATION	

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C301.1	Understanding The Principles Of Sampling & Quantization
C301.2	Knowing about The Various Waveform Coding Schemes
C301.3	Learn and analyze The Various Baseband Transmission Schemes
C301.4	Analyzing Digital Modulation Schemes
C301.5	Understanding The Various Band Pass Signalling Schemes
C301.6	Remembering The Fundamentals Of Channel Coding
C302 / EC8553/DISCRETE-TIME SIGNAL PROCESSING	
C302.1	Apply DFT and FFT for the analysis of digital signals & systems.
C302.2	Design an analog to digital IIR filters and its realization.
C302.3	Design of digital FIR filters using the windowing techniques and frequency sampling method and to realize their structures.
C302.4	Characterize finite Word length effect on filters.
C302.5	Implement the Multirate Filters and Apply Adaptive Filters to equalization
C302.6	An understanding of sampling conversion technique in signal processing and its applications.
C303 / EC8552/COMPUTER ARCHITECTURE AND ORGANIZATION	
C303.1	Use various metrics to calculate the performance of a computer system.
C303.2	Identify the addressing mode of instructions and to Determine which hardware blocks and control lines are used for specific instructions.
C303.3	Demonstrate how to add and multiply integers and floating -point numbers using two's complement and IEEE floating point representation.
C303.4	Analyze clock periods, performance, and instruction throughput of single-cycle, multi-cycle, and pipelined implementations of a simple instruction set.
C303.5	Detect pipeline hazards and identify possible solutions to those hazards
C303.6	Show how cache design parameters affect cache hit rate and to Map a virtual address into a physical address
C304/ EC8551/COMMUNICATION NETWORKS	
C304.1	Explain the components requirement of networks and link layer service
C304.2	Classify the Media Access Control Protocols and different Internetworking
C304.3	Demonstrate various types of routing techniques
C304.4	Outline the mechanisms involved in transport layer
C304.5	Experiment with different application layer protocols

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C304.6	Analyze various routing algorithms
C305 / GE8077/TOTAL QUALITY MANAGEMENT	
C305.1	Describe the dimensional barrier regarding Quality.
C305.2	Summarize the Total quality principles.
C305.3	Demonstrate the tools utilization for quality improvement.
C305.4	Discover the new decision of principle in real time projects.
C305.5	Analyze the various types of techniques are used to measure quality.
C305.6	Apply the various quality systems in implementation of Total quality management.
C306/ OMD551/BASIC OF BIOMEDICAL INSTRUMENTATION	
C306.1	Analyze and evaluate the effect of different diagnostic and therapeutic methods, their risk potential, physical principles, opportunities and possibilities for different medical procedures.
C306.2	Measure the various electrical signals from human system.
C306.3	Examine biochemical and various physiological information.
C306.4	Describe the working of units which will help to restore normal functioning.
C306.5	Understand the position of biomedical instrumentation in modern Hospital care
C306.6	Construct a system for telemedicine and electrical safety.
C307 / EC8562/DIGITAL SIGNAL PROCESSING LABORATORY	
C307.1	Demonstrate the simulation of DSP systems.
C307.2	Demonstrate the abilities of digital signal processor based DSP systems implementation.
C307.3	Analyze the finite word length effect on DSP systems.
C307.4	Demonstrate the applications of FFT to DSP systems.
C307.5	Analyze the MAC operation using various addressing modes on DSP systems.
C307.6	Apply the adaptive filters for various applications of DSP systems.
C308 / EC8561/COMMUNICATION SYSTEMS LABORATORY	
C308.1	Simulate &validate the various functional modules of a communication system
C308.2	Demonstrate their knowledge in base band signaling schemes through implementation of digital modulation schemes
C308.3	Apply various channel coding schemes &demonstrate their capabilities towards the improvement of the noise performance of communication system
C308.4	Simulation of Convolutional coding scheme

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C308.5	Simulation of ASK, FSK and BPSK detection schemes
C308.6	Simulate end-to-end communication Link
C309/ EC8563/COMMUNICATION NETWORKS LABORATORY	
C309.1	Explain the components requirement of networks and link layer service
C309.2	Classify the Media Access Control Protocols and different Internetworking
C309.3	Demonstrate various types of routing techniques
C309.4	Outline the mechanisms involved in transport layer
C309.5	Experiment with different application layer protocols
C309.6	Analyze various routing algorithms
C310 / EC8691/MICROPROCESSORS AND MICROCONTROLLERS	
C310.1	Understanding the Architecture of 8086 microprocessor
C310.2	Realizing the design aspects of I/O and Memory Interfacing circuits.
C310.3	Applying the knowledge about Interfacing of microprocessors with supporting chips.
C310.4	Understanding the Architecture of 8051 microcontroller.
C310.5	Apply and design a microcontroller based system
C310.6	Analyze and learn Multiprocessor configurations, Introduction to advanced processors.
C311/ EC8095/VLSI DESIGN	
C311.1	Recollect all concepts of device characteristics of MOS and basic of Digital Electronics.
C311.2	Construct various types of digital circuits in different logic styles.
C311.3	Enumerate the various issues which has to be taken care off while designing a combinational or sequential circuits
C311.4	Link simple logic circuit to complex block of a processor
C311.5	Implementing strategies and basic architecture of leading FPGA and design steps.
C311.6	Familiarized with the steps of fabrication and verification of layout of the circuit.
C312 / EC8652/WIRELESS COMMUNICATION	
C312.1	Explain the Characteristics of fading in wireless channels
C312.2	Describe the fundamentals of Cellular Architecture
C312.3	Use various signaling schemes for wireless communication channels
C312.4	Compare the performance of channel using various propagation models

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C312.5	Analyze the various mitigation techniques to address fading and interference in multipath propagation.
C312.6	Design MIMO Systems in fading and non fading channels
C313/ MG8591/PRINCIPLES OF MANAGEMENT	
C313.1	Identifies the global context for taking managerial organization.
C313 .2	Predict the global opportunity that will impact the management of an organization.
C313 .3	Prepare the management principles into management practices.
C313 .4	Analyze the managerial problem with ethical practice standards.
C313 .5	Breakdown the managerial task executed in the variety of circumstances.
C313 .6	Identify the most effective Action to take in the specific situation of addressing issues.
C314 / EC8651/TRANSMISSION LINES AND RF SYSTEMS	
C314.1	Explain the characteristics of transmission lines and its losses
C314.2	Write about the standing wave ratio and input impedance in high frequency transmission lines
C314.3	Analyze impedance matching by stubs using smith charts
C314.4	Analyze the characteristics of TE and TM waves
C314.5	Design a RF transceiver system for wireless communication
C314.6	Explain the characteristics of transmission lines and its losses
C315 / EC8004/WIRELESS NETWORKS	
C315.1	Conversant with the latest 3G/4G networks and its architecture
C315.2	Design and implement wireless network environment for any application using latest wireless protocols and standards
C315.3	Ability to select the suitable network depending on the availability and requirement
C315.4	Implement different type of applications for smart phones and mobile devices with latest network strategies
C315.5	Analyze the latest wireless protocols for the problems associated with Wireless Networks.
C315.6	Interpret the latest 4G networks and its architecture.
C316 / EC8681/MICROPROCESSORS AND MICROCONTROLLERS LABORATORY	
C316.1	Understanding the Architecture of 8086 microprocessor
C316.2	Realizing the design aspects of I/O and Memory Interfacing circuits.

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C316.3	Applying the knowledge about Interfacing of microprocessors with supporting chips.
C316.4	Understanding the Architecture of 8051 microcontroller.
C316.5	Apply and design a microcontroller based system
C316.1	Analyze and learn Multiprocessor configurations, Introduction to advanced processors.
C317 /EC8661/VLSI Design Laboratory	
C317.1	Recollect all concepts of device characteristics of MOS and basic of Digital Electronics.
C317.2	Construct various types of digital circuits in different logic styles.
C317.3	Enumerate the various issues which has to be taken care off while design a combinational or sequential circuits
C317.4	They can easily link simple logic circuit to complier block of a processor
C317.5	Implementing strategies and basic architecture of leading FPGA and design steps.
C317.6	Familiarized with the steps of fabrication and verification of layout of the circuit.
C318 /EC8611/Technical Seminar	
C318.1	Enrich the communication skills of the student technical topics of interest
C318.2	Familiarize the preparation of content of technical writing
C318.3	Enrich the presentations skills of the student technical topics of interest
C318.4	Participate confidently and appropriately in conversations both formal and informal
C318.5	Participate in technical group discussion.
C318.6	Participate in technical quiz programs
C319 /HS8581/PROFESSIONAL COMMUNICATION	
C319.1	Take international examination such as IELTS and TOEFL
C319.2	Participate in Group Discussion.
C319.3	Successfully answer questions in Interviews.
C319.4	Make effective Presentations.
C319.5	Participate confidently and appropriately in conversations both formal and informal
C319.6	Take international examination such as IELTS and TOEFL
C401/EC8701/ANTENNAS AND MICROWAVE ENGINEERING	
C401.1	Apply the basic principles and evaluate antenna parameters and link power budgets
C401.2	Design and assess the performance of various antennas
C401.3	Design a microwave system given the application specifications

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C401.4	Design a microwave system
C401.5	Design a various antennas
C402/EC8751/OPTICAL COMMUNICATION	
C402.1	Realize basic elements in optical fibers, different modes and configurations.
C402.2	Analyze the transmission characteristics associated with dispersion and polarization techniques.
C402.3	Design optical sources and detectors with their use in optical communication system.
C402.4	Construct fiber optic receiver systems, measurements and coupling techniques.
C402.5	Design optical communication systems and its networks.
C402.6	Analyze Optical power measurement-attenuation measurement-dispersion measurement
C403 / EC8791/EMBEDDED AND REAL TIME SYSTEMS	
C403.1	Describe the architecture and programming of ARM processor
C403.2	Outline the concepts of embedded systems
C403.3	Explain the basic concepts of real time operating system design
C403.4	Differentiate between the general purpose operating system and the real time operating system
C403.5	Explain the concept of design methodologies techniques for embedded system.
C403.6	Model real-time applications using embedded-system concepts
C404 / EC8702/AD HOC AND WIRELESS SENSOR NETWORKS	
C404.1	Know the basics of Ad hoc networks and Wireless Sensor Networks
C404.2	Apply this knowledge to identify the suitable routing algorithm based on the network and user requirement
C404.3	Apply the knowledge to identify appropriate physical and MAC layer protocols
C404.4	Understand the transport layer and security issues possible in Ad hoc and sensor networks
C404.5	Be familiar with the OS used in Wireless Sensor Networks and build basic modules
C404.6	Apply Layer wise attacks in wireless sensor networks
C405 / EC8092/ADVANCED WIRELESS COMMUNICATION	
C405.1	Discuss the cellular system design and technical challenges.
C405.2	Analyze the Mobile radio propagation, fading, diversity concepts and the channel modeling.
C405.3	Analyze the design parameters, link design, smart antenna, beam forming and MIMO

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	systems.
C405.4	Analyze Multiuser Systems, CDMA, WCDMA network planning and OFDM Concepts.
C405.5	Summarize the principles and applications of wireless systems and standards
C405.6	Appreciate the various methods for improving the data rate of wireless communication system
C406/ OIC751/TRANSDUCER ENGINEERING	
C406.1	Concept behind working of measurement systems and different types of sensors and transducers
C406.2	Sensor to measure various physical parameters used in Industry and normal measurement applications
C406.3	Sensor to measure various physical parameters used in Industry and normal measurement applications
C406.4	Working principle of resistive, inductive and capacitive transducers and their applications
C406.5	Understanding of thermocouples, piezoelectric and pyro-electric transducers and their applications
C406.6	Understanding of acoustic, optical sensors and other sensors and their applications.
C407 / EC8711/EMBEDDED LABORATORY	
C407.1	Write programs in ARM for a specific Application
C407.2	Interface memory and Write programs related to memory operations
C407.3	Interface A/D and D/A convertors with ARM system
C407.4	Analyze the performance of interrupt
C407.5	Write programs for interfacing keyboard, display and motor
C407.6	Formulate a mini project using embedded system
C408 / EC8761/ADVANCED COMMUNICATION LABORATORY	
C408.1	Analyze the performance of simple optical link by measurement of losses and Analyzing the mode characteristics of fiber
C408.2	Analyze the Eye Pattern, Pulse broadening of optical fiber and the impact on BER
C408.3	Estimate the Wireless Channel Characteristics and Analyze the performance of Wireless Communication System
C408.4	Understand the intricacies in Microwave System design
C409 / EC8093/DIGITAL IMAGE PROCESSING	
C409.1	Know and understand the basics and fundamentals of digital image processing, such as digitization, sampling, quantization, and 2D-transforms.

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C409.2	Operate on images using the techniques of smoothing, sharpening and enhancement.
C409.3	Understand the restoration concepts and filtering techniques.
C409.4	Learn the basics of segmentation, features extraction, compression and recognition methods for color models.
C409.5	Use various coding techniques for image compression.
C409.6	Analyze various image descriptors and features of image representation techniques.
C410 / EC8094/SATELLITE COMMUNICATION	
C410.1	Analyze the satellite orbits
C410.2	Analyze the earth segment
C410.3	Analyze the satellite Link design
C410.4	Design various satellite applications

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4. CO – PO MAPPING SAMPLE - ECE (2017 REGULATION)

Course outcome	Program outcomes												PSO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
EC8352 - SIGNALS AND SYSTEM														
C204.1	3	3	2		-		-				-	-	3	3
C204.2	3	3	3		-		-				-	-	2	3
C204.3	3	3	3		-		-				-	-	3	2
C204.4	3	3	3		-		-				-	-	2	2
C204.5	3	3	2		2		-				-	-	3	2
C204.6	3	3	2		2		-			2	-	-	2	2
AVG	**3**	**3**	**3**	**2**	2	-	-	-	-	2	-	-	**2.50**	**2.33**
EC8452 - ELECTRONIC CIRCUITS II														
C211.1	3	3	3	-	-	-	-	-	-	-	-	-	3	3
C211.2	3	3	3	-	-	-	-	-	-	-	-	-	2	3
C211.3	3	3	3	-	-	-	-	-	-	-	-	-	3	2
C211.4	3	3	3	2	-	-	-	-	-		-	-	2	2
C211.5	3	3	3	2	-		-	-	-	-	-	-	3	2
C211.6	3	3	3	2	-		-	-	-	-	-	-	2	2
AVG	**3**	**3**	**3**	**2**	-	-	-	-	-	-	-	-	**2.50**	**2.33**
EC8095 - VLSI DESIGN														
C311.1	3	3	3	2	2	-	-	-	-	-	3	-	3	2
C311.2	3	2	3	2	2	-	-	-	-	-	2	-	2	3
C311.3	3	2	2	2	2	-	-	-	-	-	2	-	2	2
C311.4	3	3	2	2	3	-	-	-	-	-	2	-	3	2
C311.5	3	3	3	2	2	-	-	-	-	-	2	-	2	3
C311.6	2	2	3	2	3	-	-	-	-	-	2	-	2	3
AVG	**2.83**	**2.5**	**2.66**	**2**	-	-	-	-	-	-	-	-	**2.33**	**2.50**
EC8751 - OPTICAL COMMUNICATION														
C402.1	2	2	3	2	-	-	-	3	-	-			2	3
C402.2	3	3	2	2	-	-	-	2	-	-			2	3
C402.3	2	2	2	2	-	2	2	2	-	-			3	2

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C402.4	2	2	2	2	-	2	-	2	-	-		2	3	2
C402.5	2	2	2	2	-	2	-	2	-	-	2		3	3
C402.6	3	2	2	2	2	2	2	2	-	2	2	2	2	2
AVG	**2.333**	**2.167**	**2.167**	**2**	**2**	**2**	**2**	**2.167**		**2**	**2**	**2**	**2.5**	**2.5**
EC8093 - DIGITAL IMAGE PROCESSING														
C409.1	2	-	2	-	-	3	-	3	-	2	-	2	2	2
C409.2	2	-	2	-	-	3	-	3	-	2	-	2	3	2
C409.3	2	-	2	-	-	3	-	3	-	2	-	2	3	2
C409.4	2	-	2	-	-	3	-	3	-	2	-	2	2	3
C409.5	2	-	2	-	-	3	-	3	-	2	-	2	2	3
C409.6	2	-	2	-	-	3	-	3	-	2	-	2	2	2
AVG	**2**	**-**	**2**	**-**	**-**	**3**	**-**	**3**	**-**	**2**	**-**	**2**	**2.333**	**2.333**
EC6801 - WIRELESS COMMUNICATION														
C802.1	3	3	3	-	-	-	-	-	-	-	-	-	3	3
C802.2	3	3	3	-	-	-	-	-	-	-	-	-	2	3
C802.3	3	3	3	-	-	-	-	-	-	-	-	-	3	2
C802.4	3	3	3	2	-	-	-	-	-		-	-	2	2
C802.5	3	3	3	2	-		-	-	-	-	-	-	3	2
AVG	3	3	3	2	-		-	-	-	-	-	-	2	2

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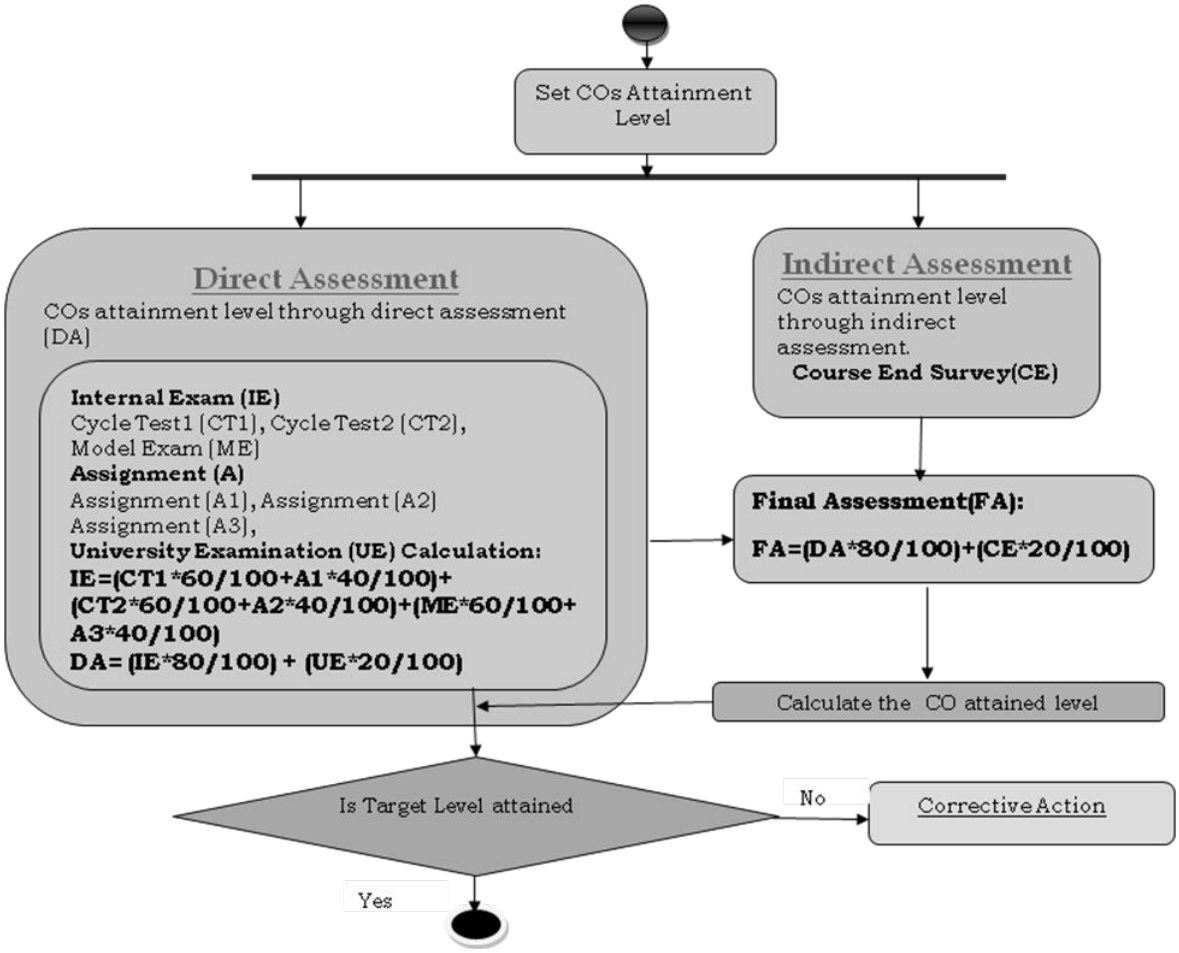
5. CALCULATION OF POs AND PSOs ATTAINMENT

CO Attainment Evaluation Process



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6. CO ATTAINMENT SAMPLE - ECE

CO Attainment Sample - (2019-2023 BATCH)

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
EC8701-ANTENNA AND MICROWAVE ENGINEERING (2019-2023 BATCH) (REGULATION 2017)

COURSE ATTAINMENT

CO	CT1	CT2	ME	TOTAL INTERNAL MARK	UE	DIRECT ASSESSMENT (80% OF INTERNAL MARK & 20% OF UNIVERSITY EXAM)	INDIRECT ASSESSMENT	70% OF DIRECT ASSESSMENT & 30% OF INDIRECT ASSESSMENT	CO ATTAINMENT	OVERALL CO ATTAINMENT LEVEL
CO1	3	-	2	2.50	2	2.40	3	2.5	2.5	2.02
CO2	3	3	1	2.33	2	2.27	3	2.4	2.4	
CO3	-	3	2	2.50	2	2.40	3	2.5	2.5	
CO4	-	-	3	3.00	2	2.80	3	2.8	2.8	
CO5	-	-	0	0.00	2	0.40	3	0.9	0.9	
CO6	0	0	0	0.00	2	0.40	3	0.9	0.9	

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7. PO ATTAINMENT SAMPLE - ECE

MIET ENGINEERING COLLEGE, TRICHY-7

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

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EVALUATION OF PO BASED ON DIRECT AND INDIRECT ASSESSMENT

PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
TARGET LEVEL	2.8333	2.5	2.6667	2	2.33	2.50	2.50	3.00	2.00	2.50	2.17		2.50	2.33
ATTAINED LEVEL	1.91	1.68	1.80	1.35	1.57	1.68	1.68	2.02	1.35	1.68	1.46	0.00	1.68	1.57

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8. COURSEWISE OVERALL PO's AND PSO's TARGET – ECE (2019-2023 BATCH)

Course wise PO's AND PSO's TARGET

COURSES	PROGRAMME OUTCOMES												PSO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
SEMESTER-I														
C101/ HS8151	3	3			2	3	2	2	2	3		2	3	3
C102/ MA8151	3	3	2	2	2							2	3	3
C103/ PH8151	3	2	2			3		2				2	3	3
C104/ CY8151	3	3	2	2	2	2	2		2			2	3	3
C105 / GE8151	3	2	2	2	2	2		2					3	3
C106 / GE8152	3	3	3	2	2					2	2	2	3	3
C107 / GE8161	3	2	3	2									3	3
C108 / BS8161	3	2	2						3	2	2	3	3	3
SEMESTER-II														
C109 / HS8251	2.75	3.00	3.00	3.00	-	-	-	-	-	-	-	-	-	2.00
C110 / MA8251	3.00	2.00	2.00	2.00	-	-	-	-	-	-	-	-	2.20	2.00
C111 / PH8253	3.00	3.00	3.00	2.00	-	-	-	-	-	-	-	-	2.50	2.33
C112/ BE8254	3.00	3.00	-	-	-	-	-	-	-	-	-	-	2.00	-
C113 /EC8251	3.00	3.00	-	-	-	-	-	-	-	-	-	-	2.00	-
C114/ EC8252	3.00	3.00	-	-	-	-	-	-	-	-	-	-	2.00	-
C115/ EC8261	2.00	-	2.00	2.33	2.50	-	2.00	2.00	2.33	2.00	3.00	2.00	2.50	2.50
C116 / GE8261	3.00	2.00	3.00	-	-	-	-	-	-	-	-	-	2.00	3.00
SEMESTER-III														
C201/MA6351	2.83	2.33	2.17	2.00	2.00	2.00	2.00	-	2.00	2.33	2.00	2.00	2.67	2.33
C202/EC8393	2.33	2.33	2.67	2.50	2.75	-	-	-	-	-	-	4.00	1.75	2.40
C203/ EC8351	3.00	2.50	2.67	2.00	-	-	-	-	-	-	-	-	2.33	2.33
C204/ EC8352	3.00	3.00	3.00	2.00	2.00	-	-	-	-	2.00	-	-	2.50	2.33
C205 / EC8392	3.00	2.67	2.50	2.50	-	-	-	-	-	-	-	-	2.50	2.33

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C206 / EC8391	3.00	2.00	2.00	2.00	-	-	-	-	-	-	-	-	2.50	2.50
C207/ EC8381	3.00	2.00	2.00	2.50	2.25	-	-	-	-	-	2.00	2.00	2.33	2.00
C208 / EC8361	2.33	-	-	-	-	2.33	2.33	-	2.00	3.00	-	2.00	2.00	2.00
C209/ HS8381	3.00	2.00	3.00	-	-	-	-	-	-	-	-	-	2.00	3.00
SEMESTER-IV														
C210 / MA8451	3.00	3.00	2.67	2.00	-	-	-	-	-	-	-	-	2.67	2.33
C211/ EC8452	3.00	3.00	3.00	2.00	-	-	-	-	-	-	-	-	2.50	2.33
C212/ EC8491	2.50	1.50	2.00	2.00	-	-	-	-	-	-	-	-	2.50	2.33
C213 / EC8451	3	2	2		2							2	3	3
C214 / EC8453	3.00	2.67	2.33	2.17	2.67	-	-	-	-	-	-	2.67	2.33	2.67
C215 / GE8291	2.33	2.33	2.33	-	-	-	-	-	-	-	-	-	2.50	2.50
C216 / EC8461	2.83	2.50	2.67	2.00	2.33	2.00	2.00	2.00	2.00	2.00	2.00	2.33	2.00	2.00
C217 / EC8462	3.00	2.17	2.33	2.00	-	2.00	-	-	-	2.00	-	2.00	2.00	2.00
SEMESTER-V														
C301 / EC8501	3	3	2	2	3	-	-	-	-	-	-	3	2	2
C302 / EC8553	2.33	2.33	2.33	-	-	-	-	-	-	-	-	-	2.50	2.50
C303 / EC8552	3	3	3	2									3	2
C304/ EC8551	3.00	3.00	3.00	2.00	-	-	-	-	-	-	-	-	2.50	2.83
C305 / GE8077	3	3	2	2	3	2	2	2	2	2	2	2	2	3
C306/ OMD551	3	3	3	2	3	3					3	3	3	2
C307 / EC8562	2.83	2.50	2.67	2.00	2.33	2.00	2.00	2.00	2.00	2.00	2.00	2.33	2.00	2.00
C308 / EC8561	3.00	2.33	2.17	-	-	-	-	-	3.00	2.00	2.00	2.50	2.00	2.00
C309/ EC8563	3.00	2.67	2.67	2.00	-	-	-	2.00	-	-	2.17	2.00	2.00	2.00
SEMESTER-VI														
C310 / EC8691	2.833	2.67	3	2.25	3	3					3	3	3	2.67
C312 / EC8652	2.83	2.50	2.67	2.00	-	-	-	-	-	-	-	-	2.33	2.50
C313/ MG8591	2.33	2.17	2.17	2.00	-	-	-	-	-	-	-	-	2.50	2.33
C314 / EC8651	3.00	3.00	3.00	2.00	-	-	-	-	-	-	-	-	2.50	2.50
C315 / EC8095	3	3	3	2	2						2		3	2

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C316 / EC8681	2.67	1.33	1.33	1.33	-	-	-	-	-	-	-	-	1.33	2.33
C317 /EC8661	2.83	2.50	2.67	2.00	-	-	-	-	-	-	-	-	2.00	2.00
C318 /EC8611	3.00	2.67	2.33	2.17	2.67	-	-	-	-	-	-	2.67	2.00	2.00
C319 /HS8581	3.00	2.00	3.00	-	-	-	-	-	-	-	-	-	2.00	3.00
SEMESTER-VII														
C401/EC8701	2.833	2.5	2.67	2	2.333	2.5	2.5	3	2	2.5	2.17		2.5	2.33
C402/EC8751	2.20	2.20	2.20	2.00	-	2.00	2.00	2.20	-	-	2.00	-	2.60	2.40
C403 / EC8791	2.333	2	2	3	-	-	-	-	-	2.00	2.00	3.00	2.50	2.33
C404 / EC8702	3.00	3.00	2.50	2.00	2.00					2.00			2.50	2.33
C405 / EC8092	2.33	2.17	2.17	2.00	2.00	2.00	2.00	2.17	-	2.00	2.00	2.00	2.50	2.50
C406/OIC751	3	1.2	1.6	1.6	1.5				2	2	2	1.6	2.2	2
C407 / EC8711	3	3	3	2	2	2	2	2	2	2	2	2	2	2
C408 / EC8761	2	-	-	-	-	2	2	-	2	3	-	2	2	2
SEMESTER-VIII														
C409 / EC8093	3	3	2	2	-	-	-	-	-	3	-	3	3	3
C410 / EC8094	3.00	2.67	2.50	2.50	-	-	-	-	-	-	-	-	2.50	2.33
EC8811/PROJECT WORK	3.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	3.00	2.00
TOTAL	176.25	147.41	137.99	97.85	59.33	40.83	28.83	27.37	32.33	46.83	43.34	70.10	148.24	143.09
NUMBER OF SUBJECTS	62	59	56	47	26	18	14	13	15	21	20	30	61	59
PO TARGET	2.84	2.50	2.46	2.08	2.28	2.27	2.06	2.11	2.16	2.23	2.17	2.34	2.43	2.43

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9. COURSEWISE OVERALL PO's AND PSO's ATTAINMENT – ECE (2019-2023 BATCH)

Course wise PO's AND PSO's Attainment

COURSES	PROGRAMME OUTCOMES												PSO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
SEMESTER-I														
C101/ HS8151	2.57	2.57			1.71	2.57	1.71	1.71	1.71	2.57		1.71	2.28	2.14
C102/ MA8151	2.63	2.63	2.10	2.10	1.40							1.75	2.34	2.34
C103/ PH8151	2.68	2.08	1.79			2.38	0.00	1.79				1.79	2.23	2.23
C104/ CY8151	2.63	2.48	1.75	1.75	1.75	1.75	1.75		1.75			1.75	2.19	2.19
C105 / GE8151	2.36	1.57	1.57	1.57	1.57	1.57		1.57					1.97	1.97
C106 / GE8152	2.68	2.68	2.68	1.79	2.08					2.08	1.94	1.79	2.23	2.23
C107 / GE8161	2.73	2.18	2.73	1.82									2.28	2.28
C108 / BS8161	2.89	2.25	2.09						2.89	1.93	1.93	2.41	2.41	2.41
SEMESTER-II														
C109 / HS8251	2.70	2.95	2.95	2.95	-	-	-	-	-	-	-	-	-	1.97
C110 / MA8251	2.57	1.71	1.71	1.71	-	-	-	-	-	-	-	-	1.88	1.71
C111 / PH8253	2.20	2.20	2.20	1.47	-	-	-	-	-	-	-	-	1.83	1.71
C112/ BE8254	2.20	2.20	-	-	-	-	-	-	-	-	-	-	1.47	-
C113 /EC8251	2.20	2.20	-	-	-	-	-	-	-	-	-	-	1.47	-
C114/ EC8252	2.15	2.15	-	-	-	-	-	-	-	-	-	-	1.43	-
C115/ EC8261	1.67	-	1.73	2.02	2.17	-	1.73	1.73	2.02	1.73	2.60	1.73	2.17	2.17
C116 / GE8261	3.00	2.00	3.00	-	-	-	-	-	-	-	-	-	2.00	3.00
SEMESTER-III														
C201-MA6351	2.13	1.75	1.63	1.50	1.50	1.50	1.50	-	1.50	1.75	1.50	1.50	2.00	1.75
C202- EC8393	1.60	1.60	1.83	1.72	1.89	-	-	-	-	-	-	2.75	1.20	1.65
C203/ EC8351	2.83	2.36	2.52	1.89	-	-	-	-	-	-	-	-	2.20	2.20
C204/ EC8352	2.25	2.25	2.25	1.50	1.50	-	-	-	-	1.50	-	-	1.88	1.75
C205 / EC8392	2.36	2.10	1.97	1.97	-	-	-	-	-	-	-	-	1.97	1.84

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C206 / EC8391	2.50	1.67	1.67	1.67	-	-	-	-	-	-	-	-	2.08	2.08
C207 / EC8381	2.84	1.89	1.89	2.37	2.13	-	-	-	-	-	1.89	1.89	2.21	1.89
C208 / EC8361	2.08	-	-	-	-	2.08	2.08	-	1.79	2.68	-	1.79	1.79	1.79
C209 / HS8381	3.00	2.00	3.00	-	-	-	-	-	-	-	-	-	2.00	3.00
SEMESTER-IV														
C210 / MA8451	2.31	2.31	2.05	1.54	-	-	-	-	-	-	-	-	2.05	1.80
C211 / EC8452	1.93	1.93	1.93	1.29	-	-	-	-	-	-	-	-	1.61	1.50
C212 / EC8491	2.06	1.24	1.65	1.65	-	-	-	-	-	-	-	-	2.06	1.92
C213 / EC8451	1.77	1.18	1.18	0.00	1.18							1.18	1.57	1.48
C214 / EC8453	2.04	1.81	1.59	1.47	1.81	-	-	-	-	-	-	1.81	1.59	1.81
C215 / GE8291	1.71	1.71	1.71	-	-	-	-	-	-	-	-	-	1.83	1.83
C216 / EC8461	2.43	2.14	2.28	1.71	2.00	1.71	1.71	1.71	1.71	1.71	1.71	2.00	1.71	1.71
C217 / EC8462	2.63	1.90	2.05	1.75	-	1.75	-	-	-	1.75	-	1.75	1.75	1.75
SEMESTER-V														
C301 / EC8501	1.80	1.60	1.40	1.30	1.60	-	-	-	-	-	-	1.60	1.30	1.20
C302 / EC8553	1.69	1.69	1.69	-	-	-	-	-	-	-	-	-	1.81	1.81
C303 / EC8552	1.47	1.39	1.56	1.17	1.56	1.56					1.56	1.56	1.30	1.21
C304 / EC8551	2.93	2.93	2.93	1.95	-	-	-	-	-	-	-	-	2.44	2.77
C305 / GE8077	1.47	1.39	1.56	1.17	1.56	1.56					1.56	1.56	1.30	1.21
C306 / OMD551	1.47	1.39	1.56	1.17	1.56	1.56					1.56	1.56	1.30	1.21
C307 / EC8562	2.68	2.37	2.52	1.89	2.21	1.89	1.89	1.89	1.89	1.89	1.89	2.21	1.89	1.89
C308 / EC8561	2.68	2.08	1.94	-	-	-	-	-	2.68	1.79	1.79	2.23	1.79	1.79
C309 / EC8563	2.73	2.43	2.43	1.82	-	-	-	1.82	-	-	1.97	1.82	1.82	1.82
SEMESTER-VI														
C310 / EC8691	1.32	1.24	1.40	1.05	1.40	1.40					1.40	1.40	1.40	1.24
C312 / EC8652	2.79	2.46	2.62	1.97	-	-	-	-	-	-	-	-	2.29	2.46
C313 / MG8591	1.87	1.74	1.74	1.61	-	-	-	-	-	-	-	-	2.01	1.87
C314 / EC8651	2.68	2.68	2.68	1.79	-	-	-	-	-	-	-	-	2.23	2.23
C315 / EC8095	1.47	1.30	1.39	1.04	1.21						1.13		1.30	1.21
C316 / EC8681	2.05	1.03	1.03	1.03	-	-	-	-	-	-	-	-	1.02	1.80

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C317 / EC8661/	2.58	2.28	2.43	1.82	-	-	-	-	-	-	-	-	1.82	1.82
C318 / EC8611	2.73	2.43	2.12	1.97	2.43	-	-	-	-	-	-	2.43	1.82	1.82
C319 / HS8581	3.00	2.00	3.00	-	-	-	-	-	-	-	-	-	2.00	3.00
SEMESTER-VII														
C401/ EC8701	1.91	1.68	1.80	1.35	1.57	1.68	1.68	2.02	1.35	1.68	1.46	0.00	1.68	1.57
C402/ EC8751	1.06	1.06	1.06	0.97	-	0.97	0.97	1.06	-	-	0.97	-	1.26	1.16
C403 / EC8791	1.64	1.41	1.41	2.11	-	-	-	-	-	1.41	1.41	2.11	1.76	1.64
C404 / EC8702	2.15	2.15	1.79	1.43	1.43					1.43			1.79	1.67
C405 / EC8092	2.29	2.13	2.13	1.97	1.97	1.97	1.97	2.13	-	1.97	1.97	1.97	2.46	2.46
C406 / OIC751	2.29	0.92	1.22	1.22	1.15				1.53	1.53	1.53	1.22	1.68	1.53
C407 / EC8711	2.68	2.37	2.52	1.89	2.21	1.89	1.89	1.89	1.89	1.89	1.89	2.21	1.89	1.89
C408 / EC8761	2.00	-	-	-	-	2.00	2.00	-	2.00	3.00	-	2.00	2.00	2.00
SEMESTER-VIII														
C409 / EC8093	1.45	0.97	0.97	0.97	-	-	-	-	-	1.45	-	1.45	1.45	1.45
C410 / EC8094	2.36	2.10	1.97	1.97	-	-	-	-	-	-	-	-	1.97	1.83
EC8811/PROJECT WORK	3.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	3.00	2.00
TOTAL	140.57	114.91	111.37	77.84	46.55	33.79	22.88	21.32	26.71	37.74	35.66	56.93	113.46	111.66
NUMBER OF SUBJECTS	62	59	56	48	27	19	14	12	14	20	21	32	61	59
DIRECT ASSESSMENT	2.27	1.95	1.99	1.62	1.72	1.78	1.63	1.78	1.91	1.89	1.70	1.78	1.86	1.89
INDIRECT ASSESSMENT	2.7	2.56	2.5	2.5	2.51	2.58	2.44	2.4	2.58	2.51	2.5	2.4	2.64	2.55
DIRECT ASSESSMENT 70% & INDIRECT ASSESSMENT 30%	2.40	2.13	2.14	1.89	1.96	2.02	1.88	1.96	2.11	2.07	1.94	1.97	2.09	2.09

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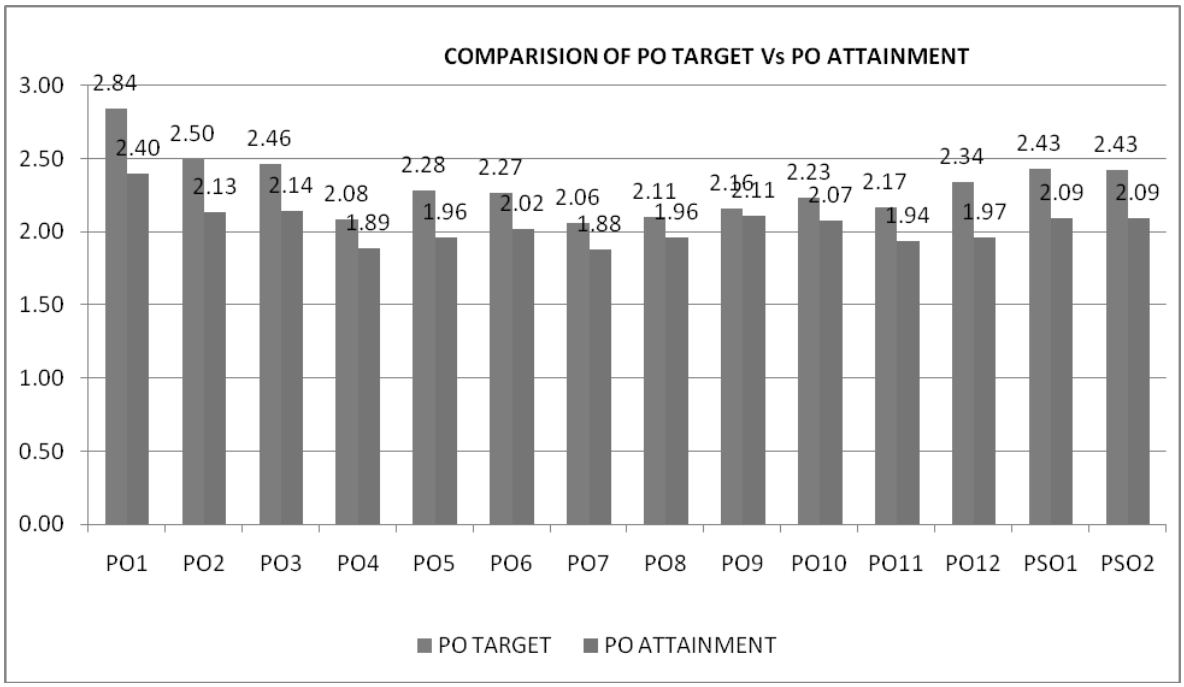
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
PO TARGET	2.84	2.50	2.46	2.08	2.28	2.27	2.06	2.11	2.16	2.23	2.17	2.34	2.43	2.43
PO ATTAINMENT	2.40	2.13	2.14	1.89	1.96	2.02	1.88	1.96	2.11	2.07	1.94	1.97	2.09	2.09



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Website:www.miet.edu, E-mail:principalengg@miet.edu, contact@miet.edu

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PROGRAMME EVALUATION BY STUDENTS
(Programme End Survey)

Name of the Student: Karthicle K.		
Programme: BE	**Department:** ECE	**Batch:** 2019-2024

S.No	PO Assessment	3 Strongly Agree	2 Agree	1 Disagree
1	**Engineering Knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems	✓		
2	**Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences	✓		
3	**Design/ Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.			
4	**Conduct Investigations of Complex Problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid		✓	
5	**Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the	✓		
6	**The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.	✓		
7	**Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.	✓		
8	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.	✓		
9	**Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.		✓	

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S.No	PO Assessment	3 Strongly Agree	2 Agree	1 Disagree
10	**Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.	✓		
11	**Project Management and Finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.	✓		
12	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.		✓	

S.No	PSO Assessment	3 Strongly Agree	2 Agree	1 Disagree
1.	Able to develop and execute projects in the field of applied electronics to meet the growing needs in the field of signal processing and integrated circuit design.	✓		
2	Up skilled to identify and analyze communication engineering problems and provide solutions for the challenges faced in wireless and satellite communication.	✓		

Signature

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