

	KNOWLEDGE INSTITUTE OF TECHNOLOGY, SALEM - 637 504	
	Approved by AICTE, Affiliated to Anna University, Accredited by NAACand NBA (B.E : Mech., ECE, EEE & CSE)	
	Kakapalayam (PO), Salem – 637 504	www.kiot.ac.in

List of COs for UG courses under Anna University Regulation 2017

Department of Electrical and Electronics Engineering	
Semester	: I
Course Code & Name	: HS8151 & Communicative English
Year of Study	: 2017 – 2018, 2018 – 2019, 2019 – 2020 ,2020 – 2021
COs No.	Course Outcome
C101.1	Speak and express their opinions clearly, initiate a discussion, negotiate, argue using appropriate communicative strategies
C101.2	Write effectively and persuasively and produce different types of writing as creative, critical, analytical and evaluative writing
C101.3	Read different genres of texts, infer implied meanings and critically analyze and evaluate them for ideas as well as for method of presentation
C101.4	Realize the essentiality of the informal conversation
C101.5	Understand the different qualities expected in the interviews and they realize the importance of GD
Semester	: I
Course Code & Name	: MA8151 & Engineering Mathematics – I
Year of Study	: 2017 – 2018, 2018 – 2019
COs No.	Course Outcome
C102.1	Apply the mathematical knowledge of rules of differentiation to differentiate one variable Function
C102.2	Apply and understand the knowledge of differentiation to solve value of the function
C102.3	Classify and able to Identify the substitution rules
C102.4	Identify the Basic knowledge and understanding in one field of area and volume of solid materials
C102.5	Identify a basic knowledge and understanding techniques in solving differential equations
Semester	: I
Course Code & Name	: PH8151 & Engineering Physics
Year of Study	: 2017 – 2018, 2018 – 2019, 2019 – 2020 ,2020 – 2021
COs No.	Course Outcome
C103.1	Analyze the various elastic behavior of materials
C103.2	Classify the different types of lasers and optical fibers and its power losses
C103.3	Explain the different thermal properties of materials
C103.4	Illustrate the time dependent and time independent wave equations
C103.5	Understand the structures and properties of crystals

Semester :		I
Course Code & Name :		CY8151 & Engineering Chemistry
Year of Study :		2017 – 2018, 2018 – 2019, 2019 – 2020 ,2020 – 2021
COs No.	Course Outcome	
C104.1	Understand the water parameters; requirements of boiler feed water and different water treatment techniques	
C104.2	Understand the basic concept of adsorption, theories and its mechanism	
C104.3	Select the appropriate eutectic mixtures of suitable alloys	
C104.4	Acquire the knowledge about the manufacture of solid, liquid and gaseous fuel to meet environmental sustainability	
C104.5	Relate the principle and generation of energy in battery, Nuclear reactor , Solar cells, Wind mill and fuel cell for future	
Semester :		I
Course Code & Name :		GE8151 & Problem Solving and Python Programming
Year of Study :		2017 – 2018, 2018 – 2019, 2019 – 2020 ,2020 – 2021
COs No.	Course Outcome	
C105.1	Develop algorithmic solutions to simple computational problems	
C105.2	Read, write, execute by hand simple Python programs	
C105.3	Structure Python programs with functions for solving problems	
C105.4	Represent compound data using Python lists, tuples, dictionaries	
C105.5	Read and write data from/to files in Python Programs	
Semester :		I
Course Code & Name :		GE8152 & Engineering Graphics
Year of Study :		2017 – 2018, 2018 – 2019, 2019 – 2020 ,2020 – 2021
COs No.	Course Outcome	
C106.1	Graphically construct and understand the importance of conical curves and orthographical projections in engineering applications	
C106.2	Draw the basic views related to projections of Lines, Planes	
C106.3	Draw the projections of solids	
C106.4	Sectioned and develop the surface of geometrical objects	
C106.5	Interpret Isometric and Perspective views of object	
Semester :		I
Course Code & Name :		GE8161 & Problem Solving and Python Programming Laboratory
Year of Study :		2017 – 2018, 2018 – 2019, 2019 – 2020 ,2020 – 2021
COs No.	Course Outcome	
C107.1	Write, test, and debug simple Python programs	
C107.2	Implement Python programs with conditionals and loops	

C107.3	Develop Python programs step-wise by defining functions and calling them
C107.4	Use Python lists, tuples, dictionaries for representing compound data
C107.5	Read and write data from/to files in Python
Semester : I	
Course Code & Name : BS8161 & Physics and Chemistry Laboratory	
Year of Study : 2017 – 2018, 2018 – 2019, 2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C108.1	Determine wavelength of mercury spectrum and velocity of sound
C108.2	Determine the Young's modulus of the materials, Band gap of the semiconductor materials
C108.3	Estimate the Hardness , chloride, alkalinity and dissolved oxygen in water samples
C108.4	Determine the amount of simple acid base, mixture of acids by Conductometric titration & Potentiometric titration
Semester : II	
Course Code & Name : HS8251 & Technical English	
Year of Study : 2017 – 2018, 2018 – 2019, 2019 – 2020 ,2020 – 2021	
Cos No.	Course Outcome
C109.1	Speak and express their opinions clearly, initiate a discussion, negotiate, argue using appropriate communicative strategies
C109.2	Write effectively and persuasively and produce different types of writing as creative, critical, analytical and evaluative writing
C109.3	Read different genres of texts, infer implied meanings and critically analyze and evaluate them for ideas as well as for method of presentation
C109.4	Realize the essentiality of the informal conversation
C109.5	Understand the different qualities expected in the interviews and they realize the importance of GD
Semester : II	
Course Code & Name : MA8251 & Engineering Mathematics - II	
Year of Study : 2017 – 2018, 2018 – 2019, 2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C110.1	Analyze the Eigen values and Eigen vectors, Cauley Hamilton from matrix
C110.2	Classify the basic formula and solve problem related to vector and scalar point function
C110.3	Identify and find the analytic function satisfy Cauchy - Riemann equation
C110.4	Apply Cauchy - Riemann formula, Taylors and Laurents to solve complex integration
C110.5	Acquire the student with Laplace transforms techniques used in variety of situations
Semester : II	
Course Code & Name : PH8253 & Physics for Electronics Engineering	
Year of Study : 2017 – 2018, 2018 – 2019, 2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C111.1	Gain knowledge on classical and quantum electron theories and energy band theories
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	Understand the functioning of optical materials for optoelectronics
C111.5	Apply the basics of quantum structures applications in Spintronics and carbon electronics
Semester : II	
Course Code & Name : BE8252 & Basic Civil and Mechanical Engineering	
Year of Study : 2017 – 2018, 2018 – 2019, 2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C112.1	Explain the working principles of various power plants and differentiate the pumps and turbines.
C112.2	State the functions of IC engine and classify the various types of boilers
C112.3	Apply the principles of vapor absorption and compression systems and Explain the Operation of air conditioner
C112.4	Apply the principles of surveying and use various measurements for surveying and study about various engineering materials and leveling instruments
C112.5	Classify the types of bridges, foundation, floorings, roofs, plasters and R.C.C structural members and state the purpose of dam
Semester : II	
Course Code & Name : EE8251 & Circuit Theory	
Year of Study : 2017 – 2018, 2018 – 2019, 2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C113.1	Analyze the electrical circuits using appropriate methods and laws
C113.2	Apply the circuit theorem to solve simple and complex circuits
C113.3	Analyze the transient response in RLC Circuits
C113.4	Analyze the three phase circuit in balanced and unbalanced load condition
C113.5	Analyze the resources in single and double tuned circuits
Semester : II	
Course Code & Name : GE8291 & Environmental Science and Engineering	
Year of Study : 2017 – 2018, 2018 – 2019, 2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C114.1	Recall the nature and facts about the environment
C114.2	Apply the scientific, technological, economic and political solutions to environmental pollutions
C114.3	Discuss the integrated themes of natural resources and its need for sustainable life style
C114.4	Relate the social issues, acquiring knowledge about the societal and legal responsibilities of individuals
C114.5	Aware about population growth, family welfare, human health and value education
Semester : II	
Course Code & Name : GE8261 & Engineering Practices Laboratory	
Year of Study : 2017 – 2018, 2018 – 2019, 2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C115.1	Design and fabricate various carpentry joints like tee, dovetail, cross-lap, mortise & Tenon joints; Design and carryout various plumbing works like pipe connections

C115.2	Design and model arc welding joints like butt, lap & tee joints; Perform machining operations like turning, taper turning, drilling, reaming and tapping; Design and fabricate sheet metal components like tray, funnel, cone
C115.3	Design and fabricate electrical circuits for basic domestic electrical works and appliances; Measure electrical parameters using measuring instruments
C115.4	Describe the basic electronic components and logic gates; Measure the ripple factor for HWR and FWR; Elaborate the soldering practices
Semester : II	
Course Code & Name : EE8261 & Electric Circuits Laboratory	
Year of Study : 2017 – 2018, 2018 – 2019, 2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C116.1	Apply and Simulate KCL, KVL and Network Theorems to Simple and Complex circuits
C116.2	Demonstrate the working of CRO and Determine the Time Constant of RC & RLC circuit
C116.3	Determine frequency response of RLC circuits and simulate series, parallel resonant circuit
C116.4	Simulate three phase balanced, unbalanced, star and delta circuits
C116.5	Demonstrate the working of digital storage CRO
Semester : III	
Course Code & Name : MA8353 & Transforms and Partial Differential Equations	
Year of Study : 2018 – 2019,2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C201.1	Solve first, second order homogeneous and non-homogeneous PDE
C201.2	Acquire knowledge and find the Fourier series of a given function satisfying Dirichlet's condition
C201.3	Apply Fourier Series to solve one dimensional wave, one and two dimensional heat equations
C201.4	Acquaint the student with Fourier transform techniques used in wide variety of situations
C201.5	Understand the basics and solve problems related to Z transform techniques for discrete time systems
Semester : III	
Course Code & Name : EE8351 & Digital Logic Circuits	
Year of Study : 2018 – 2019,2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C202.1	Familiarize in basics of Number systems and Digital logic families
C202.2	Simplify the Boolean function and design the combinational circuit
C202.3	Analyze and design the sequential circuit
C202.4	Analyze and design the asynchronous sequential circuit and PLDs
C202.5	Develop the VHDL coding for Combinational logic and Sequential circuits and digital Simulation for development of application oriented logic circuits
Semester : III	
Course Code & Name : EE8391 & Electromagnetic Theory	
Year of Study : 2018 – 2019,2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C203.1	Describe various coordinate systems of electric fields using laws

C203.2	Explain the concepts of Electrostatic fields and its boundary conditions
C203.3	Explain the concepts of Magneto static fields and its boundary conditions
C203.4	Apply the Maxwell's equations for electromagnetic fields
C203.5	Construct Electromagnetic wave generation equations by applying Maxwell's equations
Semester : III	
Course Code & Name : EE8301 & Electrical Machines – I	
Year of Study : 2018 – 2019,2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C204.1	Describe the fundamentals of magnetic-circuit and magnetic materials
C204.2	Explain the construction, operation, control and testing of Transformer
C204.3	Explain the electromagnetic energy conversion concepts in electrical machines
C204.4	Describe the construction, operation and characteristics of DC Generator
C204.5	Describe the construction, operation and characteristics of DC Motor
Semester : III	
Course Code & Name : EC8353 & Electron Devices and Circuits	
Year of Study : 2018 – 2019,2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C205.1	Describe the structure and operation of basic electronic devices
C205.2	Classify the different types of transistors based on its structure, operation and characteristics
C205.3	Choose the required components to construct an amplifier circuit and analyze its frequency response characteristics
C205.4	Explain different amplifier circuits and draw frequency response characteristics
C205.5	Design and analysis of feedback amplifiers and oscillators
Semester : III	
Course Code & Name : ME8792 & Power Plant Engineering	
Year of Study : 2018 – 2019,2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C206.1	Understand the functions, flow lines and issues related to coal based thermal power plants
C206.2	Understand the functions, flow lines and issues related to Diesel, Gas and combined power plants and analyze the performance of them
C206.3	Compare the performance of different types of nuclear reactors used in nuclear power plants
C206.4	Identify the alternative energy sources fossil fuels and explain the power generation from renewable energy sources
C206.5	Analyze and solve energy and economic related issues in power sectors
Semester : III	
Course Code & Name : EC8311 & Electronics Laboratory	
Year of Study : 2018 – 2019,2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C207.1	Analyze the characteristics of PN Junction diode, Zener diode, Photo diode and transistor

C207.2	Apply the concept of PN Junction diode to design the rectifier system
C207.3	Analyze the characteristics of Transistors
C207.4	Analyze the frequency response of CE Amplifier and Oscillators
C207.5	Demonstrate the working of Passive Filter through CRO
Semester	: III
Course Code & Name	: EE8311 & Electrical Machines Laboratory - I
Year of Study	: 2018 – 2019,2019 – 2020 ,2020 – 2021
COs No.	Course Outcome
C208.1	Draw and Analyze the DC shunt and DC Compound Generators
C208.2	Find the efficiency of DC motor under load test
C208.3	Demonstrate the speed control methods of DC Shunt Motor
C208.4	Demonstrate the Hopkinson's test on DC motor – generator set and pre determine the efficiency of DC motor using Swinburne's test
C208.5	Find the efficiency and losses of single phase and three phase transformers using appropriate test method
Semester	: IV
Course Code & Name	: MA8491 & Numerical Methods
Year of Study	: 2018 – 2019,2019 – 2020 ,2020 – 2021
COs No.	Course Outcome
C209.1	Determine the solution of algebraic and transcendental system of linear equations
C209.2	Interpolate the values of unknown functions using Newton's Formula
C209.3	Estimate the numerical values of the derivatives and integrals of unknown function
C209.4	Solve first and second order initial value problem
C209.5	Solve Numerically boundary value problem
Semester	: IV
Course Code & Name	: EE8401 & Electrical Machines – II
Year of Study	: 2018 – 2019,2019 – 2020 ,2020 – 2021
COs No.	Course Outcome
C210.1	Explain constructional details and performance of Salient and Non - Salient type Synchronous generators and to analyze its performance
C210.2	Describe the Principle of operation of Synchronous Motor and analyze its performance
C210.3	Describe the construction, principle of operation of Induction Motor and to analyze its performance
C210.4	Explain the starting and braking, speed control methods of three phase induction motor
C210.5	Explain the principle of operation Single Phase Induction Motor and special Electrical Machines
Semester	: IV
Course Code & Name	: EE8402 & Transmission and Distribution
Year of Study	: 2018 – 2019,2019 – 2020 ,2020 – 2021
COs No.	Course Outcome
C211.1	Design and analyze the parameters of transmission lines and Explain the structure of electric power system

C211.2	Illustrate the modeling and analyze the Performance of Transmission Lines
C211.3	Find the voltage distribution in insulators string and explain its testing, design of overhead lines in both Mechanical and electrical aspects using Sag calculation
C211.4	Classify the types and construction of underground cabillitys
C211.5	Classify the types of sub-stations and Explain the methods of grounding and FACTS devices
Semester : IV	
Course Code & Name : EE8403 & Measurements and Instrumentation	
Year of Study : 2018 – 2019,2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C212.1	Identify the various functional blocks of an instrument and to select appropriate instruments for voltage and current measurement
C212.2	Select suitable type of instrument to measure electric and magnetic parameters
C212.3	Classify and differentiate the types of potentiometers & bridges
C212.4	Select the appropriate storage and display devices for a system
C212.5	Apply the knowledge of transducers in the field of Industrial Automation
Semester : IV	
Course Code & Name : EE8451 & Linear Integrated Circuits and Applications	
Year of Study : 2018 – 2019,2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C213.1	Classify different types of IC's and its fabrication techniques
C213.2	Analyze the characteristics of Op-amp and perform basic arithmetic functions
C213.3	Apply Op-amp circuits to perform various applications and choose appropriate ADC & DAC for applications
C213.4	Explain the special function ICs and its application (IC555, IC566, VCO & IC565)
C213.5	Design the higher order applications of op-amp like VCO and function generator
Semester : IV	
Course Code & Name : IC8451 & Control Systems	
Year of Study : 2018 – 2019,2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C214.1	Explain the control system components and describe the transfer function of physical system
C214.2	Analyze the time domain response of the system
C214.3	Analyze the open and closed loop frequency responses of systems
C214.4	Design the compensators and Analyze the stability of the system
C214.5	Compare state variables representation of physical systems and comments on the effect of stated back
Semester : IV	
Course Code & Name : EE8411 & Electrical Machines Laboratory - II	
Year of Study : 2018 – 2019,2019 – 2020 ,2020 – 2021	
COs No.	Course Outcome
C215.1	Pre-determine the regulation of both salient and non-salient pole Alternators by EMF, MMF and ZPF Methods

C215.2	Analyze the Characteristics of synchronous motor using V and inverted V curves
C215.3	Determine the efficiency and equivalent circuit parameter of Single and three phase induction motor and Analyze the losses of Induction Motor
C215.4	Analyze the response of speed variation in slip-ring Induction motor for change in rotor resistance
C215.5	Determine the efficiency and Analyze the losses of Single Phase Induction Motor
Semester	: IV
Course Code & Name	: EE8461 & Linear and Digital Integrated Circuits Laboratory
Year of Study	: 2018 – 2019,2019 – 2020 ,2020 – 2021
COs No.	Course Outcome
C216.1	Design Adder, comparator, differentiator, Integrator using Op-Amp and describe VCO, PLL characteristics
C216.2	Apply Boolean Functions To Implement Adder, Subtractor, Code Conversion Circuits
C216.3	Design Encoder, Decoder, Parity Generator, Checker Circuits
C216.4	Design multiplexer, demultiplexer circuit and demonstrate Monostable and Astable operation using 555 timer
C216.5	Demonstrate 4 bit synchronous, asynchronous counter and Shift registers
Semester	: IV
Course Code & Name	: EE8412 & Technical Seminar
Year of Study	: 2018 – 2019,2019 – 2020 ,2020 – 2021
COs No.	Course Outcome
C217.1	Prepare technical Power point presentation
C217.2	Present seminar on recent trends in technology
C217.3	Communicate the core knowledge of the technology to the audience
Semester	: V
Course Code & Name	: EE8501 & Power System Analysis
Year of Study	: 2019 – 2020,2020 – 2021
COs No.	Course Outcome
C301.1	To explain the operation of various power system components, Draw the per unit diagram and form the Y-bus matrix for the power system
C301.2	To develop the power flow equation for power system problems and Determine the line flows using G-S, N-R and F-D method
C301.3	To illustrate the types of faults and their effects, Calculate the fault currents for symmetrical fault condition
C301.4	To draw the sequence network for L-G, L-L and L-L-G fault of the power system and Determine the fault current incase of L-G, L-L and D-L-G fault
C301.5	To explain the concept of power system stability, Analyze the stability of single machine infinite bus system.
Semester	: V
Course Code & Name	: EE8551 & Microprocessors and Microcontrollers
Year of Study	: 2019 – 2020,2020 – 2021
COs No.	Course Outcome
C302.1	Describethe basic functional blocks and architecture of 8085 microprocessor
C302.2	Explain the various types of addressing modes and instruction set in 8085 microprocessor
C302.3	Describe the basic functional blocks and architecture of 8085 microcontroller

C302.4	Interface the various peripheral devices to microprocessor
C302.5	Develop the microcontroller based system for various real time application
Semester	: V
Course Code & Name	: EE8552 & Power Electronics
Year of Study	: 2019 – 2020,2020 – 2021
COs No.	Course Outcome
C303.1	Explain the significance of semiconductor switches and design the triggering circuit and protection circuits
C303.2	Compare the operation of Pulse Converters and draw output waveforms with and without source and load inductance
C303.3	Classify the operation of Choppers and outline the application of SMPS
C303.4	Analyze the operation of single phase and three phase Inverters with and without PWM techniques
C303.5	Illustrate the operation of AC voltage controller and Cyclo-converter and its application
Semester	: V
Course Code & Name	: EE8591 & Digital Signal Processing
Year of Study	: 2019 – 2020,2020 – 2021
COs No.	Course Outcome
C304.1	Classify the different types of signals and systems and Explain the sampling process of continuous time signal.
C304.2	Apply z-transform and inverse Z transform and analyse discrete time systems.
C304.3	Apply Radix-2 Decimation in Time (DIT) and Decimation in Frequency (DIF) FFT Algorithm to Compute Discrete Fourier Transform.
C304.4	Classify different types of Infinite Impulse Response (IIR) filters and Finite Impulse Response (FIR) filters.
C304.5	List various architectures of Digital signal processors.
Semester	: V
Course Code & Name	: CS8392 & OBJECT ORIENTED PROGRAMMING
Year of Study	: 2019 – 2020,2020 – 2021
COs No.	Course Outcome
C305.1	Understand the Basic Concepts of Object oriented programming
C305.2	Summarize the concepts of Inheritance,polymorphism and generic programming
C305.3	Construct simple programs to handle exceptions and use strings
C305.4	Understand the basic elements of Java Programming
C305.5	Construct simple java applications to handle exceptions and threads
Semester	: V
Course Code & Name	: OIT552 & Cloud Computing
Year of Study	: 2019 – 2020,2020 – 2021
COs No.	Course Outcome
C306E.1	Articulate the main concepts, key technologies, strengths and limitations of cloud computing.
C306E.2	Learn the virtualization and load balancing technologies that helps in the development of cloud.
C306E.3	Develop the ability to understand and use the architecture of compute and storage cloud, service and delivery models.

C306E.4	Explain the core issues of cloud computing such as resource management and security.
C306E.5	Choose the appropriate technologies, algorithms and approaches for implementation and use of cloud.
Semester	: V
Course Code & Name	: EE8511 & Control and Instrumentation Laboratory
Year of Study	: 2019 – 2020,2020 – 2021
COs No.	Course Outcome
C307.1	Analyze the time domain specification and controllers
C307.2	Design the frequency domain specification and compensators
C307.3	Analyze the position control systems and synchro transmitter and receiver
C307.4	Analyze the various bridge networks and dynamics of sensors / Transducers
C307.5	Simulate process control and obtain signal condition output
Semester	: V
Course Code & Name	: HS8581 & ProfessionalCommunication
Year of Study	: 2019 – 2020,2020 – 2021
COs No.	Course Outcome
C308.1	Summarize various skills such as Soft Skills, Hard skills, employability and career Skills and demonstrate values such as Time Management and general awareness of current affairs
C308.2	Demonstrate oneself before the audience by making effective presentations on introducing oneself, answering questions and visual presenting.
C308.3	Demonstrate oneself by participating in group discussions, brainstorming sessions and question sessions. Develop activities to improve GD Skills
C308.4	Develop interview skills so as to be successful in them.
C308.5	Develop adequate Soft Skills required for the workplace and long-term career.
Semester	: V
Course Code & Name	: CS8383 & Object Oriented Programming Laboratory
Year of Study	: 2019 – 2020,2020 – 2021
COs No.	Course Outcome
C309.1	Understand the Basic Concepts of Object oriented programming
C309.2	Summarize the concepts of Inheritance,polymorphism and generic programming
C309.3	Construct simple programs to handle exceptions and use strings
C309.4	Understand the basic elements of Java Programming
C309.5	Construct simple java applications to handle exceptions and threads
Semester	: VI
Course Code & Name	: EE8601 & Solid State Drives
Year of Study	: 2019 – 2020,2020 – 2021
COs No.	Course Outcome
C310.1	Classify the various types of drives and load torque characteristics and Apply the multi quadrant dynamics in hoist load system
C310.2	Analyze the operation of steady state analysis of converter, Chopper fed drives and discuss the various control strategies of converter

C310.3	Explain the operation and characteristics of various methods of solid state speed control of induction motor.
C310.4	Describe the operation of various modes of V/f control of synchronous motor drives and different types of permanent magnet synchronous motor drives.
C310.5	Design a current and speed controller and develop the transfer function for DC motor, load and converter, closed loop control with current and speed feedback.
Semester	: VI
Course Code & Name	: EE8602 & Protection and Switchgear
Year of Study	: 2019 – 2020, 2020 – 2021
COs No.	Course Outcome
C311.1	Analyze the root cause of power system faults
C311.2	Describe the fundamental elements and operation of different Electromagnetic Relay
C311.3	Select the appropriate relay and protection circuit for Electrical Equipment.
C311.4	Describe the fundamental elements and operation of digital Relay
C311.5	Describe the construction and operation of circuit breaker and select the appropriate rating for various application
Semester	: VI
Course Code & Name	: EE8691 & Embedded Systems
Year of Study	: 2019 – 2020, 2020 – 2021
COs No.	Course Outcome
C312.1	Illustrate basic blocks on Embedded Systems & their components
C312.2	Categorize the different types of I/O device, ports, buses and communication protocols
C312.3	Modeling in Embedded Product Development Life Cycle (EDLC) using different techniques
C312.4	Analyze the basic concept of Real Time Operating Systems and compare the features of different types of Real Time Operating Systems
C312.5	Design Embedded Systems for various real time applications
Semester	: VI
Course Code & Name	: GE8075 & Intellectual Property Rights
Year of Study	: 2019 – 2020, 2020 – 2021
COs No.	Course Outcome
C314E.1	Understand the Basics of Intellectual Property portfolio to enhance the value of the firm
C314E.2	Explain the details of Registration Process of IPRs in India and Abroad
C314E.3	Summarize the agreements and legislations of Various IPRs
C314E.4	Explain the Digital Products And Law related to IPRs
C314E.5	Explain the Various Enforcement related to IPRs
Semester	: VI
Course Code & Name	: EE8006 & Power Quality
Year of Study	: 2019 – 2020, 2020 – 2021
COs No.	Course Outcome
C315E.1	Explain the power quality problem
C315E.2	Illustrate the sources of voltages sags and and its mitigation techniques

C315E.3	Outline the sources of overvoltage and its mitigation techniques
C315E.4	Summarize the sources and effect of harmonics in power system
C315E.5	Examine the various power quality problems using different diagnostic techniques
Semester : VI	
Course Code & Name : EE8661 & Power Electronics and Drives Laboratory	
Year of Study : 2019 – 2020,2020 – 2021	
COs No.	Course Outcome
C316E.1	Analyse the operation and characteristics of power electronic devices.
C316E.2	Construct and evaluate different power electronic converters.
C316E.3	Convert the Fixed DC power to variable DC for motoring application
C316E.4	Apply Choose and employ the power converter for specific application.
C316E.5	Develop module for the application of power conversion
Semester : VI	
Course Code & Name : EE8681 & Microprocessors and Microcontrollers Laboratory	
Year of Study : 2019 – 2020,2020 – 2021	
COs No.	Course Outcome
C317.1	Perform various mathematical operations using 8085 microprocessor
C317.2	Predict the smallest/ largest number, sorting of numbers from a given array and code conversions using 8085 microprocessor
C317.3	Convert the given analog input to digital value,Digital Value to analog signal and to control the traffic signals using 8085 programming
C317.4	Apply the concept of interfacing on seven segment display and Stepper motor using 8085 processor
C317.5	Develop ALP for mathematical operations and Timer programming using 8051 microcontroller
Semester : VI	
Course Code & Name : EE8611 & MINI PROJECT	
Year of Study : 2019 – 2020,2020 – 2021	
COs No.	Course Outcome
C318.1	Apply practical knowledge within the chosen area of expertise for project development
C318.2	Identify, analyze, design and handle prototype projects with a complete and organized approach
C318.3	Contribute as an individual or in a team in development of technical projects
C318.4	Develop effective communication skills for presentation of project related activities and prepare mini project reports and examination
Semester : VII	
Course Code & Name : EE8701 & High Voltage Engineering	
Year of Study : 2020 - 2021	
COs No.	Course Outcome
C401.1	Identify the causes of over voltage and its effects in power system
C401.2	Classify the breakdown Mechanisms in Solid, Liquid, gases and Composite
C401.3	Generate the different type of circuit for high voltage D.C and high voltage A.C

C401.4	Measure A.C and D.C high voltage and current using appropriate method
C401.5	Test the transformer,insulator, circuit breakers,surge diverters and cables also discuss the insulation coordination
Semester : VII	
Course Code & Name : EE8702 & Power System Operation and Control	
Year of Study : 2020 - 2021	
COs No.	Course Outcome
C402.1	To recall the overview of power system operation and control
C402.2	To describe the modelling of power-frequency dynamics and to design power-frequency controller.
C402.3	To explain the modeling of reactive power-voltage interaction and the control actions.
C402.4	To solve economic dispatch problems and unit commitments problems in power systems.
C402.5	To explain the need of computer controls to energy management using SCADA
Semester : VII	
Course Code & Name : EE8703 & Renewable Energy Systems	
Year of Study : 2020 - 2021	
COs No.	Course Outcome
C403.1	Understand and create awareness about renewable Energy Sources and technologies.
C403.2	Recognize current and possible future role of renewable energy sources.
C403.3	To explain the various renewable energy resources and technologies and their applications.
C403.4	Understand basics about biomass, geothermal and hydro power energy.
C403.5	Apply the knowledge of engineering for harnessing electrical energy from ocean energy, fuel cell, hybrid energy systems and production with storage of the hydrogen.
Semester : VII	
Course Code & Name : OCS752 & Introduction to C Programming	
Year of Study : 2020 - 2021	
COs No.	Course Outcome
C404E.1	Understand C Programs using basic Programming Constructs
C404E.2	Understand array Concepts and develop program using an array
C404E.3	Understand the Concepts of Strings and Pointers and develop C Programs using Pointer arithmetic and Strings
C404E.4	Develop and implement applications in C using functions and pointers.
C404E.5	Develop applications in C using structures.
Semester : VII	
Course Code & Name : GE8074 & Human Rights	
Year of Study : 2020 - 2021	
COs No.	Course Outcome
C405E.1	Highlight the importance of human rights globally
C405E.2	Discuss theories and evolution of human rights

C405E.3	Paraphrase the importance of UN agencies
C405E.4	Interpret the constitutional provisions and human rights in india
C405E.5	Illustrate the importance of national and state human rights commission
Semester : VII	
Course Code & Name : GE8077 & Total Quality Management	
Year of Study : 2020 - 2021	
COs No.	Course Outcome
C406E.1	Recognize the basic concepts of TQM
C406E.2	Elaborate the principles of TQM
C406E.3	Explain the seven traditional tools and techniques
C406E.4	Estimate the quality circles and performance measures
C406E.5	Recite Quality management system, ISO and Environmental management system
Semester : VII	
Course Code & Name : EE8711 & Power System Simulation Laboratory	
Year of Study : 2020 - 2021	
COs No.	Course Outcome
C407.1	Understand the computation of parameters and formulation of buses through digital simulation
C407.2	Examine load flow analysis through digital simulation
C407.3	Acquire knowledge about fault and stability analysis through digital simulation
C407.4	Experiment electromagnetic transients in power system through stimulation
C407.5	Analyze power system operation, stability, control and protection through digital simulation
Semester : VII	
Course Code & Name : EE8712 & Renewable Energy Systems Laboratory	
Year of Study : 2020 - 2021	
COs No.	Course Outcome
C408.1	Analyze the V-I characteristics and efficiency of 1 KW solar PV system with stand alone and grid connected by conducting experiment and simulation using MATLAB Simulink.
C408.2	Analyze the performance and assessment of micro wind energy generator by conducting experiment and simulation using MATLAB Simulink.
C408.3	Analyze the performance and assessment of solar-wind hybrid system by conducting experiment and simulation using MATLAB Simulink
C408.4	Analyze the Hydel power using MATLAB Simulink and analyze the performance and assessment of Fuel cell by conducting experiment and simulation using MATLAB Simulink
C408.5	Analyze the various types of intelligent controller for hybrid system using MATLAB Simulink.
Semester : VIII	
Course Code & Name : EE8015 & Electric Energy Generation, Utilization and Conservation	
Year of Study : 2020 - 2021	
COs No.	Course Outcome
C409E.1	Explain the fundamentals of electric drive and analyze the characteristic features of traction motors

C409E.2	Classify the energy saving concept by different ways of illumination.
C409E.3	Interpret the different methods of electric heating and electric welding and its advantages
C409E.4	Outline the Solar Radiation and Solar Energy Collectors
C409E.5	Summarize the concepts of Wind Energy and its utilization
Semester : VII	
Course Code & Name : EE8018 & Microcontroller Based System Design	
Year of Study : 2020 - 2021	
COs No.	Course Outcome
C410E.1	Understand the concepts of Architecture of PIC microcontroller
C410E.2	Explain the concept of Interrupts and timers
C410E.3	Interface Peripheral devices and sensor with PIC Microcontroller for data communication
C410E.4	Describe the Architecture of ARM processors and development tools
C410E.5	Acquire knowledge of Architecture of ARM organization and design the ARM based Embedded system for Applications
Semester : VIII	
Course Code & Name : EE8811 & Project Work	
Year of Study : 2020 - 2021	
COs No.	Course Outcome
C411.1	Identify the problem relevant to society and industry needs
C411.2	Collect the appropriate and reliable solution methods for the identified problem
C411.3	Analyze and identify a suitable solution method to solve the problem
C411.4	Carryout the simulation, fabrication, experimentation and record the data
C411.5	Document the project information and results finding and demonstrate their responsibility as a member and leader in a project team