ER.PERUMAL MANIMEKALAI COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE OUTCOMES

REGULATION: 2013

S.NO	COURSE NAME	COURSE OUT COMES	
1	C101- Technical English – I (HS6151)	C101.1	Understand the basic grammatical functions and vocabulary.
		C101.2	Speak and write clearly and communicate using appropriate communicative strategies
		C101.3	Write Informal letters /blog/email with a wide range of vocabulary
		C101.4	listen/view and comprehend different spoken discourses and passages in different accents.
		C101.5	Read and write different genres of texts.
2	C102 - Mathematics – I (MA6151)	C102.1	Understand the Concepts of Diagonalization of matrices.
		C102.2	Apply simple techniques for testing the convergence of sequences and series
		C102.3	Use the differentiation concepts to differentiate functions
		C102.4	Apply partial differentiation in functions of several variables.
		C102.5	Apply integration concepts to compute multiple integrals.
3	C103 - Egineering Physics – I (PH6151)	C103.1	Able to classify various crystal structures and its parameters.
		C103.2	Explain the basics of properties of matter, the thermal properties of materials like thermal conductivity and its application.
		C103.3	Acquire knowledge on the concepts of quantum theory and its application in tunneling microscopes.
		C103.4	Understands the basic concepts of Acoustics in buildings and the production of ultrasonic waves and its application in NDT and medical field.
		C103.5	Understands the concept of photonics and its usage in the production of different types of laser and the principle of fibre optics with its application in various fields.
4	C104 - Engineering Chemistry-1 (CY6151)	C104.1	Understand the types of water and water treatment techniques.
		C104.2	Utilize the various adsorbent in industries.
		C104.3	Classify the types of alloys and understand the component present in the alloys.
		C104.4	Explain the types of fuels and manufacturing of secondary fuels.
		C104.5	Illustrate the types of energy resources.

S.NO	COURSE NAME	COURSE OUT COMES	
5	C105 - Computer programming (GE6151)	C105.1	Know the organization of digital Computer
		C105.2	Design C Programs for problems.
		C105.3	Write and execute C programs using Arrays and Strings for simple applications
		C105.4	Usage of Pointers and Function in C programming
		C105.5	Design Programming using Structures and Union
6	C106 - Engineering Graphics (GE6152)	C106.1	Discuss about conics and orthographic views of engineering components
		C106.2	Draw the projection of points, lines and planes
		C106.3	Classify solids and projection of solids at different positions
		C106.4	Show sectioned view of solids and development of surface
		C106.5	Draw isometric projection and perspective views of an object/solid
7	C107 - Computer Practices Laboratory (GE6161)	C107.1	Know about Data Manipulation in MS Office Packages
		C107.2	Apply good programming design methods for program development using Decision making and looping statements.
		C107.3	Design and implement C programs using strings and arrays.
		C107.4	Design and implement C programs using functions and string functions.
		C107.5	Develop recursive functions and develop programs using structures and unions.
8	C108 - Engineering Practices Laboratory (GE6162)	C108.1	Apply the knowledge of pipeline connections to household fittings and industrial buildings.
		C108.2	Prepare the different joints in roofs, doors, windows and furniture.
		C108.3	Perform step turning operation in a lathe.
		C108.4	Perform the various welding processes and know about its applications.
		C108.5	Produce a funnel using sheet metal.
9	C109 - Physics and Chemistry Laboratory - I (GE6163)	C109.1	Understand the concept of Laser and its diffraction for different usage
		C109.2	Able to find the velocity of ultrasonic waves in different liquid.
		C109.3	Apply principle of diffraction to determine the wavelength of visible spectrum.
		C109.4	Understand the various parameter affecting the thermal conductivity of poor conductor
		C109.5	Analyze the various modulus of elasticity of different types of materials.

S.NO	COURSE NAME	COURSE OUT COMES	
10	C110 - Technical English – II (HS6251)	C110.1	Understand basic grammar and know to engage in conversation.
		C110.2	Write and produce different types of technical write ups.
		C110.3	Read and write different genres of technical texts.
		C110.4	Create Job applications and Resume / E - Resume
		C110.5	Express opinions and initiate a discussion using appropriate communicative strategies
11	C111 - Mathematics – II (MA6251)	C111.1	Understand the concepts of Vector Calculus and their applications.
		C111.2	Interpret the Concepts of analytic functions and Conformal mapping.
		C111.3	Understand the integration concepts on Complex integration
		C111.4	Demonstrate the main concepts on Laplace transformations and their applications
		C111.5	Use various techniques in solving differential equations.
12	C112 - Engineering Physics – II (PH6251)	C112.1	Gain knowledge on the conducting materials and its properties
		C112.2	Acquire knowledge on the concepts of carrier concentration in intrinsic and extrinsic semiconductors and its determination using Hall effect.
		C112.3	Classify the different types of magnetic materials and know the properties of superconductors.
		C112.4	Understands the basic concepts of dielectric materials and its usage in capacitors and transformers.
		C112.5	Able to classify the different modern engineering materials and its application in different fields.
13	C113 - Engineering Chemistry – II (CY6251)	C113.1	Illustrate the types of electrochemical cell..
		C113.2	Summarize the types of corrosion and corrosion prevention methods.
		C113.3	Explain the types of fuels and manufacturing of secondary fuels.
		C113.4	Classify the types of alloys and understand the component present in the alloys.
		C113.5	Analyze the sample using various spectroscopy.
14	114 - Basic Civil and echanical Engineering (GE6251)	C114.1	Ability to explain the usage of construction material and proper selection of construction materials.
		C114.2	Ability to design building structures.
		C114.3	Ability to identify the components use in power plant cycle.
		C114.4	Ability to demonstrate working principles of petrol and diesel engine.

S.NO	COURSE NAME	COURSE OUT COMES	
	C M	C114.5	Ability to explain the components of refrigeration and Air conditioning cycle.
15	C115 - Circuit Theory (EE6201)	C115.1	Ability analyse electrical circuits
		C115.2	Ability to apply circuit theorems
		C115.3	Ability to analyse AC and DC Circuits
16	C116 - Physics and Chemistry Laboratory - II (GE6262)	C116.1	Analyze the various modulus of elasticity of different types of materials.
		C116.2	Understand the various parameters affecting the band gap of semiconductor.
		C116.3	Apply principle of diffraction to determine the parameters of optical prism.
		C116.4	Analyze the co-efficient of viscosity of different liquids.
		C116.5	Apply the basic principles of optics to determine the thickness of thin materials.
17	C117 - Computer Programming Laboratory (GE6263)	C117.1	Use Shell commands
		C117.2	Design of Implement Unix shell scripts
		C117.3	Write and execute C programs on Unix
18	C118 - Electric Circuits Laboratory	C118.1	Ability to understand and apply circuit theorems and concepts in engineering applications.
		C118.2	Simulate the Electric Circuits.
19	C201 – Transforms and Partial Differential Equations (MA6351)	C201.1	Understand how to solve the given standard partial differential equations
		C201.2	Solve differential equations using Fourier series analysis which plays a vital role in engineering applications
		C201.3	Appreciate the physical significance of Fourier series techniques in solving one and two dimensional heat flow problems and one dimensional wave equations.
		C201.4	Understand the mathematical principles on transforms and partial differential equations would provide them the ability to formulate and solve some of the physical problems of engineering.
		C201.5	Use the effective mathematical tools for the solutions of partial differential equations by using Z transform techniques for discrete time systems.
20	tal Logic Circuits EE6301)	C202.1	Ability to design combinational and sequential Circuits.
		C202.2	Ability to simulate using software package.
		C202.3	Ability to study various number systems and simplify the logical expressions using Boolean functions

S.NO	COURSE NAME	COURSE OUT COMES	
	C202 – Digi…	C202.4	Ability to design various synchronous and asynchronous circuits.
		C202.5	Ability to introduce asynchronous sequential circuits and PLDs
21	C203 – Electromagnetic Theory (EE6302)	C203.1	Ability to understand the basic mathematical concepts related to electromagnetic vector fields.
		C203.2	Ability to understand the basic concepts about electrostatic fields, electrical potential, energy density and their applications.
		C203.3	Ability to acquire the knowledge in magneto static fields, magnetic flux density, vector potential and its applications.
		C203.4	Ability to understand the different methods of emf generation and Maxwell's equations
		C203.5	Ability to understand the basic concepts electromagnetic waves and characterizing parameters
22	C204 – Environmental Science and Engineering (GE6351)	C204.1	Gain knowledge on public awareness & about the Environment & Ecosystem.
		C204.2	Identify the impacts of Pollution.
		C204.3	Achieve Sustainable development.
		C204.4	Analyze about the social issues in the Environment.
		C204.5	Apply the knowledge to tackle the problems of over population.
23	C205 – Electronic Devices and Circuits (EC6202)	C205.1	Explain the structure and working operation of basic electronic devices
		C205.2	Able to identify and differentiate both active and passive elements
		C205.3	Analyze the characteristics of different electronic devices such as diodes and transistors
		C205.4	Choose and adapt the required components to construct an amplifier circuit.
		C205.5	Employ the acquired knowledge in design and analysis of oscillators
24	Linear Integrated Circuits and Applications (EE6303)	C206.1	To gain knowledge in IC fabrication procedure.
		C206.2	Ability to analysis the DC and AC characteristics of operational amplifiers and its effect on output and their compensation techniques.
		C206.3	To Understand and acquire knowledge on design of linear and non-linear applications of an op amp
		C206.4	Explain and compare the working of multivibrators using special application IC 555 and general purpose opamp-IC-566 VCO, 565 PLL and AD633 Analog multiplier

S.NO	COURSE NAME	COURSE OUT COMES	
	C206–	C206.5	Illustrate the function of application specific ICs such as Voltage regulators, Instrumentation Amplifier & function generator.
25	C207 – Electronics Laboratory (EC6361)	C207.1	Ability to understand and analyse Zener diode and NPN Transistor
		C207.2	Ability to understand and analyse JFET and UJT
		C207.3	Ability to design and analyse of CE amplifier and Oscillator
		C207.4	Ability to understand and analyse of rectifiers, filters and amplifier
		C207.5	Ability to understand and analyse the CRO
26	C208 – Linear and Digital Integrated Circuits Laboratory (EE6311)	C208.1	To gain knowledge in IC fabrication procedure.
		C208.2	Ability to analysis the DC and AC characteristics of operational amplifiers and its effect on output and their compensation techniques.
		C208.3	To Understand and acquire knowledge on design of linear and non-linear applications of an opamp
		C208.4	Explain and compare the working of multivibrators using special application IC 555 and general purpose opamp-IC-566 VCO, 565 PLL and AD633 Analog multiplier
		C208.5	Illustrate the function of application specific ICs such as Voltage regulators, Instrumentation Amplifier & function generator.
27	C209 – Numerical Methods (MA6459)	C209.1	Determine the solution of algebraic and transcendental system of linear equations
		C209.2	To 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
28	C210 – Electrical Machines – I (EE6401)	C210.1	Ability to analyze the magnetic-circuits.
		C210.2	Ability to acquire the knowledge in constructional details of transformers
		C210.3	Ability to understand the concepts of electromechanical energy conversion.
		C210.4	Ability to acquire the knowledge in working principles of DC Generator.
		C210.5	Ability to acquire the knowledge in working principles of DC Motor
	Programming	C211.1	To understand the basic Object Oriented concepts.
		C211.2	To Develop solutions to given problems using class and object concepts.

S.NO	COURSE NAME	COURSE OUT COMES	
29	C211 – Object Oriented (CS6456)	C211.3	Ability to Develop Application to given problems using Inheritance and Exception in C++.
		C211.4	To understand basics of java programs using class, method and objects.
		C211.5	To apply the concept of Multithreading and Construct java programs using exception Handling and IO Classes.
30	C212 – Transmission and Distribution (EE6402)	C212.1	Explain the structure of power system and various distribution methods
		C212.2	Describe and analyze the transmission elements in power system network
		C212.3	Summarize the modeling of transmission and distribution system and its performance
		C212.4	Apply the basic concepts for performance evaluation of various insulator and cables
		C212.5	Compare the mechanical design of transmission system and earthing techniques
31	C213 – Discrete Time Systems and Signal Processing (EE6403)	C213.1	Understanding the Classification of signals and systems & their mathematical representation.
		C213.2	Analyzing the discrete time systems.
		C213.3	Applying various transformation techniques & their computation.
		C213.4	Implementing filters and their design for digital implementation.
		C213.5	Understanding about a programmable digital signal processor & quantization effects
32	C214 – Measurements and Instrumentation (EE6404)	C214.1	Students will able to understand the basic fundamentals of Instruments
		C214.2	Acquire basic Knowledge in Electrical & Electronic Instruments
		C214.3	Apply various Bridge technique for the measurements of unknown values of resistor, capacitor & inductor
		C214.4	Identify the appropriate display & recording devices for the measurement of current & voltage
		C214.5	Explaining the operating principle of Electrical Transducer.
33	C215 – Object Oriented Programming Laboratory (CS6461)	C215.1	Gain the basic knowledge on object oriented concepts.
		C215.2	Ability to develop applications using object oriented programming concepts.
		C215.3	Ability to implement features of object oriented programming to solve real world problems.
		C215.4	To implement features of object oriented programming using java.
		C215.5	Perform multitasking process using java application.

S.NO	COURSE NAME	COURSE OUT COMES	
34	C216 - Electrical Machines Laboratory - I (EE6411)	C216.1	The ability to conduct testing and experimental procedures on different types of electrical machines
		C216.2	Students will be able to use modeling parameters with standard equivalent circuit models to predict correctly the expected performance of various general purpose electrical machines
		C216.3	Ability to prepare professional quality graphical presentations of laboratory data and computational results, incorporating accepted data analysis and synthesis methods
		C216.4	Students will work in teams to conduct experiments, analysis results and develop technically sound reports of outcomes
		C216.5	Primarily via team based laboratory activities, students will demonstrate the ability to interact effectively on a social and interpersonal level with fellow students, and will demonstrate the ability to divide up and share task responsibilities to complete assignments
35	C301 – Power System Analysis (EE6501)	C301.1	Ability to model the power system under steady state operating condition
		C301.2	Ability to understand and apply iterative techniques for power flow analysis
		C301.3	Ability to model , carry out short circuit studies on power system and and analyze stability problems in power system
		C301.4	Ability to acquire knowledge on Fault analysis
		C301.5	Ability to model and understand various power system components and carry out power flow, short circuit and stability studies.
36	C302- Microprocessors and Microcontrollers (EE6502)	C302.1	Ability to acquire knowledge in Addressing modes , instruction set and use of Interrupt structure of 8085 & 8051.
		C302.2	Ability to understand the importance of Interfacing
		C302.3	Ability to explain the architecture of Microprocessor and Microcontroller.
		C302.4	Ability to write the assembly language programme
		C302.5	Ability to develop the Microprocessor and Microcontroller based applications.
37	C303 - Power Plant Engineering (ME6701)	C303.1	Explain the layout, construction and working of the components inside a thermal power plant
		C303.2	Explain the layout, construction and working of the components inside a Diesel, Gas and Combined cycle power plants.
		C303.3	Explain the layout, construction and working of the components inside nuclear power plants
		C303.4	Explain the layout, construction and working of the components inside Renewable energy power plants
		C303.5	Explain the applications of power plants while extend their knowledge to power plant economics and environmental hazards and estimate the costs of electrical energy production

S.NO	COURSE NAME	COURSE OUT COMES	
38	C304- POWER ELECTRONICS (EE6503)	C304.1	Analyze the characteristics of different power electronics devices like SCR, BJT, MOSFET and IGBT.
		C304.2	Explain the types of power converters and understand the operations of single and three phase converters.
		C304.3	Classify the operation of Choppers and outline the application of SMPS.
		C304.4	Categorize various single phase and three phase power inverter circuits and understand their applications
		C304.5	Illustrate the basic operation and characteristics of AC voltage controllers and cyclo converters
39	C305- ELECTRICAL MACHINES – II (EE6504)	C305.1	Understand construction, Principle of operation and performance of synchronous machine
		C305.2	Understand construction, Principle of operation and performance of Synchronous motor.
		C305.3	Acquire knowledge about the constructional details and principle of operation of three phase and induction motors.
		C305.4	Describe the starting and speed control of three phase induction motors.
		C305.5	Explain the construction, principle of operation and performance of single phase induction motors and special machines.
40	C306- CONTROL SYSTEMS (IC6501)	C306.1	Discuss the use of transfer function models for analysis of physical systems and the control system Components
		C306.2	Determine the time response of first and second-order systems for various input signals and Find their steady state error
		C306.3	Analyze the frequency-domain responses of the closed system from open loop systems
		C306.4	Analyze the stability of the system using various methods and Design the various kinds of Compensator.
		C306.5	Analyze the state variable representation of physical systems and the effect of state feedback.
41	C307 - CONTROL AND INSTRUMENTATION LABORATORY (EE6511)	C307.1	Ability to understand control theory and apply them to electrical Engineering problems.
		C307.2	Ability to analyze the various types of converters.
		C307.3	Ability to design compensators and simulation packages
		C307.4	Ability to understand the basic concepts of bridge networks.
		C307.5	Ability to the basics of signal conditioning circuits.
	NICATION KILLS Y BASED 4)	C308.1	Formulate presentations and Participate in Group Discussions.
		C308.2	Prepare to answer the questions in interviews.

S.NO	COURSE NAME	COURSE OUT COMES	
42	C308- COMMUN AND SOFT S LABORATORY (GE667	C308.3	Achieve international examination such as IELTS and TOEFL
		C308.4	Improve the fluency in spoken English and improve in leadership trait.
		C308.5	Identify their creativity and critical thinking while communicating with others.
43	C309 - ELECTRICAL MACHINES LABORATORY – II (EE6512)	C309.1	Ability to find the regulation of alternator using direct &indirect methods
		C309.2	Ability to demonstrate the Characteristics and equivalent circuit of three phase induction motor
		C309.3	Ability to demonstrate the Characteristics and equivalent circuit of single phase induction motor
		C309.4	Ability to performance analysis of synchronous motor
		C309.5	Ability to understand the induction motor Starters
44	C310- Communication Engineering (EC6651)	C310.1	Explain the different types of Analog Communication & their Significance
		C310.2	Identify the different Digital Communication methods for high bit rate
		C310.3	Analyze Source Code, Line Code techniques for enhancing error control
		C310.4	Compare the Various Multiple Access Techniques used in Communication System for enhancing the number of Users
		C310.5	Classify the Various Media for Digital and satellite Communication
45	C311 - Solid State Drives (EE6601)	C311.1	Ability to explain about steady state and dynamic operation of motor load system and apply the multi quadrant dynamics in hoist load system.
		C311.2	Analyze the single phase, three phases fully controlled converter and Chopper fed Separately excited dc motor drives using steady state analysis and discuss the various controls Strategies of Converter.
		C311.3	Ability to explain the operation and characteristics of various methods of solid state speed Control of induction motor.
		C311.4	Describe the operation of various control modes of synchronous motor drives
		C311.5	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
46	C312 - Embedded Systems (EE6602)	C312.1	Explain the architecture, ISA, programming, and interface requirements of a commercially 32-bit microprocessor
		C312.2	Analyze and design to interface a microprocessor to displays, memories, ports, serial ports (USART, SPI, and I2C), etc.
		C312.3	Learn to use assemblers, compilers, simulators and emulators to help with design and verification for ARM processors.
		C312.4	Apply 32-microprocessor systems (ARM) to solve real-time problems like timers, counters etc.,
		C312.5	Design Linux based real time embedded systems

S.NO	COURSE NAME	COURSE OUT COMES	
47	C313- Power System Operation and Control (EE6603)	C313.1	Explain the terms related with power system operation and control.
		C313.2	Model and analyze the single area and two area load frequency control in power system.
		C313.3	Explain the modeling of reactive power-voltage interaction and the control actions to be implement for maintaining the voltage profile against the varying system load.
		C313.4	Solve economic dispatch problems and unit commitment problems in power systems
		C313.5	Explain the computer control of real time operation in power system.
48	C314- Design of Electrical Machines (EE6604)	C314.1	Discuss the properties of materials used in electrical and determine heat dissipation due to thermal.
		C314.2	Design the main dimensions and winding details of DC machines.
		C314.3	Design the overall dimensions and parts of single phase and three phase transformer and cooling system
		C314.4	Develop output equation of AC machines, design stator and rotor of induction machines.
		C314.5	Design stator and rotor of synchronous machines and design field systems for turbo alternators.
49	C315- Power System Transients (EE6002)	C315.1	Ability to explain the causes and effects of transients in Power system
		C315.2	Illustrate the importance of switching transients, explain the concept of resistance, load and capacitance switching.
		C315.3	Ability to analyze the mechanism of lighting strokes.
		C315.4	Ability to analyze the transients using travelling wave theory
		C315.5	Analyze the concept of short line (or)kilometric fault & EMTP for Transient computation
50	C316- Power Electronics and Drives Laboratory (EE6611)	C316.1	Plot the VI characteristics of SCR, TRIAC, MOSFET and IGBT and also generate the Gate Pulse using R, RC and UJT.
		C316.2	Draw the output response of single phase AC to DC half and fully controlled converter and step up and step down MOSFET based chopper.
		C316.3	Draw the output response of single phase and three phase IGBT based PWM inverter.
		C316.4	Plot the output response of AC voltage controller and switch mode power converter.
		C316.5	Simulate the Power Electronic Circuits.
51	317-Microprocessors and crocontrollers Laboratory - (EE6612)	C317.1	Demonstrate knowledge and understanding of the programme using instruction sets of processors.
		C317.2	Convert the code, analog input to digital and to control traffic signals using 8085 processor.
		C317.3	Demonstrate knowledge and understanding the program for interfacing stepper motor and display controller using 8 bit processor
		C317.4	Manipulate the basic operations involved in jump and looping in 8051 microcontroller.

S.NO	COURSE NAME	COURSE OUT COMES	
	C Mi	C317.5	Understand the program for D/A interfacing and serial port communication based on 8051 microcontroller
52	C318- Presentation Skills and Technical Seminar (EE6613)	C318.1	Ability to review, prepare and present technological developments
		C318.2	Ability to face the placement interviews
		C318.3	Learners should be able to speak clearly, confidently, comprehensibly, and communicate with one or many listeners using appropriate communicative strategies.
		C318.4	Read different genres of texts adopting various reading strategies.
		C318.5	Listen/view and comprehend different spoken discourses/excerpts in different accents
53	C401- High Voltage Engineering (EE6701)	C401.1	Ability to understand Transients in power system
		C401.2	Ability to understand Generation and measurement of high voltage
		C401.3	Ability to understand various types of over voltages in power system.
		C401.4	Ability to measure over voltages
		C401.5	Ability to understand High voltage testing and test power apparatus and insulation coordination
54	C402- Protection And Switchgear (EE6702)	C402.1	Ability to analyze the characteristics and functions of relays
		C402.2	Ability to understand and analyze Electromagnetic relays
		C403.3	Ability to analyze the functions of relay protection schemes
		C404.4	Ability to study about the comparators and apparatus protection using static and numerical relays
		C405.5	Ability to acquire knowledge on functioning of circuit breaker
55	C403- Special Electrical Machines (EE6703)	C403.1	Impart the construction and performance of synchronous reluctance motors in industries.
		C403.2	Understand the performance of the stepper motors and its characteristics.
		C403.3	Explain the Construction, principle of operation, control and performance of switched reluctance motor
		C403.4	Illustrate the Nature of BLDC motor performances and its applications.
		C403.5	Describe the knowledge about the Construction, principle of operation and performance of permanent magnet synchronous motors
56	C404- Principles Of Management (MG6851)	C404.1	Explain the elements of Management and Organization
		C404.2	Summarize the types, policies, tools and techniques in Planning in Management
		C404.3	Relate the job design and human resource management in Organizing
		C404.4	Illustrate the skills of leadership and communication
		C404.5	Interpret the controlling techniques in Management

S.NO	COURSE NAME	COURSE OUT COMES	
57	C405- Power Quality (EE6005)	C405.1	Ability to understand various sources, causes and effects of power quality issues, electrical systems and their measures and mitigation.
		C405.2	Ability to analyze the causes & Mitigation techniques of various PQ events.
		C405.3	Ability to understand the concepts about Voltage and current distortions, harmonics.
		C405.4	Ability to analyze and design the passive filters, active filters and acquire knowledge on compensation techniques.
		C405.5	Ability to acquire knowledge on DVR
58	C406- Microcontroller Based System Design (EE6008)	C406.1	Ability to understand and apply computing platform and software for Engineering problems and concepts of Architecture of PIC microcontroller
		C406.2	Ability to acquire knowledge on Interrupts and timers.
		C406.3	Ability to understand the importance of Peripheral devices for data communication and basics of sensor interfacing
		C406.4	Ability to acquire knowledge in Architecture of ARM processors
		C406.5	Ability to acquire knowledge of arm organization and Embedded applications
59	C407- Power System Simulation Laboratory (EE6711)	C407.1	Ability to understand power system planning and operational studies.
		C407.2	Ability to acquire knowledge on Formation of Bus Admittance and Impedance Matrices and Solution of Networks.
		C407.3	Ability to analyse the power flow using GS and NR method and find Symmetric and Unsymmetrical fault
		C407.4	Ability to understand the economic dispatch.
		C407.5	Ability to analyse the electromagnetic transients.
60	C408- Comprehension (EE6712)	C408.1	Acquire knowledge on electrical and electronics area
		C408.2	Ability to easily convey their innovative technical thoughts among their colleague with ICT tools
		C408.3	Students can able to overcome the stage fear and time management during presentation
		C408.4	Graduates can able to make an impressive presentation which makes the easy communication with others
		C408.5	Students will be able to develop their skills for placement like stage fear, interaction with others, technical skills, communication and body language
61	tric Energy Utilization And on (EE6801)	C409.1	Familiar with the applications of electric motors for various domestic application and their characteristics.
		C409.2	Analyze the various design aspects of illumination system for different lighting scheme.
		C409.3	Classify the different methods of electric heating and electric welding and explain it.

S.NO	COURSE NAME	COURSE OUT COMES	
61	C409- Elec Generation, U Conservatio	C409.4	Summarize the electric energy generation using solar collectors.
		C409.5	Understand the basic components of wind energy conversion system and illustrate their performance.
62	C410- Power Electronics for Renewable Energy Systems (EE6009)	C410.1	Understand the knowledge about the stand alone and grid connected renewable energy systems
		C410.2	Derive the criteria for the design of power converters for renewable Energy applications.
		C410.3	Design different power converters namely AC to DC, DC to DC and AC to AC converters for renewable energy systems
		C410.4	Analyze and comprehend the various operating modes of wind electrical generators and solar energy systems.
		C410.5	Develop maximum power point tracking algorithms and wind energy systems
63	C411- Total Quality Management (GE6757)	C411.1	Outline the Dimensions and Barriers regarding with Quality.
		C411.2	Illustrate the TQM Principles.
		C411.3	Demonstrate Tools utilization for Quality improvement.
		C411.4	Explain the various types of Techniques are used to measure Quality.
		C411.5	Apply various Quality Systems and Auditing on implementation of TQM.
64	C412- Project Work (EE6811)	C412.1	Identify the real world problems of electrical engineering.
		C412.2	Understand the working of various models in the electrical engineering systems.
		C412.3	Apply the principles of electrical engineering in the real world systems.
		C412.4	Criticize and experiment to arrive at solution for the electrical engineering problems.
		C412.5	Explain the solution by effective presentation and involved active member in the team leads to lifelong learning.