



# Methodist College of Engineering and Technology

## Department of Electrical and Electronics Engineering

### Course Outcomes

AY: 2018-19

III Semester

Course Code	Course Name	Course Outcomes	Taxonomy
PC301EE	ELECTRICAL CIRCUITS-I	<b>Understand</b> network analysis, techniques using mesh and node analysis	Understand
		<b>Evaluate</b> steady state and transient behavior of network for AC excitations.	Evaluate
		<b>Analyze</b> electric circuits using network theorems	Analyze
		<b>Understand</b> the concept of coupled circuits and poly-phase circuits	Understand
		<b>Analyze</b> the transient behaviour of electrical networks for various excitations	Analyze
		<b>Discuss</b> a.c and d.c. theorems, Elaborate steady state and transient analysis of single phase and 3-phase circuits	Create
PC302EE	ELECTROMAGNETIC FIELDS	<b>Understand</b> the vector calculus for electromagnetism.	Understand
		<b>Apply</b> the electric fields for simple configurations under static conditions	Apply
		<b>Analyze</b> and apply the static magnetic fields.	Analyze
		<b>Analyze</b> the Electrical Circuits with the concept of Network topology	Analyze
		<b>Understand</b> Maxwell's equation in different forms and different media	Understand
		<b>Understand</b> the propagation of EM wave	Understand

PC303EE	DIGITAL ELECTRONICS LOGIC DESIGN	<b>Understand</b> and apply the Boolean algebra, including CMOS gates and arithmetic circuits.	Understand
		<b>Apply</b> combinational digital circuits for logic functions	Apply
		<b>Use</b> the concepts of Boolean Algebra for the analysis	Analyze
		<b>Design</b> various A/D and D/A converters	Create
		<b>Design</b> various logic gates starting from simple ordinary gates to complex programmable logic devices & arrays.	Create
		<b>Design</b> of sequential logic circuits	Create
BS301MT	MATHEMATICS-III	<b>Find</b> solutions of first order and second order partial differential equations.	Remember
		<b>Apply</b> Fourier series to find solutions of partial differential equations.	Apply
		<b>Analyze</b> a given function in the form of Fourier series	Analyze
		<b>Solve</b> functions of complex variables using Cauchy Reimann equations and Cauchy Integral Theorem	Apply
		<b>Determine</b> the analyticity of a complex functions and expand functions as Taylor and Laurent series.	Evaluate
		<b>Evaluate</b> real integrals using concept of residues, poles and residue theorem .	Evaluate
ES323ME	PRIME MOVERS AND PUMPS	<b>Understand</b> the fundamental aspects of fluid mechanics and thermal sciences	Understand
		<b>Understand</b> the basic types of hydraulic turbines, boilers, gas turbines and steam turbines their components, operation and their rated and off design performance characteristics	Understand
		<b>Analyze</b> the working principle of reciprocating pumps, centrifugal pumps, their performance over wide range of operations	Analyze
		<b>Evaluate</b> the efficiency, work done and power consumption of various types of Hydraulic turbines and pumps	Evaluate
		<b>Evaluate</b> the efficiency, heats input in boiler	Evaluate

		and work done of various types of steam turbines.	
		<b>Evaluate</b> the efficiency, heats input in Combustion Chamber and work done of various types of gas turbines.	Evaluate
MC916CE	ENVIRONMENT SCIENCES	<b>Synthesize</b> popular media reports/articles discussing environmental issues, and verbally discuss and defend their positions on scientific issues	Create
		<b>List</b> common and adverse human impacts on biotic communities, soil, water, and air quality and suggest sustainable strategies to mitigate these impacts	Remember
		<b>Apply</b> mathematical concepts, including statistical methods, to field and laboratory data to study scientific phenomena.	Apply
		<b>Design</b> and execute a scientific project.	Create
		<b>Understand</b> the importance of Environmental legislation policies.	Understand
		<b>Categorize</b> the types of environmental pollution and the various treatment technologies for the diminution of environmental pollutants and contaminants.	Analyse
ES361ME	MECHANICAL ENGINEERING LAB	<b>Understand</b> the working principles of Engines	Understand
		<b>Determine</b> the power developed and efficiencies of engines	Apply
		<b>Determine</b> the flash and fire points of a fuel.	Apply
		<b>Determine</b> the efficiencies of various pumps and turbines	Apply
		<b>Understand</b> the viscosity of various oils	Understand
		<b>Understand</b> valve timing and port timing diagrams	Understand
ES362 EC	ELECTRONIC ENGINEERING	<b>Calculate</b> ripple factor, efficiency and % regulation of rectifier circuits	Apply
		<b>Draw</b> Characteristics of different diodes	Create
		<b>Draw</b> single and multistage amplifier circuits	Create
		<b>Analyze</b> feedback amplifiers and BJT oscillator circuits	understand
		<b>Understand</b> negative and positive feedback circuits	understand
		<b>Design</b> single, multi-stage, wave shaping and power amplifier circuits	Evaluate

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**Course Outcomes**

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V Semester

Course Code	Course Name	Course Outcomes	Taxonomy
PC502EE	ELECTICAL MACHINES-II	<b>Summarize</b> the construction, working principle and performance of Transformers, 1-phase and 3-phase Induction Motors	Understand
		<b>Determine</b> the construction, working principle, performance, starting and speed control of 1-phase and 3-phase Induction Motors.	Evaluate
		<b>Identify</b> the construction, working principle and performance of Transformers and Induction motors.	Apply
		<b>Examine</b> the rating, testing and applications of single phase, three phase transformers.	Analyze
		<b>Adapt</b> the knowledge of Rotating magnetic field theory, Double field revolving theory	Create
		<b>Find</b> the equivalent circuit diagram of transformer, three-phase induction motor and single-phase induction motor	Remember
PC503EE	FACTS DEVICES	<b>Outline</b> the concepts of FACTS devices , types of FACTS devices	Understand
		<b>Compare</b> between Shunt and series and Current and Voltage source controllers	Understand
		<b>Develop</b> the understanding of suitability of the controllers in power systems.	Apply

		<b>Compare</b> the reactive power compensation between static shunt and static series compensators	Analyze
		<b>Survey</b> the range of static shunt , static series and Combined compensators	Analyze
		<b>Illustrate</b> the application of FACTS devices	Understand
PC501EE	POWER SYSTEMS-II	<b>Classify</b> the transmission lines and discuss the performance of short, medium and long transmission lines.	Create
		<b>Define</b> the occurrence of corona, corona losses and the methods to minimize corona losses in the transmission. lines	create
		<b>Choose</b> per unit values and apply for the analysis of symmetrical fault calculations.	Apply
		<b>Classify</b> and measure the different types of faults occurring on overhead transmission lines and calculate fault currents.	Evaluate
		<b>Elaborate</b> the reasons for the voltage variations, and Improve the voltage at the receiving end side.	Create
		<b>Explain</b> the causes of over voltages, natural impedances of different junction of lines and Develop methods to reduce transients in transmission lines.	Apply
PC505EE	ELECTRICAL MEASUREMENTS & INSTRUMENTATION	<b>Understand</b> different types of measuring instruments of voltage, current, Power factor, power, energy and magnetic measurements.	Understand
		<b>Understand</b> different types of measuring instruments of their construction, operation and Characteristics	Understand
		<b>Identify</b> the instruments suitable for typical measurements	Understand
		<b>Apply</b> the knowledge about transducers and instrument transformers to use them effectively.	Apply
		<b>Develop</b> an understanding of construction and working of different AC and DC bridges and its applications	Evaluate

		<b>Identify</b> the instruments suitable for typical measurements	Understand
PC504EE	LINEAR CONTROL SYSTEMS	<b>Understand</b> the concept of the terms control systems, feedback, Mathematical modeling of Electrical and Mechanical systems.	Understand
		<b>Explain</b> the time domain and frequency response analysis of control systems.	Evaluate
		<b>Apply</b> the knowledge of various analytical techniques used to determine the stability of control systems.	Apply
		<b>Understand</b> the importance of design of compensators	Create
		<b>Demonstrate</b> controllability and observability of modern control systems.	Understand
		<b>Understand</b> and develop the state space representation of control systems.	Apply
PC505EE	DIGITAL SIGNAL PROCESSING & APPLICATIONS	<b>Classify</b> discrete-time signals and discrete-time systems and determine the response of discrete-time system to a given input.	Understand
		<b>Solve</b> the frequency response of the discrete-time system by applying z-transform to the systems	Apply
		<b>Determine</b> the Discrete-Time Fourier Transform of discrete-time systems	Evaluate
		<b>Find</b> the Discrete Fourier Series coefficients of discrete-time signals and represent discrete-time systems in terms of Discrete Fourier Series coefficients	Remember
		<b>Modify</b> the method of evaluating the Discrete Fourier Transform of discrete-time signals by using Fast Fourier Transform, thereby reducing the computational efforts	Create
		<b>Analyze</b> the characteristics of digital Finite Impulse Response (FIR) filters and digital Finite Impulse Response (FIR) filters and design digital Finite Impulse Response (FIR) filters and digital Infinite Impulse Response (IIR) filters	Analyze

PC553EE	CIRCUITS & MEASUREMENTS LAB	<b>Examine</b> the KCL, KVL theorems for a given circuit theoretically and practically	Analyze
		<b>Simplify</b> the complicated circuits using Thevenin's, Norton's and Superposition theorems.	Analyze
		<b>Formulate</b> the current and voltage equations for two port networks.	Create
		<b>Estimate</b> the resistance, inductance and capacitance using various bridges.	Create
		<b>Measure</b> the energy, power and power factor of the given circuits using wattmeter, ammeter and voltmeter	Evaluate
		<b>Make use of</b> CRO for finding out the amplitude, frequency and phase of waveforms	Apply
PC552EE	POWER ELECTRONICS LAB	Classify and <b>design</b> different triggering circuits of SCR and MOSFET.	Create
		<b>Analyze</b> different commutation circuits of SCR	Analyze
		Understand and <b>make use of</b> controlled rectifiers to control the speed of DC motors	Apply
		Understand the <b>applications</b> of cycloconverters and AC voltage controllers	Apply
		<b>Analyze</b> and develop pulses for IGBT based inverters	Analyze
		<b>Design</b> and Simulate different circuits of power electronics using MATLAB software	Create
PC551 EE	ELECTRICAL MACHINES-I LAB	<b>Apply</b> and <b>Conclude</b> the principles of Electrical Machines through laboratory experimental work.	<b>Evaluate</b>
		<b>Construct</b> the circuit to perform experiments, measure, analyze the observed data & come to a conclusion.	<b>Apply</b>
		<b>Organize</b> reports based on performed experiments with effective demonstration of diagrams and characteristics /graph	<b>Apply</b>
		<b>Demonstrate</b> the starting & speed control of various DC motors	<b>Understand</b>
		<b>Determine</b> efficiency & voltage regulation of electrical machines by various test.	<b>Evaluate</b>
		<b>Compare</b> the performance characteristics of different electrical machines.	<b>Analyze</b>

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Outcomes

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PC403EE	ELECTRICAL MACHUNE DESIGN	<b>Demonstrate</b> the knowledge of basic conducting, insulating and magnetic materials required for design of rotating electrical machines and Transformers	Understand
		<b>Distinguish</b> the differences in different manufacturing practices of dc and ac machines.	Analyze
		<b>Identify</b> and assess the general overall design parameters of the machines and transformers based on rating name plates.	Apply
		<b>Identify</b> suitable alternatives based on key requirements spelt out in the query.	Apply
		<b>Knowledge</b> about the various types of electrical machines design for ac & dc machines to choose for their applications.	Apply
		<b>Determine</b> the use of computer in CAD / iterative design of electrical machines for optimum performance.	Evaluate
PC401EE	POWER SYSTEM OPERATION AND CONTROL	<b>Solve</b> load flow by appropriate modeling of the given power system and formulation of Ybus.	Apply
		<b>Evaluate</b> generation mix for economic operation with and without transmission losses.	Evaluate
		<b>Explain</b> load frequency control and estimate the frequency deviation through modeling.	Understand
		<b>Analyse</b> and describe different types of power system stability and establish SSSL.	Analyse



		<b>Identify</b> various methods of voltage control and study the reactive power compensation.	Apply
		<b>Design</b> the railway steel bridges and bridge bearings.	Create
PE402EE	ELECTRIC DRIVES AND STATIC CONTROL	List different loads and <b>Illustrate</b> four quadrant operations ,steady state and transient analysis and to control/modify speed torque characteristics of different DC drives	Understand
		<b>Classify</b> single quadrant, two quadrant, four quadrant operations braking and starting methods of DC drives and Speed control methods of AC and DC drives	Understand
		<b>Make use of</b> static control for DC drives and closed loop operation of DC motors and solve problems on it and understand special motors like BLDC and SRM drives and their applications	Apply
		<b>Make use of</b> Static control for AC drives like Induction and Synchronous motor drives and Construction of different types of Scherbius and Kramer drives for speed and torque control of drives.	Apply
		<b>Analyze</b> different topologies to Power electronic drives (PWM,VFI,CSI) and to Modify Power electronic circuits according to real time applications	Analyze
		<b>Determine</b> the control parameters ( with the help of numerical) for DC and AC drives by using Mathematical equations	Evaluate
PC406EE	POWER QUALITY	<b>Formulate</b> the network matrices using Graph Theory and Model the power system components.	Apply
		<b>Apply</b> Load flow analysis to an Electrical Power Network and interpret the results of the analysis	Apply
		<b>Analyse</b> different types of Faults in Power System.	Analyse
		<b>Compare</b> Symmetrical and Unsymmetrical Faults in power system.	Analyse
		<b>Identify</b> Steady state and transient state stability analysis in power system.	Understand
		<b>Apply</b> Load flow analysis to an Electrical Power Network and interpret the results of the analysis	Apply
EE431	ELECTRICAL SIMULATION	<b>Compose (Write)</b> MATLAB code using some basic commands.	Create
		<b>Develop</b> MATLAB code for analyzing power system network by obtaining line parameters, Z, Y matrices, and	Apply

	LAB	Economics of power systems	
		Simulate the concepts of Electrical Circuits, to <b>design</b> a led, lag, led and lag compensator and obtain the characteristics by Control Systems and interpret data.	Create
		<b>Demonstrate (Determine)</b> the knowledge of programming environment, compiling, debugging, linking and executing variety of programs in MATLAB.	Evaluate
		Demonstrate ability to <b>develop</b> Simulink models for various electrical systems.	Apply
		Validate simulated results from programs/Simulink <b>models</b> with theoretical calculations.	Apply
EE432	MPMC LAB	<b>Adapt</b> the knowledge of Architecture of 8086 and 8051, writing assembly language programming for different applications	Create
		<b>Explain</b> types of microcontrollers and their applications	Understand
		<b>Develop</b> programs to run on 8086 microprocessor based systems	Apply
		<b>Define</b> the techniques for faster execution of instructions, improve speed of operations and enhance performance of microprocessors	Remember
		<b>Interpret</b> the difference between Microprocessors and Microcontrollers	Evaluate
		<b>Simplify and design</b> systems using memory chips and peripheral chips for 16-bit 8086 microprocessors	Create
EE433	POWER SYSTEMS LAB	<b>Interpret</b> positive, negative and zero sequence Impedance of Transformer and Alternator	Understand
		<b>Analyze</b> the performance of transmission lines	Analyze
		<b>Determine</b> the dielectric strength of oil and the efficiency of string insulators	Evaluate
		<b>Explain</b> Voltage and current relay settings	Understand
		<b>Measure</b> the capacitance of three core cable	Evaluate
		<b>Understand</b> the operation Differential protection of transformer	Understand
EE434	PROJECT SEMINARS	<b>Demonstrate</b> the ability to synthesize and apply the knowledge and skills acquired in the academic program to real-world problems	Understand
		<b>Evaluate</b> different solutions based on economic and technical feasibility for the needs of society	Evaluate
		Effectively <b>communicate the selected technology topics</b> to	Create

		excel in the career chosen.	
		<b>Demonstrate</b> effective written and oral communication skills	Understand
		<b>Explore</b> the industry practices	Evaluate
		<b>Enhance</b> practical and professional skills.	Evaluate

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AY: 2018-19

IV Semester

<b>Course Code</b>	<b>Course Name</b>	<b>Course Outcomes</b>	<b>Taxonomy</b>
PC401EE	ELECTRICAL CIRCUITS -II	<b>Apply</b> Fourier series representation to electrical networks	Apply
		<b>Evaluate</b> of Laplace transform of common time functions and electrical networks	Evaluate
		<b>Explain</b> given electrical circuits in terms of ABCD, Z, Y & h- Parameter model and solve the circuits	Evaluate
		<b>Analyse</b> the Electrical Circuits with the concept of Network topology	Analyze
		<b>Classify</b> different types of network functions	Understand
		<b>Synthesize</b> the RL and RC circuits	Create
PC402EE	ELECTRICAL MACHINES-I	<b>Identify</b> different parts of a DC machine & understands its operation	Understand
		<b>Operation</b> of the transformers in the energy conversion process.	Analyze
		<b>Carry out</b> different testing methods to predetermine the efficiency of DC machines	Create
		<b>Understand</b> different excitation and starting methods of DC machines	Evaluate
		<b>Apply</b> different voltage and speed control methods a DC machines	Apply
		<b>Identify</b> different parts of a DC machine & understands its operation	Understand
PC403EE	POWER SYSTEMS-I	<b>Explain</b> to the power /Energy demand in the form of graph Base Load and Peak Load	Understand
		<b>Formulate</b> A.C and D.C distribution networks for necessary variable calculation	Create
		<b>Make use of</b> Understand and acquire knowledge about various power generation.	Apply
		<b>Discuss</b> to Ability of various power sources for generation of power Merit/Demerits	Create
		<b>Analyze</b> to Supports sag and tension and String efficiency.	Analyze
		<b>Modeling</b> and calculating of transmission line parameters and power system components for a specified system and application	Analyze

PC404EE	POWER ELECTRONICS	<b>Identify</b> and examine different power semiconductor switching devices and to draw its characteristics.	Analyze
		<b>Illustrate</b> the various power switching devices, characteristics and applications.	Understand
		<b>Design</b> different types of power electronic converters, choppers, AC voltage controller and Cyclo-Converter.	Create
		<b>Determine</b> and identify the characteristic points of power electronics devices.	Evaluate
		<b>Find</b> the performance of power electronic devices.	Remember
BS401MT	MATHEMATICS-IV	<b>Solve</b> non linear equations, system of linear equations and ordinary differential equations numerically.	Apply
		<b>Evaluate</b> certain types of improper integrals.	Evaluate
		<b>Find</b> Fourier transforms, Fourier Sine, Cosine Transforms, Fourier Integrals of functions	Remember
		<b>Solve</b> problems of F, Z-transforms	Apply
		<b>Apply</b> various probability distributions to solve practical problems, to estimate unknown parameters of populations and apply the tests of hypotheses.	Apply
		<b>Perform</b> a regression analysis and to compute and interpret the coefficient of correlation.	Understand
HS401BM	MANAGERIAL ECONOMICS & ACCOUNTANCY	<b>Understand</b> the responsibility of a manager and fundamental concepts of Managerial Economics.	Understand
		<b>Understand</b> demand analysis and determinants of demand.	Understand
		<b>Analyze</b> production & markets and compute the future sales level.	Analyse
		<b>Understand</b> the features, merits, uses & limitations of Pay back , ARR, NPV, PI & IRR methods of capital budgeting.	Understand
		<b>Understand</b> the Principles of accounting and prepare Journal, Ledger, Trial balance, manufacturing	Understand
		<b>Understand</b> the responsibility of a manager and fundamental concepts of Managerial Economics.	Understand
PC452EE	CAED LAB	<b>Identify</b> and draw different components of electrical systems	Apply
		<b>Draw</b> different control and wiring diagrams	Create
		<b>Draw</b> winding diagrams of electrical machines	create
		<b>To understand</b> the terminology of electric circuit and electrical components	understand
		<b>Familiarize</b> with electrical machines, apparatus and	understand

		appliances	
		<b>To acquire</b> knowledge on various Electrical Engineering software	Evaluate

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AY: 2018-19

VI Semester

Course Code	Course Name	Course Outcomes	Taxonomy
PC601EE	ELECTRICAL MACHINES-III	<b>Identify</b> different parts and operation of induction motors and specify their functions	Understand
		<b>Understand</b> the characteristics and carry out different testing methods of induction motors	Understand
		<b>Identify</b> different parts and operation of Synchronous generator	Apply
		<b>Understand</b> the necessity and working of parallel operation of synchronous generator and operation of synchronous motor	Apply
		<b>Identify</b> types of single phase motors and special motors	Understand
		<b>Identify</b> different parts and operation of induction motors and specify their functions	Understand
PC602EE	MICROPROCESSORS AND MICROCONTROLLERS	<b>Adapt</b> the knowledge of Architecture of 8086 and 8051, writing assembly language programming for different applications.	Create
		<b>Explain</b> types of microcontrollers and their applications.	Understand
		<b>Develop</b> a write programs to run on 8086 microprocessor based systems.	Apply
		<b>Define</b> the techniques for faster execution of instructions, improve speed of operations and enhance performance of microprocessors.	Remember
		<b>Interpret</b> the difference between Microprocessors and Microcontrollers.	Evaluate
		<b>Simplify</b> and design system using memory chips and peripheral chips for 16-bit 8086 microprocessor.	Create
PC603EE	SWITCHGEAR AND PROTECTION	<b>Understand</b> the operations of various types of circuit breakers and their ratings.	Understand
		<b>Understand</b> the unit protection and over voltage protection of different apparatus in power system	Understand
		<b>Explain</b> the working of different types of switchgear equipments like circuit breakers and relays	Apply
		<b>Elucidate</b> various protection schemes of various power system components like alternators, transformers and bus-bars	Apply
		<b>To get</b> the thorough knowledge on concept of	Analyze

		earthing and grounding.	
		<b>Understand</b> the operations of various types of circuit breakers and their ratings.	Understand
PC604EE	RENEWABLE ENERGY TECHNOLOGIES	<b>Understand</b> Knowledge of working principle of various energy systems	Remember
		<b>Capable</b> to carry out basic design of renewable energy system	Apply
		<b>Analyze</b> the environmental and cost economics of renewable energy sources in comparison with fossil fuels	Analyze
		<b>Explain</b> the concepts of Non-renewable and renewable energy systems	Applying
		<b>Outline</b> utilization of renewable energy sources for both domestic and industrial applications	Understand
		<b>Knowledge</b> of working principle of various energy systems	Understand
PE602EE	ELECTRIC DISTRIBUTION SYSTEM	<b>Analyze</b> load characteristics, rate structure & types of Distribution Transformers	Analyze
		<b>Analyze</b> and Solve Sub-Transmission lines and Various substation Bus schemes with multiple feeders.	Analyze
		<b>Analyze</b> the design considerations of Distribution systems	Analyze
		<b>Compute</b> voltage drop , power loss calculations & justify placement of capacitor in distribution system	Analyze
		<b>Formulate</b> Distribution automation like SCADA & Automatic meter reading(AMR)	Formulate
		<b>Justify</b> the placement of feeders	Evaluate
OE 601 ME	INDUSTRIAL ROBOTICS	<b>Understand</b> the mechanical structure of industrial robots, operational workspace, various types of grippers, design considerations.	Understand
		<b>Compare</b> the various types of grippers, sensors and Analyze the best and economical sensors for specific applications.	Analyze



		<b>Analyze</b> forward and inverse kinematics problems for serial and parallel robots.	Apply
		<b>Understand</b> the techniques of robot vision, various programming languages and apply these techniques to build robots.	Apply
		<b>Understand</b> about RGV and AGV , safety considerations and economic analysis of robots	Understand
		<b>Categorize</b> an industrial robot for a given purpose economically.	Analyze
PC651EE	ELECTRICAL MACHINES-II LAB	<b>Verify</b> the theory and working of electrical machines through laboratory experimental work.	Understand
		<b>Make</b> circuit diagram connections to perform experiments, measure, <b>analyze</b> the observed data to come to a conclusion.	Evaluate
		<b>Organize</b> reports based on performed experiments with effective demonstration of diagrams and characteristics/graphs.	Analyze
		<b>Determine</b> the different parameters of a three-phase alternator and its regulation	Understand
		<b>Determine</b> the different parameters of a three-phase synchronous motor as well as its 'V' and 'inverted V' curves	Analyze
		<b>Compare</b> the performance characteristics of different electrical machines.	Create
PC653EE	CONTROL SYSTEMS LAB	<b>Understand</b> Performance of P, PI and PID Controllers.	Understand
		<b>Develop</b> PLC programs for certain applications.	Apply
		<b>Make use of</b> the knowledge of Data acquisition system and Industrial process control in real world.	Apply
		<b>Develop</b> transfer function of various control system plants practically by conducting the experiments.	Apply
		<b>Design</b> and Simulate the Programming and control system concepts using MATLAB.	Create
		<b>Design</b> of lag and lead compensation by using Networks.	Create
PC652EE	DSP LAB	<b>Compute</b> and write MATLAB code to generate basic waves	Apply

		<b>Compute</b> and write MATLAB code to apply sampling theorem, to obtain convolution and compute DFT and FFT	Apply
		Compute and write MATLAB code to <b>design</b> FIR and IIR filters	Create
		<b>Compute</b> and write MATLAB code to obtain convolution of sequences	Apply
		<b>Compute</b> and write MATLAB code to perform basic operations on basic waves	Apply
		<b>Compute</b> and write MATLAB code to obtain Impulse response	Apply
SI671EE	SUMMER INTERNSHIPS	<b>Design</b> a small and simple product in hardware or software	Create
		<b>Complete</b> the task or realize a prespecified target, with limited scope, rather than taking up a complex task and leave it	Apply
		<b>Learn</b> to find alternate viable solutions for a given problem and evaluate these alternatives with reference to prespecified criteria	Evaluate
		<b>Implement</b> the selected solution and document the same	Create
		<b>Integrate</b> different aspects of learning with reference to real life problems.	Understand
		<b>Enhance</b> the confidence of the students while communicating with industry engineers	Understand

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VIII Semester

Course Code	Course Name	Course Outcomes	Taxonomy
PE451EE	UTILIZATION OF ELECTRICAL ENGINEERING	<b>Design</b> major utilization loads, choose suitable drive with regard to efficiency and safety	Understand
		<b>Describe</b> different heating methods for a particular application.	Understand
		<b>Apply</b> modern trends in electric welding processes	Analyze
		<b>Understand</b> illumination concepts for efficient and economic lightning in industries streets and offices.	Analyze
		<b>Analyze</b> electric traction motors with wide range of speed control	Analyze
		<b>Design</b> major utilization loads, choose suitable drive with regard to efficiency and safety	Apply
PE471EE	RENEWABLE ENERGY SOURCES	<b>List</b> and Compare the various forms of non conventional energy resources and availability of all sources	Understand
		<b>Explain</b> the solar energy applications and calculations of solar energy	Understand
		<b>Analyze</b> how wind energy can be tapped from the nature and it's calculations	Analyze
		<b>Outline</b> the Geothermal & Biomass, its mechanism of production of energy and its applications	Understand
		<b>Illustrate</b> the concepts of Wave, Tidal energy & OTEC	Understand
		<b>Analyze</b> the environmental aspects of renewable energy resources.	Analyze
ME 472	INDUSTRIAL ADMINISTRATION & FINANACIAL MANAGEMENT	<b>Understand</b> types of various business organizations, organization structures, and functions of management and the importance of plant layouts.	Understand
		<b>Understand</b> and Apply the concept of Work Study (method study and time study) techniques for calculation of standard time in a plant, and the concept of performance rating factors & types of	Apply

		ratings.	
		<b>Evaluate</b> whether the quality of a product or process in a plant.	Evaluate
		<b>Understand</b> and Apply the optimization techniques like Linear Programming, Assignment and Project management & Material Management techniques for optimum utilization of the resources.	Apply
		<b>Know</b> the different terminology used in Financial Management, understand and apply break even analysis and different techniques of capital budgeting involved in running an industrial organization.	Apply
		<b>Understand</b> the concepts of Quality control, process control, material control, Production Planning control and by use of control charts	Understand
CE452	DISASTER MITIGATION MANAGEMENT	<b>Attain</b> knowledge on various types, stages, phases in disaster with international & national policies & programmes with reference to the disaster reduction	Understand
		<b>Understand</b> various types of natural disaster, their occurrence, Effects, Mitigation and Management Systems in India	Understand
		<b>Understand</b> different types of manmade disasters, their occurrence, Effects, Mitigation and Management Systems in India	Understand
		<b>Explain</b> the utility of geographic information systems (GIS), Remote sensing technology in all phases of disaster mitigation and management	Understand
		<b>Understand</b> on the concepts of risk, vulnerability, warning and forecasting methods in disaster management	Understand
		<b>Understand</b> the role of education and training in disaster prevention.	Understand
EE481	DIGITAL SIGNAL PROCESSING LAB	Compute and write MATLAB code to generate basic waves	Apply
		Compute and write MATLAB code to apply sampling theorem, to obtain convolution and compute DFT and FFT	Apply

		Compute and write MATLAB code to design FIR and IIR filters	Create
		Compute and write MATLAB code to obtain convolution of sequences	Apply
		Compute and write MATLAB code to perform basic operations on basic waves	Apply
		Compute and write MATLAB code to obtain Impulse response	Apply
EE 482	PROJECTS	Rephrase the basic concepts of electrical engineering and discover the implementation	Analyse
		Develop the design and analysis of a particular problem in project	Apply
		Formulate the programming and interpret the project	Create
		Develop the hardware	Create
		Perceive the practical knowledge within the chosen area of technology for project development	Evaluate
		Evaluate different solutions based on economic and technical feasibility	Create
EE 483	SEMINARS	<b>Demonstrate</b> the ability to synthesize and apply the knowledge and skills acquired in the academic program to real-world problems	Understand
		<b>Evaluate</b> different solutions based on economic and technical feasibility for the needs of society	Evaluate
		Effectively <b>communicate the selected technology topics</b> to excel in the career chosen.	Create
		<b>Demonstrate</b> effective written and oral communication skills	Understand
		<b>Explore</b> the industry practices	Evaluate
		<b>Enhance</b> practical and professional skills.	Evaluate

Coordinator

Head of the Department