GEETHANJALI INSTITUTE OF SCIENCE & TECHNOLOGY::Nellore
Department of Electrical and Electronics Engineering

Course Outcomes

CAY : 2022-23	REG : R20		Year /Sem: II -I

SNO	Course Outcome Statement	Taxonomy
SPECIFIC LEARNING OUTCOMES – **Complex Variables & Transforms**		
C211.1	Find the analytic functions using C-R equations, the image using conformal mapping and bi-linear transformation.	Apply
C211.2	Use Cauchy's theorem, Cauchy's integral formula and Cauchy's residues theorem to evaluate complex integrations and expansion of complex functions using Taylor's and Laurent's series.	Apply
C211.3	Define Laplace and inverse Laplace transforms of various functions and solve ordinary differential equations using Laplace transform.	Apply
C211.4	Determine Fourier series of periodic functions in a given interval and Parseval's formula- Complex form of Fourier series.	Apply
C211.5	Find the Fourier Transform of certain functions.	Understand
C211.6	Solve the difference equations using Z-Transforms.	Apply
SPECIFIC LEARNING OUTCOMES – **Electrical Circuits Analysis**		
C212.1	Understand the concepts of Locus diagrams and resonance with parameters variation	Understand
C212.2	Apply Network Reduction Techniques for finding two port parameters	Apply
C212.3	Analyse of RL.RC and RLC circuits with AC Excitation	Analyse
C212.4	Analyse of RL.RC and RLC circuits with DC Excitation	Analyse
C212.5	Analyse Fourier series and Fourier Transform of Non sinusoidal sources	Analyse
C212.6	Analysis Different types of Filters and Equalizers.	Analyse
SPECIFIC LEARNING OUTCOMES – **DC Machines & Transformers**		
C213.1	Understand the concepts of magnetic circuits.	Understand
C213.2	Able to understand the construction, operation and armature windings of a DC generator	Understand
C213.3	Able to understand the operation of a DC motors.	Understand
C213.4	Able to analyze speed control of DC motors, testing methods and parallel operation of DC machines	Analyze
C213.5	Analyse single phase transformers circuits.	Apply
C213.6	Analyse three phase transformers circuits.	Analyze
SPECIFIC LEARNING OUTCOMES – **Digital Logic Design**		

C214.1	Understand the properties of Boolean algebra, other logic operations, and minimization of Boolean functions	Understand
C214.2	Analyze the concepts of minimization of Boolean functions using karnaugh map	Analyze
C214.3	Analyze the Combinational logic circuits	Analyze
C214.4	Analyze the Sequential logic circuits	Analyze
C214.5	Realization of FSM and PLDs	Understand
C214.6	Develop digital circuits using HDL and verilog	Analyze
SPECIFIC LEARNING OUTCOMES – **Managerial Economics and Financial Analysis**		
C215.1	Explain the role and responsibilities of a managerial economist in modern business scenario.	Understand
C215.2	Applythe demand of a product by using demand forecasting methods.	Apply
C215.3	Calculate the Break Even Point (BEP) with the help of production and cost analysis.	Apply
C215.4	Explain their learnings about competitive markets and business economic environment.	Understand
C215.5	Apply the process of selection of investment alternatives using different appraisal methods	Apply
C215.6	Examine the process of preparing financial statements to know financial position of the firm.	Analyze
SPECIFIC LEARNING OUTCOMES – **Electrical Circuit Analysis Lab**		
C216.1	Explain Various Resonance Phenomenon Circuits	Apply
C216.2	Understand and Analyze Various Current Locus Diagrams	Analyse
C216.3	Apply Experimentally for finding Two port parameters	Apply
C216.4	Experimentally verify AC and DC circuits.	Apply
C216.5	Analyse Various circuits using DC Excitation	Analyse
C216.6	Analyse Various circuits using AC Excitation	Analyse
SPECIFIC LEARNING OUTCOMES – **DC Machines & Transformers Lab**		
C217.1	Conduct and analyze load test on DC generators	Apply
C217.2	Understand and analyze magnetization characteristics of DC shunt Generator	Understand
C217.3	Understand and analyze speed control techniques of DC machines	Understand
C217.4	Understand and analyze efficiency of DC machines by direct method	Understand
C217.5	Understand and analyze efficiency of DC machines by indirect method.	Understand
C217.6	Understand to predetermine efficiency and regulation of single phase Transformers	Understand
SPECIFIC LEARNING OUTCOMES – **Digital Logic Design Lab**		
C218.1	Understand the pin configuration of various digital ICs used in the	Understand

	lab	
C218.2	analyze the logic circuits	Analyze
C218.3	Conduct the experiment and verify the properties of various logic circuits	Analyze
C218.4	Analyze the sequential and combinational circuits	Analyze
C218.5	Design of any sequential circuit using Hardware/ HDL	Apply
C218.6	Design of any combinational circuit using Hardware/ HDL	Apply
SPECIFIC LEARNING OUTCOMES – **Skill oriented Course –I (Python)**		
C219.1	Interpret the basic concepts, modular approaches to solve the problems.	Understand
C219.2	Apply the concepts of conditional execution, recursion, built in functions, turtle to solve the problems	Apply
C219.3	Define and demonstrate the use of built-in String functions	Remember
C219.4	Apply python programs to read and write data from/to files.	Apply
C219.5	Summarize various data structures like Lists, Dictionaries, Tuples and its applications.	Understand
C219.6	Identify Python classes, objects, inheritance, goodies	Apply
SPECIFIC LEARNING OUTCOMES – **Universal Human Values**		
C2110.1	Understand the need, concept and content of value-education individual's life and modifies their aspiration for happiness & prosperity	Understand
C2110.2	Comprehend the term self-exploration and its application for self-evaluation and devolpment.	Understand
C2110.3	Reconstruct the concepts about different values and discriminate between them.	Understand
C2110.4	Understand the concept of co-existence & evaluate the program to ensure self regulation.	Understand
C2110.5	Identify the holistic perception of harmony at level of self, family, society, nature .	Understand
C2110.6	ofessional ethics in their future profession & contribute for making a value based society	Remember

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Department of Electrical and Electronics Engineering

Course Outcomes

CAY : 2022-23	Reg : R20	SEM : I	Year : III

SNO	Course Outcome Statement	Taxonomy
SPECIFIC LEARNING OUTCOMES – Power Systems Architecture		
C311.1	Remember and understand the concepts of conventional and nonconventional power generating systems	Remember
C311.2	Apply the economic aspects to the power generating systems.	Apply
C311.3	Analyse the transmission lines and obtain the transmission line parameters and constants.	Analyse
C311.4	Design and Develop the schemes to improve the generation and capability of transmission line to meet the day to day power requirements.	Analyse
C311.5	Design of Distribution Feeders, Voltage Drop and power loss in A.C. Distributors.	Analyse
C311.6	Explain different types of Substations, Various arrangements in Substations	Remember
SPECIFIC LEARNING OUTCOMES – Control Systems		
C312.1	Evaluate the transfer function model for physical systems and control system components	Evaluate
C312.2	Determine the transfer function for a given system using block diagram and signal flow graph methods	Apply
C312.3	Compute the time response of systems and steady state errors	Apply
C312.4	Determine the absolute and relative stability of a system using RH and Root loci concepts.	Analyze
C312.5	Analyse the stability of the system and design compensation networks	Analyze
C312.6	Describe the state variable representation of physical system and solve the state equation	Apply
SPECIFIC LEARNING OUTCOMES – Measurements & Sensors		
C313.1	Understand the operation of different instruments, different types of errors and their compensation and analyze the different operation of extension range ammeters and voltmeters	Understand
C313.2	Understand the concepts of measurement of active and reactive powers using wattmeters, Distinguish between low and high power factor ranges in watt meters and working of different types of power factor meters	Understand
C313.3	Understand the working principles and construction of different types of Energy meters and Distinguish between CTs and PTs, Determination of ration and phase angle errors	Understand
C313.4	Distinguish between DC and AC potentiometers, Design the various voltage and current measuring instruments for the various electric / magnetic field applications and Identify errors in measurements and to mitigate them for desired precision and	Apply

	accuracy	
C313.5	Understand the bridge configurations and their applications for various ranges of resistance measurement, unknown parameters of Inductance, unknown parameters of Capacitance using the bridges, and Identify errors in measurements and to mitigate them for desired precision and accuracy	Evaluate
C313.6	Analyze different characteristics of periodic and a periodic signals using CRO and Know about Digital Instruments and sensors	Analyse
SPECIFIC LEARNING OUTCOMES – Power Electronics Drives		
C314.1	Understand the Electrical Drive system and its components and their importance	Understand
C314.2	Understand the dynamics of Electrical drives	Understand
C314.3	Analyze the speed control of DC motor with single phase and three phase controlled rectifiers	Analyze
C314.4	Apply the knowledge of Choppers for speed control of DC Motors.	Apply
C314.5	Understand the speed control of induction motor with variable voltage and frequency control	Understand
C314.6	Understand the speed control of synchronous motor drives Using Inverters	Understand
SPECIFIC LEARNING OUTCOMES – Java Programming		
C315.1	Demonstrate the installation and usage of Java software	Understand
C315.2	Illustrate the programming constructs in java	Understand
C315.3	Demonstrate the object oriented concepts in java	Understand
C315.4	Demonstrate the concepts of exception handling and multithreading in java	Understand
C315.5	Illustrate the concept of files in java	Apply
C315.6	Illustrate the usage of AWT, Swings and JDBC	Apply
SPECIFIC LEARNING OUTCOMES – Control Systems Lab		
C316.1	Design the controllers/compensators to achieve desired specifications	Apply
C316.2	Understand the effect of location of poles and zeros on transient and steady state behavior of systems	Understand
C316.3	Assess the performance, in terms of time domain specifications, of first and second order systems.	Evaluate
C316.4	Design PID controllers for given control system model	Apply
C316.5	Determine the response of a given control system model	Apply
C316.6	Use MATLAB/SIMULINK software for control system analysis and design	Apply
SPECIFIC LEARNING OUTCOMES – Measurements & Sensors Lab		
C317.1	Calibrate various electrical measuring/recording instruments	Evaluate
C317.2	Determine ratio error and phase angle error of CT	Apply
C317.3	Accurately determine the values of inductance and capacitance using a.c bridges	Understand
C317.4	Accurately determine the values of very low resistances	Apply
C317.5	Analysis based on comparing true and actual value of potentio meter and power factor meter.	Analyse
C317.6	Measure reactive power in 3-phase circuit using single wattmeter	Evaluate
SPECIFIC LEARNING OUTCOMES – Soft skills		
C318.1	Understand the context, topic, and pieces of specific information from	Understand

	social or transactional dialogues spoken by native speakers of English	
C318.2	Apply grammatical structures to formulate sentences and correct word forms	Applying
C318.3	Analyze discourse markers to speak clearly on a specific topic in informal discussions	Analyzing
C318.4	Evaluate reading/listening texts and to write summaries based on global comprehension of these texts.	Evaluate
C318.5	Create a coherent paragraph interpreting a figure/graph/chart/table	Create
C318.6	Develop better speaking skills among students through participation in structured talks/oral presentations.	Create
SPECIFIC LEARNING OUTCOMES – Evaluation of Community Service Project		
C319.1	Students should understand the living conditions of the people who are around them	Understand
C319.2	Students should understand societal consciousness, attitudinal change, sensibility, responsibility and accountability.	Understand
C319.3	Students should understand the aware of their inner strength and help them to find new /out of box solutions to the social problems.	Understand
C319.4	Students should understand how to be as socially responsible citizens	Understand
C319.5	Develop activities in the community in coordination with public and government authorities.	Apply
C319.6	Develop a holistic life perspective among the students.	Apply

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GEETHANJALI INSTITUTE OF SCIENCE & TECHNOLOGY::NELLORE

Department of Electrical and Electronics Engineering

Course Outcomes

CAY : 2022-23	Reg : R19	SEM : I	Year : IV

SNO	Course Outcome Statement	Taxonomy
SPECIFIC LEARNING OUTCOMES – Measurements & Sensors		
C411.1	Understand the operation of different instruments, different types of errors and their compensation and analyze the different operation of extension range ammeters and voltmeters	Understand
C411.2	Understand the concepts of measurement of active and reactive powers using wattmeters, Distinguish between low and high power factor ranges in watt meters and working of different types of power factor meters	Understand
C411.3	Understand the working principles and construction of different types of Energy meters and Distinguish between CTs and PTs, Determination of ration and phase angle errors	Understand
C411.4	Distinguish between DC and AC potentiometers, Design the various voltage and current measuring instruments for the various electric / magnetic field applications and Identify errors in measurements and to mitigate them for desired precision and accuracy	Apply
C411.5	Understand the bridge configurations and their applications for various ranges of resistance measurement, unknown parameters of Inductance, unknown parameters of Capacitance using the bridges, and Identify errors in measurements and to mitigate them for desired precision and accuracy	Evaluate
C411.6	Analyze different characteristics of periodic and a periodic signals using CRO and Know about Digital voltmeters measurement of speed using Tachometer and to distinguish between analog and digital ones	Analyse
SPECIFIC LEARNING OUTCOMES – Power Systems Protection		
C412.1	Understand the operation & Importance of Fuses & Circuit breakers	Understand
C412.2	Solve numerical problems for arc interruption and recovery in circuit breakers	Understand
C412.3	Discuss the principles of operation of electromagnetic relays, static relays and microprocessor based relays	Understand
C412.4	Analyse the protection system for transformers & generator	Analyse
C412.5	Determine the unprotected percentage of generator winding under fault occurrence	Apply
C412.6	Identify various types of the relays in protecting feeders, lines and bus bars	Remember

SPECIFIC LEARNING OUTCOMES – Power System Operation and Control		
C413.1	Design an optimal operation setup of power system which minimizes operation costs and meet desired needs.	Analyse
C413.2	Illustrate about thermal and hydro power plants operation in meeting the load demand optimally.	Analyse
C413.3	Discuss single area load frequency control and two area load frequency control.	Understand
C413.4	Apply the techniques to control power flows, frequency and voltage	Apply
C413.5	Differentiate pricing mechanism of electric energy and trading of power under deregulated environment.	Understand
C413.6	Assess the significance of power system restructuring and learn the Security Analysis, Contingency Analysis.	Evaluate
SPECIFIC LEARNING OUTCOMES – Principals of Digital Signal Processing		
C414.1	Classify various types of discrete time signals and systems	UNDERSTAND
C414.2	Use discrete Fourier Transforms (DFT) to a processing system to give the desired output.	APPLY
C414.3	Determine FFT algorithms in rapid frequency-domain analysis.	APPLY
C414.4	Analyse IIR and FIR filters using different structures	Analyse
C414.5	Design digital filters to meet specific magnitude and phase requirements	Create
C414.6	Illustrate multirate DSP techniques for various applications of DSP by sampling rate conversion.	APPLY
SPECIFIC LEARNING OUTCOMES – Management Science		
C415.1	Explain the basic concepts of management in modern contexts	Understand
C415.2	Discuss the organization structures and principles	Understand
C415.3	Outline the production and marketing aspects	Analyze
C415.4	Explain the roles and responsibilities of Human Resource Manager	Understand
C415.5	Prepare and implement strategies in the modern management	Create
C415.6	Outline the modern management practices	Analyze
SPECIFIC LEARNING OUTCOMES – Power Systems & Simulation Laboratory		
C416.1	Determination of sequence impedance and sub transient reactance of synchronous machine	Apply
C416.2	Conduct experiments to analyze LG, LL, LLG, LLLG faults	Analyse
C416.3	Estimate the parameters of three winding transformer equivalent circuit	Evaluate
C416.4	Develop MATLAB program for formation of Y and Z buses	Analyse
C416.5	Develop MATLAB programs for gauss-seidel and fast decoupled load flow studies.	Analyse
C416.6	Develop the SIMULINK model for single area load frequency control problem	Analyse
SPECIFIC LEARNING OUTCOMES – Measurements Laboratory		

C417.1	Calibrate various electrical measuring/recording instruments	Evaluate
C417.2	Determine ratio error and phase angle error of CT	Apply
C417.3	Accurately determine the values of inductance and capacitance using a.c bridges	Understand
C417.4	Accurately determine the values of very low resistances	Apply
C417.5	Analysis based on comparing true and actual value of potentio meter and power factor meter.	Analyse
C417.6	Measure reactive power in 3-phase circuit using single wattmeter	Evaluate
SPECIFIC LEARNING OUTCOMES – Industrial Training /Research Project		
C418.1	Demonstrate a sound technical knowledge of their selected project topic.	Apply
C418.2	Able to identify the problem, formulate a prospective solution	Understand
C418.3	Design engineering solutions to the given problem using a systems approach.	Create
C418.4	Conduct experiments or simulation and collect observation for the engineering project	Analyse
C418.5	Develop a prototype of the project by distribution of tasks among the team	Create
C418.6	Communicate with engineers and the community at large in written an oral forms	Create

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