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

COURSE OUTCOMES

CAY : 2019-20	SEM : II		Year : II

SNO	COURSE OUTCOME STATEMENT	Taxonomy Level
SPECIFIC LEARNING OUTCOMES – Mathematics – IV		
C221.1	Evaluate the values of improper integrals using Beta and Gamma functions and solve ordinary differential equations using series solutions.	Evaluate
C221.2	Calculate the solutions of difference equations using Bessel's and Legendre's functions.	Apply
C221.3	Find the analytic functions using C-R equations.	Apply
C221.4	Find the image of the complex function using conformal mapping and bilinear transformation.	Apply
C221.5	Use Cauchy's theorem and Cauchy's integral formula to evaluate complex integrations and expansion of complex functions using Taylor's and Laurent's series	Apply
C221.6	Use the technique of residue theorem to evaluate real complex integrals	Apply
SPECIFIC LEARNING OUTCOMES – Managerial Economics and Financial Analysis		
C222.1	Explain the role and responsibilities of a managerial economist in modern business scenario.	Understand
C222.2	Predict the demand of a product by using demand forecasting methods.	Apply
C222.3	Calculate the Break Even Point (BEP)with the help of production and cost analysis.	Apply
C222.4	Explain about competitive market structure and business economic environment.	Understand
C222.5	Prepare the financial statements and analyze financial position of the firm.	Create
C222.6	Discuss the sources of capital and allocation of funds for business undertaking.	Understand
SPECIFIC LEARNING OUTCOMES – Electrical Machines – II		
C223.1	Analyze the performance of single phase transformers.	Analyse
C223.2	Illustrate the methods of testing of single-phase transformer.	Understand
C223.3	Draw the equivalent circuit and Identify the three phase transformers connections.	Understand
C223.4	Explain the constructional details and principle of operation of 3-Φ Induction Motor	Understand
C223.5		Analyse

	Draw the circle diagram of a three phase Induction motor and predetermine the performance characteristics .	
C223.6	Analyze speed torque characteristics of 3-Φ Induction Motor	Analyse
SPECIFIC LEARNING OUTCOMES – Electrical Power Generating Systems		
C224.1	Estimate the coal requirement, cost per kWh generation and number of units generated f or thermal power station.	Evaluate
C224.2	Estimate the required flow of river water, cost of generation and number of units generated in hydel power generation.	Evaluate
C224.3	Determine the load capacity of the plant and Plot the load curve, load duration curve.	Apply
C224.4	Assess the theory and practices of conventional and non-conventional power generation method.	Evaluate
C224.5	Explain various factors like load factor, plant factor.	Understand
C224.6	Evaluate the tariffs to be charged for the consumers.	Evaluate
SPECIFIC LEARNING OUTCOMES – Electromagnetic Fields		
C225.1	Acquires the Knowledge on basic principles, concepts and fundamental laws of electromagnetic fields.	Understand
C225.2	Apply vector calculus to static electric-magnetic fields in different engineering situations.	Apply
C225.3	Acquires the knowledge to understand 3-dimensional co-ordinate systems, electrostatics and magneto statics.	Understand
C225.4	Analyze Maxwell's equation in different forms (differential and integral) and apply them to diverse engineering problems.	Analyse
C225.5	Acquires the knowledge to understand time- varying fields and interaction between electricity and magnetism understand	Understand
C225.6	Acquires the knowledge to calculate the quantities associated with uniform plane wave motion in different media of transmission.	Understand
SPECIFIC LEARNING OUTCOMES – Analog Electronic Circuits		
C226.1	Understanding different types of single and multistage amplifiers and concept of Gain bandwidth Product	Understand
C226.2	Analyze various parameters of negative feedback amplifiers	Analyse
C226.3	Design oscillator circuits using BJT and FET	Create
C226.4	Describe Class A,B power amplifiers of BJT and FET	Understand
C226.5	Describe the response of linear wave shaping circuits, clippers and clampers	Understand
C226.6	Design Astable, Bistable, Monostable and Schmitt trigger circuits	Create
SPECIFIC LEARNING OUTCOMES – Electrical Machines Laboratory – I Laboratory		
C227.1	Conduct experiments to obtain the no-load and load characteristics of D.C. Generators	Apply
C227.2	Conduct tests on D.C. motors for predetermination of efficiency	Apply
C227.3	Conduct tests on D.C. motors for determination of efficiency	Apply
C227.4	Control the speed of D.C. motor in a given range using appropriate method	Analyse
C227.5	Identify the reason as to why D.C. Generator is not building up voltage	Analyse
C227.6	Know the concept of commutation dc machines for conversation	Understand

	AC to DC or DC to AC.	
SPECIFIC LEARNING OUTCOMES – Control Systems & Simulation Laboratory		
C228.1	Design the controllers/compensators to achieve desired specifications	Create
C228.2	Understand the effect of location of poles and zeros on transient and steady state behavior of systems	Understand
C228.3	Assess the performance, in terms of time domain specifications, of first and second order systems.	Evaluate
C228.4	Design PID controllers for given control system model	Create
C228.5	Determine the response of a given control system model	Apply
C228.6	Use MATLAB/SIMULINK software for control system analysis and design	Apply
SPECIFIC LEARNING OUTCOMES – Comprehensive Online Examination – I		
C229.1	Understand transient and steady state stability of system .	Understand
C229.2	Analyze the circuits using various network reduction techniques.	Analyze
C229.3	Understand the concepts of electro and magneto statics	Understand
C229.4	Analyze the performance of AC and DC machines.	Analyze
C229.5	Understand the concept of conventional and non conventional methods of power generation .	Understand
C229.6	Analyze the different biasing techniques used in BJTs and FETs and it's applications	Analyze

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COURSE OUTCOMES

CAY : 2019-20	SEM : II		Year : III

SNO	COURSE OUTCOME STATEMENT	Taxmony
SPECIFIC LEARNING OUTCOMES – Management Science		
C321.1	Explain the basic concepts of management in modern contexts.	Understand
C321.2	Define organization structures and principles.	Remember
C321.3	Demonstrate production and marketing aspects.	Apply
C321.4	Outline the roles and responsibilities of Human Resource Manager.	Analyse
C321.5	Formulate strategies in the modern management.	Create
C321.6	Compare the modern management practices based on the requirement of the projects.	Evaluate
SPECIFIC LEARNING OUTCOMES – Power Semiconductor Drives		
C322.1	Illustrate the control of Dc motor by Single phase and Three phase converters .	Apply
C322.2	Explain the operation of single and multi quadrant electric drives	Understand
C322.3	Analyze chopper fed DC motors	Analyse
C322.4	Explain stator voltage Speed control methods of Induction motors	Understand
C322.5	Explain rotor voltage Speed control methods of Induction motors	Understand
C322.6	Explain the control of synchronous motor	Understand
SPECIFIC LEARNING OUTCOMES – Power System Protection		
C323.1	Explain the principles of operation of various types of electromagnetic relays, Static relays as well as Microprocessor based relays	Understand
C323.2	Determine percentage of generator winding that is unprotected under fault occurrence for generator protection	Apply
C323.3	Determine the required CT ratio for transformer protection with required calculations	Apply
C323.4	Explain the use of relays in protecting Feeders, lines and bus bars	Understand
C323.5	Solve numerical problems concerning the arc interruption and recovery in circuit breakers	Apply
C323.6	Understand why over voltages occur in power system and how to protect the system	Understand
SPECIFIC LEARNING OUTCOMES – Microprocessors & Microcontrollers		
C324.1	Understands the internal architecture and organization of 8086 processors.	Understand
C324.2	Design and implement programs on 8086 microprocessor.	Create

C324.3	Understands the internal architecture and organization of MSP 430 controller.	Understand
C324.4	Understands the interfacing techniques of MSP 430 and can develop using embedded C programming to design micro controller based systems.	Understand
C324.5	Understands about register, memory and data transfer protocols.	Understand
C324.6	Design and implement some specific real time applications.	Create
SPECIFIC LEARNING OUTCOMES – Power System Analysis		
C325.1	Form the Z_{bus} and Y_{bus} of a given power system network	Create
C325.2	Conduct load flow studies using GS and NR methods	Apply
C325.3	Make Calculations for various types of faults	Apply
C325.4	Determine the transient stability by equal area criterion	Apply
C325.5	Determine steady state stability power limit	Apply
C325.6	Distinguish between different types of buses used in load flow solution	Understand
SPECIFIC LEARNING OUTCOMES – Programmable Logic Controller & Its Applications		
C326.1	Understand different types of Devices to which PLC input and output modules are connected	Understand
C326.2	Understand various types of PLC registers and create ladder diagrams from process control descriptions.	Understand
C326.3	Use different types PLC functions, Data Handling Function	Apply
C326.4	Develop a coil and contact control system to operate a basic robot and analog PLC operations	Apply
C326.5	Implementation of PLC in analogue operations, arithmetic, logic functions.	Apply
C326.6	Understand the PID module, installation procedure and maintenance	Understand
SPECIFIC LEARNING OUTCOMES – Microprocessors & Microcontrollers **Laboratory**		
C327.1	Understands the MASM tool for assembly programming.	Understand
C327.2	Execution of different programs for 8086 in Assembly Level Language using MASM Assembler basic operations	Apply
C327.3	Design Programs to works on large data and strings using MASM	Create
C327.4	Understand the Code Composer Studio for Embedded C Programming.	Understand
C327.5	Program MSP 430 for various applications.	Create
C327.6	Design and implement some specific real time applications	Create
SPECIFIC LEARNING OUTCOMES – Power Electronics & Simulation **Laboratory**		
C328.1	Test the turn on-turn off characteristics of various power electronic devices.	Evaluate

C328.2	Analyze the different firing circuits for SCRs	Analyze
C328.3	Test different types of Single phase voltage controllers with R and RL load	Evaluate
C328.4	Test different types of Single phase converters and Inverters with R and RL load	Evaluate
C328.5	Analyze the TPS7A4901, TPS7A8300 and TPS54160 buck regulators	Evaluate
C328.6	Design the low cost buck and boost converter with suitable tool	Create
SPECIFIC LEARNING OUTCOMES – AELCS **Laboratory**		
329.1	Learning new vocabulary and analyze the context for proper usage	Apply
329.2	Analysing the texts and multimedia resources for developing comprehension abilities.	Analyze
329.3	Evaluate and exhibit acceptable etiquette essential in social and professional settings	Evaluate
329.4	Develop employability skills by getting command over time management and problem solving strategies.	Create
329.5	Build efficient Written communication skills by practicing project reports.	Create
329.6	Build the ability of using language effectively to face interviews, group discussions, public speaking	Create
SPECIFIC LEARNING OUTCOMES - Comprehensive Online Examination – II		
3210.1	Analyze different methods used for obtaining load flow solution and stability	Analyze
3210.2	Assess the static and dynamic performance characteristics of AC & DC drives using Converters.	Evaluate
3210.3	Understand concepts of Micro processors and Micro controllers	Understand
3210.4	Analyze the concepts of line modeling and protective devices of power systems	Analyze
3210.5	Able to create ladder diagrams from process control descriptions	Apply
3210.6	Understand network synthesis and Measuring equipment of different parameters .	Understand

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COURSE OUTCOMES

CAY : 2019-20	SEM : II		Year : IV-II

SNO	COURSE OUTCOME STATEMENT	Taxmony
SPECIFIC LEARNING OUTCOMES – Instrumentation		
C421.1	Explain the types of errors occurring in measurement systems	Understand
C421.2	Identify the suitable signal modulation techniques for measurement applications	Remember
C421.3	Differentiate among the types of data transmission and modulation techniques	Understand
C421.4	Understand the working principles of different signal analyzers	Understand
C421.5	Apply digital techniques to measure voltage, frequency and speed	Apply
C421.6	Choose suitable transducers for the measurement of non-electrical quantities	Analyze
SPECIFIC LEARNING OUTCOMES – HVDC Transmission		
C422.1	Compare the HVDC and HVAC transmission systems	Evaluate
C422.2	Understand the operation of various converters used in HVDC transmission systems	Understand
C422.3	Examine the effects of source inductance, reactance on outputs of the HVDC Converter Systems.	Understand
C422.4	Classification of harmonics in HVDC system.	Analyse
C422.5	Summarize the effects of elimination of harmonics in HVDC System.	understand
C422.6	Design of AC filters for protecting the HVDC system from Faults and Transients	Create
SPECIFIC LEARNING OUTCOMES – Comprehensive Viva Voce		
C423.1	Attain oral presentation skills	Understand
C423.2	Attain skills by answering questions in concise manner	Understand
C423.3	Able to respond for the course questions on core subjects	Apply
C423.4	Gain confidence with interview skills	Understand
C423.5	Gain inter personal skills	Understand
C423.6	Ability to improve themselves based on queries	Understand
SPECIFIC LEARNING OUTCOMES – Technical Seminar		
C424.1	Prepare comprehensive report based on topics related to different subjects	Create
C424.2	Prepare comprehensive report based on literature survey related to their field of interest.	Create

C424.3	Identify the modern software tools and technology applicable.	Understand
C424.4	Explain presentation based on their topics	Understand
C424.5	Assess queries given by the revivers and listeners	Evaluate
C424.6	Justify the presentation skills with the feedback	Evaluate
SPECIFIC LEARNING OUTCOMES – Project Work		
C425.1	Demonstrate a sound technical knowledge of their selected project topic.	Apply
C425.2	Able to identify the problem, formulate a prospective solution	Understand
C425.3	Design engineering solutions to the given problem using a systems approach.	Create
C425.4	Conduct experiments or simulation and collect observation for the engineering project	Analyse
C425.5	Develop a prototype of the project by distribution of tasks among the team	Create
C425.6	Communicate with engineers and the community at large in written an oral forms	Create