



SRI KRISHNA INSTITUTE OF TECHNOLOGY

(Approved by A.I.C.T.E. New Delhi, Recognised by Govt. of Karnataka & Affiliated to V.T.U.,
Belgaum)

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Department of Electrical and Electronics Engineering Course Outcome's for the Academic year 2020-21

Semester : I/II

Subcode/SubName: 18ELE13/23

Course Outcomes: Basic Electrical Engineering

CO1:	Analyze A.C and DC circuits.
CO2:	Explain the principle of operation and construction of AC and DC Generator and its Performance.
CO3:	Explain the principle of operation and construction of AC and DC Motor and its Performance.
CO4:	Explain the construction and working of single phase transformer
CO5:	Understand the concepts of electrical wiring, circuit protecting devices and earthing.

Subcode/SubName: 18ELEL17/27

Course Outcomes:

CO1:	Identify the common electrical components and measuring instruments used for conducting experiments in the electrical Laboratory
CO2:	Compare power factors of lamp..
CO3:	Determine the impedance of an electrical circuit and power consumed in a 3 phase load.
CO4:	Determine earth resistance and understand two way and three way control of lamps

Semester : V

Subcode/SubName: 18EE51/Management and Entrepreneurship

Course Outcomes:

CO1:	Understand the field of management, task of the manager
CO2:	Discuss work allocation, the structure of organization, the importance of staffing
CO3:	Explain the concepts of entrepreneurship and the role and importance of the entrepreneur in economic development
CO4:	Understanding of the role and importance of Small Scale Industries, business plan and its presentation
CO5:	Discuss the concepts of project management, capital building process, project feasibility study

Subcode/SubName: : 18EE52/Microcontroller

Course Outcomes

CO1:	Understand the features and internal architecture of 8051 using block diagram. Analyse
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	the interfacing of RAM and ROM memories with 8051 using connection diagram.
CO2:	Understand the syntax, rules of and execution procedure of assembly language.
CO3:	Understand data transfer, arithmetical, logical, loop, jump and call instructions.
CO4:	Develop programs for timer/counter-0/1 using assembly and C language. Develop program for interrupt handling for timer interrupt, external interrupt and serial communication interrupt using assembly and C language.

Subcode/SubName: 18EE53/ Power Electronics

Course Outcomes:

CO1:	To understand the basics of power electronics
CO2:	Explain types of power diodes, their characteristics, and the effects of power diodes on RL circuits
CO3:	Analysis of details of power semiconductor switches(Construction, characteristics and operation)
CO4:	Explain designing, analysis techniques and characteristics of thyristor controlled rectifiers.
CO5:	Discuss the principle of operation of single phase and three phase DC - DC, DC –AC converters and AC voltage controllers

Subcode/SubName: 18EE54/ Signals and Systems

Course Outcomes:

CO1:	Understand the fundamental characteristics of signals and systems and Characterize and analyse the properties of Continuous Time and Discrete Time signals and systems.
CO2:	Analyse the CT and DT systems by performing Convolution and understand LTI systems and to Solve the continuous time and discrete time systems by various methods and their representation by block diagram.
CO3:	Understand and resolve the CT signals in frequency domain using Continuous Time Fourier Transform.
CO4:	Understand and resolve the DT signals in frequency domain using Discrete Time Fourier Transform.
CO5:	Analyze CT and DT systems using Z Transforms.

Subcode/SubName: 18EE55/ Electrical machine design

Course Outcomes:

CO1:	Classification and selection of proper material for design of an electrical machine
CO2:	Derive the output equation and selection of magnetic loading of Ac and DC machine
CO3:	Estimate the performance characteristic of transformer with the constraints specified
CO4:	Design of stator and rotor core ,rotor winding of an Induction motor and analyzing the other performance characteristics
CO5:	Understanding the short circuit ratio and its effect on performance of synchronous

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	machine
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Subcode/SubName: 18EE56/ High Voltage Engineering

Course Outcomes:

CO1:	Explain conduction and breakdown phenomenon in gases, liquid dielectrics
CO2:	Explain breakdown phenomenon in solid dielectrics
CO3:	Explain generation of high voltages and currents
CO4:	Discuss measurement techniques for high voltages and currents
CO5:	Discuss over voltage phenomenon, insulation coordination in electric power systems and testing of electrical equipments

Subcode/SubName: 18EEL57/ Microcontroller Laboratory

Course Outcomes:

CO1:	Understand the features and internal architecture of 8051 using block diagram, analyze the interfacing of RAM and ROM memories with 8051 using connection diagram.
CO2:	Understand the syntax, rules and execution procedure of assembly language.
CO3:	Understand data transfer, arithmetical, logical, loop, jump and call instructions.
CO4:	Develop programs for timer/counter-0/1 using assembly and C language. Develop program for interrupt handling for timer interrupt, external interrupt and serial communication interrupt using assembly and C language.

Subcode/SubName: 18EEL58 / Power Electronics Laboratory

Course Outcomes:

CO1:	Obtain static characteristics of semiconductor devices to discuss their performance.
CO2:	Demonstrate the trigger the SCR by different methods
CO3:	Verify the performance of single phase controlled full wave rectifier and AC voltage controller with R and RL loads.
CO4:	Control the speed of a DC motor, universal motor and stepper motors.
CO5:	Demonstrate the performance of single phase full bridge inverter connected to resistive load

Subcode/SubName: 18CIV59/ Environmental Studies

Course Outcomes:

CO1:	Understand the principles of ecology and environmental issues that apply to air, land, and water issues on a global scale,
CO2:	Develop critical thinking and/or observation skills, and apply them to the analysis of a problem or question related to the environment.
CO3:	Demonstrate ecology knowledge of a complex relationship between biotic and abiotic components.
CO4:	Apply their ecological knowledge to illustrate and graph a problem and describe the realities that managers face when dealing with complex issues.

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Semester : VI

Subcode/SubName: 18EE61/ Control System

Course Outcomes:

CO1:	Apply mathematical modeling to determine the transfer function of a system.
CO2:	Apply block diagram reduction technique and signal flow graph reduction methods to determine the transfer function of a system.
CO3:	Analyse the behavior of the system in time domain for first and second order system.
CO4:	Analyse the stability of the system using various time domain techniques.
CO5:	Analyse the stability of the system using various frequency domain techniques and design the PID controllers.

Subcode/SubName: 18EE62/ Power System Analysis-1

Course Outcomes:

CO1:	Understanding of per unit system, its advantages and commutation and the concept of one line diagram and its implementation in problems.
CO2:	Perform short circuit analysis on a synchronous machine and simple power system to select a circuit breaker for the system.
CO3:	Evaluate symmetrical components of voltages and currents in unbalanced 3 phase circuits and explain the concept of sequence impedance and sequence networks of power system components and power system.
CO4:	Analyse 3 phase synchronous machine and simple power system for different unsymmetrical faults using symmetrical components.
CO5:	Discuss the dynamics of synchronous machine, stability and types of stability, equal area criterion for the evaluation of stability of a simple system under different fault conditions

Subcode/SubName: 18EE63/ Digital Signal Processing

Course Outcomes:

CO1:	Compute the DFT of various signals using aids, properties and linear filtering of two sequences.
CO2:	Apply fast and efficient algorithms for computing DFT and inverse DFT of a given sequence.
CO3:	Design infinite impulse response butter worth, digital filters using impulse invariant/bilinear transformation technique.
CO4:	Realize a digital IIR filter by direct , cascade, parallel and ladder method of realization.
CO5:	Design FIR filters by use of window function or by frequency sampling method.

Subcode/SubName: 18EE643/Computer Aided Electrical Drawing

Course Outcomes:

CO1:	Design the sectional views of Transformers, DC machines and Alternators.
CO2:	Develop a layout for substation using the standard symbols for substation equipment
CO3:	To interpret the notations and formulas required and design the winding diagrams of AC and DC machines.

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Subcode/SubName: 18EEL66/ Control System Laboratory

Course Outcomes:

CO1:	Use software package or discrete components in assessing the time and frequency domain responses of a given second order system.
CO2:	Design and analyze Lead, Lag and Lead – Lag compensators for given specifications.
CO3:	Determine the performance characteristics of ac and dc servomotors and synchro-transmitter receiver pair used in control systems.
CO4:	Simulate the DC position and feedback control system to study the effect of P, PI, PD and PID controller and Lead compensator on the step response of the system.
CO5:	Analysis of root locus, bode plot, Nyquist plots to study the stability of the system using a software package.

Subcode/SubName: 18EEL67/ Digital Signal Processing Laboratory

Course Outcomes:

CO1:	To explain the use of MATLAB/Scilab/Python software in evaluating the DFT and IDFT of given sequence.
CO2:	To verify the convolution property of the DFT
CO3:	To design and implementation of IIR and FIR filters for given frequency specifications.
CO4:	To realize IIR and FIR filters.
CO5:	To help the students in developing software skills.

Semester : VII

Subcode/SubName: 17EE71/ Power system Analysis-2

Course Outcomes:

CO1:	Study the basics of network topology and learn about network topologies in analysis of power system.
CO2:	Read the concept of power flow and its analysis by different numerical methods.
CO3:	Show knowledge of optimal operation of generators and reliability considerations.
CO4:	Discuss optimal scheduling of hydro thermal system and power system security.
CO5:	Know about stability analysis using different techniques.

Subcode/SubName: 17EE72/ Power System Protection

Course Outcomes:

CO1:	Discuss performance of protective relays, components of protection scheme and relay terminology overcurrent protection
CO2:	Explain the working of distance relays.
CO3:	Discuss pilot protection, performance of differential relays for differential protection, protection of generators, motors, Transformer and Bus Zone Protection.
CO4:	Discuss performance of Circuit breakers.

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CO5:	To discuss the performance of Fuses and GIS.
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Subcode/SubName: 17EE73/ High Voltage Engineering

Course Outcomes:

CO1:	Explain conduction and breakdown phenomenon in gases, liquid dielectrics
CO2:	Explain breakdown phenomenon in solid dielectrics
CO3:	Explain generation of high voltages and currents
CO4:	Discuss measurement techniques for high voltages and currents
CO5:	Discuss over voltage phenomenon, insulation coordination in electric power systems and testing of electrical equipments

Subcode/SubName: 17EE741 / Advanced Control System

Course Outcomes:

CO1:	Understand State Space Analysis and Develop of State models for linear continuous – time and discrete – time systems.
CO2:	Implement vector and matrix algebra to determine the solution of state equations for linear continuous – time and discrete – time systems.
CO3:	Able to Identify appropriate techniques to analyze the system for its controllability and observability.
CO4:	Understand the state feedback in modern control systems, pole placement, design of state observers and output feedback controllers.
CO5:	Demonstrate non-linear system behavior by phase plane and describing function methods.
CO6:	Design different systems and analyse its stability using Lyapunov stability analysis in optimal control problems.

Subcode/SubName: 17EE752/ Testing & Commissioning of Power System Apparatus

Course Outcomes:

CO1:	Describe the process to plan, control and implement commissioning of electrical equipment's.
CO2:	Differentiate the performance specifications of transformer and induction motor.
CO3:	Demonstrate the routine tests for synchronous machine, induction motor, transformer & switchgears
CO4:	Describe corrective and preventive maintenance of electrical equipment's.
CO5:	Explain the operation of an electrical equipment's such as isolators, circuit breakers, induction motor and synchronous machines.

Subcode/SubName: 17EEL76 / Power Sytem Simulation Laboratory

Course Outcomes:

CO1:	Ability to understand power system planning and operational studies.
CO2:	Ability to analyze the performance of transmission line
CO3:	Ability to acquire knowledge on Formation of Bus Admittance and Impedance Matrices and Solution of Networks.
CO4:	Ability to analyze the power flow using GS and NR method
CO5:	Ability to analyze different types of faults

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Subcode/SubName: 17EEL77/ Relay and High Voltage Laboratory

Course Outcomes:

CO1:	Experimentally verify the characteristics of over current, over voltage, under voltage and negative sequence relays both electromagnetic and static type.
CO2:	Experimentally verify the characteristics of microprocessor based over current, over voltage, under voltage relays and distance relay
CO3:	Show knowledge of protecting motors.
CO4:	Analyze the spark over characteristics for both uniform and non-uniform configurations using High AC and DC voltages.
CO5:	Measure high AC voltages and breakdown strength of transformer oil .

Semester : VIII

Subcode/SubName: 17EE81 / Power System Operation and Control

Course Outcomes:

CO1:	Understanding the operation and control of power system components, architecture and configuration of SCADA.
CO2:	Knowing the issues associated with hydro thermal scheduling and hydrothermal problems
CO3:	Analyzing the mathematical model of automatic generation and control power sytem components such as governor excitation system.
CO4:	Understanding the voltage, reactive power and load frequency control in interconnected power sytem.
CO5:	Apply shunt and series compensation of transmission line in real world electrical application.

Subcode/SubName: 17EE82/ Industrial Drives and Applications

Course Outcomes:

CO1:	Explain choice of electric drives ,dynamics and different modes of operation of electric drives
CO2:	Suggest a motor for a drive and control of dc motor using controlled rectifiers
CO3:	Analyze the performance of induction motor drives under different conditions
CO4:	Control of induction motor, synchronous motor and stepper motor drives.
CO5:	Propose a suitable electrical drives for specific application in the industry

Subcode/SubName: 17EE833/ Integration of Distributed Generation

Course Outcomes:

CO1:	Analyze and explain the Electric Energy generation by renewable energy sources such as solar, wind and to choose locations to install them.
CO2:	Explain the impact of distributed generation on power system-overloading and losses.
CO3:	Explain the impact of distributed generation on voltage magnitude variations of the power system.
CO4:	Explain the impact of distributed generation on Power quality disturbances of the power system.
CO5:	Explain the effects of integration of distributed generation on power system stability and

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