

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Academic Year -2020-21

Course Outcomes

B.TECH.5th SEM

Power System - I(KEE501)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Describe the working principle and basic components of conventional power plants as well as the other aspects of power generation
(CO2)	Recognize elements of power system and their functions, as well as compare the different types of supply systems. Illustrate different types of conductors, transmission lines and various performance parameters of transmission line for short, medium and long transmission line.
(CO3)	Calculate sag and tension in overhead lines with and without wind and ice loading. Classify different type of insulators, determine potential distribution over a string of insulator, string efficiency and its improvement
(CO4)	Compute the inductance and capacitance of single phase, three phase lines with symmetrical and unsymmetrical spacing, Composite conductors-transposition, bundled conductors, and understand the effect of earth on capacitance of transmission lines.
(CO5)	Elucidate different types of cables and assess the Resistance and capacitance parameters of cables, grading of cables and compare overhead lines and cables.

Control System (KEE502)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Obtain transfer functions to predict the correct operation of open loop and closed loop control systems and identify the basic elements, structures and the characteristics of feedback control systems.
(CO2)	Measure and evaluate the performance of basic control systems in time domain. Design specification for different control action
(CO3)	Analyze the stability of linear time-invariant systems in time domain using RouthHurwitz criterion and root locus technique.
(CO4)	Determine the stability of linear time-invariant systems in frequency domain using Nyquist criterion and Bode plot.
(CO5)	Design different type of compensators to achieve the desired performance of control System by root locus and Bode plot method. Develop and analyze the intermediate states of the system using state space analysis

Electrical Machines-II (KEE503)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Demonstrate the constructional details and principle of operation of three phase Induction and Synchronous Machines.
(CO2)	Analyze the performance of the three phase Induction and Synchronous Machines using the phasor diagrams and equivalent circuits
(CO3)	Select appropriate three phase AC machine for any application and appraise its significance.
(CO4)	Start and observe the various characteristics of three phase Induction & Synchronous Machines
(CO5)	Explain the principle of operation and performance of Single-Phase Induction Motor & Universal Motor.

Sensors and Transducers (KEE052)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand the working of commonly used sensors in industry for measurement of displacement, force and pressure.
(CO2)	Recognize the working of commonly used sensors in industry for measurement of temperature, position, accelerometer, vibration sensor, flow and level
(CO3)	Identify the application of machine vision.
(CO4)	Conceptualize signal conditioning and data acquisition methods
(CO5)	Comprehend smart sensors and their applications in automation systems

Analog & Digital Communication (KEE058)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand the Amplitude Modulation in communication system.
(CO2)	Comprehend the Frequency & Phase modulation
(CO3)	Realize the Pulse Modulation Techniques.
(CO4)	Get the Digital Modulation Techniques and their use in communication system.
(CO5)	Apply the concept of Information Theory in Communication Engineering.

Power System-I Lab (KEE551)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand and simulate the basic components and structure of power systems including transmission lines and distribution systems.
(CO2)	Determine parameters such as inductance, capacitance, and resistance of transmission lines using suitable models and techniques.
(CO3)	Analyze and evaluate the performance of transmission lines under various operating conditions using software tools and hardware setups.
(CO4)	Study and demonstrate the operation of different types of relays, circuit breakers, and protective devices in power systems.
(CO5)	Apply load flow analysis methods and fault analysis techniques to solve real-time power system problems using simulation tools like MATLAB/ETAP.

Control System Lab (KEE552)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Determine the characteristics of control system components like ac servo motor, synchro, potentiometer, servo voltage stabilizer and use them in error detector mode
(CO2)	Compare the performance of control systems by applying different controllers / compensators.
(CO3)	Analyze the behavior of dc motor in open loop and closed loop conditions at various loads & determine the response of 1st& 2nd order systems for various values of constant K
(CO4)	Apply different stability methods of time & frequency domain in control systems using software & examine their stability.
(CO5)	Convert the transfer function into state space & vice versa & obtain the time domain response of a second order system for step input and their performance parameters using software

Electrical Machines - II Lab (KEE553)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand the construction, working principles, and characteristics of synchronous machines and induction motors.
(CO2)	Perform experiments to determine regulation, efficiency, and performance characteristics of alternators and synchronous motors.
(CO3)	Analyze the starting methods, torque-speed characteristics, and performance of three-phase induction motors under various loading conditions.
(CO4)	Conduct tests on single-phase and three-phase induction motors to evaluate parameters like slip, rotor resistance, and efficiency.
(CO5)	Apply appropriate testing procedures, measurement techniques, and safety protocols while conducting machine experiments and interpreting results.

Mini Project (KEN554)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Identify and define a real-life engineering problem using basic principles of electrical and electronics engineering.
(CO2)	Design and develop a functional mini project by applying theoretical knowledge and practical skills.
(CO3)	Use appropriate tools, software, components, and instruments for modeling, testing, and implementation of the project.
(CO4)	Work effectively as an individual or in a team, demonstrating communication, coordination, and time management skills.
(CO5)	Prepare and present a technical project report, showcasing innovation, adherence to ethical standards, and awareness of environmental and societal impact.

Indian Tradition, Culture and Society (KNC502)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand the evolution and significance of Indian culture, civilization, and philosophical traditions.
(CO2)	Analyze the role of family, society, and community in shaping ethical values and social responsibilities in Indian context.
(CO3)	Explore the contributions of India in the fields of science, education, art, architecture, and literature through various historical periods.
(CO4)	Appreciate the diversity and unity in Indian society and recognize the importance of pluralism, harmony, and tolerance.
(CO5)	Apply the knowledge of Indian cultural and social systems to promote sustainable development, civic sense, and national integration in personal and professional life.