

**B.N.COLLEGE OF ENGINEERING & TECHNOLOGY &
TECHNOLOGY, LUCKNOW**

Course Outcomes 5th Semester

Power System - I (KEE-501)

Pre-requisites of course: Basic Electrical Engineering, Networks Analysis and Synthesis, Electromagnetic Field Theory.

Course Outcomes:		Knowledge Level, KL
Upon the completion of the course, the student will be able to:		
CO 1	Describe the working principle and basic components of conventional power plants as well as the other aspects of power generation.	K2
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.	K4
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.	K4
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.	K4
CO5	Elucidate different types of cables and assess the Resistance and capacitance parameters of cables, grading of cables and compare overhead lines and cables.	K4

KL- Bloom's Knowledge Level (K1, K2, K3, K4, K5, K6)

K1 – Remember K2 – Understand K3 – Apply K4 – Analyze K5 – Evaluate K6 – Create

CONTROL SYSTEM (KEE-502)

Pre-requisites of course: Basic signal systems

Course Outcomes:		Knowledge Level, KL
Upon the completion of the course, the student will be able to:		
CO 1	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.	K2
CO2	Measure and evaluate the performance of basic control systems in time domain. Design specification for different control action.	K4
CO3	Analyze the stability of linear time-invariant systems in time domain using Routh-Hurwitz criterion and root locus technique.	K4
CO4	Determine the stability of linear time-invariant systems in frequency domain using Nyquist criterion and Bode plot.	K4
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.	K5

KL- Bloom's Knowledge Level (K₁, K₂, K₃, K₄, K₅, K₆)

K₁ – Remember K₂ – Understand K₃ – Apply K₄ – Analyze K₅ – Evaluate K₆ – Create

ELECTRICAL MACHINE-II (KEE-503)

Pre-requisites of course: Basic Electrical Engineering, Electrical Machine-I

Course Outcomes:		Knowledge Level, KL
Upon the completion of the course, the student will be able to:		
CO 1	Demonstrate the constructional details and principle of operation of three phase Induction and Synchronous Machines.	K4
CO2	Analyze the performance of the three phase Induction and Synchronous Machines using the phasor diagrams and equivalent circuits.	K3
CO3	Select appropriate three phase AC machine for any application and appraise its significance.	K5
CO4	Start and observe the various characteristics of three phase Induction & Synchronous Machines	K3
CO5	Explain the principle of operation and performance of Single-Phase Induction Motor & Universal Motor.	K4

KL- Bloom's Knowledge Level (K₁, K₂, K₃, K₄, K₅, K₆)

K₁ – Remember K₂ – Understand K₃ – Apply K₄ – Analyze K₅ – Evaluate K₆ – Create

DEPARTMENT ELECTIVE-I

SENSORS AND TRANSDUCERS (KEE-052)

Pre-requisites of course: Basic Electrical Engineering, Basic signals & systems

Course Outcomes:		Knowledge Level, KL
Upon the completion of the course, the student will be able to:		
CO 1	Understand the working of commonly used sensors in industry for measurement of displacement, force and pressure.	K2
CO2	Recognize the working of commonly used sensors in industry for measurement of temperature, position, accelerometer, vibration sensor, flow and level.	K3
CO3	Identify the application of machine vision.	K2
CO4	Conceptualize signal conditioning and data acquisition methods.	K2
CO5	Comprehend smart sensors and their applications in automation systems.	K4

KL- Bloom's Knowledge Level (K1, K2, K3, K4, K5, K6)

K1 – Remember K2 – Understand K3 – Apply K4 – Analyze K5 – Evaluate K6 – Create

DEPARTMENT ELECTIVE-II

ANALOG & DIGITAL COMMUNICATION

Pre-requisites of course: Basic Signals & Systems.

Course Outcomes:		Knowledge Level, KL
Upon the completion of the course, the student will be able to:		
CO 1	Understand the Amplitude Modulation in communication system.	K2
CO2	Comprehend the Frequency & Phase modulation.	K2
CO3	Realize the Pulse Modulation Techniques.	K2
CO4	Get the Digital Modulation Techniques and their use in communication system.	K2
CO5	Apply the concept of Information Theory in Communication Engineering.	K3

KL- Bloom's Knowledge Level (K1, K2, K3, K4, K5, K6)

K1 – Remember K2 – Understand K3 – Apply K4 – Analyze K5 – Evaluate K6 – Create