NM INSTITUTE OF ENGINEERING & TECHNOLOGY

APPROVED BY AICTE, NEW DELHI, AFFILIATED TO BPUT, ODISHA
SIJUA, PATRAPADA, NEAR AIIMS, BHUBANESWAR ODISHA- 751019
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Education for a World Stage

DEPARTMENT OF ELECTRICAL ENGINEERING

Laboratory Name: Basic Electrical Engineering

Semester- First / Second	Lab. Code: RBE2B201
	COURSE OUTCOMES:
CO1	Determine the power and phase of three phase system by 2 wattmeter method
CO2	Analyze the different types of D.C network theorems
CO3	Study the characteristics of Magnetic Materials and determine its Hysteresis Loss
CO4	Determine the Power of three phase power of Series RLC circuit
CO5	Analyze the performance of single phase transformer
CO6	Understand about the basic concept of house wiring

Laboratory Name: Network Theory

Semester: Third	Lab. Code: REE3C202
	COURSE OUTCOMES:
CO1	Apply different theorems to electrical networks
CO2	Analyze the transient response of electrical circuits with DC excitation
CO3	Understand and evaluate different parameters of a two port network
CO4	Analyze the frequency response of all active and passive filters and spectral analysis of non-sinusoidal wave form
CO5	Compile the resonance of electrical circuit to find the solution of different complex networks
CO6	Calculate and compare between self and mutual inductance of couple circuits.

Laboratory Name: Electrical Machine-1

Semester: Fourth	Lab. Code: REL4C202
	COURSE OUTCOMES:
CO1	Evaluate the efficiency and performance of single phase transformer by different testing methods and study Open delta and Scott connection of two 1-phase transformers
CO2	Analyze the performance during parallel operation of single phase transformer
CO3	Evaluate the different parameters of 3 phase induction motor by different testing
CO4	Understand, analyze and create the torque speed characteristics of 3 phase induction motor
CO5	Evaluate the parameters of single phase induction motor and study of different types of 1-phase Induction motors
CO6	Study the performance of grid connected induction generator

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Laboratory Name: Power Electronics

Semester: Fourth		Lab. Code: REL4C203
	COURSE OUTCOMES:	
CO1	Understand the VI characteristics of different power electronics devices	
CO2	Evaluate the latching and holding current of thyristor	
CO3	Understand and analyze the different triggering methods of thyristor	
CO4	Understand the process and analyze the performance of SCR converters(semi and fully controlled, single phase and three phase)	
CO5	Analyze the performance of single phase and 3- phase inverter, buck boost converter	
CO6	Study the performance of resonant converter	

Laboratory Name: Electrical Power Transmission & Distribution

Semester: Fifth		Lab. Code: REL5C201
	COURSE OUTCOME:	
CO1	Determine the string efficiency of suspension insulators and measure the dielectric strength of transformer oil	
CO2	Evaluate the ABCD parameter of a transmission line	
CO3	Computation of series and shunt capacitances in transmission lines	
CO4	Analyze the Ferranti effect phenomena in HVAC line	
CO5	Understand about the power factor improvement in distribution system using switched capacitor	
CO6	Study corona discharge and various lightning arresters and earth resistance measurement	

Laboratory Name: Electrical Machine-2

Semester: Fifth		Lab. Code: REL5C203
	COURSE OUTCOME:	
CO1	Analyze different characteristics of synchronous generators	
CO2	Evaluate different parameters synchronous motors	
CO3	Understand the performance of induction generator and motor	
CO4	Analyze the parallel operation of alternator	
CO5	Evaluate the transient and sub transient reactance of alternator	
CO6	Determine the parameters of three phase induction motor using No load Test and Block rotor Test	

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Laboratory Name: Power System Operation & Control

Semester: Fifth		Lab. Code: REL6C201
	COURSE OUTCOME:	
CO1	Determine different reactance like positive, zero, transient and sub-transient reactance of synchronous machines	
CO2	Study the different operating characteristics of IDMT ,% biased differential relay, MHO relay and reactance relay	
CO3	Determine the fault current currents of different faults like L-L,L-G ,L-L-G and L-L-L faults	
CO4	Determine location of fault in a cable using cable fault locator	
CO5	Analysis of Symmetrical faults, Un- symmetrical faults of power system using MAT-LAB	
CO6	Solution of economic load dispatch problems using C programming language and study the formation of Y bus matrix	

Laboratory Name: Control & Instrumentation

Semester: Fifth		Lab. Code: REL5C202
	COURSE OUTCOME:	
CO1	Understand the time response of a second order process with P, PI and PID control and apply PID control to servomotor	
CO2	Study the Measurement of strain and temperature	
CO3	Evaluate and plot the displacement-voltage characteristics of the given LVDT	
CO4	Measurement of inductance ,resistance and capacitance using different bridges and callibration of energy meter	
CO5	Distinguish resistance -voltage characteristics of thermistor	
CO6	Understand the position control system using Synchroscope	