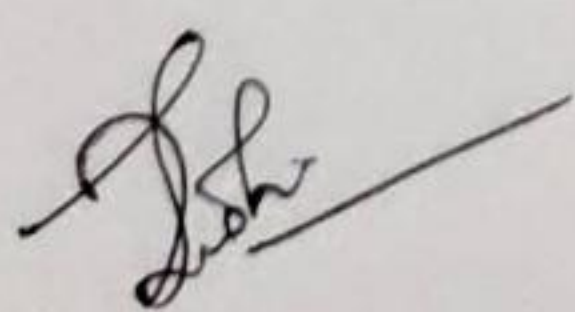# GOVT. POLYTECHNIC KORAPUT
DEPARTMENT OF ELECTRICAL ENGG.

Discipline: Electrical	Semester: 3rd	Name of the Teaching Faculty: Sandhya Kumari Randhi	
Subject: CNT	No. of Days/per week class allotted: 5	Semester From Date: No. of Weeks: 15	To Date:
Week	Class Day	Theory/Practical Topics	
1st	01	Voltage, current, power and energy	
	02	Resistance, Inductance & capacitance as parameters	
	03	Active, Passive, Unilateral & bilateral, Linear & Non linear elements	
	04	KVL and KCL, Voltage division & current division.	
	05	Tutorial class	
2nd	01	Magnetizing force, Intensity, MMF, flux and their relations	
	02	Permeability, reluctance and permeance	
	03	Analogy between electric and Magnetic Circuits	
	04	B-H Curve	
	05	Tutorial class	
3rd	01	Series & parallel magnetic circuit	
	02	Hysteresis loop	
	03	Mesh Analysis , Mesh Equations by inspection	
	04	Super mesh Analysis	
	05	Tutorial class	
4th	01	Nodal Analysis,Nodal Equations by inspection,Super node Analysis	
	02	Source Transformation Technique	
	03	Star – delta transformation	
	04	Super position Theorem	
	05	Tutorial class	
5th	01	Thevenin's Theorem	
	02	Norton's Theorem	
	03	Reciprocity Theorem	
	04	Compensation Theorem	
	05	Tutorial class	
6th	01	Maximum power Transfer theorem	
	02	Milliman's Theorem	
	03	Review of A.C. through R-L, R-C & R-L-C Circuit	
	04	Solution of problems of A.C. through R-L, R-C & R-L-C series Circuit by complex algebra method.	
	05	Tutorial class	
7th	01	Solution of problems of A.C. through R-L, R-C & R-L-C parallel &Composite Circuits	
	02	Power factor & power triangle. Deduce expression for active, reactive, apparent power	
	03	Series resonance & band width in RLC Circuit	
	04	Resonant frequency for a tank circuit	
	05	Tutorial class	
8th	01	Q factor & selectivity in series circuit	

	02		Poly phase Circuit
	03		Voltage, current & power in star & delta connection
	04		Three phase balanced circuit
	05		Tutorial class
9th	01		Self Inductance and Mutual Inductance
	02		Conductively coupled circuit and mutual impedance
	03		Conductively coupled circuit and mutual impedance
	04		Dot convention
	05		Tutorial class
10th	01		Coefficient of coupling
	02		Series and parallel connection of coupled inductors
	03		Steady state & transient state response to R-L under DC condition
	04		Steady state & transient state response to R-L under DC condition
	05		Tutorial class
11th	01		Steady state & transient state response to R-C circuit under DC condition.
	02		Steady state & transient state response to R-C circuit under DC condition.
	03		Steady state & transient state response to RLC circuit under DC condition.
	04		Steady state & transient state response to RLC circuit under DC condition
	05		Tutorial class
12th	01		Application of Laplace transform for solution of D.C transient circuits.
	02		Application of Laplace transform for solution of D.C transient circuits.
	03		Open circuit impedance (z) parameters
	04		Open circuit impedance (z) parameters
	05		Tutorial class
13th	01		Short circuit admittance (y) parameters
	02		Short circuit admittance (y) parameters
	03		Transmission (ABCD) parameters
	04		Hybrid (h) parameters
	05		Tutorial class
14th	01		Inter relationships of different parameters
	02		T and π representation
	03		Classification of filters. Filter networks.
	04		Equations of filter networks. Classification of pass Band, stop Band and cut-off frequency
	05		Tutorial class
15th	01		Characteristic impedance in the pass and stop bands
	02		Constant – K low pass filter Constant – K high pass filter
	03		Constant – K Band pass filter Constant – K Band elimination filler
	04		m- derived T section filter
	05		Tutorial class

(Signature of Concerned faculty)

(H O D Electrical)