LESSONPLAN

Discipline: Electrical Engg.		Semester: 3rd (Session-2024-2025)	Name of the Teaching Faculty: N . C BEHERA , Sr. Lect. (Electrical)	STATUS
Subject: CNT		No.Of Days/Week Class Allotted = 5	Semester :From Date 01.07.2024 To Date: 08.11.2024 No. of Weeks: 15	
Week	**Chapter**	**Class Day**	**Theory Topics**	
1st	Magnetic Circuits	(Chapter-1)1st	Introduction to Magnetic Circuits Magnetizing force, Intensity.	
		2nd	MMF, flux and their relations. Permeability, reluctance and permeance.	
		3rd	Analogy between electric and Magnetic Circuits	
		4th	B-H Curve	
		5th	Series & parallel magnetic circuit	
2nd		1st	Hystersis loop	
	Coupled Circuits	(Chapter-2)2nd	Self-inductance and Mutual Inductance	
		3rd	Conductively coupled circuit and Mutual inductance	
		4th	Dot Convention	
		5th	Coefficient of Coupling,Series and Parallel Connection of Couple Inductance	
3rd		1st	Solve Numerical Problems	
	Circuit Elements & Analysis	(Chapter-3) 2nd	Voltage, current, power and energy	
		3rd	Resistance, Inductance & capacitance as parameters	
		4th	Active, Passive, Unilateral & bilateral, Linear & Non linear elements.	
		5th	KVL and KCL, Voltage division & current division.	
4th		1st	Problems related to above topics.	
		2nd	Mesh Analysis Mesh Equations by inspection	
		3rd	Super mesh Analysis Problems related to Mesh analysis	
		4th	Nodal Analysis Nodal Equations by inspection	
		5th	Super node Analysis Source Transformation Technique	
5th		1st	Problems related to Node analysis & Source transformation.	
	Network Theorems	(Chapter-4)2nd	Star – delta transformation & related problems.	
		3rd	Super position Theorem & related problems	
		4th	Thevenin's Theorem & related problems	
		5th	Norton's Theorem & related problems	
6th		1st	Reciprocity Theorem & related problems	
		2nd	Compensation Theorem & related problems	
		3rd	Maximum power Transfer theorem & related problems	
		4th	Problems related to Thevenin's, Norton's, Maximum power Transfer theorem.	

		5th	Milliman's Theorem & related problems.
7th	AC Circuit & Resonance	(chapter-5)1st	Review of A.C. through R-L series Circuit. Solution of problems of A.C. through R-L series Circuitby complex algebra method.
		2nd	Review of A.C. through R-C series Circuit. Solution of problems of A.C. through R-C series Circuitby complex algebra method.
		3rd	Review of A.C. through R-L-C series Circuit. Solution of problems of A.C. through R-L-C series Circuitby complex algebra method.
		4th	Solution of problems of A.C. through R-L, R-C parallelCircuits
		5th	Solution of problems of A.C. through R-L-C parallel &Composite Circuits
8th		1st	Power factor & power triangle.
		2nd	Deduce expression for active, reactive, apparent power.
		3rd	Series resonance & band width in RLC Circuit
		4th	Q factor & selectivity in series circuit.
		5th	Problems related to Series Resonance.
9th		1st	Resonant frequency for a tank circuit.
	Polyphase Circuit	(Chapter-6)2nd	Poly phase Circuit
		3rd	Voltage, current & power in star connection & related problems
		4th	Voltage, current & power in delta connection & related problems
		5th	Three phase balanced circuit.
10th	Transients	(Chapter-7)1st	Steady state & transient state response.
		2nd	Response to R-L circuit under DC condition.
		3rd	Response to R-C circuit under DC condition.
		4th	Response to RLC circuit under DC condition.
		5th	Application of Laplace transform for solution of D.C transient circuits.
11th		1st	Problems related to above topics.
		2nd	Problems related to above topics.
	Two Port Network	(Chapter-8)3rd	
		4th	
		5th	Transmission (ABCD) parameters & related problem
12th		1st	Hybrid (h) parameters & related problem
		2nd	Inter relationships of different parameters.
		3rd	Inter relationships of different parameters.
		4th	Problems on inter-relationship
	Filters	(chapter-9) 5th	T and π representation
13th		1st	Classification of filters.
		2nd	Filter networks.
		3rd	Equations of filter networks
		4th	Classification of pass Band, stop Band and cut-off frequency.
		5th	Characteristic impedance in the pass and stop bands
14th		1st	Constant – K low pass filter
		2nd	Constant – K high pass filter

			3rd	Constant – K Band pass filter	
			4th	Constant – K Band elimination filler	
			5th	m- derived T section filter.	
15th			1st	Assignment	
			2nd	Assignment	
			3rd	Assignment	
			4th	Assignment	
			5th	Assignment	

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