Lesson Plan		
	Discipline:Electrical EngineeringSemester-3rd Winter 2023	**Name of the Teachng Faculty: Sri Shubhranshu Ranjan Swain**
Sl. No.	**Subject-Circuit and Network Theory**	**Semester From date: 01.08.2023 To date: 30.11.2023. No of weeks: 15**
	Weeks/Months	**Topic**
1	1st Week	1 . 1 Introduction
		1 . 2 Magnetizing force, Intensity, MMF, flux and their relations
		1 . 3 Permeability, reluctance and permeance
2	2nd Week	1 . 4 Analogy between electric and Magnetic Circuits
		1 . 5 B-H Curve
		1 . 6 Series & parallel magnetic circuit.
		1 . 7 Hysteresis loop
		2 . 1 Self Inductance and Mutual Inductance
3	3rd Week	2 . 2 Conductively coupled circuit and mutual impedance
		2 . 3 Dot convention
		2 . 4 Coefficient of coupling
		2 . 5 Series and parallel connection of coupled inductors.
		2 . 6 Solve numerical problems
4	4th Week	3 . 1 Active, Passive, Unilateral & bilateral, Linear & Non linear elements
		3 . 2 Mesh Analysis, Mesh Equations by inspection
		3 . 3 Super mesh Analysis
		3 . 4 Nodal Analysis, Nodal Equations by inspection
		3 . 5 Super node Analysis.
5	5th Week	3 . 6 Source Transformation Technique
		3 . 7 Solve numerical problems (With Independent Sources Only)
		4.1 Star to delta and delta to star transformation
		4.2 Super position Theorem
		4.3 Thevenin's Theorem
6	6th Week	4.4 Norton's Theorem
		4.5 Maximum power Transfer Theorem.
		4.6 Solve numerical problems (With Independent Sources Only)
7	7th Week	5.1 A.C. through R-L, R-C & R-L-C Circuit
		5.2 Solution of problems of A.C. through R-L, R-C & R-L-C series Circuit

		by complex algebra method.
		5.3 Solution of problems of A.C. through R-L, R-C & R-L-C parallel & Composite Circuits
8	8th Week	5.4 Power factor & power triangle
		5.5 Deduce expression for active, reactive, apparent power.
		5.6 Derive the resonant frequency of series resonance and parallel resonance circuit
9	9th Week	5.7 Define Bandwidth, Selectivity & Q-factor in series circuit.
		5.8 Solve numerical problems
		6.1 Concept of poly-phase system and phase sequence
		6.2 Relation between phase and line quantities in star & delta connection
		6.3 Power equation in 3-phase balanced circuit.
10	10th Week	6.4 Solve numerical problems
		6.5 Measurement of 3-phase power by two wattmeter method.
		6.6 Solve numerical problems.
		7.1 Steady state & transient state response.
		7.2 Response to R-L, R-C & RLC circuit under DC condition.
11	11th Week	7.3 Solve numerical problems
		8.1 Open circuit impedance (z) parameters
		8.2 Short circuit admittance (y) parameters
		8.3 Transmission (ABCD) parameters
12	12th Week	8.4 Hybrid (h) parameters.
		8.5 Inter relationships of different parameters.
		8.6 T and p representation.
13	13th Week	8.7 Solve numerical problems
		9.1 Define filter
		9.2 Classification of pass Band, stop Band and cut-off frequency.
14	14th Week	9.3 Classification of filters.

		9.4 Constant – K low pass filter.
		9.5 Constant – K high pass filter.
15	15th Week	9.6 Constant – K Band pass filter.
		9.7 Constant – K Band elimination filter.
		9.8 Solve Numerical problems
		Revision & Dout Solve

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(Lect. in Electrical Engg)
28.07.2023.

C.S. [illegible]
28/7/23
Sr. Lect. (Elect)