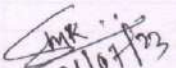# GOVERNMENT POLYTECHNIC NUAPADA

LESSON PLAN
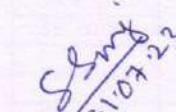
DISCIPLINE : ELECTRICAL ENGG.	SEMESTER : 3RD SEM	NAME OF TEACHING FACULTY : MR. MUKESH KUMAR SAHU	
SUBJECT : TH-2: CIRCUIT AND NETWORK THEORY	NO. OF DAYS /PER WEEK CLASS ALLOTMENT: 4L + 1T /WEEK	SEMESTER FROM Dt : 01/08/23 TO Dt: 30/11/23 NO OF WEEKS : 17	

MONTH/WEEK AUG, SEP, OCT,NOV	CLASS DAY	DATE	MODULE	THEORY / PRACTICAL TOPICS	Period Distribution
				CIRCUIT ELEMENTS AND LAWS, NETWORK ANALYSIS:	06 Periods
1ST	01	02/08/23		3.1 Introduction to Electrical circuits Charge, Voltage, current, power and energy OHM's law, Resistance, Inductance & capacitance as parameters	2
	02	03/08/23		Active, Passive, Unilateral & bilateral, Linear & Non linear elements	
	03	04/08/23		3.2 KVL and KCL, Voltage division & current division.	1
	04	04/08/23	3	TUTORIAL CLASS	
2ND	05	07/08/23		3.3 Mesh Analysis, Mesh Equations by inspection	1
				3.3.1 Super mesh Analysis	
	06	09/08/23		3.4 Nodal Analysis, Nodal Equations by inspection	1
				3.5 Super node Analysis	
	07	10/08/23		3.6 Source Transformation Technique	1
				3.7 Solve numerical problems (with independent source only)	
	08	11/08/23		**NETWORK THEOREMS:**	08 Periods
				4.1 Star – delta transformation	1
	09	11/08/23		TUTORIAL CLASS	
3RD	10	14/08/23		4.2 Super position Theorem	1
	11	16/08/23		4.3 Thevenin's Theorem	1
	12	17/08/23	4	4.4 Norton's Theorem	1
	13	18/08/23		4.5 Reciprocity Theorem	1
	14	18/08/23		TUTORIAL CLASS	
	15	21/08/23		4.6 Compensation Theorem	1
	16	23/08/23		4.7 Maximum power Transfer theorem	1
4TH	17	24/08/23		4.8 Milliman's Theorem	1
	18	25/08/23		**MAGNETIC CIRCUITS**	07 Periods
				1 . 1 Introduction	1
	19	25/08/23		TUTORIAL CLASS	
5TH	20	28/08/23		2 . 2 Magnetizing force, Intensity, MMF, flux and their relations	1
	21	31/08/23		2 . 3 Permeability, reluctance and permeance	1
	22	01/09/23	1	2 . 4 Analogy between electric and Magnetic Circuits	1
	23	01/09/23		TUTORIAL CLASS	
6TH	24	04/09/23		2 . 5 B-H Curve	1
	25	07/09/23		2 . 6 Series & parallel magnetic circuit	1
	26	08/09/23		2 . 7 Hysteresis loop	1
	27	08/09/23		TUTORIAL CLASS	
7TH	28	11/09/23		**COUPLED CIRCUITS:**	05 Periods
				6.1 Self Inductance Inductance	1
	29	13/09/23		6.2 Conductively coupled circuit and mutual impedance	1
	30	14/09/23	2	6.2 Mutual Inductance	1
	31	15/09/23		6.3 Dot convention	1
				6.4 Coefficient of coupling	
	32	15/09/23		TUTORIAL CLASS	
	33	18/09/23		6.5 Series and parallel connection of coupled inductors	1
8TH	34	22/09/23		**AC CIRCUIT AND RESONANCE:**	08 Periods
				5.1 Review of A.C. through R-L, R-C & R-L-C Circuit	1
	35	22/09/23		TUTORIAL CLASS	
9TH	36	25/09/23		5.2 Solution of problems of A.C. through R-L, R-C & R-L-C series Circuit by complex algebra method.	1
	37	27/09/23		5.3 Solution of problems of A.C. through R-L, R-C & R-L-C parallel &Composite Circuits	1

	38	28/09/23		5.4 Power factor & power triangle.	1
10TH	39	04/10/23 05/10/23		5.5 Deduce expression for active, reactive, apparent power.	1
	40	06/10/23		5.6 Series resonance & band width in RLC Circuit	1
	41	06/10/23		TUTORIAL CLASS	
	42	09/10/23		5.7 Resonant frequency for a tank circuit	1
11TH	43	10/10/23		5.8 Q factor & selectivity in series circuit.	1
	44	12/10/23		**TWO-PORT NETWORK:**	08 Periods
				8.1 Open circuit impedance (z) parameters	1
	45	13/10/23		8.2 Short circuit admittance (y) parameters	1
	46	13/10/23		TUTORIAL CLASS	
	47	16/10/23		8.3 Transmission (ABCD) parameters	1
	48	18/10/23	8	8.5 Hybrid (h) parameters.	1
12TH	49 50	19/10/23 20/10/23		8.6 Inter relationships of different parameters.	2
	51	20/10/23		TUTORIAL CLASS	
	52	30/10/23		8.7 T representation.	1
	53	01/11/23		8.8 π representation.	1
13TH	54	02/11/23		**POLY PHASE CIRCUIT:**	06 Periods
				6.1 concept of poly-phase system and phase sequence	1
	55	03/11/23		6.2 relation between phase and line quantities in star & delta connection	1
	56	03/11/23	6	TUTORIAL CLASS	
	57	06/11/23		6.3 power equation in three phase balanced circuit	1
	58	08/11/23		6.4 solved numerical problems	1
14TH	59	09/11/23		6.5 measurement of 3-phase power by two wattmeter method	1
	60	10/11/23		6.6 solved numerical problems	1
	61	10/11/23		TUTORIAL CLASS	
	62	13/11/23		**TRANSIENTS:**	06 Periods
				7.1 Steady state response.	1
	63	15/11/23		7.1 transient state response.	1
15TH	64	16/11/23	7	7.2 Response to R-Lcircuit under DC condition.	1
	65	17/11/23		7.2 Response to R-C circuit under DC condition.	1
	66	17/11/23		TUTORIAL CLASS	
	67 68	20/11/23 22/11/23		7.2 Response to RLC circuit under DC condition.	2
	69	23/11/23		**FILTERS:**	06 Periods
				9.1 Classification of filters.	1
16TH				9.2 Filter networks.	
	70	24/11/23		9.3 Equations of filter networks.	1
				9.4 Classification of pass Band, stop Band and cut-off frequency.	
			9	9.5 Characteristic impedance in the pass and stop bands	
	71	24/11/23		TUTORIAL CLASS	
	72	28/11/23		9.6 Constant – K low pass filter	1
17TH				9.7 Constant – K high pass filter	1
	73	29/11/23		9.8 Constant – K Band pass filter	1
	74	30/11/23		9.9 Constant – K Band elimination filler	1
				9.10 m- derived T section filter	

Signature of Faculty 21/07/23

Signature of H.O.D. 25/07/23

Sign of A.C. 31.07.23

PRINCIPAL 31/07/23
GP, NUAPADA