BALASORE SCHOOL OF ENGINEERING, BALASORE.

LESSION PLAN / SEMESTER – 3RD. (WINTER - 2023)

SUB: - CIRCUIT & NETWORK THEORY

THEORY: - 02

BRANCH: - ELECTRICAL (SEC – B)

FACULTY – K.DAS

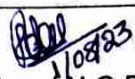| SL. NO	CH. NO.	MONTH WISE NO. OF CLASSES	DATE	TOPICS TO BE COVERED	NO. OF CLASSES AS PER SYLLABUS	NO. OF CLASSES AS PER LESSION PLAN
01			01/08/2023	Introduction to Circuit & Network Theory		
				CH.1 MAGNETIC CIRCUIT		
02			02/08/2023	1. 1 Introduction.		
03			03/08/2023	1. 2 Magnetizing force, Intensity, MMF, flux and their relations.		
04			04/08/2023	1. 3 Permeability, reluctance and permeance.	07	07
05			05/08/2023	1. 4 Analogy between electric and Magnetic Circuits		
06			08/08/2023	1. 5 B-H Curve 1. 6 Series & parallel magnetic circuit.		
07			09/08/2023	1.7 Hysteresis loop		
				CH.2 COUPLED CIRCUIT		
08			10/08/2023	2.1 Self-Inductance & Mutual Inductance		
09			11/08/2023	2.2 Conductively coupled circuit and Mutual Impedance		
10	01	AUGUST (22)	12/08/2023	2.3 Dot Convention	05	05
11			16/08/2023	2.4 Co-efficient of Coupling		
12			17/08/2023	2.5 Series and Parallel connection of Coupled Inductor 2.6 Solve numerical Problems		
			18/08/2024	**CLASS TEST**		
				CH.3 CIRCUIT ELEMENTS AND ANALYSIS		
13			19/08/2023	3.1 Active, passive, bilateral & unilateral linear & non-linear elements		
14			20/08/2023	3.2 Mesh analysis, mesh equation by inspection. Problems	06	06

			21/08/2023	3.3 Super mesh analysis		
15			22/08/2023	3.4 Nodal analysis, nodal equation by inspection,		
16			23/08/2023	3.5 Super node analysis,		
17			24/08/2023	3.6 Source transformation technique. 3.7 Solve Numerical Problems		
18				**CH.4 NETWOR THEOREMS**		
19			25/08/2023	4.1 star to delta and delta to star Transformation,		
20	04		26/08/2023	4.2 Superposition Theorem	08	06
21			28/08/2023	4.3 The venin's Theorem		
22			29/08/2023	4.4 Norton's Theorem,		
23			31/08/2023	4.5 Maximum Power Transfer Theorem,		
24			01/09/2023	4.6 Solve numerical problems (With Independent source only)		
			02/09/2023	**CH.5 AC CIRCUIT AND RESONANCE**		
25			04/09/2023	5.1 AC through R-L , R-C, & R-L-C Circuit		
26			07/09/2023	5.2 Solution of Problems of AC through R-L ,R-C, & R-L-C series circuit by complex algebra method		
27			08/09/2023	5.3 Solution of Problems of AC through R-L, R-C, & R-L-C parallel & composite circuit. **CLASS TEST**	08	07
28	05		09/09/2023	5.4 Power Factor & Power Triangle 5.5 Deduce expression for active, reactive, apparent power.		
29			11/09/2023	5.6 Derive the Resonant Frequency of series Resonance and Parallel Resonance circuit		
30			12/09/2023	5.7 Define Band width, Selectivity & Q-factor in series circuit.		
31			13/09/2023	5.8 Solve numerical problems.		
			14/09/2023	**CH.6 POLYPHASE CIRCUIT**		
32		NOV.(14)	15/09/2023	6.1 Concept of Poly Phase system and Phase sequence.		
33			16/09/2023	6.2 Relationship between phase and Line quantities in star and delta Connection.		
34	06		2109/2023	6.3 Power Equation in three phases Balanced circuit.	06	05

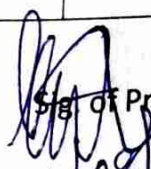|			Date	Topic		
35			22/09/2023	6.4 Solve numerical problems		
36			23/09/2023	6.5 Measurement of 3- phase power by Two-watt meter method. 6.6 Solve numerical problems		
			25/09/2023	**CH.7 TRANSIENTS**		
37			26/09/2023	7.1 Steady state & transient state Response		
38			27/09/2023	7.2 Response to R-L Circuit under D.C condition.		
39	07		28/09/2023	7.2 Response to R-C Circuit under D.C condition.	06	05
40			29/09/2023	7.2 Response to R-L-C Circuit under D.C condition.		
41			30/09/2023	7.3 Solve numerical problems **CLASS TEST**		
				CH.8 TWO PORT NETWORK		
42			03/10/2023	8.1 Open circuit impedance (z-) Parameters.		
43			04/10/2023	8.2 Short circuit admittance(y-) Parameters.		
44	08		05/10/2023	8.3 Transmission (ABCD) parameters	08	06
45			06/10/2023	8.4 Hybrid (h) parameters.		
46			09/10/2023	8.5 Inter Relationships of different Parameters. T& pi representation.		
47			10/10/2023	8.6 Solve numerical problems		
				CH.9 FILTERS		
48			11/10/2023	9.1 Define Filter		
49			12/10/2023	9.2 Classification of pass Band		
50			13/10/2023	9.2 Stop Band and cut off Frequency		
51	09		30/10/2023	9.3 Classification of Filters.	06	06
52			1/11/2023	9.4 Constant-K low pass filter.		
53			08/11/2023	9.5 Constant-K High pass filter.		
54			09/11/2023	**CLASS TEST**		
55			11/11/2023	CLASS TEST		
56			14/11/2023	CLASS TEST		
				TOTAL	60	54

MONTH WISE: -

MONTH	CHAPTER	REMARK
SEPTEMBER	CH.-01 , CH. -02(UP TO 2.4)	20%
OCTOBER	CH.-02(2.5-2.6), CH.-03 , CH.-04 , CH.-05(UP TO 5.3)	35%
NOVEMBER	CH.-05(5.4 – 5.8) , CH.-06 , CH.-07	35%
DECEMBER	CH.-08 , CH.-09	10%

Sig. of Faculty 1/08/23

Sig. of H.O.D 1/08/23

Sig. of Principal
1/08/23