

Bhoj Reddy Engineering College for Women: Hyderabad
Department of Electrical and Electronics Engineering
Lesson plan of faculty member for the academic year 2017-18
Class: II B Tech Branch-Section: EEE Semester: I
Subject: Network Theory (NT) Lectures per week: 3+0 (Tutorial)

Lecture Number	Topics to be covered	Date (s)
UNIT – I: MAGNETIC CIRCUITS		
1	Faraday's laws of electromagnetic induction	12 July 2017
2	Concept of self and mutual inductance	13 July 2017
3	Dot convention	14 July 2017
4	Coefficient of coupling	17 July 2017
5	Composite magnetic circuit	18 July 2017
6	Analysis of series and parallel magnetic circuits	19 July 2017
7	Network Topology: Definitions– Graph – Tree	20 July 2017
8	Basic cutset and Basic Tieset matrices for planar networks	21 July 2017
9	Loop and Nodal methods of analysis of Networks with dependent sources	24 July 2017
10	Loop and Nodal methods of analysis of Networks with independent sources	25 July 2017
11	Duality & Dual networks.	26 July 2017
UNIT - II: THREE PHASE AC CIRCUITS		
12	Introduction 3-phase voltage generation	27 July 2017
13	Phase sequence, Star and delta connection	28 July 2017
14	Relation between line and phase voltages in balanced systems	31 July 2017
15	Relation between line and phase currents in unbalanced systems	1 August 2017
16	Analysis of balanced 3- Φ circuits	2 August 2017
17	Analysis of unbalanced 3- Φ circuits	3 August 2017
18	Measurement of active power	4 August 2017
19	Measurement of reactive power	7 August 2017
20	Phasor diagrams for balanced systems	8 August 2017
21	Measurement of active power using single wattmeter	9 August 2017
22	Measurement of reactive power using single wattmeter	10 August 2017
23	Effect of power factor	11 August 2017
UNIT – II: D.C& A.C TRANSIENT ANALYSIS		
24	Differential Equation Approach	16 August 2017
25	Transient response of series R-L and R-C circuits for d.c excitation	17 August 2017
26	Transient response of series R-L-C circuit for d.c excitation	18 August 2017
27	Transient response of Parallel R-L-C circuit for d.c excitations	21 August 2017
28	Laplace Transform Approach	22 August 2017
29	Transient response of series R-L and R-C circuits for d.c excitation	23 August 2017
30	Transient response of series R-L-C circuit for d.c excitation	24 August 2017
31	Laplace Transform Approach	28 August 2017

32	Transient response of series R-L and R-C circuits for d.c excitation	29 August 2017
33	Transient response of series R-L-C circuit for d.c excitation	30 August 2017
34	Transient response of parallel R-L and R-C circuits for d.c excitation	31 August 2017
35	Transient response of Parallel R-L-C circuit for d.c excitations	1 September 2017
36	Transient response of series R-L , R-C & R-L-C circuits for sinusoidal excitation using differential equation approach	4 September 2017
37	Transient response of parallel R-L , R-C circuits for sinusoidal excitation using Laplace transform approach	5 September 2017
38	Transient response of series R-L-C circuit for sinusoidal excitation using Laplace transform approach	6 September 2017
39	Transient response of Parallel R-L-C circuit for sinusoidal excitations using Laplace transform approach	11 September 2017
UNIT-III: NETWORK PARAMETERS		
40	Concept of complex frequency	12 September 2017
41	Physical interpretation of complex frequency	13 September 2017
42	Transform Impedance and Transform Circuits	14 September 2017
43	Terminal pairs or ports	15 September 2017
44	Network functions for the one-port and two-port	18 September 2017
45	Poles and zeros of network functions	19 September 2017
46	Significance of poles and zeros	21 September 2017
47	Necessary conditions for Driving Point functions	22 September 2017
48	Time domain response from pole zero plot	3 October 2017
49	Properties of driving point functions Properties of transfer functions	4 October 2017
50	Necessary conditions for Transfer functions	5 October 2017
51	Two port network parameters Z,Y parameters	6 October 2017
52	ABCD parameters	9 October 2017
53	Hybrid parameters	10 October 2017
54	Relation between Z & Y parameters	11 October 2017
55	Relation between ABCD & h parameters	12 October 2017
56	Cascaded networks , Concept of Transformed network	13 October 2017
57	Two-port network parameters using Transformed variables	16 October 2017
UNIT-V: FILTERS		
58	Prototype Low Pass filter design	17 October 2017
59	Prototype High Pass filter design	19 October 2017
60	Prototype Band Pass filter design	20 October 2017
61	Prototype Band Elimination filter design	23 October 2017
62	RC, RL, filters	24 October 2017
63	Constant K and m derived filters	25 October 2017
64	Composite filter design	26 October 2017
65	Numericals on Unit-V	27 October 2017
66	Revision	30 October 2017
67	Numericals on Unit-IV	31 October 2017
68	Revision	1 November 2017
69	Revision	2 November 2017
70	Previous question papers discussion	3 November 2017
71	Revision	6 November 2017
72	Revision	7 November 2017

73	Final assessment test	8 November 2017
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TEXTBOOKS:

1. "Network Analysis" , N.C.jagan and C.Laxmi Narayana, BSP 3rd Edition
2. Electric Circuits, A. Chakrabarthy, Dhanpat Rai & Sons
3. Network Theory, Sudhakar and Shyam Mohan S Palli

REFERENCE BOOKS:

1. Engineering Circuit Analysis, William Hayt, Jack E. Kimmerly, S M Durbin MGH companies
2. Electric Circuits, David A. Bell, Oxford University Press

Name and signature of the faculty: Vali SK ----

Name and signature of Head of the Department: Deepti S ----