

STATE INSTITUTE OF ENGINEERING & TECHNOLOGY
Department of Electronics & Communication Engineering

LESSON PLAN

Subject Name: - NT

Subject Code: - B24-ECE-207

Year: - 2nd

Semester:- 3rd

Lecture No	Unit No	Topic	COs Covered
1	1	Introduction to Subject, Introduction to basic circuit elements	CO1
2		Node and Mesh Analysis	
3		Matrix approach of network containing voltages and current sources and reactances	
4		Source transformation and duality .	
5		Network Theorems Superposition theorem	CO2
6		Reciprocity theorem	
7		Thevenin theorem	
8		Nortan theorem	
9		Maximum power transfer theorem	
10		Compensation and Tallegen's theorem as applied to AC circuits	
11		Numerical Problems related to theorem	
12		Test	
13	2	Trigonometric and exponential Fourier series: Discrete spectra and symmetry of waveform	CO
14		Steady state response of a network to non-sinusoidal periodic inputs	
15		Power factor, effective values	
16		Fourier transform and continuous spectra	
17		Three phase unbalanced circuit and power calculation.	
18		Test	
19		Laplace transforms and properties: Partial fractions, singularity functions	

20	3	waveform synthesis	CO3
21		Analysis of RC with and without initial conditions with Laplace transforms evaluation of initial conditions.	
22		Analysis of RL with and without initial conditions with Laplace transforms evaluation of initial conditions.	
23		Analysis of RLC with and without initial conditions with Laplace transforms evaluation of initial conditions.	
24		Test	
25	4	Transient behavior	CO4
26		concept of complex frequency	
27		Driving points and transfer functions poles and zeros of immittance function, their properties	
28		sinusoidal response from pole-zero locations	
29		convolution theorem	
30		Two port network and interconnections	
31		Numerical Problems related to two-port network	
32		Behaviors of series and parallel resonant circuits	
33		Introduction to band pass filter. Low pass filter	
34		High pass and band reject filters.	
35		Numerical problems related to filter	

TEXT BOOKS:

1. Fundamentals of Electric Circuits: Charles K. Alexander, Matthew N. O. Sadiku, McGraw Hill Education
2. Network Analysis: M.E. Van Valkenburg, PHI

REFERENCE BOOKS:

1. Network Analysis & Synthesis: F. F. Kuo, John Wiley.
2. Circuits & Networks: Sukhija & Nagsarkar, Oxford Higher Education.
3. Basic Circuit Theory: DasoerKuh, McGraw Hill Education.
4. Circuit Analysis: G.K. Mithal, Khanna Publication.