LESSON PLAN SESSION (JUL – DEC 2024)

SUBJECT: **Network Analysis**   SEMESTER: **3RD**

BRANCH: - **Electronics and Telecommunication Engineering**

UNIT NUMBER	NAME OF THE TOPIC	NO OF CLASS REQUIRED	TOTAL CLASSES	REMARK
Unit-1.0 Basic Concepts of Networks	1.1 Ohms law	01	09	
	1.2 Kirchhoff's current and voltage law	01		
	1.3 Sources: Controlled and Independent sources, source transformation: voltage to current and current to voltage	01		
	1.4 Voltage division and current division techniques	01		
	1.5 Star-Delta transformation	01		
	1.6 Nodal Analysis, Super Node,	01		
	1.7 Mesh Analysis, Super Mesh	01		
	• Concepts beyond class	01		
	• QUIZ. • Doubt clearing session	01		ASSIGNMENT-1
Unit- 2.0 Network Theorems	2.1 Linearity and Superposition theorem	02	10	
	2.2 Thevenin's theorem	02		
	2.3 Norton's theorem	01		
	2.4 Milliman and Dual of Milliman theorem	01		
	2.4 Reciprocal and Maximum Power transfer theorem	02		
	• Concepts beyond class	01		
	• QUIZ • Doubt clearing session	01		ASSIGNMENT-2
Unit -3.0 Resonance and Filters Circuits	3.1 Series Resonance: circuit diagram, resonant frequency, resonant impedance, Quality factor, Bandwidth, selectivity of series resonance circuit.	04	10	
	3.2 Parallel Resonance: circuit diagram, resonant frequency, resonant impedance, Quality factor, Bandwidth, selectivity.	03		
	3.3 Basics of filter: cutoff frequency, bandwidth, pass band, stop band, pass band attenuation, stop band attenuation, types of filter: LPF, HPF, BPF, BSF, Notch filter.	01		
	• Concepts beyond class	01		
	• QUIZ • Doubt clearing session	01		ASSIGNMENT-3
Unit-4.0 Two Port Network	4.1 Z-Parameter	02	10	
	4.2 Y-parameter	01		
	4.3 Transmission parameter	01		
	4.4 Hybrid parameter	01		
	4.5 Condition for Reciprocity and Symmetry for two port networks.	01		
	4.6 Interconnection of Two-port Network: Series connection, Parallel connection, Cascade connection. (For resistive, RL and RC circuits only)	02		
	• Concepts beyond class	01		
	• QUIZ	01		ASSIGNMENT-4

	• Doubt clearing session			
Unit-5.0 Transient and Steady State Analysis	5.1 Transient and steady state analysis	01	09	
	5.2 Behavior of L and C element at initial and final condition	02		
	5.3 Procedures to evaluate initial conditions, Transient and steady state analysis of RL and RC circuit	02		
	5.4 Application of Laplace Transformation Technique in Electric Circuit Analysis	02		
	• Concepts beyond class	01		
	• QUIZ • Doubt clearing session	01		ASSIGNMENT-5
Total Classes Required		48	48	

Lecturer Name & Sign: - Abhiranyu Kumar Singh   HOD ET&T Sign: -
                    LECTURER,ET&T, GPJ