

LESSON PLAN SESSION JUL – DEC 2024

SUBJECT: Analog Electronic Circuit-I

SEMESTER: 3RD

BRANCH: - Electronics and Telecommunication Engineering

UNIT NUMBER	NAME OF THE TOPIC	NO OF CLASS REQUIRED	TOTAL CLASSES	REMARK
Unit-1.0 Transistor at Low Frequency	1.1 h-parameter: Need for h-parameter model of transistor, calculation of input impedance, output impedance, current gain and voltage gain	01	09	
	1.2 Comparison of CE, CB, CC h-amplifier circuit based on h-parameter concept, voltage gain, current gain, input impedance, output impedance and load line analysis	04		
	1.3 Miller's theorem for analysis of common emitter amplifier with collector to base bias	01		
	1.4 Simplified model of transistor	01		
	• Concepts beyond class	01		
	• QUIZ. • Doubt clearing session	01		ASSIGNMENT-1
Unit-2.0 Transistor at High Frequency and Multistage Amplifier	2.1 Hybrid π model in CE and CC configuration	02	10	
	2.2 Relation between hybrid π and h-parameter model	02		
	2.3 Need of multistage amplifier, direct coupled multistage.	01		
	2.4 RC coupled and transformer coupled multistage amplifier	01		
	2.5 Selection of amplifier configuration for multistage amplifiers	02		
	• Concepts beyond class	01		
	• QUIZ • Doubt clearing session	01		ASSIGNMENT-2
Unit-3.0 FEEDBACK AMPLIFIERS	3.1 Types of feedback, positive and negative feedback in the amplifiers	02	10	
	3.2 Effect of negative feedback on gain, stability, distortion, noise, bandwidth and phase shift.	01		
	3.3 Effect of negative feedback on input and output impedance	01		
	3.4 Feedback topologies: Voltage series, Voltage shunt, current series, current shunt	02		
	3.5 Distortions in amplifiers	01		
	3.6 Noise in the amplifier circuits	01		
	• Concepts beyond class	01		
	• QUIZ • Doubt clearing session	01		ASSIGNMENT-3
	4.1 Concept of oscillation – oscillation condition in the amplifier circuit,	02	10	

Unit-4.0 Oscillators	Barkhausen criteria			
	4.2 Mechanism for start of oscillation and Stabilization of amplitude in the oscillator circuit	02		
	4.3 Sinusoidal oscillator: RC Phase shift oscillators, Wien Bridge oscillator, Resonant circuit oscillators, Colpitt and Hartley oscillator	03		
	4.4 Crystal controlled oscillator	01		
	• Concepts beyond class	01		
	• QUIZ • Doubt clearing session	01		ASSIGNMENT-4
Unit-5.0 Power Amplifier and Tuned Amplifier	5.1 Characteristics of Class A, Class B, Class C and Class AB amplifier.	02	09	
	5.2 Difference between voltage and power amplifiers	01		
	5.3 Circuit operation of Transformer Coupled Class Amplifier, Class B Push Pull amplifier and Class C amplifier	02		
	5.4 Tuned Amplifier: Tuned circuit, quality factor and bandwidth	01		
	5.5 Single tuned radio frequency amplifier and double tuned radio frequency amplifier	01		
	• Concepts beyond class	01		
	• QUIZ • Doubt clearing session	01		ASSIGNMENT-5
Total Classes Required		48	48	

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