

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

LESSON PLAN

Subject Name: - Analog Circuit
Year: - 3rd

Subject Code: - EC-206A
Semester: - 4th

Lecture No	Unit No	Topic	COs Covered
L 1	UNIT-I	UNIT-I: Introduction to subject, Amplifier Models: Amplifier types: Voltage amplifier	CO1
L 2		Current amplifier, trans-conductance amplifier and	
L 3		Trans-resistance amplifier and comparison analysis based on Input and Output Impedance	
L 4		Biasing, Need of Biasing	
L 5		Q-point, DC, and AC analysis	
L 6		Voltage divider biasing and its analysis	
L 7		Small signal analysis of CB amplifiers using re-model	
L 8		Small signal analysis of CE, and CC amplifiers using re-model.	
L 9		Small signal analysis of CS JFET amplifier	
L 10		Analysis of the amplifier to determine voltage gain, input impedance, and output impedance.	
L 11		Design procedure to design a CB, CE, CC amplifier configuration	
L 12	UNIT-II	Class A power amplifier and its derivation	CO2
L 13		Class B power amplifier and its derivation	
L14		Class C power amplifier and its derivation	
L15		Frequency response of an amplifier	
L 16		Effect of cascading of an amplifier on the frequency response	
L 17		Feedback in amplifier: Voltage series and voltage shunt	
L 18		Current series and current shunt amplifier	
L19		Analysis of amplifier and numerical	
L20		Oscillator: Barkhausen criterion for oscillators	

L 21	UNIT-III	Types of oscillators and principles of their working	CO3
L 22		RC phase shift oscillator	
L 23		Wein bridge oscillator	
L 24		LC oscillator: Hartley oscillator	
L 25		Working principle of Colpitts oscillator	
L 26		555 timer operation as monostable multivibrator	
L 27		555 timer operation as Astable multivibrator	
L 28	UNIT-IV	Op-Amp Applications: Simple op-amp circuits, ideal vs practical OP-AMP	CO4
L 29		OPAMP as Adder and subtractor circuit	
L 30		OPAMP as Schmitt Trigger	
L 31		Differential Amplifier and types of amplifier	
L 32		Design of dual input balanced output differential amplifier	
L 33		Design of dual input Un-balanced output differential amplifier	
L 34		Design of single input balanced output differential amplifier	
L 35		Design of single input Un-balanced output differential amplifier	
L 36		Calculation of CMRR, common mode gain	
L37		Revision	
L38		Revision	

Text Books:

1. Millman & Halkias: Integrated Electronics, TMH.
2. Boylestad & Nashelsky: Electronic Devices & Circuit Theory, PHI.

Reference Books:

1. B.G. Streetman, Solid State Electronic Devices, Prentice Hall of India, New Delhi, 1995.
2. E S. Yang, Microelectronic Devices, McGraw Hill, Singapore, 1988.
3. A.S. Sedra and K.C. Smith, Microelectronic Circuits, Saunder's College Publishing, 1991.
4. S Salivahanan and N Naresh Kumar, Electronics devices and circuits, McGraw Hill, 1998.