

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

LESSON PLAN

Subject Name: - Electronic Devices
Year: - 2nd

Subject Code: - EC-201A
Semester: - 3rd

Lecture No	Unit No	Topic	COs Covered
L 1	UNIT-I	UNIT-I: Introduction Electronics fundamental	CO1
L 2		Energy bands in intrinsic and extrinsic silicon	
L 3		Carrier transport: diffusion current, drift current	
L 4		Mobility and resistivity; Generation and recombination of carriers	
L 5		Continuity equation, PN Junction: Basic Structure	
L 6		Working of PN Junction diode, derivation of barrier potential	
L 7		Small signal equivalent circuit of p-n diode	
L 8		Rectifier circuit its working principle	
L 9		Diode working as clipper.	
L 10		Diode working as a clamper	
L 11		Zener diode and its application as voltage regulator	
L 12	UNIT-II	Unit-II Basic principle of operation of transistor	CO2
L 13		Current gains: derivation of α, β, γ and their relationship	
L14		Base width Modulation	
L15		Various modes of operation of BJT	
L 16		Input and output characteristics of CB	
L 17		Input and output characteristics of CE	
L 18		Transistor hybrid model, h-parameter equivalent circuit of transistor	
L19		Analysis of transistor amplifier using h-parameters	
L20		Unit III JFET: basic Operation and characteristics	
L 21		Drain and transfer characteristics	

L 22	UNIT-III	Pinch off voltage, parameters of JFET: Transconductance (g_m), ac drain resistance (r_d), amplification factor(μ)	CO3
L 23		Small Signal Model & Frequency Limitations.	
L 24		MOSFET: basic operation, depletion type	
L 25		Enhancement type, pinch-off voltage	
L 26		Small Signal Model of MOSFET	
L 27		MOS Capacitor	
L 28	UNIT-IV	UNIT-IV Regulated Power Supplies: Voltage Regulation	CO4
L 29		Zener diode voltage regulators	
L 30		Transistor series voltage regulator	
L 31		Transistor shunt voltage regulator	
L 32		Controlled Transistor Voltage Regulator	
L 33		Controlled Transistor Voltage Regulator	
L 34		Op-Amp Series and shunt voltage regulator	
L 35		Op-Amp Series and shunt voltage regulator	
L 36		Complete positive and negative power supply.	
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.