

Lesson plan			
Name of		Sh. Gulvender	
Discipline		Electrical Engineering	
Semester		3rd	
Subject		Analog & Digital Electronics	
Teaching Duration		(From 30/07/2026 to 23/11/2026) Theory: 3; Practical: 2	
Week	Lecture Day	Theory(3 Hours/Week)	Practical(2Hours each Group)
1 st	Day1	Semiconductor Devices: Concept of insulators, conductors and semiconductors	1. To Plot V-I characteristics of a PN junction diode.
	Day2	Intrinsic and extrinsic semiconductor	
	Day3	P and N type semiconductor and their conductivity	
2 nd	Day4	Effect of temperature on conductivity of intrinsic semiconductor etc.	2. To Plot V-I characteristics of a Zener diode.
	Day5	PN junction diode,	
	Day6	mechanism of current flow in PN junction	
3 rd	Day7	forward and reverse biased PN junction,	3. Observe the output by waveform of Half-wave rectifier circuit using one diode
	Day8	potential barrier, drift and diffusion currents, depletion layer.	
	Day9	V-I characteristics of diodes.	
4 th	Day10	Diode as half-wave,	4. To observe output by waveform of Full-wave rectifier circuit using two diodes
	Day11	full wave rectifier	
	Day12	bridge rectifiers,	
5 th	Day13	Peak Inverse Voltage, rectification efficiencies and ripple factor calculations,	5. Observe the output by waveform of Bridge-rectifier circuit using four diodes.
	Day14	Concept of filters, Types of diode,	
	Day15	characteristics and applications of Zener diodes.	
6 th	Day16	Revision/class test	6. Plotting of input and output characteristics and calculation of parameters of transistors in CE configuration.
	Day17	Bipolar-Transistors and Field Effect Transistors: Concept of a bipolar transistor,	
	Day18	PNP and NPN transistors.	
7 th	Day19	CB configuration of a transistor	7. Plotting of input and output characteristics and calculation of parameters of transistors in
	Day20	CE configuration of a transistor	
	Day21	CC configuration of a transistor	
8 th	Day22	Transistor as an amplifier in CE Configuration,	8. Basic logic operations of AND, OR, NOT gates.
	Day23	Current amplification factors,	
	Day24	Comparison of CB, CE and CC Configurations.	
9 th	Day25	Construction, operation and characteristics of FETs.	9. Verification of truth tables for NAND, NOR and Exclusive OR (EX-OR) and Exclusive NOR (EX-NOR) gates
	Day26	FET as an amplifier.	
	Day27	Construction, operation and characteristics of a MOSFET.	
10 th	Day28	Comparison of JFET, MOSFET and BJT	10. Realization of logic functions with the help
	Day29	Revision/class test	

	Day30	Digital Electronics: Distinction between analog and digital signal.	of NAND or NOR gates.
11 th	Day31	Decimal, Binary, octal and hexadecimal number system	11. To design a half adder using XOR and NAND gates and verification of its operations.
	Day32	Conversion from decimal and hexadecimal to binary and vice-versa.	
	Day33	Binary addition and subtraction.	
12 th	Day34	Definition, symbols and truth tables of Logic gates (AND, OR, XOR).	12. Construction of a full adder circuit using XOR and NAND gates and verify its operation
	Day35	Definition, symbols and truth tables of Logic gates (NOT, NAND, NOR and XNOR).	
	Day36	Revision/class test	
13 th	Day37	Sequential and Combinational Circuit: Sequential Circuits such as Half adder, Full adder,	13. Verification of truth table for Mux and De-Mux.
	Day38	Mux, De-Mux,	
	Day39	Encoder and Decoder.	
14 th	Day40	Combinational Circuits like Latch, Flip Flops,	File checking/Problem discussion
	Day41	shift registers and counters.	
	Day42	A/D and D/A Converters and its Applications.	
15 th	Day43	Revision/class test	Internal Examination/Viva Voce
	Day44	Previous Year Question paper solving session	
	Day45	Doubt/Query/Problem solving session	