

Satyug Darshan Institute of Engineering and Technology

Lesson Plan / Teaching Plan / Lecture Plan with Progress : B Tech - 3rd Semester : 2025-26

Course Name (Code) : Digital Electronics (ELU-202-V)

Faculty - Shrish Gupta

Topics / lectures are arranged in sequence - same - as to be taught in the class. Maintain data related to "Date" in its hard copy.

S. No.	Lecture No	Topic Description	Teaching Pedagogy	Reference Material	Remarks, if any
1	1	Digital signals, digital circuits	Board	T1	
2	2	AND, OR, NOT, NAND, NOR and Exclusive-OR operations,	Board	T1	
3	3	Boolean algebra	Board	T1	
4	4	Boolean algebra	Board	T1	
5	5	examples of IC gates, number systems-binary	Board	T1	
6	6	signed binary, octal hexadecimal number	Board	T1	
7	7	binary arithmetic, one's and two's complements arithmetic	Board	T1	
8	8	codes	Board	T1, T2	
9	9	error detecting and correcting codes	Board	T1	
10	10	error detecting and correcting codes	Board	T1	
11	11	Revision			
12	51	characteristics of digital ICs	Board + PPT	T1	
13	52	digital logic families	Board + PPT	T1	
14	53	TTL, Schottky TTL	Board + PPT	T1	
15	54	CMOS logic, interfacing CMOS and TTL, Tri-state logic	Board + PPT	T1	
16	12	Standard representation for logic functions	Board	T1	
17	13	K-map representation	Board	T1	
18	14	simplification of logic functions using K-map	Board	T1	
19	15	simplification of logic functions using K-map	Board	T1	
20	16	minimization of logical functions. Don't care conditions	Board	T1	
21	17	Multiplexer, De-Multiplexer/Decoders	Board	T1	
22	18	Adders, Subtractors	Board + PPT	T1	
23	19	BCD arithmetic	Board	T1	
24	20	carry look ahead adder, serial adder	Board + PPT	T1, T2	
25	21	ALU, elementary ALU design	Board	T1	
26	22	popular MSI chips, digital comparator	Board	T1	
27	23	parity checker/generator, code converters,	Board	T1	
28	24	code converters continued,priority encoders	Board	T1	
29	25	decoders/drivers for display devices	Board	T1	
30	26	Q-M method of function realization.	Board	T1	
31	27	Revision			
32	28	A 1-bit memory, the circuit properties of Bistable latch	Board	T1, T2	
33	29	the clocked SR flip flop, J- K-T and D types flip flops	Board	T1	
34	30	the clocked SR flip flop, J- K-T and D types flip flops	Board	T1	
35	31	applications of flip flops, shift registers	Board	T1	
36	32	applications of shift registers, serial to parallel converter, parallel to serial converter	Board	T1	
37	33	ring counter, special counter IC's	Board + PPT	T1	
38	34	ripple (Asynchronous) counters	Board	T1	
39	35	asynchronous sequential counters, applications of counters	Board	T1, T2	
40	36	synchronous counters, counters design using flip flops	Board	T1, T2	
41	37	Revision			
42	38	Digital to analog converters: weighted resistor/converter	Board	T1	
43	39	R-2R Ladder D/A converter, specifications for D/A converters, examples of D/A converter ICs	Board	T1	
44	40	sample and hold circuit, analog to digital converters: quantization and encoding	Board	T1	
45	41	parallel comparator A/D converter, successive approximation A/D converter	Board	T1	
46	42	counting A/D converter, dual slope A/D converter, A/D converter using voltage to frequency and voltage to time conversion	Board	T1	
47	43	specifications of A/D converters, example of A/D converter ICs	Board	T1	
48	44	Revision			
49	45	Memory organization and operation	Board + PPT	T1	
50	46	expanding memory size, classification and characteristics of memories, sequential memory, read only memory (ROM), read and write memory(RAM)	Board + PPT	T1, T3	
51	47	content addressable memory (CAM), charge de coupled device memory (CCD), commonly used memory chips	Board + PPT	T1, T3	
52	48	ROM as a PLD, Programmable logic array, Programmable array logic	Board + PPT	T1, T3	
53	49	complex Programmable logic devices (CPLDS), Field Programmable Gate Array (FPGA)	Board + PPT	T1, T3	
54	50	Revision			

Study Material / Books / Web-resources / Online Courses Links etc.

S. No.	Description
1	R. P. Jain, "Modern Digital Electronics", McGraw Hill Education, 2009.
2	M. M. Mano, "Digital logic and Computer design", Pearson Education India, 2016.
3	A. Kumar, "Fundamentals of Digital Circuits", Prentice Hall India, 2016.