

DISCIPLINE – ELECTRICAL ENGG	SEMESTER: 5TH	NAME OF THE TEACHING FACULTY- NIHARIKA SETHY, LECT(ETC.)	
SUB-DE&MP	Days / Week- 3	SEMESTER FROM 01.07.2026 TO 05.11.2026 NO OF WEEK – 19 WEEKS	
WEEK	DAY	THEORY	STATUS
1 ST WEEK	1ST	Number system Decimal, Binary,	
	2ND	Octal, Hexadecimal	
	3RD	1's complement and 2's complement numbers for a binary number	
2 ND WEEK	1ST	Codes- Binary, BCD, Excess-3	
	2ND	Gray Code , Alphanumeric codes	
	3RD	Boolean algebra theorems	
3 RD WEEK	1ST	Logic Gates & truth tables	
	2ND	Universal logic gates	
	3RD	Product Of Sum and Sum Of Products	
4 TH WEEK	1ST	Min terms and Max terms	
	2ND	Karnaugh Map Minimization	
	3RD	Karnaugh Map Minimization	
5 TH WEEK	1ST	Quine McCluskey method of minimization	
	2ND	Half adder circuit , Full adder circuit	
	3RD	Half and Full Subtractor circuit , Binary Parallel Adder	
6 TH WEEK	1ST	Multiplexer, Demultiplexer	
	2ND	Decoders and priority encoders	
	3RD	Flip flops	
7 TH WEEK	1ST	clocking and edge triggering	
	2ND	S-R flip-flop	
	3RD	JK flip flop	
8 TH WEEK	1ST	Concept of race around condition and study of master slave	
	2ND	D and T flip flops	
	3RD	Design Counters	
9 TH WEEK	1ST	Working of shift Register	
	2ND	Universal Shift Register	
	3RD	Stable and Unstable states, Output specifications, Cycles and races	
10 TH WEEK	1ST	State reduction, Race free assignments, Hazards	
	2ND	Design Hazard free circuits, Pulse mode sequential Circuits.	
	3RD	Basic memory structure ROM, PROM	
11 TH WEEK	1ST	Static and dynamic RAM, EPROM, EAPROM, RAM	
	2ND	PAL ,PLA, FPGA	
	3RD	Introduction to Microprocessors, Microcomputers	
12 TH WEEK	1ST	Architecture of Intel 8085 A Microprocessor and description of each block	
	2ND	Architecture of Intel 8085 A Microprocessor and description of each block	
	3RD	Pin diagram and description of 8085	
13 TH WEEK	1ST	Stack ,Subroutine	
	2ND	Opcode &Operand	
	3RD	Differentiate between one byte ,two byte & three byte instruction with	

14 TH WEEK	1ST	Instruction set of 8085 example	
	2ND	Instruction set of 8085 example	
	3RD	Instruction set of 8085 example	
15 TH WEEK	1ST	Addressing mode	
	2ND	Fetch Cycle, Machine Cycle	
	3RD	Instruction Cycle, T-State	
16 TH WEEK	1ST	Timing Diagram for 8085 instruction Counter and time delay	
	2ND	Timing Diagram for memory read , memory write	
	3RD	Timing Diagram for I/O read, I/O write.	
17 TH WEEK	1ST	Basic Interfacing Concepts	
	2ND	Memory mapping	
	3RD	& I/O mapping	
18 TH WEEK	1ST	Simple assembly language programming of 8085	
	2ND	Simple assembly language programming of 8085	
	3RD	Programmable peripheral interface Intel 8255 Architecture	
19 TH WEEK	1ST	8255 operating modes	
	2ND	Doubt clearing class	
	3RD	Semester question discussion	

COURSE OUTCOMES:

After completion of the course, the students will be able to

CO:1	Understand digital fundamentals, Boolean algebra and its applications in simple digital systems
CO:2	Understand and design combinational logic circuits and synchronous and asynchronous sequential circuits
CO:3	Understand various semiconductor memories and related technology
CO:4	Understand architecture of microprocessor 8085 and its application.

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25.06.2026