DISCIPLINE – ELECTRICAL ENGG	SEMESTER 5TH	NAME OF THE TEACHING FACULTY- NIHARIKA SETHY, LECT(ETC.)	
SUB-DE&MP	No Of Days Per Week Class Alloted-5	SEMESTER FROM 14.07.2025 TO 15.11.2025 NO OF WEEK – 18 WEEKS	
WEEK	CLASS DAY	THEORY	STATUS
1ST WEEK	1ST	Introduction of Digital Electronics and differentiation between Analog and Digital Electronics	
	2ND	Binary, Octal, Hexadecimal number systems and	
	3RD	Binary, Octal, Hexadecimal number systems and Compare with Decimal system.	
	4TH	Binary addition, subtraction	
	5TH	Binary Multiplication and Division	
2nd WEEK	1ST	1'scomplementand2'scomplementnumbersforabinarynumber	
	2ND	1'scomplementand2'scomplementnumbersforabinarynumber	
	3RD	Subtraction of binary numbers in 2's complement method	
	4TH	Subtraction of binary numbers in 2's complement method	
	5TH	Use of weighted and Un-weighted & codes	
3RD WEEK	1ST	Write Binary equivalent number for a number in 8421 Code	
	2ND	Write Binary equivalent number for a number in Excess-3 Code and Gray Code and vice-versa	
	3RD	Importance of parity Bit	
	4TH	Logic Gates: AND,OR, NOT with truth table	
	5TH	NAND, NOR and EX-OR gates with truth table	
4TH WEEK	1ST	Realize AND, OR ,NOT operations using NAND,NOR gates	
	2ND	Realize AND, OR ,NOT operations using NAND ,NOR gates	
	3RD	Boolean algebra	
	4TH	Different postulates of Boolean algebra and De-Morgan's theorems	
	5TH	Different postulates of Boolean algebra and De-Morgan's theorems	
5TH WEEK	1ST	Use Of Boolean Algebra For Simplification Of Logic Expression	
	2ND	Use Of Boolean Algebra For Simplification Of Logic Expression	
	3RD	Use Of Boolean Algebra For Simplification Of Logic Expression	
	4TH	POS Logic Expression and SOP Logic Expression	

	5TH	Karnaugh Map For 2 variable	
6TH WEEK	1ST	Karnaugh Map For 2,3,4 Variable,	
	2ND	Simplification Of SOP And POS	
	3RD	Simplification Of SOP And POS	
	4TH	Simplification Of SOP And POS	
	5TH	Logic Expression Using K-Map	
7TH WEEK	1ST	Solving Boolean Expression Using K-Map	
	2ND	Solving Boolean Expression Using K-Map	
	3RD	Give the concept of combinational logic circuits	
	4TH	Half adder circuit and verify its functionality using truth table	
	5TH	Realize a Half-adder using NAND gates only and NOR gates only.	
8TH WEEK	1ST	Full adder circuit and explain its operation with truth table	
	2ND	Realize full-adder using two Half-adders and an OR–gate and write truth table	
	3RD	Give the idea of Sequential logic circuits	
	4TH	Latch and flip flop	
	5TH	SR-flip flop	
9TH WEEK	1ST	State the necessity of clock and give the concept of level clocking and edge triggering	
	2ND	Clocked SR-flip flop with preset and clear inputs	
	3RD	Construct level clocked JK flip flop using S-R flip-flop and explain with truth table	
	4TH	JK flip flop	
	5TH	JK flip flop using S-R flip-flop	
10TH WEEK	1ST	Concept of race around condition and study of master slave	
	2ND	Give the truth table so edge triggered	
	3RD	D and T flip flops and draw their symbols	
	4TH	Application of flip flops	
	5TH	Introduction of counter. Define modulus of a counter	
11TH WEEK	1ST	Distinguish between synchronous and asynchronous counters	
	2ND	4-bit asynchronous counter and its timing diagram	
	3RD	Asynchronous decade counter	
	4TH	4-bit synchronous counter	
	5TH	State the need for a Register and list the four types of registers	
12TH WEEK	1ST	Working of SISO, SIPO, PISO, PIPO Register with truth table using flip flop.	
	2ND	Working of SISO, SIPO, PISO, PIPO Register with truth table using flip flop.	
	3RD	Introduction to Microprocessors, Microcomputers	

	4TH	Architecture of Intel 8085A Microprocessor	
	5TH	Microprocessor 8085A and description of each block	
13TH WEEK	1ST	Microprocessor 8085A and description of each block	
	2ND	Pin diagram and description of 8085A	
	3RD	Pin diagram and description of 8085A	
	4TH	Stack ,Stack pointer & stack top Interrupts	
	5TH	Opcode &Operand	
14TH WEEK	1ST	Differentiate between one byte, two byte &	
	2ND	Three byte instruction with	
	3RD	Differentiate between one byte ,two byte & three byte instruction	
	4TH	Differentiate between one byte ,two byte & three byte instruction	
	5TH	Instruction set of 8085 example	
15TH WEEK	1ST	Instruction set of 8085 example	
	2ND	Addressing mode	
	3RD	Timing Diagram	
	4TH	Fetch Cycle, Machine Cycle, Instruction Cycle, T-State	
	5TH	Timing Diagram for memory read ,memory write ,I/O read, I/O write.	
16TH WEEK		Timing Diagram for 8085 instruction Counter and time delay	
		Simple assembly language programming of 8085	
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17TH WEEK		Basic Interfacing Concepts ,Memory mapping & I/O mapping	
		Functional block diagram and description of each block of	
		Programmable peripheral interface Intel 8255,	
		Application using 8255:	
		Seven segment LED display	
18TH WEEK		Square wave generator	
		Traffic light Controller	
		Doubt clearing class	
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		Semester question discussion	