

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 15.09.2022 TO 22.12.2022 NO OF WEEK – 13 WEEKS	
WEEK	CLASS DAY	THEORY	STATUS
1 <sup>ST</sup> WEEK	1 <sup>ST</sup> day 2 <sup>nd</sup> day 3 <sup>rd</sup> day 4 <sup>th</sup> day 5th	Binary,Octal,Hexadecimalnumbersystemsand comparewithDecimalsystem. Binaryaddition,subtraction,MultiplicationandDivision. 1’scomplementand2’scomplementnumbersforabinarynumber Subtractionofbinarynumbersin2’scomplementmethod.	
2 <sup>nd</sup> WEEK	1 <sup>ST</sup> day 2 <sup>nd</sup> day 3 <sup>rd</sup> day 4 <sup>th</sup> day 5th	Use of weighted and Un-weighted & codes Write Binary equivalent numberfor a,numberin 8421Excess-3andGrayCode and vice-versa. Importanceof parityBit Logic Gates: AND,OR, NOT with truth table NAND, NOR and EX-OR gates with truth table	
3 <sup>RD</sup> WEEK	1 <sup>ST</sup> day 2 <sup>nd</sup> day 3 <sup>rd</sup> day 4 <sup>th</sup> day 5th	Realize AND, OR,NOT operations using NAND ,NOR gates. Different postulates and De-Morgan’s theorems Booleanalgebra. Use Of Boolean Algebra For Simplification Of Logic Expression	

4 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day 3 <sup>RD</sup> day 4 <sup>TH</sup> day 5 <sup>TH</sup>	Use Of Boolean Algebra For Simplification Of Logic Expression SOP And POS Logic Expression Karnaugh Map For 2,3,4 Variable, Simplification Of SOP And POS Logic Expression Using K-Map.	
5 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day 3 <sup>RD</sup> day 4 <sup>TH</sup> day 5 <sup>TH</sup>	Give the concept of combinational logic circuits. Half adder circuit and verify its functionality using truth table. Realize a Half-adder using NAND gates only and NOR gates only. Full adder circuit and explain its operation with truth table IA EXAM	
6 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day 3 <sup>RD</sup> day 4 <sup>TH</sup> day 5 <sup>TH</sup>	Realize full-adder using two Half-adders and an OR-gate and write truth table Give the idea of Sequential logic circuits. State the necessity of clock and give the concept of level clocking and edge triggering Clocked SR-flip flop with preset and clear inputs	
	1 <sup>ST</sup> day 2 <sup>ND</sup> day	Construct level clocked JK flip flop using S-R flip-flop and explain with truth table	

7 <sup>TH</sup> WEEK	3 <sup>rd</sup> day 4 <sup>th</sup> day 5 <sup>th</sup>	JK flipflop using S-R flip-flop Concept of race around condition and study of master slave JK flipflop Class Test	
8 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>nd</sup> day 3 <sup>rd</sup> day 4 <sup>th</sup> day 5 <sup>th</sup>	Give the truth tables of edge triggered D and T flip flops and draw their symbols. Applications of flip flops. Introduction of counter. Define modulus of a counter 4-bit asynchronous counter and its timing diagram.	
9 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>nd</sup> day 3 <sup>rd</sup> day 4 <sup>th</sup> day 5 <sup>th</sup> day	Asynchronous decade counter, 4-bit synchronous counter Distinguish between synchronous and asynchronous counters State the need for a Register and list the four types of registers. Working of SISO, SIPO, PISO, PIPO Register with truth table using flip flop.	
10 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>nd</sup> day 3 <sup>rd</sup> day 4 <sup>th</sup> day 5 <sup>th</sup> day	Introduction to Microprocessors, Microcomputers Architecture of Intel 8085 A Microprocessor and description of each block Architecture of Intel 8085 A Microprocessor and description of each block Pin diagram and description of 8085A	
11 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>nd</sup> day 3 <sup>rd</sup> day 4 <sup>th</sup> day 5 <sup>th</sup> day	Pin diagram and description of 8085A Stack, Stack pointer & stack top Interrupts Opcode & Operand, Differentiate between one byte, two byte & three byte instruction with	Extra classes needed to complete the syllabus
12 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>nd</sup> day 3 <sup>rd</sup> day 4 <sup>th</sup> day	Differentiate between one byte, two byte & three byte instruction with Instruction set of 8085 example Addressing mode .. CLASS TEST	

13 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day 3 <sup>RD</sup> day  4 <sup>TH</sup> day  5 <sup>TH</sup> day	Fetch Cycle, Machine Cycle, Instruction Cycle, T-State  Timing Diagram for memory read, memory write, I/O read, I/O write.  Timing Diagram for 8085 instruction Counter and time delay  Simple assembly language programming of 8085
14 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day  3 <sup>RD</sup> day 4 <sup>TH</sup> day 5 <sup>TH</sup> day	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
15 <sup>TH</sup> WEEK	1 <sup>ST</sup> day 2 <sup>ND</sup> day 3 <sup>RD</sup> day 4 <sup>TH</sup> day  5 <sup>TH</sup> day	Square wave generator IA EXAM Traffic light Controller DOUBT CLERARING CLASS  SEMESTER QUESTION DISCUSSION