UTKAL INSTITUTE OF ENGINEERING & TECHNOLOGY

DISCIPLINE: Electrical Engineering	**SEMESTER: 5thSem**	**NAME OF THE TEACHING FACULTY: ER. Chittaranjan Parida**
SUBJECT: **DIGITAL ELECTRONICS & MICROPROCESSOR**	No of Days/ Per week class allotted: **5 Class P/W** -75	Semester From Date:15/09/2022 To Date:22/12/2022 No. Of Weeks: **15**

WEEK	CLASS DAY	THEORY TOPICS	REMARKS	
1st	1st	Binary, Octal, Hexadecimal number systems and compare	Date	Dean/Principal
	2nd	Binary addition, subtraction, Multiplication and Division		
	3rd	1's complement and 2's complement numbers for a binary number , Subtraction of binary numbers in 2's complement method.		
	4th	Use of weighted and Un-weighted codes & write Binary equivalent number for a number in 8421, Excess-3 and Gray Code and vice-versa.		
	5th	Doubt Clear Class		
2nd	1st	Importance of parity Bit		
	2nd	Logic Gates: AND, OR, NOT, NAND, NOR and EX-OR gates with truth table.		
	3rd	Realize AND, OR, NOT operations using NAND, NOR gates.		
	4th	Different postulates and De-Morgan's theorems in Boolean algebra		
	5th	Use Of Boolean Algebra For Simplification Of Logic Expression		
3rd	1st	Karnaugh Map For 2,3,4 Variable, Simplification Of SOP And POS Logic Expression Using K-Map.		
	2nd	Give the concept of combinational logic circuits, Half adder circuit and verify its functionality using truth table.		

3	3rd	Realize a Half-adder using NAND gates only and NOR gates only		
	4th	Full adder circuit and explain its operation with truth table.		
	5th	Realize full-adder using two Half-adders and an OR – gate and write truth table		
4th	1st	Full subtractor circuit and explain its operation with truth table		
	2nd	Operation of 4 X 1 Multiplexers and 1 X 4 demultiplexer		
	3rd	Working of Binary-Decimal Encoder & 3 X 8 Decoder.		
	4th	Working of Two bit magnitude comparator.		
	5th	Give the idea of Sequential logic circuits		
5th	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	Concept of race around condition and study of master slave JK flip flop.		
	5th	Give the truth tables of edge triggered D and T flip flops and draw their symbols.		
6th	1st	Applications of flip flops.		
	2nd	Define modulus of a counter		
	3rd	4-bit asynchronous counter and its timing diagram		
	4th	Assignment		
	5th	Asynchronous decade counter.		
7th	1st	4-bit synchronous counter.		
	2nd	Distinguish between synchronous and asynchronous counters. , State the need for a Register and list the four types of registers		
	3rd	Working of SISO, SIPO, PISO, PIPO Register with truth table using flip flop.		
	4th	Introduction to Microprocessors, Microcomputers		

	5th	Architecture of Intel 8085A Microprocessor and description of each block.		
8th	1st	Pin diagram and description.		
	2nd	Stack, Stack pointer & stack top		
	3rd	Interrupts		
	4th	Opcode & Operand		
	5th	Differentiate between one byte, two byte & three byte instruction with example., Instruction set of 8085 example		
9th	1st	Revision of last classes		
	2nd	Assignment question Discussion		
	3rd	Addressing mode		
	4th	Fetch Cycle, Machine Cycle, Instruction Cycle, T-State		
	5th	Timing Diagram for memory read, memory write, I/O read, I/O write		
10th	1st	Class Test		
	2nd	Internal Question Discussion		
	3rd	Doubt Clear Class		
	4th	Doubt Clear Class		
	5th	Timing Diagram for 8085 instruction		
11th	1st	Timing Diagram for 8085 instruction		
	2nd	Revision		
	3rd	Counter and time delay		
	4th	Simple assembly language programming of 8085.		
	5th	Simple assembly language programming of 8085.		
12th	1st	Assignment		
	2nd	Assignment question Discussion		
	3rd	Class Test		
	4th	Sample Paper Important Question Discussion		
	5th	Basic Interfacing Concepts, Memory mapping & I/O mapping		
	1st	Revision of last class		
	2nd	Timing Diagram for 8085 instruction		

13th	3rd	Assignment		
	4th	Counter and time delay.		
	5th	Assignment question Discussion		
14th	1st	Simple assembly language programming of 8085.		
	2nd	Simple assembly language programming of 8085.		
	3rd	Basic Interfacing Concepts, Memory mapping & I/O mapping		
	4th	Functional block diagram and description of each block of Programmable peripheral interface Intel 8255 ,		
	5th	Class Test		
15th	1st	Class Test		
	2nd	Revision		
	3rd	Application using 8255: Seven segment LED display, Square wave generator, Traffic light Controller		
	4th	Application using 8255: Seven segment LED display, Square wave generator, Traffic light Controller		
	5th	Important questions will be discussed for the semester Exam.		

HOD

DEAN

PRINCIPAL