

Discipline :- ELECTRICAL ENGG.	Semester:- 5th	Name of the Teaching Faculty: - UDAYA MEHER
Subject:- DIGITAL ELECTRONICS & MICROPROCESSOR (TH-3)	No of Days/per Week Class Allotted :- 05	Semester From:- 15.09.2022 To Date: 22.12.2022 No of weeks: 14
Week	Class Day	Theory Topics
1st	1 st (15/09/2022)	Introduction to DIGITAL ELECTRONICS
	2 nd (17/09/2022)	NUMBER SYSTEMS AND CODES
2nd	1 st (19/09/2022)	List different number system & their relevance: binary, octal, decimal, Hexadecimal, Study the Conversion from one number system to another
	2 nd (20/09/2022)	Perform Arithmetic operations of binary number systems.
	3 rd (21/09/2022)	1's & 2's complement of Binary numbers., Perform Subtraction of binary numbers using complementary numbers. Perform multiplication and division of binary numbers.
	4 th (23/09/2022)	Define concept of Digital Code & its application. Distinguish between weighted & non-weight Code
	5 th (24/09/2022)	Study Codes: definition, relevance
3rd	1 st (26/09/2022)	Types of code (8-4-2-1, Gray, Excess-3 and importance of parity bit.
	2 nd (27/09/2022)	LOGIC GATES
	3 rd (28/09/2022)	Discuss the Basic Logic & representation using electric signals
	4 th (30/09/2022)	Learn the Basic Logic gates (NOT, OR, AND, NOR, NAND, EX-OR & EXNOR) – Symbol, function, expression, truth table & example IC nos.
	5 th (01/10/2022)	Define Universal Gates with examples & realization of other gates
4th	1 st (10/10/2022)	BOOLEAN ALGEBRA
	2 nd (11/10/2022)	Understand Boolean : constants, variables & functions. Comprehend the Laws of Boolean algebra
	3 rd (12/10/2022)	State and prove Demorgan's Theorems. Represent Logic Expression : SOP & POS forms & conversion
	4 th (14/10/2022)	Simplify the Logic Expression/Functions (Maximum of 4 variables) : using Boolean algebra and Karnaugh's map methods
	5 th (15/10/2022)	What is don't care conditions ? Realisation of simplified logic expression using K-Map
5th	1 st (17/10/2022)	Realisation of simplified logic expression using gates. Illustrate with examples the above.
	2 nd (18/10/2022)	COMBINATIONAL CIRCUITS

	3 rd (19/10/2022)	Define a Combinational Circuit and explain with examples Arithmetic Circuits (Binary)
	4 th (21/10/2022)	Realise function, functional expression, logic circuit, gate level circuit, truth table & applications of Half-adders, Full-adder & full-Subtractor.
	5 th (22/10/2022)	Explain Serial & Parallel address: concept comparison & application
6 th	1 st (25/10/2022)	Discuss Multiplexers: definition, relevance, gate level circuit of simple. De-multiplexers (1:4) logic circuit with truth Table
	2 nd (26/10/2022)	Explain the working of Binary-Decimal Encoder & Decoder.
	3 rd (28/10/2022)	Working of 2-bit Magnitude Comparator: logic expression, truth table
	4 th (29/10/2022)	SEQUENTIAL CIRCUITS
7 th	1 st (31/10/2022)	Define Sequential Circuit : Explain with examples.
	2 nd (01/11/2022)	Know the Clock-definition characteristics, types of triggering & waveform.
	3 rd (02/11/2022)	Define Flip-Flop, Study RS, Clocked RS, D, T, JK, MS-JK flip-flop with logic Circuit and truth tables.
	4 th (04/11/2022)	Concept of Racing and how it can be avoided.
	5 th (05/11/2022)	Applications of flip-flops & its conversion.
8 th	1 st (07/11/2022)	COUNTERS
	2 nd (09/11/2022)	List the different types of counters-Synchronous and Asynchronous.
	3 rd (11/11/2022)	Explain the modulus of a counter
	4 th (12/11/2022)	COUNTERS
9 th	1 st (14/11/2022)	List the different types of counters-Synchronous and Asynchronous. Explain the modulus of a counter
	2 nd (15/11/2022)	4-bit asynchronous counter with timing diagram Asynchronous decade counter
	3 rd (16/11/2022)	4-bit synchronous counter
	4 th (18/11/2022)	Compare Synchronous and Asynchronous counters and know their ICs nos.
	5 th (19/11/2022)	REGISTERS
10 th	1 st (21/11/2022)	Explain the working of various types of shift registers – SISO
	2 nd (22/11/2022)	SIPO
	3 rd (23/11/2022)	PISO
	4 th (25/11/2022)	PIPO, with truth table using flip flop.
	5 th (26/11/2022)	8085 MICRO PROCESSOR

Explain with examples
circuit, gate

11 th	1 st (28/11/2022)	Introduction to microprocessor, Micro computers
	2 nd (29/11/2022)	Architecture of intel 8085A Microprocessor
	3 rd (30/11/2022)	Functional Block diagram and Description of each block.
	4 th (02/12/2022)	Pin diagram and description.
	5 th (03/12/2022)	Stack, Stack Pointer, Stack Top
12 th	1 st (05/12/2022)	Interrupts , Op-code & Operands
	2 nd (06/12/2022)	Grouping and Explanation of different group instructions with examples
	3 rd (07/12/2022)	Instruction sets & Addressing modes
	4 th (09/12/2022)	Instruction fetching and execution, Timing diagram of different machine cycle.
	5 th (10/12/2022)	Timing diagram of different machine cycle, 8085A timing states.
13 th	1 st (12/12/2022)	Basic Interfacing Concept , Memory Mapping & I/O Mapping
	2 nd (13/12/2022)	Programmable peripheral interface Intel -8255, Functional block diagram and Operation of 8255, Programming of 8255
	3 rd (14/12/2022)	Application Using 8255: Seven Segment LED display ,
	4 th (16/12/2022)	Square Wave Generator,
	5 th (17/12/2022)	Traffic light controller
14 th	1 st (19/12/2022)	Previous Five (05) Years Semester Question Answer Discussion
	2 nd (20/12/2022)	Previous Five (05) Years Semester Question Answer Discussion
	3 rd (21/12/2022)	Previous Five (05) Years Semester Question Answer Discussion

Udaya K. K.
Teaching Faculty 13/9/2022


HOD , ELE


Academic Co-ordinator


Principal

Government Polytechnic, Nuapada