

Discipline:- Electrical Engineering	Semester:- 5th	Name of the teaching faculty A. Mohanrao
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Subject:- Digital Electronics & Microprocessors	No. of days Per Week Class all 5	Semester - room date :- 01.10.21 TO date :- 08.01.2022 No. of weeks :- 15 weeks
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Months	Weeks	Class Day	Theory Topics
OCT	1st	1st	Binary no. system and compare Binary no. with Decimal system.
		2nd	Octal no. system and compare octal no. with Decimal no. system.
		3rd	Hexadecimal no. system and compare Hexadecimal no. with Decimal no. system.
		4th	Binary addition
		5th	Binary subtraction
	2nd	1st	Binary Multiplication
		2nd	Binary Division
		3rd	Problem on Binary addition, subtraction, Multiplication, Division.

Months	Weeks	Chas Day	Theory Topics
	3rd	1st	1's Complement for a binary no.
		2nd	2's Complement for binary no.
		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 unweighted code.
	4th	1st	Write Binary equivalent number for a number in 8421, Excess-3 and Gray code & vice versa.
		2nd	Importance of parity bit.
		3rd	AND gate with truth table.
		4th	OR gate with truth table.
		5th	NOT gate with truth table.
		6th	NAND gate & NOR gate with truth table.
	5th	1st	EX-OR gate with truth table.
		2nd	Realize AND gate using NAND gate & NOR gate.

Months	Weeks	Chas Day	Theory Topics	
NOV	1st	1st	Realize OR gate using NAND & NOR gate.	
		2nd	Realize NOT gate using NAND gate & NOR gate.	
		3rd	Different Postulates and De-morgan's theorems in Boolean algebra.	
		4th	Prove De-morgan's theorems	
		5th	Use of Boolean Algebra for Simplification of Logic Expression.	
		2nd	1st	Karnaugh map for 2,3,4 variable simplification of SOP and POS logic Expression using K-map.
		2nd	2nd	Give the concept of combinational logic circuits.
		3rd	3rd	Half adder circuit and verify its functionality using truth table.
		4th	4th	Realize a Half adder using NAND gates.
		5th	5th	Realize a Half adder using NOR gates.

Months	Weeks	Class Day	Theory Topics
	3rd	1st	Full adder circuit and explain its operation with truth table.
		2nd	Realize full-adder using two Half-adders and write truth table.
		3rd	Realize full-adder using an OR gate and write truth table.
		4th	Full subtractor's circuit and explain its operation with truth table.
		5th	operation of $4 \times 1$ Multiplexer
	4th	1st	operation of $1 \times 4$ demultiplexer
		2nd	working of Binary-Decimal Encoder & $8 \times 8$ Decoder.
		3rd	Working of Two bit magnitude Comparators.
		4th	Give the idea of sequential logic circuits.
		5th	state the necessity of clock
	5th	1st	Give the concept of level clocking and edge triggering.
		2nd	clocked SR flip flop with preset and clear inputs.

Months	Weeks	Class Day	Theory Topics
DEC	1st	1st	Construct level clocked JK flip flop using S-R flip flop and explain with truth table.
		2nd	Concept of race around condition and study of Master Slave JK flip flop.
		3rd	study of Master slave JK flip flop.
		4th	Give the truth tables of edge triggered D flip flops and draw their symbols.
		5th	Give the truth table of edge triggered T flip flops and draw their symbols.
	2nd	1st	Applications of flip flops
		2nd	Define modulus of a counter
		3rd	4 bit asynchronous counter and its timing diagram.
		4th	Asynchronous decade counter.
		5th	4 bit synchronous counter.
	3rd	1st	Distinguish between synchronous and asynchronous counter.

Months	Weeks	Class Day	Theory Topics
		2nd	state need for a register and list the four types of register.
		3rd	state the list of the four types of register.
		4th	Working of SIPO Register with truth table using flip flop.
		5th	Working of SPO Register with truth table using flip flop.
	4th	1st	Working of PISO Register with truth table using flip flop.
		2nd	Working of PSPO Register with truth table using flip flop.
		3rd	Introduction to Microcomputers
		4th	Introduction to Microprocessor
		5th	Distinguish between Microprocessor and Microcomputers.
5th	1st		Architecture of Intel 8085 Microprocessor.

Months	Weeks	Class Day	Theory Topics
		2nd	Description of each block of Architecture of Intel 8085.
		3rd	Description of each block of Architecture of Intel 8085.
Jan	1st	1st	pin diagram of 8085.
		2nd	Description of 8085 Pin diagram
		3rd	Stack, Stack pointer & Stack POP.
		4th	Stack, Stack pointer & Stack pop.
		5th	Interrupts
	2nd	1st	Interrupts
		2nd	opcode & operand
		3rd	Differentiate between one byte two byte & three byte instruction with example.
		4th	Instruction set of a 8085 with example.
		5th	Instruction Set of a 8085 Microprocessor with example.

Months	Weeks	Class Day	Theory Topics
	3rd	1st	Addressing Mode of 8085 Microprocessor.
		2nd	Addressing Mode of 8085 Microprocessor.
		3rd	Fetch cycle, Machine Cycle, Instruction cycle, T-state.
		4th	Timing Diagram for Memory Read.
		5th	Timing Diagram for Memory Write.
	4th	1st	Timing diagram for I/O read.
		2nd	Timing diagram for I/O write.
		3rd	Timing diagram for 8085 Instruction.
		4th	Timing diagram for 8085 Instruction.
		5th	Counter & time delay.
	5th	1st	Simple assembly language programming of 8085.
		2nd	Simple assembly language programming of 8085.

Months	Weeks	Class Day	Theory Topics
Feb	1st	1st	Basic interfacing concept of Memory mapping & I/O mapping.
		2nd	functional block diagram of Intel 8255.
		3rd	Description of each block of Programmable peripheral interface of Intel 8255.
		4th	seven segment LED display.
		5th	Square wave generator.
	2nd	1st	Traffic light Controller.