

Discipline :-		Name of the Teaching Faculty: -	
CSE	Semester:- 4th	Diptiranjn swain	
Subject:- Microprocessor & Microcontroller (Th. 3)	No of Days/per Week Class Allotted :- 05	Semester From:- <u>10.03.2022</u> To:- <u>15.06.2022</u>	
Week	Class Day	Theory	
1 st	1 st	Introduction to Microprocessor and Microcomputer & distinguish between them.	
	2 nd	Concept of Address bus, Data bus, Control bus & System Bus	
	3 rd	Concept of Address bus, Data bus, Control bus & System Bus	
	4 th	General Bus structure Block diagram	
	5 th	Basic Architecture of 8085 (8 bit) Microprocessor	
2 nd	1 st	Basic Architecture of 8085 (8 bit) Microprocessor	
	2 nd	Basic Architecture of 8085 (8 bit) Microprocessor	
	3 rd	Basic Architecture of 8085 (8 bit) Microprocessor	
	4 th	Signal Description (Pin diagram) of 8085 Microprocessor	
	5 th	Signal Description (Pin diagram) of 8085 Microprocessor	
3 rd	1 st	Signal Description (Pin diagram) of 8085 Microprocessor	
	2 nd	Register Organizations, Distinguish between SPR & GPR, Timing & Control Module	
	3 rd	Register Organizations, Distinguish between SPR & GPR, Timing & Control Module	
	4 th	Stack, Stack pointer & Stack top	
	5 th	Interrupts:-8085 Interrupts, Masking of Interrupt(SIM,RIM)	
4 th	1 st	Addressing data & Differentiate between one-byte, two-byte & three-byte instructions with examples..	
	2 nd	Addressing modes in instructions with suitable examples	
	3 rd	Instruction Set of 8085(Data Transfer, Arithmetic, Logical, Branching, Stack& I/O , Machine Control)	
	4 th	Instruction Set of 8085(Data Transfer, Arithmetic, Logical, Branching, Stack& I/O , Machine Control)	
	5 th	Instruction Set of 8085(Data Transfer, Arithmetic, Logical, Branching, Stack& I/O , Machine Control)	
5 th	1 st	Simple Assembly Language Programming of 8085	
	2 nd	Simple Addition & Subtraction	
	3 rd	Logic Operations (AND, OR, Complement 1's & 2's) & Masking of bits	
	4 th	Counters & Time delay (Single Register, Register Pair, More than Two Register)	
	5 th	Looping, Counting & Indexing (Call/JMP etc).	
6 th	1 st	Code conversion, BCD Arithmetic & 16 Bit data Operation,	
	2 nd	Block Transfer	
	3 rd	Compare between two numbers	
	4 th	Array Handling (Largest number & smallest number in the array)	
	5 th	Memory & I/O Addressing	
7 th	1 st	Define opcode, operand, T-State, Fetch cycle,..	
	2 nd	Machine Cycle, Instruction cycle & discuss the concept of timing diagram.	
	3 rd	Draw timing diagram for memory read machine cycle	
	4 th	Draw timing diagram for memory write machine cycle	
	5 th	Draw timing diagram for I/O read machine cycle	
	1 st	Draw a neat sketch for the timing diagram for 8085 instruction	

8 th		(MOV instruction)
	2 nd	Draw a neat sketch for the timing diagram for 8085 instruction (MVI, instruction)
	3 rd	Draw a neat sketch for the timing diagram for 8085 instruction (LDA instruction)
	4 th	Concept of interfacing
	5 th	Define Mapping & Data transfer mechanisms - Memory mapping & I/O Mapping
9 th	1 st	Concept of Memory Interfacing:- Interfacing EPROM & RAM Memories
	2 nd	Concept of Address decoding for I/O devices
	3 rd	Programmable Peripheral Interface: 8255
	4 th	ADC & DAC with Interfacing.
	5 th	Interfacing Seven Segment Displays
10 th	1 st	Generate square waves on all lines of 8255
	2 nd	Design Interface a traffic light control system using 8255 , Design interface for stepper motor control using 8255
	3 rd	Basic concept of other Interfacing DMA controller USART
	4 th	Register Organisation of 8086
	5 th	Internal architecture of 8086
11 th	1 st	Internal architecture of 8086
	2 nd	Signal Description of 8086
	3 rd	Signal Description of 8086
	4 th	General Bus Operation & Physical Memory Organisation
	5 th	Minimum Mode & Timings
12 th	1 st	Maximum Mode & Timings
	2 nd	Interrupts and Interrupt Service Routines, Interrupt Cycle, Non-Maskable Interrupt, Maskable Interrupt
	3 rd	Instruction Set & Programming: Addressing Modes
	4 th	Instruction Set, Assembler Directives and Operators
	5 th	Simple Assembly language programming using 8086 instructions.
13 th	1 st	Distinguish between Microprocessor & Microcontroller
	2 nd	8 bit & 16 bit microcontroller
	3 rd	CISC & RISC processor
	4 th	Architecture of 8051 Microcontroller
	5 th	Signal Description of 8051 Microcontrollers
14 th	1 st	Signal Description of 8051 Microcontrollers
	2 nd	Memory Organisation-RAM structure, SFR
	3 rd	Registers ,timers ,interrupts of 8051 Microcontrollers
	4 th	Addressing Modes of 8051
	5 th	Simple 8051 Assembly Language Programming Arithmetic & Logic Instructions ,
15 th	1 st	JUMP, LOOP, CALL Instructions, I/O Port Programming
	2 nd	JUMP, LOOP, CALL Instructions, I/O Port Programming
	3 rd	Interrupts, Timer & Counters
	4 th	Serial Communication
	5 th	Microcontroller Interrupts and Interfacing to 8255