LESSON PLAN (SUMMER-2024)		
Discipline: ETC	**Semester: 4th**	**Name of the Teaching Faculty: SATYABRATA SAHOO**
Subject: Microprocessor & Mocrocontroller	**No of Days /per week class allotted: 5**	**Semester From date: 16.01.2024 To 26.04.2024** **No of Weeks:14**
Week	**Class Day**	**Theory / Practical Topics**
1st	1st	**Unit-1:Microprocessor (Architecture and Programming-8085-8-bit) (15)** 1.1 Introduction to Microprocessor and Microcomputer & distinguish between them.
	2nd	1.2 Concept of Address bus, Data bus, Control bus & System Bus
	3rd	1.3 General Bus structure Block diagram.
	4th	1.4 Basic Architecture of 8085 (8 bit) Microprocessor
	5th	Cont...
2nd	1st	Cont...
	2nd	1.5 Signal Description (Pin diagram) of 8085 Microprocessor
	3rd	Cont...
	4th	Cont...
	5th	1.6 Register Organizations, Distinguish between SPR & GPR, Timing & Control Module,
3rd	1st	Cont...
	2nd	1.7 Stack, Stack pointer &Stack top.
	3rd	Cont...
	4th	1.8 Interrupts:-8085 Interrupts, Masking of Interrupt(SIM,RIM)
	5th	Cont...
4th	1st	**Unit-2: Instruction Set and Assembly Language Programming (15)** 2.1 Addressing data & Differentiate between one-byte, two-byte &three-byte instructions with examples.
	2nd	2.2 Addressing modes in instructions with suitable examples.
	3rd	Cont...
	4th	2.3 Instruction Set of 8085(Data Transfer, Arithmetic, Logical, Branching, Stack& I/O , Machine Control)
	5th	cont...
5th	1st	2.4 Simple Assembly Language Programming of 8085 2.4.1 Simple Addition & Subtraction
	2nd	Cont...
	3rd	2.4.2 Logic Operations (AND, OR, Complement 1's & 2's) & Masking of bits
	4th	2.4.3 Counters & Time delay (Single Register, Register Pair, More than Two Register)
	5th	2.4.4 Looping, Counting & Indexing (Call/JMP etc).
6th	1st	2.4.5 Stack & Subroutine programes.
	2nd	2.4.6 Code conversion, BCD Arithmetic & 16 Bit data Operation, Block Transfer.
	3rd	2.4.7 Compare between two numbers
	4th	2.4.8 Array Handling (Largest number & smallest number in the array)
	5th	2.5 Memory & I/O Addressing,

7th	1st	**Unit-3: TIMING DIAGRAMS. (8)** 3.1 Define opcode, operand, T-State, Fetch cycle, Machine Cycle, Instruction cycle & discuss the concept of timing diagram.
	2nd	Cont...
	3rd	3.2 Draw timing diagram for memory read, memory write, I/O read, I/O write machine cycle.
	4th	**Cont...**
	5th	**Cont...**
8th	1st	3.3 Draw a neat sketch for the timing diagram for 8085 instruction (MOV, MVI, LDA instruction).
	2nd	Cont...
	3rd	Cont...
	4th	**Unit-4 Microprocessor Based System Development Aids (10)** 4.1 Concept of interfacing
	5th	4.2 Define Mapping &Data transfer mechanisms - Memory mapping & I/O Mapping
9th	1st	4.3 Concept of Memory Interfacing:- Interfacing EPROM & RAM Memories
	2nd	4.4 Concept of Address decoding for I/O devices
	3rd	4.5 Programmable Peripheral Interface: 8255
	4th	Cont...
	5th	4.6 ADC & DAC with Interfacing.
10th	1st	Cont...
	2nd	4.7 Interfacing Seven Segment Displays
	3rd	4.8 Generate square waves on all lines of 8255
	4th	4.9 Design Interface a traffic light control system using 8255.
	5th	Cont...
11th	1st	4.10 Design interface for stepper motor control using 8255.
	2nd	4.11 Basic concept of other Interfacing DMA controller,USART
	3rd	**Unit-5 Microprocessor (Architecture and Programming-8086-16 bit) (12)** 5.1 Register Organisation of 8086
	4th	5.2 Internal architecture of 8086
	5th	Cont...
12th	1st	5.3 Signal Descriptionof 8086
	2nd	Cont...
	3rd	5.4 General Bus Operation& Physical Memory Organisation
	4th	5.5 MinimumMode&Timings, 5.6 Maximum Mode&Timings,
	5th	5.7 Interrupts and Interrupt Service Routines, Interrupt Cycle, Non-Maskable Interrupt, Maskable Interrupt
13th	1st	5.8 8086 Instruction Set & Programming: Addressing Modes, Instruction Set, Assembler Directives and Operators,
	2nd	5.9 Simple Assembly language programmingusing 8086 instructions.
	3rd	**Unit-6 Microcontroller (Architecture and Programming-8 bit) (15)** 6.1 Distinguish between Microprocessor & Microcontroller
	4th	6.2 8 bit & 16 bit microcontroller 6.3 CISC & RISC processor
	5th	6.4 Architectureof8051Microcontroller
	1st	6.5 Signal Descriptionof8051Microcontrollers

14th	2nd	6.6 Memory Organisation-RAM structure, SFR
	3rd	6.7 Registers,timers,interruptsof8051Microcontrollers
	4th	6.8 Addressing Modes of 8051
	5th	6.9 Simple 8051 Assembly Language ProgrammingArithmetic & Logic Instructions , JUMP, LOOP, CALL Instructions, I/O Port Programming
5th (EXTRA	1st	Cont...
	2nd	6.10 Interrupts, Timer & Counters
	3rd	6.11 Serial Communication
	4th	6.12 Microcontroller Interrupts and Interfacing to 8255
	5th	Cont...

12.01.2024

Signature of the Faculty