LESSON PLAN		
Discipline: E & TC Engg.	**Semester: 4th**	**Name of the Teaching Faculty:**
Subject: Microprocessor & Microcontroller	**No of Days /per week class allotted: 5**	**No of weeks: 15**
Week	**Class Day**	**Theory 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	1.4 Basic Architecture of 8085 (8 bit) Microprocessor
2nd	1st	1.4 Basic Architecture of 8085 (8 bit) Microprocessor
	2nd	1.5 Signal Description (Pin diagram) of 8085 Microprocessor
	3rd	1.5 Signal Description (Pin diagram) of 8085 Microprocessor
	4th	1.5 Signal Description (Pin diagram) of 8085 Microprocessor
	5th	1.6 Register Organizations, Distinguish between SPR & GPR
3rd	1st	Timing & Control Module
	2nd	1.7 Stack, Stack pointer &Stack top.
	3rd	1.7 Stack, Stack pointer &Stack top.
	4th	1.8 Interrupts:-8085 Interrupts, Masking of Interrupt(SIM,RIM)
	5th	1.8 Interrupts:-8085 Interrupts, Masking of Interrupt(SIM,RIM)
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	2.2 Addressing modes in instructions with suitable examples.
	4th	2.3 Instruction Set of 8085(Data Transfer, Arithmetic, Logical, Branching, Stack& I/O , Machine Control)
	5th	2.3 Instruction Set of 8085(Data Transfer, Arithmetic, Logical, Branching, Stack& I/O , Machine Control)
5th	1st	2.4 Simple Assembly Language Programming of 8085 2.4.1 Simple Addition & Subtraction
	2nd	2.4 Simple Assembly Language Programming of 8085 2.4.1 Simple Addition & Subtraction
	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	3.1 Define opcode, operand, T-State, Fetch cycle, Machine Cycle, Instruction cycle & discuss the concept of timing diagram.
	3rd	3.2 Draw timing diagram for memory read, memory write, I/O read, I/O write machine cycle.
	4th	3.2 Draw timing diagram for memory read, memory write,
	5th	3.2 Draw timing diagram for I/O read, I/O write machine cycle.
	1st	3.3 Draw a neat sketch for the timing diagram for 8085 instruction MOV instruction).

8th	2nd	3.3 Draw a neat sketch for the timing diagram for 8085 instruction MVI instruction).
	3rd	3.3 Draw a neat sketch for the timing diagram for 8085 instruction LDA instruction.
	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	4.5 Programmable Peripheral Interface: 8255
	5th	4.6 ADC & DAC with Interfacing.
10th	1st	4.6 ADC & DAC with Interfacing.
	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	4.9 Design Interface a traffic light control system using 8255.
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	5.2 Internal architecture of 8086
12th	1st	5.3 Signal Descriptionof 8086
	2nd	5.3 Signal Descriptionof 8086
	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
14th	1st	6.4 Architectureof8051Microcontroller
	2nd	6.5 Signal Descriptionof8051Microcontrollers
	3rd	6.6 Memory Organisation-RAM structure, SFR
	4th	6.7 Registers,timers,interruptsof8051Microcontrollers
	5th	6.8 Addressing Modes of 8051
15th	1st	6.9 Simple 8051 Assembly Language ProgrammingArithmetic & Logic Instructions , JUMP, LOOP, CALL Instructions, I/O Port Programming
	2nd	6.9 Simple 8051 Assembly Language ProgrammingArithmetic & Logic Instructions , JUMP, LOOP, CALL Instructions, I/O Port Programming
	3rd	6.10 Interrupts, Timer & Counters
	4th	6.11 Serial Communication
	5th	6.12 Microcontroller Interrupts and Interfacing to 8255