

LESSON PLAN

Name of the faculty : Er. Gaurav Kumar

Discipline : ECE

Semester : 4th

Subject : Microcontroller

Lesson Plan Duration : 16 weeks (From 4th May, 2021 to 30 Sep 2021)

Work Load (Lecture/ Practical) per week (in hours): Lecture-02, Practical-02

Week	Theory		Practical	
	Lecture Day	Topic(Including assignment/test)	Practical Day	Topic
1st	1st	Introduction to microprocessor and microcontroller	1st	Introduction of Microprocessor and Lab Equipment
	2nd	Overview of microcomputer systems and their building blocks		
	3rd	Difference between microprocessor and microcontroller		
2nd	1st	memory interfacing	2nd	Write a program using 8085 for Hexadecimal addition and subtraction of two numbers.
	2nd	memory interfacing		
	3rd	Instruction set		
3rd	1st	memory interfacing	3rd	Write a program to perform multiplication of two 8 bit numbers using 8085
	2nd	concepts of interrupts and Direct Memory Access		
		concepts of interrupts and Direct Memory Access		
4th	1st	Architectures of 8086 microprocessor	4th	Write a program to perform division of two 8 bit numbers using 8085
	2nd	Architectures of 8086 microprocessor		
	3rd	Addressing modes		
5th	1st	Addressing modes	5th	Write a program using 8086 for finding the square root of a given number and verify.
	2nd	Assembly Language Programming Example		

	3rd	Interrupt structure		
6th	1st	Memory Segmentation	6th	Write a program using 8086 to copy 12 bytes of data from source to destination & verify
	2nd	Memory Segmentation		
	3rd	PIN Diagram of 8086		
7th	1st	PIN Diagram of 8086	7th	Write a program to find maximum and minimum from series using 8086.
	2nd	Concepts of virtual memory		
		Concepts of virtual memory		
8th	1st	Cache memory	8th	Write a Program using 8085 for arranging an array of Numbers in Descending order and Verify
	2nd	Architecture & Instructions set of X86 family		
	3rd	80186		
9th	1st	80186	9th	Write a Program using 8085 for arranging an array of Numbers in Ascending order and Verify
	2nd	80286		
	3rd	80386, 80486		
10th	1st	Enhanced features of Pentium	10th	Write a program to control the operation of stepper motor using 8085/8086 and 8255 PPI.
	2nd	Pentium Pro Processor		
	3rd	Pentium-II Processor		
11th	1st	Pentium-III Processor	11th	Write a program to control the operation of stepper motor using 8085/8086 and 8255 PPI.
	2nd	Pentium-III Processor		
	3rd	Pentium-IV Processor		
12th	1st	Multi-core Technology	12th	Write a program to interface 8X8 LED Matrix Display using 8085/8086 microprocessors and 8255 PPI.
	2nd	Mobile Processor		
	3rd	Interfacing with peripherals - Serial I/O, parallel I/O.		
13th	1st	Interfacing with peripherals - Serial I/O, parallel I/O.	13th	Write a program to interface 8X8 LED Matrix Display using 8085/8086 microprocessors and 8255 PPI.
	2nd	A/D & D/A converters		

	3rd	A/D & D/A converters		
14th	1st	PPI chip	14th	Revision of all Experiment
	2nd	PPI chip		
	3rd	DMA controller		
15th	1st	Programmable Interrupt Controller	15th	Internal Viva Exam
	2nd	Programmable Interrupt Controller		
	3rd	Programmable interval timer chips		
16th	1st	Introduction to RISC processors ;	16th	Internal Viva Exam
	2nd	ARM microcontrollers design		
	3rd	ARM microcontrollers design		

STUDY MATERIAL

TEXT BOOKS:

1. Microprocessor 8085 by Ramesh Gaonkar
2. Mohamed Ali Mazidi, Janice Gillispie Mazidi, Rolin McKinlay, "The 8051
3. Fundamental of microprocessor and microcomputer by B.Ram
4. A.P.Godse, Advanced Microprocessor, Technical Publications.

REFERENCE:

1. Douglas V Hall, "Microprocessors and Interfacing, Programming and Hardware:, TMH, 2012
2. The 8086 Microprocessor: Programming & Interfacing The PC by Kenneth J. Ayala

E-BOOKS:

<http://www.wileyindia.com/8086-programming-and-advance-processor-architecture-9788126530915.html>
<http://www.scribd.com/doc/20838382/Microprocessor-8085-notes#scribd>
<http://www.veltechuniv.edu.in/ppt/ECE/microprocessor.pdf> Session: 2015-2016