

Lesson Plan

Name of the Faculty : Er. Manpreet Kaur (Theory/Practical)
Discipline : Electronics and Communication Engineering
Semester : 4th
Subject : **Advanced Microprocessors and Interfacing** (B24-ECE-202)
 Microprocessor & Interfacing Lab (B24-ECE-214)
Lesson Plan Duration : 15 weeks (from Jan, 2026 to May, 2026)

Work Load (Lecture / Practical) per week (in hours): Lectures-03, Practical-03

Week	Theory		Practical	
	Lecture Day	Topic (including assignment / test)	Practical Day	Topic
1 st	1 st	Evolution of Microprocessor	1 st	Add / Sub two 16 bit numbers.8086 Kit
	2 nd	Introduction to 16-bit Microprocessor 8086 architecture		
	3 rd	Pin Details 8086 Microprocessor		
2 nd	4 th	8086 Architecture description of data registers, address registers	2 nd	Tsam software, EMU86, MSAM Software Multiply two 16 bit unsigned/ signed numbers.
	5 th	Pointer and index registers		
	6 th	PSW, Queue BIU and EU		
3 rd	7 th	8255 Pin diagram descriptions	3 rd	Divide two unsigned/ signed numbers (32/16 , 16/8, 16/16, 8/8)
	8 th	Generating 8086 CLK and reset signals using 8284		
	9 th	WAIT state generation.		
4 th	10 th	Microprocessor BUS types and buffering techniques	4 th	Find smallest/ largest number from array of n numbers.
	11 th	8086 minimum mode and maximum mode CPU module		
	12 th	Assignment-1/Class Test		
5 th	13 th	8086 CPU Read/Write timing diagrams in minimum mode and maximum mode.	5 th	First Internal Viva
	14 th	8059 Architecture		

	15 th	On-chip memory organization – general purpose registers		
6 th	16 th	Memory interfacing in 8086	6 th	Arrange numbers in array in ascending/ descending order.
	17 th	SRAM		
	18 th	Assembly Programming		
7 th	19 th	Assembly Programming	7 th	Convert Hex to Decimal, Decimal to Hex.
	20 th	8284		
	21 st	8279, ARM		
8 th	22 nd	8086 Instruction format, Addressing modes,	8 th	Compare two strings using string instructions / without using string instructions.
	23 rd	Assignment-2/ Class Test		
	24 th	Different Types of Interrupts		
9 th	25 th	Purpose of Time Delays	9 th	Second Internal Viva
	26 th	Class Test		
	27 th	8086 Instruction format		
10 th	28 th	Addressing modes,	10 th	Display string in reverse order, string length, Concatenation of two strings.
	29 th	Data transfer instructions		
	30 th	String instructions, logical instructions		
11 th	31 st	Arithmetic instructions, transfer of control instructions	11 th	To find 1's and 2's complement of a number.
	32 nd	Process control instructions.		
	33 rd	8085 Data transfer instructions		
12 th	34 th	Arithmetic and logical instructions	12 th	To find 1's and 2's complement of a number.
	35 th	Jump and Call instructions I/O port		
	36 th	Timer and Counter programming		
13 th	37 th	Serial port and Interrupt programming	13 th	To find Factorial of a number.

	38 th	Assembly language programs.		
	39 th	Memory devices, Address decoding techniques		
14 th	40 th	Interfacing SRAMS, ROMS /PROMS	14 th	To write an ALP using 8051 Microcontrollers to perform multi byte addition and subtraction of unsigned number .
	41 st	8086 Interrupt mechanism, Interrupt types and interrupt vector table		
	42 nd	Intel's 8255 - description and interfacing with 8086		
15 th	43 rd	ADCs and DACs, - types operation and interfacing with 8086. Interfacing of Matrix Keyboards	15 th	Third Internal Viva
	44 th	ADC, DAC, Temperature Sensor, Stepper Motor with 8051		
	45 th	Assignment-4/ Class Test		

Er. Manpreet Kaur

Assistant Professor

ECE Department

ACE