

MICROPROCESSORS AND MICROCONTROLLERS

Subject : MICROPROCESSORS AND MICROCONTROLLERS

Lesson Plan

Sl. No	Name of the Topic	No. of Classes required	Cumulative number of periods	Date of completion
Unit – I : 8086 Architecture				
1.	Introduction to 8085 microprocessor	1	1	
2.	Architecture of 8086, Functional block diagram	2	3	
3.	Register Organization	1	4	
4.	Memory Segmentation. Memory addresses	1	5	
5.	Programming Model	1	6	
6.	Physical memory organization.	1	7	
7.	Signal descriptions of 8086- common function signals. Minimum and Maximum mode signals.	2	9	
8	Timing diagrams and interrupts of 8086	2	11	
Unit – II : Instruction Set and Assembly Language Programming of 8086				
9.	Instruction formats	1	12	
10.	Addressing modes	1	13	
11.	Instruction set	4	17	
12.	Assembler directives	1	18	
13	Macros	1	19	
14	Simple programs involving branch and call instructions, Sorting, evaluating arithmetic expressions, string	2	21	

	manipulations			
Unit – III : I/O Interface				
15	8255 PPI	1	22	
16.	Various modes of operation	1	23	
17.	Interfacing 8255 to 8086	1	24	
18.	Interfacing keyboard , display	1	25	
19.	Interfacing stepper motor	1	26	
20.	Interfacing D/A and A/Dconverters	1	27	
Unit – IV : Interfacing with advanced devices				
21.	Memory interfacing to 8086	1	28	
22.	Interrupt structure of 8086	1	29	
23.	Vector interrupt table	1	30	
24.	Interrupt service routine	1	31	
25.	Introduction to DOS and BIOS interrupts	1	32	
26.	Interfacing DMA Controller 8257 to 8086.	1	33	
27.	Interfacing 8259 to 8086.	1	34	
Unit – V : Communication Interface				
28.	Interfacing DMA Controller 8257 to 8086.	1	35	
29.	Serial communication standards	1	36	
30	USART interfacing RS-232	1	37	
31	IEEE-488	1	38	
32	Prototype and trouble shooting	1	39	
Unit – VI : Introduction to Microcontrollers				

33	Over view of 8051 micro controller	1	40	
34	Architecture	1	41	
35	I/O ports and memory organization	1	42	
36	Addressing modes	1	43	
37.	Instruction set OF 8051	1	44	
38	Simple Programs	1	45	
Unit – VII : Real Time Control				
39.	Timer/Counter and Serial Communication	1	46	
40	Programming Timer Interrupts,	1	47	
41.	Programming External H/W	1	48	
42.	Programming the serial communication interrupts	1	49	
43	Interrupt Priority in the 8051	1	50	
44	Programming 8051 Timers ,Counter	2	52	
Unit – VIII : The AVR RISC microcontroller architecture				
45.	AVR Family architecture	2	54	
46.	The ALU	1	55	
47.	Memory access and Instruction execution I/O memory. EEPROM	1	56	
48.	I/O ports	1	57	
49.	Timers	1	58	
50	UART.	1	59	
51	Interrupt Structure	1	60	