



**VIVEKANANDHA**  
**COLLEGE OF ENGINEERING FOR WOMEN**  
(An Autonomous Institution, Affiliated to Anna University, Chennai)  
Elayampalayam, Tiruchengode-637 205



**Department of Electronics and Communication Engineering**

**Lesson Plan: Microprocessor and Microcontroller**

**III ECE A**

Session No.	Topics Covered	Duration in Minutes	Teaching Aid	Books Referred
<b>UNIT – I: U13EC520 &amp; Microprocessor and Microcontroller</b>				
1.	Introduction to 8086 Microprocessor	45m	BB	T1
2.	Architecture of 8086 Microprocessor	45m	BB	T1
3.	Addressing modes of 8086 Microprocessor	45m	BB	T1
4.	Instruction set of 8086 Microprocessor	45m	BB	R2
5.	Assembler directives	45m	BB	T1
6.	Assembly language programming of 8086	45m	BB	T1
7.	Stacks –Procedures – Macros	45m	BB	T1
8.	Linking and Relocation		BB	T1
9.	Modular Programming	45m	BB	T1
10.	Interrupt Signals of 8086		BB	T1
11.	interrupt service routines	45m	BB	T1
12.	Byte and String Manipulation.	45m	BB	T1
13.	Revision			
<b>UNIT – II: 8086 SYSTEM BUS STRUCTURE</b>				
14.	Pin Diagram of 8086 Processor	45m	BB	R2
15.	Signals of 8086 Processor	45m	BB	R2
16.	Basic configurations of 8086 Processor	45m	BB	R2
17.	System bus timing –System design using 8086	45m	BB	R2
18.	IO programming using 8086	45m	BB	R2
19.	System Bus Structure of 8086 Processor	45m	BB	R2
20.	Multiprocessor configurations and Coprocessor	45m	BB	R2
21.	Closely coupled configuration	45m	BB	R2
22.	Loosely Coupled configuration	45m	BB	R2
23.	Introduction to advanced processors	45m	BB	R2
24.	Revision			
<b>UNIT – III: I/O INTERFACING</b>				
25.	Memory Interfacing and I/O interfacing	45m	BB	T1
26.	Parallel communication interface mode	45m	BB	T1
27.	Serial communication interface	45m	BB	T1
28.	D/A and A/D Interface & Timer	45m	BB	T1
29.	Keyboard /display controller	45m	BB	T1
30.	Interrupt controller – DMA controller	45m	BB	T1
31.	Programming and applications	45m	BB	T1
32.	Case studies: Traffic Light control	45m	BB	T1
33.	LED display & LCD display	45m	BB	T1

34	Alarm Controller.	45m	BB	T1
35	Keyboard display interface	45m	BB	T1
36	Revision			
<b>UNIT – IV: 8051 MICROCONTROLLER</b>				
37	Introduction to 8051 Microcontroller	45m	BB	R3
38	Architecture of 8051 Microcontroller	45m	BB	R3
39	Special Function Registers of 8051Microcontroller	45m	BB	R3
40	I/O Pin Ports of 8051 Microcontroller	45m	BB	R3
41	I/O Pin Circuits of 8051 Microcontroller	45m	BB	R3
42	Instruction set of 8051 Microcontroller	45m	BB	R3
43	Addressing modes of 8051 Microcontroller	45m	BB	R3
44	Programming of 8051 Microcontroller	45m	BB	R3
45	Revision	45m		
<b>UNIT – V: INTERFACING MICROCONTROLLER</b>				
50	Interface Programming of 8051 Microcontroller	45m	PPT	T1
51	Timer Circuits	45m	PPT	T1
52	Serial Port Programming	45m	PPT	T1
53	Interrupts Programming	45m	PPT	T1
54	LCD Display with 8051 Microcontroller	45m	PPT	T1
55	Keyboard Interfacing with 8051 Microcontroller	45m	PPT	T1
56	ADC with 8051 Microcontroller	45m	PPT	T1
57	DAC with 8051 Microcontroller	45m	PPT	T1
58	Sensor Interfacing with 8051 Microcontroller	45m	PPT	T1
59	External Memory Interface with 8051	45m	PPT	T1
60	Stepper Motor and with 8051 Microcontroller	45m	PPT	T1
61	Waveform generation with 8051 Microcontroller	45m	PPT	T1
62	Revision			-

### TEXT BOOKS:

1. Douglas V.Hall, “Microprocessors and Interfacing, Programming and Hardware”, TMH, 2012

### REFERENCES:

2. Yu-Cheng Liu, Glenn A. Gibson, “Microcomputer Systems: The 8086 / 8088 Family – Architecture, Programming and Design”, 2<sup>nd</sup> Edition, Prentice Hall of India, 2007.

3. Mohamed Ali Mazidi, Janice Gillispie Mazidi, Rolin McKinlay, “The 8051 Microcontroller and Embedded Systems: Using Assembly and C”, 2<sup>nd</sup> Edition, Pearson Education, 2011.

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