

Bhoj Reddy Engineering College for Women: Hyderabad

Department of Electronics and Communication Engineering

Lesson plan of faculty member for the academic year 2018–19

Class: III B Tech

Branch-Section: ECE-C

Semester: II

Subject: Microprocessors and Microcontrollers

Lectures per week: 4

Lecture Number	Topics to be covered	Date (s)
UNIT – I: 8086 Architecture, Instruction Set & Assembly Language Programming of 8086		
1	Overview of the subject	28 December 2018
2	Introduction to 8086 Microprocessor	29 December 2018
	Functional diagram	
3	Register organization of 8086	31 December 2018
4	Memory Segmentation	2 January 2019
5	Programming Model	4 January 2019
6	Memory addresses	5 January 2019
	Physical Memory organization	
7	Architecture of 8086	7 January 2019
8	Signal descriptions of 8086	9 January 2019
9	Interrupts of 8086	11 January 2019
10	Instruction Formats of 8086	12 January 2019
	Addressing modes	
11	Instruction set	16 January 2019
12	Instruction set	18 January 2019
13	Instruction set	19 January 2019
	Instruction set	
14	Instruction set	21 January 2019
15	Assembler directives, Macros	23 January 2019
16	Simple programs involving Sorting, String Manipulations	25 January 2019
17	Simple programs involving Logical, Branch and Call Instructions	28 January 2019
UNIT-II: Introduction to Microcontrollers, 8051 Real Time Control		
18	Overview of 8051 Microcontroller	30 January 2019
19	Features of 8051	1 February 2019
20	8051 Architecture	2 February 2019
	Pin description of 8051	
21	I/O ports	4 February 2019
22	Memory Organization	6 February 2019
23	Addressing Modes	8 February 2019
24	Instruction set of 8051	9 February 2019
	Instruction set of 8051	
25	Instruction set of 8051	11 February 2019
26	Programming Timer Interrupts	13 February 2019
27	Programming hardware Interrupts	13 February 2019
28	Programming Serial Communication Interrupts	16 February 2019
	Programming 8051 Timer and counters	
UNIT-III: I/O and memory Interface, Serial Communication and Bus Interface		
29	Interfacing keyboard	22 February 2019
30	Interfacing LCD	23 February 2019
	Interfacing external memory RAM	
31	ROM Interface	25 February 2019
32	Interfacing D/A Converter	27 February 2019
33	Interfacing A/D converter	1 March 2019

34	Serial data Transfer schemes	2 March 2019
	Serial communication standards	
35	SPI Bus	6 March 2019
36	UART	8 March 2019
37	External Communication Interfaces	9 March 2019
	External Communication Interfaces	
38	RS232 Interface, USB interfacing	11 March 2019
39	On board Communication Interfaces – I2C Bus	13 March 2019
UNIT-IV: ARM Architecture		
40	Introduction to ARM Processor	15 March 2019
41	ARM Processor fundamentals	16 March 2019
	ARM Architecture	
42	Register, CPSR Pipeline	18 March 2019
43	Exceptions and interrupts	20 March 2019
44	IVT	22 March 2019
45	load store instructions	23 March 2019
	Software interrupt instructions	
46	Program status register instructions	25 March 2019
47	Data processing instructions	27 March 2019
48	ARM instruction set	29 March 2019
49	Branch instructions	30 March 2019
50	Conditional execution	1 April 2019
	Loading constants	
51	Introduction to Thumb instructions	3 April 2019
52	Introduction to Thumb instructions	8 April 2019
53	Revision	10 April 2019
UNIT-V: Advanced ARM Processors		
54	Introduction to Advanced ARM Processors	12 April 2019
55	CORTEX Processor	13 April 2019
	Architecture of CORTEX Processor	
56	Architecture of CORTEX Processor	15 April 2019
57	OMAP Processor	17 April 2019
58	Architecture of OMAP Processor	20 April 2019
	Architecture of OMAP Processor	

Text books:

1. Advanced Microprocessor and Peripherals-A.K. ray and Bhurchandani TMH 2nd edition.
2. The 8051 Microcontroller, Kenneth. J. Ayala, Cengage Learning, 3rd edition.
3. ARM System Developer 's guide, Andrew N SLOSS, Dominic SYMES, Chris WRIGHT, Elsevier, 2012

Name and signature of the faculty: M Krishna Chaithanya ----

Name and signature of Head of the Department: Ms N Shribala ----