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-A 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	27 December 2018
2	Introduction to 8086 Microprocessor Functional diagram	29 December 2018
3	Register organization of 8086	2 January 2019
4	Memory Segmentation	3 January 2019
5	Memory addresses Programming Model	5 January 2019
6	Physical Memory organization	7 January 2019
7	Architecture of 8086	9 January 2019
8	Signal Description of 8086	10 January 2019
9	Instruction Formats of 8086 Interrupts of 8086	12 January 2019
10	Addressing modes	16 January 2019
11	Examples of Addressing Modes	17 Januray 2019
12	Instruction set Instruction set	19 January 2019
13	Instruction set	21 January 2019
14	Assembler directives	23 January 2019
15	Macros	24 January 2019
16	Programs of Logical, Branch & Call	28 January 2019
17	Simple programs involving Sorting, String Manipulations	30 January 2019
18	Overview of unit	31 January 2019
UNIT-II: Introduction to Microcontrollers, 8051 Real Time Control		
19	Overview of 8051 Microcontroller 8051 Architecture	2 February 2019
20	Pin description of 8051	4 February 2019
21	I/O ports	6 February 2019
22	Memory Organization	7 February 2019
23	Addressing Modes Instruction set of 8051	9 February 2019
24	Instruction set of 8051	11 February 2019
25	Instruction set of 8051	13 February 2019
26	Programming Timer Interrupts	14 February 2019
27	Programming Serial Communication Interrupts Programming hardware Interrupts	16 February 2019
28	Programming 8051 Timer	21 February 2019
29	Programming 8051 Timer Revision	23 February 2019
UNIT-III: I/O and memory Interface, Serial Communication and Bus Interface		
30	Introduction to interfacing	25 February 2019
31	Interfacing keyboard	27 February 2019
32	Interfacing Display	28 February 2019
33	Interfacing external memory RAM ROM Interface	2 March 2019
34	Interfacing D/A and A/D converter	6 March 2019
35	Serial communication standards	7 March 2019

36	Serial data Transfer schemes	9 March 2019
	On board Communication Interfaces – I2C Bus, SPI Bus	
37	UART	11 March 2019
38	External Communication Interfaces	13 March 2019
39	RS232 Interface	14 March 2019
40	USB interfacing	16 March 2019
	Revision	
UNIT-IV: **ARM Architecture**		
41	Introduction to ARM Processor	18 March 2019
42	ARM Processor fundamentals	20 March 2019
43	ARM Architecture and Register	23 March 2019
	CPSR Pipeline	
44	Exceptions and interrupts	25 March 2019
45	IVT	27 March 2019
46	ARM instruction set – Data processing	28 March 2019
47	Branch instructions	30 March 2019
	load store instructions	
48	Software interrupt instructions	1 April 2019
49	Program status register instructions	3 April 2019
50	Loading constants	4 April 2019
51	Conditional execution	8 April 2019
52	Introduction to Thumb instructions	10 April 2019
53	Revision	11 April 2019
UNIT-V: **Advanced ARM Processors**		
54	Introduction to Advanced ARM Processors	13 April 2019
	CORTEX Processor	
55	Architecture of CORTEX Processor	15 April 2019
56	Architecture of CORTEX Processor	17 April 2019
57	OMAP Processor	18 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: Ms N Sumalatha ----

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