Bhoj Reddy Engineering College for Women: Hyderabad

Department of Electronics and Communication Engineering

Lesson plan of faculty member for the academic year 2017–18

Class: III B Tech Branch-Section: ECE-C Semester: II

Subject: Microprocessors and Microcontrollers Lectures per week: 4+1 (Tutorial)

Lecture Number	Topics to be covered	Date (s)
UNIT – I: 8086 Architecture		
1	Introduction	18 December 2017
2	Evolution of Microprocessors, Types of Computers	20 December 2017
3	Register Organization	21 December 2017
4	Memory Segmentation	23 December 2017
5	Tutorial (G1, G3, G2) - Introduction	21,22,23 December 2017
6	Programming model	27 December 2017
7	Memory Addresses, Physical Memory organization	28 December 2017
8	Architecture of 8086	30 December 2017
9	Tutorial (G1, G3, G2) – Problems on Physical address calculations	28,29,30 December 2017
10	Pin Diagram of 8086	03 January 2018
11	Minimum mode and maximum mode pin description	04 January 2018
12	Timing Diagram – Minimum mode	06 January 2018
13	Tutorial (G1, G3, G2) – Arithmetic operations	04,05,06 January 2018
14	Timing Diagram – Maximum mode	08 January 2018
15	Interrupts of 8086	10 January 2018
UNIT-II: Instruction Set and Assembly Language Programming of 8086		
16	Instruction formats	11 January 2018
17	Addressing modes	13 January 2018
18	Tutorial (G1, G3, G2) – Instruction formats	11,12,13 January 2018
19	Instruction Set- Arithmetic Instructions	17 January 2018
20	Instruction Set- Data transfer Instructions	18 January 2018
21	Instruction Set- Logical Instructions	20 January 2018
22	Tutorial (G1, G3, G2) – Simple programs	18,19, 20 January 2018
23	Instruction Set- Program execution control Instructions	22 January 2018
24	Assembler Directives	24 January 2018
25	Macros	25 January 2018
26	Simple programs involving Logical instructions	27 January 2018
27	Tutorial (G1, G2) - Simple programs	25,27 January 2018
28	Simple programs involving Branch and Call instructions	29 January 2018
29	Simple programs on sorting	31 January 2018
30	Simple programs Arithmetic expressions	01 February 2018
31	Simple programs on string manipulations	03 February 2018
32	Tutorial (G1, G3, G2) - Simple programs	01,02,03 February 2018
UNIT-III: Interfacing		
33	8255 PPI – Introduction	05 February 2018
34	Various modes of operations	10 February 2018
35	Tutorial (G2) – Examples of various modes of operations in 8255	10 February 2018
36	Interfacing of 8255 to 8086	12 February 2018
37	Interfacing of Keyboard	14 February 2018
38	Interfacing of Keyboard - Program	15 February 2018
39	Interfacing of Display	17 February 2018
40	Tutorial (G1, G3, G2) – Sample programs on interfacing	15,16,17 February 2018
41	Interfacing of D/A Converter	19 February 2018
42	Interfacing of A/D Converter	21 February 2018
43	Memory interfacing to 8086	22 February 2018
44	Memory interfacing to 8086	24 February 2018

45	Tutorial (G1, G3, G2) – Problems on memory interfacing	22,23,24 February 2018
46	Interrupt structure of 8086	26 February 2018
47	Vector interrupt table, Interrupt service routine	28 February 2018
48	Serial communication standards, Serial Data transfer schemes	03 March 2018
49	Tutorial (G3, G2) – Sample programs on USART	02, 03 March 2018
50	8251 USART Architecture	05 March 2018
51	USART Interfacing	07 March 2018
UNIT-IV: **Introduction to Microcontrollers**		
52	Overview of 8051 Microcontroller	08 March 2018
53	Architecture	10 March 2018
54	Tutorial (G1, G3, G2) – Arithmetic operations	08, 09,10 March 2018
55	Pin Diagram	12 March 2018
56	I/O ports	14 March 2018
57	Memory organization	15 March 2018
58	Addressing modes	17 March 2018
59	Tutorial (G1, G3, G2) – examples of addressing modes	15, 16,17 March 2018
60	Instruction set	19 March 2018
61	Instruction set	21 March 2018
62	Simple programs	22 March 2018
63	Simple programs	24 March 2018
64	Tutorial (G1, G3, G2) – Simple programs	22,23,24 March 2018
UNIT-V: **8051 Real Time Control**		
65	Programming Timer interrupts	28 March 2018
66	Programming internal hardware interrupts	29 March 2018
67	Programming the serial communication interrupts	31 March 2018
68	Tutorial (G1,G2) - Simple programs	29,31 March 2018
69	Programming timers and counters	02 April 2018

Text books:

1. D V Hall, “Microprocessors and Interfacing”, 2/e, TMGH, 2006
2. Kenneth J Ayala, “8051 Microcontrollers”, 3/e, Cengage Learning.

Name and signature of the faculty: Ms S Deepika ----

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