

Bhoj Reddy Engineering College for Women: Hyderabad

Department of Electronics and Communication Engineering

Lesson plan of faculty member for the academic year 2016–17

Class: III B Tech

Branch-Section: ECE-B

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	9 December 2016
2	Introduction to 8086 Microprocessor	10 December 2016
3	8086 Functional diagram, Register Organization	13 December 2016
4	Memory Segmentation	15 December 2016
5	Programming Model	16 December 2016
6	Memory addresses	17 December 2016
7	Tutorial (G2, G1) – Address calculation	13, 14 December 2016
8	Architecture of 8086	20 December 2016
9	Physical Memory organization	22 December 2016
10	Interrupts of 8086	23 December 2016
11	Signal description of 8086, Common function signals.	24 December 2016
12	Tutorial (G3, G2, G1) – Timing Diagrams	19, 20, 21 December 2016
13	Minimum mode signals & Timing diagrams	27 December 2016
14	Maximum mode signals & Timing diagrams	29 December 2016
UNIT II: Instruction Set & Assembly Language Programming of 8086		
15	Instruction Formats	30 December 2016
16	Instruction set	31 December 2016
17	Tutorial (G2, G1) – Example Programs	27, 28 December 2016
18	Instruction set	3 January 2017
19	Instruction set	5 January 2017
20	Assembler directives	6 January 2017
21	Procedures and macros	7 January 2017
22	Tutorial (G3, G2, G1) – Example Programs	2, 3, 4 January 2017
23	Simple Programs	10 January 2017
UNIT III: I/O Interface, Interfacing With Advanced Devices & Communication Interface		
24	8255 Block diagram	12 January 2017
25	Various modes of operation and interfacing to 8086	13 January 2017
26	Tutorial (G3, G2, G1) – Example Programs	9, 10, 11 January 2017
27	Interfacing keyboard	17 January 2017
28	Interfacing Display	19 January 2017
29	Interfacing Stepper motor	20 January 2017
30	Interfacing D/A Converter	21 January 2017
31	Tutorial (G3, G2, G1) – Example Programs	16, 17, 18 January 2017
32	Interfacing A/D converter	24 January 2017
33	Memory Interfacing to 8086	27 January 2017
34	Tutorial (G3, G2, G1) – Example Programs	23, 24, 25 January 2017
35	Interrupt structure of 8086	21 February 2017
36	Vector interrupt table	23 February 2017
37	Interrupt service routine	25 February 2017
38	Tutorial (G3, G2, G1) – Example Programs	20, 21, 22 February 2017
39	Interrupt types	28 February 2017
40	Serial communication standards	02 March 2017

41	Serial data Transfer schemes	03 March 2017
42	8251 architectures	04 March 2017
43	Tutorial (G3, G2, G1) – RS232	27, 28 February 01 March 2017
44	Serial data Transfer schemes	07 March 2017
45	8251 architectures	09 March 2017
46	8251 interfacing	10 March 2017
UNIT-IV: Introduction to Microcontrollers		
47	Overview of 8051 Microcontroller	11 March 2017
48	Tutorial (G3, G2, G1) – Simple Programs	6, 7, 8 March 2017
49	8051 Architecture	14 March 2017
50	8051 Architecture	16 March 2017
51	I/O ports	17 March 2017
52	I/O ports	18 March 2017
53	Tutorial (G3, G2, G1) - Simple Programs	13,14,15 March 2017
54	Memory Organization	21 March 2017
55	Addressing Modes	23 March 2017
56	Instruction set	24 March 2017
57	Instruction set	25 March 2017
58	Tutorial (G3, G2, G1) - Simple Programs	20,21,22 March 2017
59	Simple programs	28 March 2017
UNIT V: Real Time Control		
60	Programming Timer Interrupts	30 March 2017
61	Programming hardware Interrupts	31 March 2017
62	Programming Serial Communication Interrupts	01 April 2017
63	Tutorial (G3, G2) – Baud rate calculation	27,28 March 2017
64	Programming 8051 Timer and counters	04 April 2017
65	Serial Communication programs	06 April 2017
66	Serial Communication programs	07 April 2017
67	Revision	08 April 2017
68	Tutorial (G3, G2) – Baud rate calculation	03,04 April 2017
69	Revision	11 April 2017
70	Revision	13 April 2017
71	Tutorial (G3, G2, G1) - Revision	10,11,12 April 2017

Text books:

1. D.V. Hall, Microprocessor and Interfacing, TMGH 2nd edition 2006 (Unit 1 to 3)
2. Kenneth J. Ayala. The 8051 microcontroller, 3rd edition Cengage learning ,2010 (Unit 4 & 5)

REFERENCES:

1. Advanced Microprocessor and Peripherals-A.K. ray and Bhurchandani TMH 2nd edition (Unit 1 to 5)
2. The 8051 Microcontroller, Architecture and Programming and Application –K Uma Rao Andhe Pallavi Pearson 2009(Unit 6, 7)
3. Microcomputer System 8086/8088 family Architecture Programming and Design –By Liu and GA Gibson, PHI 2nd Ed (Unit 1 to 5)
4. Microcontroller and Application Ajay V. Deshmukh TMGH, 2005(Unit 6 to 8)

Name and signature of the faculty: Ms B. Kiranmai ----

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