

# 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-A

Semester: II

Subject: Microprocessors and Microcontrollers

Lectures per week: 4+1 (Tutorial)

Lecture Number	Topics to be covered	Date (s)
<b>UNIT – I: 8086 Architecture</b>		
1	Overview of the subject	19 December 2017
2	Introduction to 8086 Microprocessor	20 December 2017
3	Memory Segmentation	22 December 2017
4	Register organization of 8086	23 December 2017
5	Tutorial (G3, G2, G1) - Simple microcomputer	19, 21, 23 December 2017
6	Register organization of 8086	27 December 2017
7	Functional block diagram	29 December 2017
8	Architecture of 8086	30 December 2017
9	Signal description of 8086	2 January 2018
10	Tutorial (G1, G3, G2) – Physical Address calculation	2, 3, 4 January 2018
11	Common function signals	3 January 2018
12	Minimum mode signals & Timing diagrams	5 January 2018
13	Maximum mode signals & Timing diagrams	6 January 2018
14	Interrupts of 8086	9 January 2018
15	Physical Memory organization	10 January 2018
<b>UNIT-II: Instruction Set &amp; Assembly Language Programming of 8086</b>		
16	Tutorial (G1, G3, G2) - Instruction Formats	9, 10, 11 January 2018
17	Instruction Formats	12 January 2018
18	Addressing modes	13 January 2018
19	Instruction set	16 January 2018
20	Tutorial (G1, G3, G2) - Example Programs	16, 17, 18 January 2018
21	Instruction set	17 January 2018
22	Instruction set	19 January 2018
23	Assembler directives	20 January 2018
24	Procedures and macros	23 January 2018
25	Tutorial (G1, G3, G2) - Example Programs	23, 24, 25 January 2018
26	Simple programs	24 January 2018
<b>UNIT-III: I/O Interface, Interfacing With Advanced Devices &amp; Communication Interface</b>		
27	8255 Block diagram	27 January 2018
28	Various modes of operation and interfacing to 8086	30 January 2018
29	Tutorial (G1, G3, G2) - Example Programs	30, 31 January, 1 February 2018
30	Interfacing keyboard, Display	31 January 2018
31	Interfacing Stepper motor	2 February 2018
32	Interfacing D/A Converter	3 February 2018
33	Interfacing A/D converter	6 February 2018
34	Tutorial (G1) - Example Programs	6 February 2018
35	Interrupt structure of 8086	10 February 2018
36	Vector interrupt table	14 February 2018
37	Interrupt service routine	16 February 2018
38	Interrupt types	17 February 2018
39	Serial communication standards	20 February 2018
40	Tutorial (G1, G3, G2) – RS-232	20, 21, 22 February 2018
41	Serial data Transfer schemes	21 February 2018
42	Serial data Transfer schemes , 8251 architectures	23 February 2018
43	8251 architectures	24 February 2018

44	8251 interfacing	27 February 2018
<b>UNIT-IV: Introduction to Microcontrollers</b>		
45	Tutorial (G1, G3) - Overview of 8051 Microcontroller	27, 28 February 2018
46	Evolution of 8051	28 February 2018
47	8051 Architecture	2 March 2018
48	8051 Architecture	3 March 2018
49	I/O ports	6 March 2018
50	Tutorial (G1, G3, G2) - Simple Programs	6, 7, 8 March 2018
51	I/O ports	7 March 2018
52	Memory Organization	9 March 2018
53	Addressing Modes	10 March 2018
54	Instruction set	13 March 2018
55	Tutorial (G1, G3, G2) - Simple Programs	13, 14, 15 March 2018
56	Instruction set	14 March 2018
57	Simple Programs	16 March 2018
58	Simple Programs	17 March 2018
<b>UNIT-V: Real Time Control</b>		
59	Programming Timer Interrupts	20 March 2018
60	Tutorial (G1, G3, G2) - Baud rate calculation	20, 21, 22 March 2018
61	Programming hardware Interrupts	21 March 2018
62	Programming Serial Communication Interrupts	23 March 2018
63	Programming 8051 Timer and counters	24 March 2018
64	Serial Communication programs	27 March 2018
65	Tutorial (G1, G3, G2) - Baud rate calculation	27, 28, 29 March 2018
66	Serial Communication programs	28 March 2018
67	Previous question paper discussion	31 March 2018
68	Revision	3 April 2018
69	Tutorial (G1) - Revision	3 April 2018

**Text books:**

1. D.V. Hall, Microprocessor and Interfacing, TMGH 2<sup>nd</sup> edition 2006.
2. Kenneth J. Ayala. The 8051 microcontroller, 3<sup>rd</sup> edition Cengage learning, 2010.
3. Advanced Microprocessor and Peripherals-A.K. ray and Bhurchandani TMH 2<sup>nd</sup> edition.

Name and signature of the faculty: Ms Uzma Nazneen ----

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