

## **CS2252 MICROPROCESSORS AND MICROCONTROLLERS L T P C 3 0 0 3**

### **UNIT I THE 8085 AND 8086 MICROPROCESSORS 9**

8085 Microprocessor architecture-Addressing modes- Instruction set- Programming the 8085

### **UNIT II 8086 SOFTWARE ASPECTS 9**

Intel 8086 microprocessor - Architecture - Signals- Instruction Set-Addressing Modes-Assembler Directives- Assembly Language Programming-Procedures-Macros-Interrupts And Interrupt Service Routines-BIOS function calls.

### **UNIT III MULTIPROCESSOR CONFIGURATIONS 9**

Coprocessor Configuration – Closely Coupled Configuration – Loosely Coupled Configuration –8087 Numeric Data Processor – Data Types – Architecture – 8089 I/O Processor –Architecture –Communication between CPU and IOP.

### **UNIT IV I/O INTERFACING 9**

Memory interfacing and I/O interfacing with 8085 – parallel communication interface –serial communication interface – timer-keyboard/display controller – interrupt controller –DMA controller (8237) – applications – stepper motor – temperature control.

### **UNIT V MICROCONTROLLERS 9**

Architecture of 8051 Microcontroller – signals – I/O ports – memory – counters and timers – serial data I/O – interrupts-Interfacing -keyboard, LCD,ADC & DAC

### **TOTAL: 45 PERIODS**

#### **TEXT BOOKS:**

1. Ramesh S. Gaonkar ,”Microprocessor – Architecture, Programming and Applications with the 8085” Penram International Publisher , 5<sup>th</sup> Ed.,2006
2. Yn-cheng Liu,Glenn A.Gibson, “Microcomputer systems: The 8086 / 8088 Family architecture, Programming and Design”, second edition, Prentice Hall of India , 2006.
3. Kenneth J.Ayala, 'The 8051 microcontroller Architecture, Programming and applications' second edition ,Penram international.

#### **REFERENCES:**

1. Douglas V.Hall, “ Microprocessors and Interfacing : Programming and Hardware”,second edition , Tata Mc Graw Hill ,2006.
2. A.K.Ray & K.M Bhurchandi, “Advanced Microprocessor and Peripherals – Architecture, Programming and Interfacing”, Tata Mc Graw Hill , 2006.
3. Peter Abel, “ IBM PC Assembly language and programming” , fifth edition, Pearson education / Prentice Hall of India Pvt.Ltd,2007.
4. Mohamed Ali Mazidi,Janice Gillispie Mazidi,” The 8051 microcontroller and embedded systems using Assembly and C”,second edition, Pearson education /Prentice hall of India , 2007.

### MICRO LESSON PLAN

<b>HOURS</b>	<b>LECTURE TOPICS</b>	<b>READING</b>
<b>UNIT-I</b>		
1	Introduction	T1
2	8085 Microprocessor architecture	T1
3	8085 Microprocessor architecture	T1
4	Addressing modes	T1
5	Addressing modes	T1
6,7	Instruction set	T1
8	Programming the 8085	T1
9	Programming the 8085	T1
<b>UNIT-II</b>		
10	Intel 8086 microprocessor - Architecture	T1
11	Signals- Instruction Set	T1
12	Addressing Modes	T1
13	Assembler Directives	T1
14	Assembly Language Programming	T1
15	Procedures-Macros	T1
16	Interrupts and Interrupt Service Routines	T1
17	BIOS function calls.	T1
18	BIOS function calls.	T1
<b>UNIT-III</b>		
19	Coprocessor Configuration	T1
20	Closely Coupled Configuration	T1

<b>HOURS</b>	<b>LECTURE TOPICS</b>	<b>READING</b>
21	Loosely Coupled Configuration	T1
22	8087 Numeric Data Processor- Data Types	T1
23	Architecture	T1
24	8089 I/O Processor -Architecture	T1
25	8089 I/O Processor -Architecture	T1
26	Communication between CPU and IOP.	T1
27	Communication between CPU and IOP.	T1
<b>UNIT-IV</b>		
28	Memory interfacing and I/O interfacing with 8085	T1
29	Parallel communication interface	T1
30	Serial communication interface	T1
31	Timer-keyboard/display controller	T1
32	Interrupt controller	T1
33	DMA controller (8237)	T1
34	Applications.	T1
35	Stepper motor	T1
36	Temperature control	T1
<b>UNIT V</b>		
37	Architecture of 8051 Microcontroller	T1
38	signals	T1
39	I/O ports- memory	T1
40	counters and timers	T1
41	serial data I/O	T1
42	interrupts-	T1
43	Interfacing-keyboard	T1
44	LCD	T1
45	ADC & DAC	T1

**Prepared By,**  
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