

SEM IV
T.E. Electronics

Microprocessors & Microcontroller

24/05/06

[REVISED COURSE]

CON/1752-06.

TV-8292

(3 Hours)

[Total Marks : 100

N.B. : (1) Question No.1 is **compulsory**.

(2) Attempt any four questions out of remaining **six** questions.

1. (a) Draw the interfacing diagram for 8086 based system (minimum mode) with - 15
(i) 16 KB EPROM using 2764 devices,
(ii) 64 KB RAM using 62256 devices,
(iii) 8255 PPI in memory address space,
Show the required latches, buffers, decoder.
Draw the memory map for above interface.
(b) Describe the conditions(s) which cause the 8086 to perform each of the 5
following types of interrupts :
type 0, type 1, type 2, type 3, type 4.
2. (a) Explain various addressing modes of 8086 microprocessor with examples. 10
(b) Explain the following assembler directives. 10
(i) DB (iv) PROC,
(ii) EXTRN (iv) PUBLIC.
(iii) MODEL SMALL
3. (a) Write a assembly language program using 8085 string instruction for 10
moving a string from one location to another in memory.
(b) Write a note on : 10
(i) IEEE 488 bus standard,
(ii) RS232C bus standard.
4. (a) Design a 8051 based microcontroller system with following details : 15
(i) 8051 CPU at 12 MH ,
(ii) Program memory - 16 KB
(iii) Data memory - 32 KB
(iv) 8255 PPI
Discuss the Design.
(b) Explain the interrupt structure of 8031/8051. 5
5. (a) Write a following programs (use 8051 UC) : 10
(i) Create a square wave of 50% duty cycle on bit 0 of port 1.
(ii) Create a square wave of 66% duty cycle on bit 3 of port 1.
(b) What are special function registers ? Explain their utility with 10
example.
6. What are the different multiprocessor configurations ? Explain 8086-8087 20
interface with neat, clear schematic in details.
7. (a) Write a short note on mixed language programming using C and assembly 8
language of 8086.
(b) List and explain the different data types supported by 8087 NDP. 8
(c) Comment decimal number 178.625 into the short real representation used 4
by the 8087.
