

(Following Paper ID and Roll No. to be filled in your answer book)

Paper ID: 

Roll No.

5	8	1	0	4	2	0	0	0	1
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M.Tech

FIRST SEMESTER EXAMINATION, 2008-2009
ADVANCED MICROPROCESSOR AND APPLICATION

Time: 3hrs.

Max. Marks:100

Note: Attempt any Five questions. All questions carry equal marks.

- Q1. (a) Discuss the architectural features of Intel 8088 microprocessor. Draw its pin configuration and discuss about each signal. [10]
- (b) Discuss the operating principle of Intel 8086 microprocessor. Draw its functional block diagram and discuss about each functional units. [10]
- Q2. (a) What is program status word (PSW)? Give the format of PSW of Intel microprocessors, and discuss the role of each flag. [10]
- (b) What is pipelining? How is it achieved in Intel 8086 microprocessors? [10]
- Q3. (a) Define terms interrupt, interrupt pointer and interrupt vector. What are the interrupts available with Intel 8086 microprocessor? Draw the interrupt vector table. [10]
- (b) How the various bus operation are distinguished in Intel 8086 microprocessor? [4]
- (c) Draw the timing diagram for memory read bus cycle of 8086 microprocessor for the minimum mode of operation. [6]
- Discuss about the following : [6]
- (i) Assembler (ii) Editor (iii) Debugger
- (iv) Linker

- (b) Write an assembly language program for 8086 microprocessor to arrange the following numbers in ascending order
Data : 52H, 63, 95H, 69H, 12H, 25H, FFH, ABH, B8H
Let the data array is stored in the memory beginning with offset address 0301H, store the resulting data array in the memory beginning with offset address 0401H. [10]
- (c) Explain about the following instructions with suitable examples. [4]
(i) SUB (ii) MUL (iii) INR (iv) CMP

- Q5.(a) What is programmable peripheral interface(PPI)? Draw the block diagram and discuss the architectural features of Intel 8255. What are the various operating modes? Also give the control word format.
- (b) What is Intel 8259? Draw the functional block diagram of 8259 and discuss.

- Q6.(a) Discuss the register organization of Intel 80386 microprocessor. [8]
- (b) Discuss about the following : [12]
(i) 8087 (ii) 68000 (iii) 8237

- Q7.(a) What is a microcontroller? What do you understand by embedded controller? [4]
- (b) Draw the schematic diagram of microprocessor based stepper motor control, and discuss the scheme of interfacing. [8]
- (c) Discuss the microprocessor based temperature control of an industrial furnace. Draw the schematic diagram also. [8]