

3

11117

EEE-404

Printed Pages-3

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 0210

Roll No.

--	--	--	--	--	--	--	--	--	--

**B.Tech.**

(SEM IV) EVEN SEMESTER THEORY EXAMINATION,  
2009-2010

**MICROPROCESSORS**

Time : 3 Hours

Total Marks : 100

**Note :** Attempt ALL questions.

1. Attempt any four parts of the following : (4x5=20)
  - (a) What do you understand by Memory-Mapped I/O and Peripheral I/O ?
  - (b) Describe the opcode fetch machine cycle with suitable timing diagram for 8-bit processor.
  - (c) What do you understand by multiplexing of address and data buses ?
  - (d) Differentiate between hardware and software interrupts.
  - (e) Explain the use of Stack Pointer (SP) during PUSH and POP operation.
  - (f) What do you understand by Pipelining ?

2. Attempt any four parts of the following : (4x5=20)

- (a) Describe internal architecture of 8085 Processor.
- (b) Give the clock out frequency and state time, T of 8085 operating with each of the following frequency crystals : 6.25 MHz, 6.144 MHz, 5 MHz and 10 MHz.
- (c) Explain different control signals used by 8085.
- (d) Define instruction cycle, machine cycle and T-State.
- (e) Explain how 8085 responds to INTR interrupt.
- (f) Explain the function of following instructions :
  - (i) RIM
  - (ii) RST 4
  - (iii) ADD M
  - (iv) IN 20H
  - (v) DAA

3. Attempt any two parts of the following : (2x10=20)

- (a) Draw internal architecture of 8086 and explain each component.
- (b) Draw and discuss fully buffered circuit diagram of 8086 operated in maximum mode.
- (c) Define bus cycle, and explain the minimum mode read and write bus cycle with proper timing diagram.

4. Attempt any two parts of the following : (2x10=20)

- (a) Explain how memory is allocated for mother board and user program ?
- (b) Write a program to multiply the contents of AX by 6 using shift instruction.
- (c) Draw and discuss the internal architecture of 8253.

5. Attempt any two parts of the following : (2x10=20)

- (a) Discuss various modes of operation of 8259 Interrupt Controller.
- (b) What do you understand by DMA ? Discuss the internal block diagram of 8237A.
- (c) Draw and discuss the various modes of operation of 8255.

- o O o -