

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

PAPER ID : 0210

Roll No.

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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)
- What do you understand by Memory-Mapped I/O and Peripheral I/O ?
 - Describe the opcode fetch machine cycle with suitable timing diagram for 8-bit processor.
 - What do you understand by multiplexing of address and data buses ?
 - Differentiate between hardware and software interrupts.
 - Explain the use of Stack Pointer (SP) during PUSH and POP operation.
 - 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.

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