Printed Pages : 3                                   **TEE404**

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

PAPER ID : 2054    Roll No. 

# B. Tech.

## (SEM. IV) THEORY EXAMINATION 2010-11
## MICROPROCESSORS

*Time : 3 Hours*                          *Total Marks : 100*

**Note :—** (1)  Attempt **ALL** questions.

(2)  All questions carry equal marks.

1.  Attempt **four** parts of the following :—          **(5×4=20)**

(a)  Explain the Architecture of 8086. Also mention its features.

(b)  Explain the following :—

(i)  MEMORY SEGMENTATION

(ii) REGISTER ORGANIZATION

Also mention its importances.

(c)  Discuss the Bus Interface unit and Execution unit of 8086 µp.

(d)  What are the Timing and control instruction set of 8085 µp ? Also mention its importances.

(e)  Explain the Architecture of 8085 µp. Also mention its utilities.

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(f) Explain the following :—

    (i) ALU of 8085 µp

    (ii) Bus organization of 8085 µp.

2. Attempt **two** parts of the following :—    **(10×2=20)**

    (a) Explain the following addressing modes of 8086 µp :

        (i) DIRECT ADDRESSING

        (ii) RELATIVE BASED INDEXED ADDRESSING

        (iii) REGISTER IN DIRECT ADDRESSING

        (iv) IMMEDIATE ADDRESSING.

    (b) Explain the following instructions sets of 8086 µp with suitable examples

        (i) ARITHMETIC INSTRUCTIONS

        (ii) DATA TRANSFER INSTRUCTIONS

        (iii) LOGIC INSTRUCTIONS

        (iv) FLAG CONTROL INSTRUCTIONS.

    (c) What do you mean by 'ALP' ? Discuss the low level and high level ALP. Also discuss the advantages and disadvantages of low level ALP over high level ALP.

3. Attempt **two** parts of the following :—    **(10×2=20)**

    (a) Draw and explain the pin configuration of 8088 processor. Also mention the importances of 8088 processors pin configurations.

    (b) Draw and explain the pin configuration of 8086 µp. Also mention the significances of 8086 µp pin configurations.

(c) Explain the following :—

    (i) Buffering Memory Organization

    (ii) Demultiplexing

    (iii) Clock generators

    (iv) Min./Maximum Mode operation.

4. Attempt **two** parts of the following :—    (10×2=20)

  (a) What do you understand by "Peripheral Interfacing devices" of microprocessors (μp) ? Also mention its significances and limitations (any **THREE**).

  (b) Draw and explain the pin configuration of 8253 peripheral interfacing devices of 8085 μp. Also mention its limitations and applications.

  (c) Draw and explain the pin configuration of 8254 peripheral interfacing device of 8085 μp. Also mention its limitations and applications.

5. Attempt **two** parts of the following :—    (10×2=20)

  (a) Draw and explain the pin configuration of 8259-programmable interrupt controller of 8085 μp. Also mention its utilities.

  (b) Draw and explain the pin configuration of 8237 DMA controller of 8085 μp. Also mention its significances.

  (c) Write short notes on the following :—

    (i) 32-bit μp

    (ii) 16-bit μp.