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B. TECH
(SEM. IV) THEORY EXAMINATION 2017-18
INTRODUCTION TO MICROPROCESSOR

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

Note: 1. Attempt all Sections.
2. Assume any missing data.

SECTION A

1. Attempt *all* questions in brief. **2 x10 = 20**

a. Define microprocessor? Draw its basic block diagram.
b. What do you mean by address and data buses?
c. Write important applications of 8085.
d. List the difference between Memory Mapped I/O and peripheral I/O.
e. What do you mean by maskable and non-maskable interrupts?
f. What is subroutine?
g. Describe the following 8085 instructions:
(i) DAA
(ii) JPE 3040H
h. Discuss about the difference between 8253 and 8254.
i. List the different modes of operation of 8255?
j. Find out the physical memory location in 8086 memory when the CS register consist of 7450H and offset register consists 1750H.

SECTION B

2. Attempt any *three* of the following: **10 x 3 = 30**

a. Discuss the various logic devices used in interfacing circuits.
b. Explain addressing modes of microprocessor. How flow of data and instruction occurs in typical Intel microprocessors?
c. Explain the interrupts used in 8085 in detail. What is the difference between 8085 and 8086?
d. Write an assembly language program to find the largest number in a block of data. The length of block is in memory location 2200H and the block itself begins from location 2201H. Store the maximum number in 2300H.
e. Draw and explain in detail the pin and functional block diagram of 8086 microprocessor.

SECTION C

3. Attempt any one parts of the following: **10 x 1 = 10**

a. List four operations commonly performed by the MPU. Also describe the function of Accumulator?

b. (i) What is Flag? Explain the flag register of 8085 microprocessor with suitable example.

(ii) How many address lines are necessary to address 8 K byte of memory?

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4. Attempt any one parts of the following: **10 x 1 = 10**

a) What are the different registers available in 8085? Explain them with their important applications.

b) Explain the addressing with suitable example in detail.

5. Attempt any one parts of the following: **10 x 1 = 10**

a) Describe with the help of neat diagram the internal architecture of 8085. State the function of each block shown.

b) Draw and explain the timing diagram of MVI A, 46H and the total time required for the execution of this instruction.

6. Attempt any one parts of the following: **10 x 1 = 10**

a) Write an assembly language program for conversion of BCD to Binary and BCD to seven segments with flow chart.

b) What are the various types of instructions used in assembly language programming? Explain one of them in detail.

7. Attempt any one parts of the following: **10 x 1 = 10**

a) Define Direct memory Access (DMA). Draw and explain the block diagram of 8237 DMA controller.

b) Explain the interfacing of keyboard and seven segment display.

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