Printed Pages: 02 **Sub Code: EEC406**

Paper Id: 131411 **Roll No.** | | | | | | | | | | |

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. Discuss the evolution of microprocessors in brief.
b. What do you mean by address and data buses?
c. Write important applications of 8085.
d. Why ALU is so important?
e. What do you mean by maskable and non-maskable interrupts?
f. What are operating mode of 8086?
g. What is subroutine?
h. Describe the following 8085 instructions:
(i) DAA
(ii) JPE 3040H
i. List the different modes of operation of 8255?
j. Discuss about the difference between 8253 and 8254.

SECTION B

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

a. What is a Microprocessor? Differentiate between Microprocessor and Microcontroller. How does the microprocessor work? Explain in detail.
b. Explain arithmetic operations, logical operations and branching operations for 8085 microprocessors.
c. With a neat diagram describe the internal architecture of 8086. Explain the function of each block shown.
d. Write an assembly language program for BCD to seven segment code conversion in 8086 microprocessor.
e. Define direct memory Access (DMA). Draw and explain the block diagram of 8237 DMA controller.

SECTION C

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

a. Discuss the various logic devices used in interfacing circuits in detail.

b. Explain addressing modes of microprocessor. How flow of data and instruction occurs in typical Intel microprocessors.

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

a) Draw the internal architecture of microprocessor 8085 and describe it in detail.
b) List and explain all 8085 vectored interrupts with internal hardware-schematic.

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

a) Discuss the register organization of 8086 microprocessor and explain the function of each register. How they make a programmer's job easier?

b) Define and explain instruction sets available in 8086. What are instruction formats used by 8086?

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

a) Write an assembly language program for the subtraction of two 16-bit numbers in 8085 MPU.

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) Explain 8259 (programmable interrupt controller) in detail? Explain the difference priority modes on 8259 (programmable interrupt controller).

b) With the help of block diagram explain the operation of 8255 programmable peripheral interfaces in detail.