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

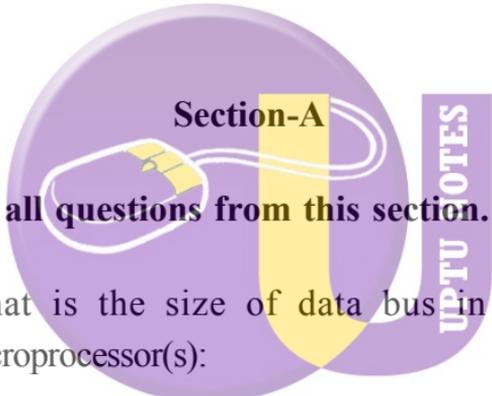**Paper ID : 131409**   **Roll No.** ☐☐☐☐☐☐☐☐☐☐☐

B.TECH.

Theory Examination (Semester-IV) 2015-16

INTRODUCTION TO MICROPROCESSOR

Time : 3 Hours   *Max. Marks : 100*

Section-A

Q1. Attempt all questions from this section.   **(2×10=20)**

    (a)   What is the size of data bus in the following microprocessor(s):

        (i)   8-bit

        (ii)   16-bit

        (iii)   32-bit

        (iv)   64-bit

(b) How the microprocessor behaves when the interrupt is generated through interrupt pin of 8085 (TRAP, RST 7.5, RST 6.5, RST 5.5) and DMA interrupt?

(c) Define subroutine.

(d) Describe the following 8085 instructions:

(i) DAA

(ii) JPE 3040H

(e) Define microprocessor, computer and microcontroller.

(f) What are the various operations performed by microprocessor?

(g) Write down the use of control line A0 and A1 in 8255.

(h) Write down the difference between 8253 and 8254.

(i) Find out the physical memory location in 8086 memory when the CS register consist of 7450H and offset register consists 1750H.

(j) Discuss about the difference between 8085 and 8086 microprocessor.

Q2. Attempt any five questions from this section.

(10×5=50)

(a) Draw a logic diagram of complete interfacing of 8085 microprocessor with memory of size 4K bytes.

(b) Draw a functional diagram of 8085 microprocessor and also discuss its various pins.

(c) What is the need of de-multiplexing of 8085? Discuss the microprocessor architecture and its operation.

(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 2201 H. Store the maximum number in 2300H.

(e) Explain the addressing with suitable example in detail.

(f) What are the various types instructions used in assembly language programming. Explain one of them in datail.

(g) Explain the interfacing of keyboard and seven segment display.

(h) Write a delay routine to produce a time delay of 0.5 msec in 8085 processor-based system whose clock source is 6 MHz quartz crystal.

Section-C

Note: Attempt any two questions from this section.

(15×2=30)

Q3. Write an assembly language program to convert a 2 digit BCD number stored at memory address 2200H into its binary equivalent number and store the result in memory location 2300H. Also draw the flow chart of it.

Q4. Draw and explain in detail the architecture of 8086 (pin and functional block diagram).

Q5. Write short notes on the followings:

(a) Direct Memory Access(DMA) Controller

(b) The 8085 interrupts

(c) Logic devices for interfacing

(4)