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

Paper ID : 121404 Roll No. | | | | | | | | | | |

# B.TECH.

## Theory Examination (Semester-IV) 2015-16

## MICROPROCESSOR

*Time : 3 Hours* *Max. Marks : 100*

**Note : Attempt all Sections.**

### Section-A

**1. Attempt all questions** (2×10 = 20)

(a) Explain why tristate buffer is used in input port ?

(b) What is the need of demultiplexing in microprocessor?

(c) Explain functions of ALE pin in 8086.

(d) Write features of 8085.

(e) Calculate physical address if CS: IP = 9105 H: 1724 H.

(f) Draw flag register of 8086.

(g) Give example of Machine Control Instruction.

(h) What is use of cache memory?

(i) Compare dynamic & static RAM.

(j) Write different techniques used to convert analog signal into digital signal.

## Section-B

**2. Attempt any five parts of following:** [10×5=50]

(a) Describe Read/Write machine cycle with timing diagram for 8 bit processor.

(b) Explain Minimum Mode operation of 8086 microprocessor with block diagram.

(c) Compare Procedure & Macros in assembler directives of 8086.

(d) Connect 8 bit DAC with 8085 and write program for saw tooth waveform on DAC o/p.

(e) Connect 8k byte EPROM with microprocessor 8085. The IC available is 2k X 8 EPROM; Also draw its address decoding table.

(f) Explain evolution of micro processor with its different generation.

(g) What do you mean by Addressing mode? Explain different addressing modes used in 8085 with suitable example.

(h) Draw architecture of 8086 and explain its various unit.

## Section-C

**Note: Attempt any two parts from this section.** (15×2=30)

3. (i) Explain types of assembler & explain following assemble directive- POINTER, PUBLIC, LABEL.

   (ii) WAP to Arrange numbers in ascending order using 8086 instructions.

   (Assume any 5 numbers)

4. (i) Explain various modes of operation in 8255A (PPI) and draw its block diagram.

   (ii) Draw & explain the block diagram of 8259 interrupt controller. Explain different function available in priority interrupt controller.

5. (i) Explain types of DAC techniques and find expression for R/2R ladder digital to Analog technique.

   (ii) Explain working of static & dynamic RAM , ROM with circuit diagram.