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**B.TECH.**

**THEORY EXAMINATION (SEM–IV) 2016-17**

**INTRODUTION TO MICROPROCESSOR**

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

***Note :*** *Be precise in your answer. In case of numerical problem assume data wherever not provided.*

## SECTION – A

**1. Explain the following:** **10 x 2 = 20**

**(a)** What is a microprocessor? What is the technology used in microprocessors?

**(b)** What are the different buses and what jobs they do in a microprocessor?

**(c)** Draw the basic block diagram of microprocessors and discuss the same.

**(d)** The address capability of 8085 is 64 KB. Explain.

**(e)** How many instructions 8085 can support?

**(f)** Mention the addressing modes of 8085.

**(g)** Explain the concept of Memory segmentation in 8086 microprocessor.

**(h)** How many hardware interrupts 8085 supports?

**(i)** How many I/O ports can 8085 access?

**(j)** Why the lower byte addresses bus (A0 – A7) and data bus (D0 – D7) are multiplexed?

## SECTION – B

**2. Attempt any five of the following questions:** **5 x 10 = 50**

**(a)** Draw the architecture of 8085 and mention its various functional blocks.

**(b)** Explain different types of interrupts in 8085 Microprocessors.

**(c)** Draw the pin diagram and functional block diagram of 8254.

**(d)** Explain the difference between IO mapped IO and Memory Mapped IO interfacing technique.

**(e)** Explain PPI (8255) with its block diagrams. Also explain its operating modes.

**(f)** Ten number 8-bit data are stored starting from memory location 2100 H. Transfer this entire block of data to memory location starting from 3100 H.

**(g)** Explain different types of software and hardware interrupts of 8085.

**(h)** What is addressing mode? Explain the types of the addressing modes of 8085.

## SECTION – C

**Attempt any two of the following questions:** **2 x 15 = 30**

**3.** Explain the features and architecture of 8086 Microprocessors. Mention the jobs performed by BIU and EU.

**4.** Draw the block diagram of 8251 USART and explain each block. Also draw its interfacing with 8086.

**5.** With the help of a functional block diagram and working of 8257 DMA controller.