B.TECH SEM – IV (2007 COURSE) (COMPUTER ENGG.) :
WINTER - 2017
SUBJECT : TECHNIQUES OF MICROPROCESSOR PROGRAMMING

Day : **Friday**
Date : **24/11/2017**

Time : **02.30 PM TO 05.30 PM**
Max. Marks : 80

W-2017-2409

N.B.:

1) **Q.No.1** and **Q.No.5** are **COMPULSORY**. Out of the remaining attempt **ANY TWO** questions from each section.
2) Answers to both the sections should be written in the **SEPARATE** answer books.
3) Draw neat and labeled diagram **WHEREVER** necessary.
4) Figures to the right indicate **FULL** marks.
5) Assume suitable data if necessary.

SECTION – I

Q.1 **a)** Explain memory segmentation in 8086 microprocessor. **[05]**

b) What is effective address? In how many ways EA is specified in instruction? **[05]**

c) How do you enable and disable interrupts in 8086. **[04]**

Q.2 **a)** Draw and explain internal architecture of 8086. **[07]**

b) Explain the functions of following 8086 signals: **[06]**
i) $\overline{TEST}$ **ii)** $DT/\overline{R}$ **iii)** $\overline{DEN}$.

Q.3 **a)** Draw and explain programmer's model of 8086. **[07]**

b) Explain Rotate and shift instructions of 8086 with suitable examples. **[06]**

Q.4 **a)** Explain type 0, 1, 2 interrupts of 8086. **[06]**

b) What is ISR? Draw flow chart for interrupt processing sequence. **[07]**

SECTION – II

Q.5 **a)** Compare synchronous and asynchronous communication. **[05]**

b) Explain working of stack of 8087. **[05]**

c) What is the difference between .com and .exe files? **[04]**

Q.6 **a)** Draw and explain functional block diagram of 8255 PPI. **[07]**

b) What is DMA? Explain how 8237 DMAC is used for data transfer in DMA operation. **[06]**

Q.7 **a)** Explain how 8086 communicates with 8087 NDP. **[07]**

b) Draw and explain architecture of 8089 IOP. **[06]**

Q.8 **a)** What is POST? Explain POST sequence with the help of flow chart. **[07]**

b) What are components of MS-DOS? Explain the steps for loading MS-DOS. **[06]**

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