

4/05/2016

T.E - V Sem - Biomed

# Microprocessor

(10)

TE/V/CBGS/BM/M.P

QP Code : 31097

(3 Hours)

[ Total Marks :80

- N.B. : (1) Question no. 1 is compulsory.  
(2) Attempt any three questions from the remaining five questions.  
(3) Figures to the right indicate full marks.

1. Answer the following:-

- (a) Draw and explain Microcomputer based system organisation. 20  
(b) Differentiate between I/O mapped and Memory mapped I/O  
(c) Draw and explain status register of 8087  
(d) Explain the operation of the following instructions.  
(i) MOV Ax, [1234h]  
(ii) XLATB  
(iii) PUSH Bx  
(iv) CMP Ax, Bx  
(v) CBW

2. (a) Draw and explain architecture of 8086 in detail. 10  
(b) Draw and explain 8086 minimum mode interface. Also draw timing diagram for Memory read bus cycle. 10

3. (a) Explain data transfer string instructions of 8086. 5  
(b) Draw and explain I/O mode control word format of 8255. 5  
(c) Explain interfacing and working of 8086 with 8087. 10

4. (a) WAP. To compute resonance frequency using 8087 programming instructions. 10  
(b) Classify 8086 interrupts and explain IVT of 8086. Also state response of 8086 to a given interrupt. 10

5. (a) Design 8086 based system working at 8MHZ in minimum mode. Interface 8086 with 32KX8 RAM and 32KX8 ROM with memory mapping. 10  
(b) WAP to add block of five 8 bit hex nos and store the result in memory location called SUM. 5  
(c) Draw and explain 8086 interface with DMA controller. 5

6. Write short note on the following (any four):- 20

- (a) 20 bit Physical address generation process in 8086  
(b) Memory organization of 8086  
(c) 8288 Bus Controller  
(d) I/O Modes of 8255  
(e) Data types of 8087

FW-Con. 10272-16.