

Registration No:

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Total Number of Pages : 01

M.TECH

M.TECH 2ND SEMESTER REGULAR EXAMINATIONS, MAY 2018

ADVANCED MICROPROCESSOR & MICROCONTROLLER

Branch: EC, Subject Code:MECPE2043

Time: 3 Hours

Max Marks : 70

PART-A**(10 X 2=20 MARKS)****1. Answer the following questions.**

- (a) What are the functions of bus interface unit (BIU) in 8086? (CO2)
 (b) What is the clock frequency of 8086? (CO1)
 (c) What are the two modes of operations present in 8086? (CO2)
 (d) List the operation modes of 8255. (CO3)
 (e) What is the output modes used in 8279? (CO4)
 (f) What are the 8086 interrupt types? (CO3)
 (g) What is the difference between the Microprocessors and Microcontrollers? (CO1)
 (h) Explain the functions of the pin PSEN of 8051. (CO4)
 (i) Write a program to perform multiplication of 2 no's using 8051? (CO3)
 (j) What is USART? (CO2)

PART-B**(5 X 10=50 MARKS)****Answer any five questions from the following.**

- 2.(a) Discuss the various addressing modes of 8086 microprocessor. [5] (CO1)
 (b) Explain the interrupt mechanism, types and priority of 8086 microprocessor. [5] (CO2)
- 3.(a) What is meant by segmented memory? What are the different segments of memory with which 8086 can work? List the advantages of segmented memory. [5] (CO2)
 (b) Explain the functions of following 8086 signals. [5] (CO3)
 1. HLDA 2. RQ/GTO 3. DEN 4. ALE 5. AD0-AD15
- 4.(a) What I/O mode. Explain the I/O mode of 8255 in detail. [5] (CO4)
 (b) Draw the block diagram of 8257 DMA controller and explain about the Current and Base address and count register of it. [5] (CO3)
- 5.(a) With neat block diagram explain the functions of 8251. [5] (CO2)
 (b) Explain about the Keyboard and Display section of 8279. [5] (CO1)
- 6.(a) Explain about the addressing modes of 8051 microcontroller. [5] (CO1)
 (b) Explain the memory map of the internal 128 byte RAM of the 8051 Microcontroller. [5] (CO4)
- 7.(a) Write an assembly language program using 8051 microcontroller instructions to generate a square wave at port 1, pin 0 (i.e., P 1.0). The frequency of the generated square wave is to be 1 kHz. [5] (CO3)
 (b) Explain about the architecture of PIC microcontroller. [5] (CO2)
8. **Write short answer on**
- a) 8086 flag register [5] (CO1)
 b) 8051 Interrupt [5] (CO2)

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