Code No: V3207

R07

Set No: 1

III B.Tech. II Semester Supplementary Examinations, November/December - 2012
MICRO PROCESSORS AND MICRO CONTROLLERS
(Electrical and Electronics Engineering)

Time: 3 Hours   **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks
*****

1   (a) Draw the block diagram of 8086 and explain BIU and EU?
    (b) Explain about memory segmentation.

2   (a) Mention various assembler directives used in ALP of 8086 microprocessor.
    (b) Develop an 8086 assembly language program to find the sum of numbers from 1 to 100.

3   Explain the following data transfer schemes
            (a). Programmed I/O
            (b). Interrupted I/O

4   (a). Bring out the difference between static RAM and dynamic RAM.
    (b) Discuss about   interrupt priority sequences used in 8086 system.

5   With a neat sketch explain the operation of 8251(USART). What are its various modes of operation?

6   (a). List out various addressing modes of 8051? Explain them briefly.
    (b). Enlist the salient features of 8051 family microcontrollers.

7   (a). Give the priority of the interrupts in 8051? How we can give highest priority to serial interrupt?
    (b). Write 8051 program to receive a serial byte through R×D.

8   (a) Draw the circuit diagram to interface the DAC to the controller and explain.
    (b). Give the applications of Microcontrollers. And explain them briefly.

*****

1 of 1

Code No: V3207

R07

Set No: 2

III B.Tech. II Semester Supplementary Examinations, November/December - 2012
MICRO PROCESSORS AND MICRO CONTROLLERS
(Electrical and Electronics Engineering)

Time: 3 Hours   **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks
*****

1   (a). Describe the prefetch operation of 8086 instruction queue?
    (b). Define an instruction? Explain various instruction formats with examples.

2   (a). What do you mean by a macro? What are the differences between a macro and a
    subroutine?
    (b).Write an ALP in 8086 to add two 16-bit hexa decimal numbers.

3   (a) Explain the analog to digital converter.
    (b). Enlist different modes of operation of 8255.

4   (a). What is the need for DMA data transfer?
    (b) Draw and discuss the internal architecture of 8259A?

5   Write short notes on the following
        a.   Serial communication standards
        b.   Prototyping

6   (a). How does 8051 differentiate between the external and internal program memory
    (b).What is memory organization of 8051?

7   (a). Enlist the salient features of 8051 family of microcontrollers
    (b). Write short notes on memory organization.

8   (a). Explain how microcontroller used as a traffic signal controller.
    (b). Elaborate the need of a dedicated keyboard display controller.

*****

1 of 1

Code No: V3207

R07

Set No: 3

III B.Tech. II Semester Supplementary Examinations, November/December - 2012
MICRO PROCESSORS AND MICRO CONTROLLERS
(Electrical and Electronics Engineering)

Time: 3 Hours   **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks
*****

1   (a). Differentiate the minimum mode and maximum mode of operation with 8086 microprocessor.
(b). Explain various registers of 8086 and their functionality. Discuss the spectical functions of AX, BX, CX,DX registers.

2   (a).Give the assembly language implementation of the following:
         (i) FORLOOP   (ii) REPEAT   (iii) IF-THEN-ELSE
(b).Write an ALP in 8086 to exchange a block of N bytes of data between source and destination.

3   (a). Explain different control word formats of 8255 PPI.
(b). Draw the interfacing diagram of an ADC to 8086.

4   (a).Bring out the difference between static and dynamic Ram.
(b) Discuss the properties of DMA request inputs of 8257.

5   Draw the internal architecture of USART 8251 and explain its different status, mode and control formats in detail.

6   (a). Draw and discuss interrupt structure of 8051 in detail?
(b). Explain the instructions of 8051 in detail.

7   (a). Explain the various modes of operation of timer/counters in 8051?
(b). Explain the operation of linear counter functions.

8   (a). Give the applications of Microcontrollers. And explain them briefly.
(b).Briefly explain interfacing seven segment display? What are its applications?

*****

1 of 1

Code No: V3207

R07

Set No: 4

III B.Tech. II Semester Supplementary Examinations, November/December - 2012
MICRO PROCESSORS AND MICRO CONTROLLERS
(Electrical and Electronics Engineering)

Time: 3 Hours   **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks
*****

1   (a). Explain with examples various addressing modes of 8086 instruction set with
    suitable instruction format?
    (b) Draw and explain the 8086 timing diagram during the write operation.

2   (a). Differentiate between procedures and macros using certain examples
    (b). Write an Alp in8086 to count number of positive and negative numbers from an
    array of 8-bit integers.

3   (a). Draw 8255 internal architecture and explain?
    (b) Explain the operation of a parallel comparator A/D converter.

4   Draw and discuss the internal architecture of 8259A.

5   Explain briefly about
        a.   Trouble shooting
        b.   (b). software debugging tools

6   (a). Draw and describe various pins of 8051.
    (b). Explain the interrupt structure of 8051 microcontroller.

7   (a). Explain the architecture of 8051?
    (b). Give the format of PCON register in 8051 and explain each bit.

8   Explain the interfacing of the external program memory to 8051 using 74LS573 latch
    with a neat diagram and draw the waveforms.

*****