ANNA UNIVERSITY OF TECHNOLOGY, COIMBATORE

B.E. / B.TECH. DEGREE EXAMINATIONS : NOV / DEC 2011

REGULATIONS : 2008

FIFTH SEMESTER : ECE

080290030 - MICROPROCESSORS AND APPLICATIONS

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

PART - A

(10 x 2 = 20 Marks)

ANSWER ALL QUESTIONS

1. What is the role of stack in microprocessors?
2. Specify the two 8085 signals that are used to latch data in an output port.
3. List the segment registers and their corresponding default offset registers in 8086.

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4. What happen in 8086 when DEN =0 and DIR =1?
5. What is the operation carried out when 8086 executes the instruction MOVSW?
6. List the interrupts of 8086.
7. What is the difference between two key lockout and N key roll over modes in 8279?
8. If a 10bit ADC has a reference voltage of 10V, What is the resolution of ADC?
9. How many address lines are required to interface 8KB memory?
10. What is memory mapped I/O?

PART - B

(5 x 16 = 80 Marks)

ANSWER ALL QUESTIONS

11. (a) (i) Explain the instruction set of 8085 with example. 8

    (ii) Write a program to add a series of 10 numbers stored from location 3000 H onwards. 8

    (OR)

    (b) Draw the functional block diagram of 8085 and expalin its architecture in detail.

12. (a) (i) Indicate the signals which are different when 8086 is in minimum mode and maximum mode. 8

    (ii) Explain the memory segmentation of 8086. 8

    (OR)

    (b) Expalin the architecture of 8086 with neat diagram.

13. (a) (i) Write a program to find the largest number in the series of signed numbers using 8086 8

    (ii) Explain the arithmetic and logical instructions used in 8086. 8

    (OR)

    (b) (i) Write a program to transfer a block of 20 data from one memory location to another location. 8

    (ii) Explain the addressing modes of 8086 with neat diagram. 8

14. (a) (i) Explain the architecture and working of 8253 timer. 12

(ii) Write a program to generate triangular waveform using DAC 0800 4

(OR)

(b) Explain with neat diagram, how 8259 can be used for interrupt generation and control.

15. (a) Design an 8086 based system with the following specifications:

(i) 64 Kbyte EPROM with starting address F0000H and

(ii) 64 Kbyte RAM with starting address 30000 H

Draw the schematic of the design indicating address map.

(OR)

(b) Explain DMA interface in detail.

*******THE END*******