Register Number:………………..

## B.E., DEGREE EXAMINATIONS JUNE/JULY 2013

Seventh Semester

## ELECTRONICS AND INSTRUMENTATION ENGINEERING

EIE107: Microprocessor And Microcontroller

**Time: Three Hours**                                              **Maximum Marks: 100**

### Answer ALL Questions:-

### PART A (10x1=10 Marks)

1. Which interrupt has the highest priority?

   A. RST 6.5             B. TRAP             C. INTR             D.RST 5.5

2. Which type of Stack is used in 8085?

   A. LIFO          B. FIFO          C. FILO          D. LILO

3. What is SIM instruction?

   A. Set Interrupt Mask             B. Set Input Mask

   C. Set Instruction Mask           D. Sum Input Mask

4. What is the position of the Stack Pointer after the PUSH instruction?

   A. The address line is 02 less than the earlier value

   B. The address line is 02 greater than the earlier value

   C. The address line is 01 less than the earlier value

   D. The address line is 01 greater than the earlier value

5. Mention two basic operating modes of 8279.

   A. Input and Output Mode          B. Control and function mode

   C. Timing and control mode        D. Input and output Memory mode

6. In 8259A SFNM means that _____.

   A. Special Fully Nested Mode           B. Set Function Number Mode

   C. Special Function Number Mode        D.Special Function Nested Mode

7. Which ports of 8051 are bit addressable?

   A. Port 0             B. Port 1             C.Port 2             D. All ports of 8051

8. TMOD is a

   A. SFR          B. Register          C. Memory          D. Timer

9. Default register bank selected in 8051 is

   A. Bank 0          B. Bank 1          C. Bank 2          D. Bank 3

10. Which instruction is an example of direct addressing mode in 8051 instruction set

    A. MOV A, B        B. MOV A, 40h        C. MOV RI, ≠ 32h        D. MOV A, @ RI

## PART B (10x2=20 Marks)

11. Mention the various flags in 8085?

12. What is Program counter?

13. State classifications of instruction set according to word size?

14. Distinguish between immediate and implied addressing modes of 8085.

15. Write the different modes of operations of 8253.

16. How a keyboard matrix is formed in keyboard interface using 8279.

17. Write the advantages of microcontroller.

18. List any 4 SFRs in 8051 with their address.

19. What is the function of TMOD register?

20. What are the alternate functions of port 3 in the 8051 microcontroller?

## PART C (5x14=70 Marks)

21. a) Draw and explain the pin details of 8085A briefly.

**(OR)**

    b) Discuss the operations of opcode fetch machine cycle involved in 8085 with neat timing diagram.


22. a) (i) What are the different addressing modes used in 8085? Explain with example.    (6)

      (ii) Explain the operation of STACK in 8085 with suitable examples.    (8)

**(OR)**

    b) Write a program to count 0 to 9 and 9 to 0 continuously with 1.5sec delay between each count and display the count at one of the O/P ports. Draw a flowchart and show the delay calculations.


23. a) With the neat block diagram explain intel 8255 architecture.

**(OR)**

    b) Explain how 8085 can be connected to an A/D converter. Describe the signals involved in the process of conversion.

24. a) With neat sketch, describe the hardware features of 8051 microcontroller.

**(OR)**

b) Explain the I/o port circuitry of 8051.

25. a) Develop a hardware and necessary software algorithm to run a stepper motor in the forward direction through five revolutions in 10 seconds. Assume necessary specifications for the stepper motor.

**(OR)**

b) With a neat functional diagram show how an 8051 microcontroller is interfaced with LCDs.

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