Register Number: ……………………

B.E DEGREE EXAMINATIONS: NOV/DEC 2014

(Regulation 2009)

Fifth Semester

MECHATRONICS ENGINEERING

MCT108 : Micro Processors and Micro Controller

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

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Which is used to store critical pieces of data during subroutines and Interrupts?

   a) Stack   b) Queue

   c) Accumulator   d) Data Register

2. What are Level Triggering Interrupts?

   a) INTR   b) TRAP

   c) RST 6.5 & RST 5.5   d) RST 7.5 & RST 6.5

3. Which microprocessor pins are used to request and acknowledge a DMA transfer?

   a) Reset and Ready   b) Ready and Wait

   c) HOLD and HLDA   d) INTR

4. Access time is faster for

   a) ROM   b) SRAM

   c) DRAM   d) EPROM

5. In 8255, under the I/O mode of operation, we have _____ modes.

   a) 3   b) 2

   c) 4   d) 1

6. 8279 scans and encodes up to _____ Keyboard

   a) 16 Key   b) 64 Key

   c) 8 Key   d) 46 Key

7. The internal RAM memory of the 8051 is

   a) 32 bytes   b) 128 bytes

   c) 64 bytes   d) 526 bytes

8. MOV A, @ R1 will

    a) Copy R1 to the Accumulator   b) Copy the Accumulator to R1

    c) Copy the contents of memory whose address is in R1 to the Accumulator   d) Copy the Accumulator to the contents of memory whose address is in R1

9. Which register contains the flags in 8086?

    a) Stack Register   b) Flag register

    c) Status Register   d) Stand register

10. The physical address of memory in 8051 is _____

    a) 16 bit   b) 20 bit

    c) 8 bit   d) 32 bit

PART B (10 x 2 = 20 Marks)

11. Define Microprocessor.

12. What are the machine control instructions used in 8085 microprocessor?

13. Why interfacing is needed for I/O devices?

14. What is RIM?

15. Specify the bit of a control word for the 8255, which differentiates between the I/O mode and the BSR mode?

16. What is USART?

17. What is Micro controller?

18. List the addressing modes of 8051?

19. Write down the additional flags included in the 8086.

20. To interface an A/D converter with the microprocessor, what does the microprocessor do?

PART C (5 x 14 = 70 Marks)

21. a)   Draw and explain the architecture of 8085 microprocessor.

        (OR)

    b) (i) Explain the different types of Addressing Modes of 8085 with an example.   (7)

        (ii) Draw the Timing Diagram for the Instruction 'STA 5500".   (7)

22. a)   With a neat sketch, explain the Interrupt structure of 8085. Also explain the Instructions and Registers used for enabling and disabling Interrupts.

        (OR)

    b) (i) Compare I/O mapped and Memory mapped I/O Techniques.   (4)

        (ii) Discuss about DMA data transfer scheme.   (10)

23. a)   What are the types of A/D Converters? Draw and explain the A/D interfacing circuit with8085.

(OR)

b)   Explain the design of Keyboard and Display Interfacing using 8279.

24. a) (i)   Explain the different types of Addressing Modes in 8051with an example.   (7)

(ii)   With a neat diagram explain the various PORTS available in 8051.   (7)

(OR)

b)   With a neat example, explain any one of the Instruction sets in 8051.

25. a) (i)   Explain the 4x4 matrix keyboard Interface of 8051.   (7)

(ii)   Draw and explain the interfacing of DAC to 8051.   (7)

(OR)

b) (i)   Briefly explain the serial data communication in 8051.   (7)

(ii)   Explain in detail about 8086 Microprocessor.   (7)

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