Register Number: ……

B.TECH DEGREE EXAMINATIONS: NOV / DEC 2010

Third Semester

INFORMATION TECHNOLOGY

U07CS303: Microprocessors

Time: Three Hours **Maximum Marks 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. The 8085 is an 8-bit microprocessor that can address _____ of memory.

   (a) 256-Byte (b) 16K-Byte (c) 32K-Byte (d) 64K-Byte

2. The externally connected crystal in an 8085 processor must be capable of providing frequency
   (a) equal to the clock frequency of the microprocessor.
   (b) twice the clock frequency of the microprocessor.
   (c) half the clock frequency of the microprocessor.
   (d) much higher than the clock frequency of the microprocessor.

3. The READY pin of the 8085 is useful when the microprocessor communicates with

   (a) slow I/O device (b) fast I/O device (c) DMA Control chip (d) None of the above

4. A section of consecutive memory location working on the principle of LIFO is called

   (a) Accumulator (b) Register (c) Stack (d) Pointer

5. A microprocessor with a 12-bit address bus will be able to access

   (a) 1 KB of memory (b) 2 KB of memory (c) 4 KB of memory (d) 8 KB of memory

6. The SIM instruction, for its operation
   a) reads the contents of the accumulator. b) reads the contents of the control register.
   c) reads the contents of the B register. d) does not read the contents of any register.

7. Signals exchanged prior to and after a data transfer between two devices in general

   are called as

   a) confirmation signals b) handshake signals

   c) data transfer signals d) I/O signals

8. The keyboard mode in which simultaneous keys are recognized is called as

   a) two-key lock out b) two-key roll over c) N-key rollover d) N-key lock out

9. The counters in IC 8253 function as

   a) up counter b) down counter c) up & down counter d) none of the above

10. The register that keeps track of program during execution is

    (a) Address register (b) Data register (c) Program counter (d) Instruction register

PART B (10 x 2 = 20 Marks)

11. What are the advantages of Multiplexing Address and Data Lines in 8085 Microprocessor?

12. Explain the function of DAA instruction

13. MVI A, FF xx: STA 4500

INR A JMP Back

JC xx:

DCR A

STA 4500

Back: RST 1

What value is stored in the location 4500 after executing the above program and

Justify your answer.

14. Explain the PUSH instruction with an example
15. What is interrupt vectoring?
16. What is the RIM and SIM instruction
17. What are the differences between I/O mapped I/O and memory mapped I/O?
18. Write a control word to configure 8255 with mode 0, PortA as Input, PortB as Output and PortC as Input in I/O mode
19. What is the use Bus High Enable signal?
20. How maximum mode signals are generated?

PART C (5 x 14 = 70 Marks)

21. a) Explain the internal architecture of 8085 Microprocessor.

(OR)

b) What is an addressing mode? Explain the different addressing modes which are applicable for 8085 Microprocessor

22. a) Write an assembly language program to add two 32 bit BCD numbers

(OR)

b) Write an assembly language program to convert an BCD number into its equivalent HexaDecimal number (For BCD Number 99 = 63H)

23. a) Explain the internal architecture of 8259

(OR)

b) Explain the internal architecture of DMA controller

24. a) Describe the functional block diagram of 8279

(OR)

b) Briefly explain the different modes of operation of 8253

25. a) Explain the internal architecture of 8086 Microprocessor

(OR)

b) Describe the minimum mode operation of 8086 Microprocessor

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