Register Number: …….

B.E/B.TECH DEGREE EXAMINATIONS: APRIL/MAY 2012

Fourth Semester

ITY102: MICROPROCESSORS

(Common to Computer Science and Engineering & Information Technology)

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

Answer ALL Questions:-

PART A (10 x 1 = 10 Marks)

1. What are flags are affected by CMP instruction

   a. Z, AC b. CY, Z c. Z, P d. S, P

2. When the auxiliary carry flag will set

   a. When the carry from D7 bit b. when carry occurs from D6 bit

   c. When carry occurs from D3 bit d. when carry occurs from D1 bit

3. Calculate the delay count for the following loop with 2MHz clock freq to produce 1MS

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        MVI C, XX
Loop    DCR C
        JNZ Loop
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   a. 8E b. 9 A c. 14 d. 2A

4. How many machine cycle is needed to execute STA 5340 and INR M instruction

   a. 2 and 3 b. 4 and 3 c. 3 and 4 d. 3 and 1

5. What is the necessity to have two status lines S1 & S0 in 8085?

   a. For interrupts b. used to identify various operation of processor

   c. Used to give the clock signal d. used to demultiplex the bus

6. Which one the following is non maskable interrupt

   a. INTR b. TRAP c. RST 5.5 d. RST 7.5

7. What is the use of TxRDY pin in 8251 interface device?

   a. To give signal to output device

   b. to give interrupt to microprocessor to send the next byte of data

   c. to transmit data

   d. to receive data

8. Mention the control flag in the following.

   a. AF b. ZF c. TF d. SF

9. Mention the use of DT/R pin in 8086.

a. Used to give the interrupt b. specify the mode of operation

c. Used as external interrupt d. decide the direction of data transfer

10. What is the function of bus arbiter?

a. Resolving the bus access b. Bus enable c. Bus disable d. Bus exchange

PART B (10 x 2 = 20 Marks)

11. What is the use of READY signal?

12. Write a program to do the following

- Load the number 30H in register B and 39H in register C
- Subtract 39H from 30H.
- Store the answer at memory location 4350.

13. Write a program to generate time delay of 1 ms. and calculate the delay count.

14. What are the types of hardware interrupts?

15. What is the function of Priority Resolver in Programmable Interrupt Controller?

16. Differentiate synchronous and asynchronous communication.

17. What is the instruction queue? List out the advantages.

18. List out the methods for procedure communication.

19. Mention the minimum mode pins of 8086.

20. What are the advantages of loosely coupled configuration?

PART C (5 x 14 = 70 Marks)

21. a) Explain about 8085 architecture in detail with block diagram.

(OR)

b) Explain the instruction classification with two instructions example for each classification.

22. a) (i) Write a program to add and subtract two 8 bit BCD number with either flow chart or algorithm.

(OR)

b) Write a program for the Hexadecimal counter and display it with 1s delay between each count.

23. a) Draw and explain the internal block diagram for 8253 Programmable interval Timer.

(OR)

b) Explain the 8279 keyboard and display controller in detail along with block diagram.

24. a) (i) Explain the addressing modes of 8086 in detail with example. (10)

(ii) Explain the Loop instructions in detail. (4)

(OR)

b) (i) Write a 8086 program to concatenate two strings. (10)

(ii) Explain about 8086 interrupts. (4)

25. a) Explain the closely coupled configurations of 8086 with detailed diagram.

(OR)

b) (i) Explain the coprocessor configuration of 8086 in detail. (10)

(ii) What are the features of Pentium processor? (4)

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