

**B.E / B.TECH DEGREE EXAMINATIONS: MAY/JUNE 2013**

Fourth Semester

**ITY102: MICROPROCESSORS**

(Common to CSE & IT)

**Time: Three Hours**

**Maximum Marks: 100**

**Answer all the Questions:-**

**PART A (10 x 1 = 10 Marks)**

1. What is the function of HOLD signal.
  - a) Used to interrupt the processor
  - b) used for DMA operation
  - c) Used for serial communication
  - d) used by subroutines
2. If the accumulator contain 9A H and the CY=1 What will be the content of CY after RRC instruction
  - a) 1
  - b) 0
  - c) 1 & 0
  - d) none of the above
3. 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 de multiplex the bus
4. The most appropriate matching for the following pairs
  - X: indirect addressing
  - Y: immediate addressing
  - Z: auto increment addressing
  - 1 : loops
  - 2 : pointers
  - 3 : constants
  - a) X : 2 , Y:3 , Z:1
  - b) X : 1 , Y:2 , Z:3
  - c) X : 3 , Y:2 , Z:1
  - d) X : 1 , Y:3 , Z:2
5. Which of the following statement is true?
  - a) ROM is a read/write memory
  - b) PC points to the last instruction that was executed.
  - c) Stack works on the principle of last in first out
  - d) All instruction affects flag.
6. Contents of a register after the execution of the following 8085  $\mu$ p program is
  - MVI A,55H
  - MVI C,25H
  - ADD C
  - DAA
  - a) 7A H
  - b) 80 H
  - c) 50 H
  - d) 22 H
7. What instruction is used to disable or enable the interrupts in 8085?
  - a) EI , DI & SIM
  - b) RST & RIM
  - c) NOP , CALL & JUMP
  - d) RST , DAA & RIM

8. 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
9. What is the use of segment register in 8086
  - a) Used to store starting address of the segment
  - b) Used to store the offset value
  - c) Used to store the temporary value
  - d) used to decode the instruction
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 does it mean by embedded system?
12. What do you mean by wait state? What is its need?
13. List out the five categories of the 8085 instructions. Give examples of the instructions for each group.
14. Explain the difference between a JMP instruction and CALL instruction.
15. What are the types of priority modes in programmable interrupt controller?
16. Discuss the function of instruction queue in 8086?
17. What is the difference between the shift and rotate instructions?
18. What do you mean by recursive procedures?
19. State the significance of LOCK signal in 8086?
20. What are the schemes for establishing priority in order to resolve bus arbitration problem?

**PART C (5 x 14 = 70 Marks)**

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

**(OR)**

  - b) (i) Draw the timing diagram for STA 4000 instruction. (10)
  - (ii) Explain about any four instructions related with data transfer operations with example. (4)
22. a) (i) Write a program to convert 8 bit binary number to BCD. (10)
- (ii) Write a delay program to generate 1 ms delay (4)

**(OR)**

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

23. a) (i) Explain about interrupts of 8085. (4)  
(ii) Describe about 8259 programmable interrupt controller (10)

**(OR)**

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

24. a) Explain about 8086 architecture and its flag register

**(OR)**

- b) (i) Explain the addressing modes of 8086 in detail (7)  
(ii) Explain about procedures (7)

25. a) Explain minimum (or) maximum mode of operation of 8086 with neat timing diagram.

**(OR)**

- b) (i) Explain the coprocessor configuration of 8086 in detail. (10)  
(ii) Mention the features of Pentium processor. (4)

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