[22]

SARDAR PATEL UNIVERSITY

ELECTRONICS, B.Sc. (SEM: – V)

NOVEMBER 2013

SUB CODE: US05CELE03

8-BIT MICROPROCESSOR PROGRAMMING AND APPLICATIONS-I

DATE: 18TH November. 2013   TIME: 10:30 AM TO 1:30 PM

DAY: Monday   TOTAL MARKS: 70

Q. 1   Choose the correct answer.   [10]

(1)   8085 µp is _____ pin chip
- (A)   40
- (B)   32
- (C)   8
- (D)   None of above

(2)   Following are control signals of 8085 µp.
- (A) S_0 and S_1
- (B)   WR and RD
- (C)   SOD and SID
- (D)   None of above

(3)   In 8085 µp SUB instruction byte size is _____.
- (A)   1 byte
- (B)   3 byte
- (C)   2 byte
- (D)   None of above

(4)   Which of the following is 2 byte instruction?
- (A)   MVI c, 82 H
- (B)   MOV B, C
- (C)   JMP 2098
- (D)   None of above

(5)   _____ is machine control instruction.
- (A)   RET
- (B)   NOP
- (C)   JNC
- (D)   None of above

(6)   _____ is 16 bit register in 8085 µp.
- (A)   Flag register
- (B)   Accumulator
- (C)   Stack pointer
- (D)   None of above

(7)   The content of accumulator is 55 H after execution of CMA instruction it becomes _____.
- (A)   5A H
- (B)   AA H
- (C)   A5 H
- (D)   None of above

(8)   The address buses of 8085 µp contain _____ bits.
- (A)   4
- (B)   32
- (C)   8
- (D)   None of above

(9)   Following instruction transfer the data from memory to microprocessor.
- (A)   STAX D
- (B)   LDAX B
- (C)   DCX B
- (D)   None of above

(10)   Following is the programming technique of 8085 µp.
- (A)   Looping
- (B)   Filtering
- (C)   Retrieving
- (D)   None of above

Q.2 Answer the following.(attempt any ten)   [20]
  (1) List pins of interrupt control section of 8085 µp.
  (2) State function of ALU.
  (3) What do you mean by NOP instruction?
  (4) State different addressing mode of 8085 µp.
  (5) Define 2 byte instruction.
  (6) What is the difference between DCR and DCX instruction in 8085 µp?
  (7) State characteristics of logical operation.
  (8) Differentiate between assembly language and machine language.
  (9) Why data bus is bi-directional?
 (10) What is a logical instruction? State the different logical instructions.
 (11) State any 2-Byte and 3-Byte instructions with illustration.
 (12) Define looping technique of programming in 8085 µp.

Q.3   Draw block diagram of 8085 µp system and discuss function of each sections of it.   [10]
                                         OR
Q.3 (A) Define bus timing, discuss concept of bus timing with necessary diagram.   [05]
     (B) Discuss concept of control signal generation in 8085 µp.   [05]

Q.4   Discuss the method of writing, assembling and executing a program with necessary   [10]
            example.
                                         OR
Q.4   Describe classification of instruction according to operation perform and word size [10]
            with illustration.

Q.5 (A) Discuss different logical instructions of 8085 µp.   [06]
     (B) Register B has 55 H and accumulator has 97 H. write instruction to subtract contain [04]
        of B from A. indicate the flag status of result.
                                         OR
Q. 5 (A) Describe different arithmetic instruction of 8085 µp with necessary illustration.   [06]
      (B) Write a program to load two hex-decimal numbers in two different registries. Now   [04]
         subtract contain of one register from another such that carry flag will set. Display the
         answer at PORT 1.

Q. 6 (A) Explain looping, counting and indexing technique in 8085 µp.   [05]
      (B) Write a program to load two hex decimal numbers in register D & E respectively now [05]
         add both the numbers, if the sum is greater than FF H display 01 H at out PORT 0,
         otherwise display the sum.
                                         OR
Q. 6   Discuss different additional data transfer instructions and 16-bit arithmetic   [10]
            instructions with illustration of each.