SARDAR PATEL UNIVERSITY- VVNAGAR

[A-13]   **B.Sc. (6ᵀᴴ SEM.) ELECRONICS**
                   1ˢᵗ October, 2022 EXAMINATION
                   8- Bit Microprocessor Programming-II
                   SUB.CODE - US06CELE03

TIME:- 3-30 P.M to 5-30 P.M   MARKS-70

Q. Choose the correct answer.   [10]
1

(1) Program counter is a ____ bit register for 8085 µp.
  (A) 8   (C) 16
  (B) 4   (D) 32

(2) ADC M is ____ byte instruction.
  (A) One   (C) Three
  (B) Two   (D) None of above

(3) _____ is conditional instruction.
  (A) PUSH B   (C) RNZ
  (B) POP PSW   (D) None of above

(4) _____ is one technique of dynamic debugging.
  (A) Single step   (C) Memory examine
  (B) Multi step   (D) None of above

(5) PUSH H is ____ byte instruction.
  (A) One   (C) Three
  (B) Two   (D) Four

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

(7) To design counter and time delay _____ and _____ techniques are used.
  (A) Nesting, subroutine   (C) Looping, counting
  (B) Debugging, indexing   (D) None of above

(8) To set the carry flag _____ instruction is used.
  (A) STC   (C) PCHL
  (B) CMC   (D) XTHL

(9) DAA instruction full name is _____.
  (A) Decimal adjust accumulator   (C) Double adjust accumulator
  (B) Decimal addition accumulator (D) None of above

(10) XCHG instruction of 8085 exchanges the content of __ and __ register pair
  (A) BC, DE   (C) BE, BE
  (B) HL, DE   (D) HL, HL

P.T.O

Q-2   Fill in the blank   [8]

1. OUT instruction is type of _____ instruction.
2. HLT is _____ byte instructions.
3. The decimal equivalent of FD H is _____.
4. DAA instruction is _____ byte instruction.

True or False

5. TRAP interrupt is non-Maskable.
6. Down Counter program is used to count in Down sequence.
7. If accumulator (A) =39 H, after execution of ANI F0 H, the contain of accumulator is 30H.
8. NMI stands for non-Masked interrupt.

Q.3   Answer the following. (Attempt ten)   [20]

1 Define RAR and RLC instruction.
2 State different techniques of dynamic debugging.
3 Briefly explain T state in microprocessor.
4 List the instruction related to stack.
5 Which instruction are used to retrieve the data from the stack?
6 Define counter and time delay.
7 Explain briefly EI instruction.
8 What do you mean program and software?
9 What is stack and subroutine in μp?
10 Write full name of ASCII code and briefly explain it.
11 List the arithmetic instruction related to memory.
12 State different pins of interrupt control section of 8085 system.

Q-4   Long answer questions (Attempt any four)   [32]

1 Write a program to count continuously in hexadecimal from FF H to 00 H in a system with a 0.5 μs clock period. Use register C to set up a one millisecond (ms) delay between each count and display the numbers at one of the output ports.
2 Write a program to convert a BCD number stored in memory to its equivalent BINARY number and save answer in output buffer memory.
3 Write a program to count from 0 to 9 with 1 sec delay between each count. At the count of 9 the counter should reset itself to zero and repeat the sequence continuously. Use register pair HL to set up delay and display each count at one of the output ports. Take the clock frequency is 1MHz.
4 State and explain CALL and RET, HLT instruction with illustration.
5 Explain STACK and Subroutine instructions with illustration.
6 Write a program to convert a BINARY number stored in memory to its equivalent BCD number and save answer in output buffer memory.
7 Define interrupt in 8085 system. Discuss different steps to execute interrupt instructions.
8 Explain following instructions:
1)LHLD,
2)DAA,
3)LXI Rp 16 bit,
4)SHLD

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