[41] SEAT No._____ No. of Printed Pages : 02

SARDAR PATEL UNIVERSITY

B.Sc. Semester V (Electronics & Communication) Examination

Date & Day: 13th November 2019, Wednesday

Time: 10:00 AM to 01:00 PM

Subject Code: US05CELC02

Subject: Introduction to 8-bit Microprocessor

Total Marks: 70

Note : The figure right indicates full marks

Q-1 Multiple Choice Questions. [10]

1. _____ holds the address of the next instruction to be fetched.
   [a] Accumulator [b] Stack Pointer
   [c] Program Counter [d] Instruction Register
2. The address bus flows in _____
   [a] bidirection [b] unidirection
   [c] multidirection [d] None
3. Which of the following is 1 byte instruction?
   [a] MVI B,05H [b] LDA 2500H
   [c] IN 01 [d] MOV A,B
4. The 8085 is _____ microprocessor.
   [a] 8 bit [b] 16 bit
   [c] 32 bit [d] 64 bit
5. Which interrupt has highest priority?
   [a] INTR [b] TRAP
   [c] Both [d] None
6. The interrupt vector address for RST 5.5 is_____
   [a] 002CH [b] 0018H
   [c] 0001H [d] 0034H
7. PSW stands for _____
   [a] Program Star Word [b] Program Status Word
   [c] Plus Status Word [d] None
8. JMP 2345H is _____ instruction.
   [a] 1 byte [b] 2 byte
   [c] 3 byte [d] None
9. The content of accumulator be A5H. After execution of CMA the contents will be _____
   [a] A5H [b] 5AH
   [c] AAH [d] 55H
10. The contents of C register be 00000000. After execution of DCR C the contents of C is __
    [a] 00000000 [b] 11111111
    [c] 00000001 [d] None

Q-2 Answer the following (Any Ten) questions. [20]

1 Differentiate between direct & indirect addressing mode.

2 Explain the functions of the ALE & IO/M signals.

3. Write a program to add two 8-bit values 55h & ABh. Store the result in register C.

(P.T.O)

4 Explain the function of HLT instruction
5 Define T-state & Machine cycle.
6 What is stack? State the use of Stack Pointer.
7 Keyboard is _____ device while printer is _____ device.
8 What is bus? Name the buses used in microprocessor based system.
9 Write a program to clear the lower 4-bit of the contents of memory location 2050h
10 Explain in brief about Flags
11 Explain the functions of SID & SOD.
12 Explain the STA instruction.

Q-3 Draw and explain Pin-out diagram for 8085 microprocessors. [10]

OR

Q-3 Draw the block diagram for 8085 microprocessors and explain each block. [10]

Q-4 Explain different Arithmetic instructions with suitable examples of each. [10]

OR

Q-4 Write a program to perform the following functions with its description: [10]
(1) Load the number 2Bh in register D.
(2) Load the number 4Fh in register C.
(3) Increment the contents of register C by 1.
(4) Add the contents of register C & D & display sum at PORT 1.

Q-5 A. Write a program to convert two digit binary number 9Fh to ASCII Hex Code [06]

B. Explain technique of Looping, Counting & Indexing with example. [04]

OR

Q-5 A. Write a short note on advanced Sub routine concept. [05]

B. Explain in detail Branch instruction. [05]

Q-6 Write a program to convert two digit BCD number to its Binary equivalent [10]

OR

Q-6 Write a program to convert the Binary to BCD number. [10]