SEAT No._____

[69]

SARDAR PATEL UNIVERSITY
B.Sc. Semester V (Electronics and Communication)
Subject: Introduction to 8-bit Microprocessor
Subject Code: US05CELC02
Date & Day: 2ᵗʰ   ember 2020,
Time: 0 :00 PM to 0 :00 PM

Total Marks: 70

Note: Figures to the right indicate maximum marks.
Assume data wherever necessary.

Q-1   Choose the correct Answer.   [10]
1.   Which of the following is 1 byte instruction?
         [a] MOV A,B   [b] MVI B,05H   [c] IN 01   [d] LDA 2500H
2.   The address bus flows in _____.
         [a] unidirection   [b] bidirection   [c] multidirection [d] None of above
3.   Which interrupt has highest priority?
         [a] INTR   [b] TRAP   [c] RST 5.5   [d] RST 7.5
4.   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 of above
5.   _____ addressing mode use only register as oprends.
         [a] immediate   [b] indirect   [c] direct   [d] register
6.   _____ Instruction is used to rotate the contain the accumulator right through carry.
         [a] RAR   [b] RLC   [c] RAL   [d] None of above
7.   The content of accumulator be A5H. After execution of CMA the contents will be
         ____
         [a] A5H   [b] 5AH   [c] 55H   [d] AAH
8.   PSW stands for _____
         [a] Program Status Word   [c] Program Star Word
         [b] Plus Status Word   [d]None of above
9.   RET is _____ instruction.
         [a] 1-byte   [b] 2-byte   [c] 3-byte   [d] None of above
10.   Which interrupt has a lowest priority than the hold signal used for DMA?
         [a] INTR   [b] TRAP   [c] RST   [d] None of above

Q-2   Do as directed (Fill in the blanks and True or false)   [08]
1.   JMP 2345H is _____ instruction. [2-byte, 3byte]
2.   The 8085 is _____ microprocessor. [8-bit, 16-bit]
3.   The interrupt vector address for RST 5.5 is_____ . [002CH, 0001H]
4.   There are _____ general purpose registers. [8, 6]

P.T.O

[1]

5. [True/False]The resistor which holds the address of the next instruction to be fetched is accumulator.

6. [True/False] TRAP has the highest priority to hold DMA signal.

7. [True/False] PSW is used for content of flag register.

8. [True/False] T he stack is a data storage area in RAM used by certain microprocessor operations.

Q-3 **Answer in short.(Any ten)** **[20]**
1. Define the functions of SID.
2. Write a note on HLT instruction
3. Explain in brief about Flags.
4. What do you mean by machine cycle?
5. List out the data transfer instructions.
6. Note down the functions of ALE.
7. Explain the functions of the RD & IO/M signals.
8. Write a program to add two 8-bit values 55h & ABh.
9. Name the buses used in microprocessor based system.
10. Explain Subroutine
11. Write a program to subtract 39H from 30H, display on out port 1.
12. Define : Stack.

Q-4 **Attempt any four out of the followings** **[32]**
1. Explain in detail architecture of 8085 microprocessor.
2. Explain the Bus Timing Diagram.
3. Write a program to perform the following functions with its description:
   i Load the number 8Bh in register D.
   ii Load the number 6Fh in register C.
   iii Increment the contents of register C by 1.
   iv Add the contents of register C & D & display sum at PORT 1.
4. Explain different Arithmetic instructions with suitable examples of each.
5. Explain Branch instruction.
6. Write a program to convert two digit binary numbers (9Fh) to ASCII Hex Code.
7. Write a program to convert two digit Binary number to its BCD equivalent.
8. Add two 4 digit BCD numbers in HL and DE register pairs and store result in memory locations, 2300H and 2301H.

———— ✗ ————

[2]