SEAT No._____

[56]

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SARDAR PATEL UNIVERSITY

B.Sc SEM - V (Electronics and Communication)

External Examination - 2018

US05CELC02, Introduction to 8-bit Microprocessor

24/10/2018, Wednesday

Time: 10:00 am to 01:00pm **Total Marks: 70**

Q-I Choose the correct answer **[10]**

1. PSW stands for _____

[a] Program Status Word [b] Program Star Word [c] Plus Status Word [d] None of above

2. _____ holds the address of the next instruction to be fetched.

[a] Program Counter [b] Instruction Register [c] Stack Pointer [d] Accumulator

3. JMP 2345H is _____ instruction

[a] 3 byte [b] 2 byte [c] 1 byte [d] None of above

4. The interrupt vector address for RST 5.5 is_____

[a] 002CH [b] 0001H [c] 0018H [d] 0034H

5. Which of the following is 1 byte instruction?

[a] MOV A,B [b] IN 01 [c] MVI B,05H [d] LDA 2500H

6. The address bus flows in _____

[a] bidirection [b] unidirection [c] multidirection [d] None of above

7. The 8085 is _____ microprocessor.

[a] 8 bit [b] 16 bit [c] 32 bit [d] 34 bit

8. Which interrupt has highest priority?

[a] INTR [b] TRAP [c] RST 7.5 [d] RST 6.5

9. 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

10. The content of accumulator be A5H. After execution of CMA the contents will be _____

[a] A5H [b] 5AH [c] AAH [d] 55H

Q-II Attempt any ten out of the followings **[20]**

1. Give the functions of ALE.

P.T.O

2. Write a program to add two 8-bit values 55h & ABh.
3. Explain the functions of the RD & IO/M signals.
4. Explain the functions of SID & SOD.
5. Explain the function of HLT instruction.
6. Write a program to subtract 39H from 30H, display on out port 1.
7. Explain in brief about Flags.
8. What is stack? State the use of Stack Pointer.
9. Define T-state & Machine cycle.
10. List out the data transfer instructions.
11. What is bus? Name the buses used in microprocessor based system.

Q-III [a] Explain the Bus Timing Diagram. [06]

[b] Explain Generating Control Signal. [04]

OR

Q-III Draw & explain Pin-out diagram for 8085 microprocessor. [10]

Q-IV Write a program to perform the following functions with its description: [10]

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.

OR

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

Q-V [a] Explain Branch instruction. [06]

[b] Explain advanced Sub routine concept. [04]

OR

Q-V [c] Write a program to convert two digit binary numbers (9Fh) to ASCII Hex Code. [07]

[d] Explain technique of Looping with example. [03]

Q-VI [a] Write a program to convert two digit BCD number to its Binary equivalent. [06]

[b] Write a program to convert two digit Binary number to its BCD equivalent. [04]

OR

Q-VI Write a program to perform BCD to Common Cathode LED Code Conversion. [10]

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