[65] **Seat No.:**_____ **No. of Printed Pages : 2**

SARDAR PATEL UNIVERSITY V.V.NAGAR

B.Sc. (Vth SEM.) ELECTRONICS

Friday, 15th NOVEMBER-2019 EXAMINATION

8-BIT MICROPROCESSOR PROGRAMMING AND APPLICATION-I

SUB.CODE-US05CELE03

TIME:-10:00 am to 1:00 pm MARKS-70

Q-1 Choose correct answer [10]

1. 8085 up is _____ bit processor.
   (A) 16 (C) 8
   (B) 4 (D) none of above
2. _____ is machine control instruction.
   (A) RET (C) JNC
   (B) NOP (D) none of above
3. _____ is the 16-bit register in 8085 µp.
   (A) stack pointer (C) accumulator
   (B) flag register (D) none of above
4. _____ Flag is affected during data transfer operation.
   (A) Carry (C) Zero
   (B) Sign (D) none of above
5. Following are control signals in 8085 µp.
   (A) $\overline{WR}$ and $\overline{RD}$ (C) SOD and SID
   (B) D_0 (D) none of above
6. CALL and RET are ____ type instruction.
   (A) logical (C) branch
   (B) arithmetic (D) none of above
7. JC is _____ byte instruction.
   (A) two (C) three
   (B) one (D) none of above
8. Which of following is two bytes instruction?
   (A) MVI D,03 H (C) JNC 2009 H
   (B) MOV B,A (D) none of above
9. The data buses of 8085 µp contain _____ bit.
   (A) four (C) sixteen.
   (B) eight (D) none of above
10. The content of accumulator is A5 H, after execution of CMA instruction it becomes _____.
    (A) 55 H (C) A5 H
    (B) AA H (D) none of above

Q-2 Short answer type question. (any ten) [20]

1. State meaning of RAR and RLC with illustration.
2. State 1 byte and 2 byte instructions.
3. State characteristics of logical instruction.

(P TO)

4. Differentiate between DCR and DCX instruction.
5. State different addressing mode of 8085 µp.
6. Define looping and counting technique.
7. Define static and dynamic debugging.
8. Define program and software.
9. Explain HLT instruction.
10. Briefly explain: Why data bus is bi-directional in 8085 µp?
11. Briefly explain function of ALU.
12. List pins of interrupt control section of 8085 microprocessor.

Q.3 Explain the following : I) Bus timing [10]
II) De-multiplexing bus $AD_0 - AD_7$

OR

Q.3 Draw the architectural block diagram of 8085 µp and discuss function of each section of it. [10]

Q.4(A) Discuss classification of instruction Of 8085 µp. [06]
Q.4(B) Discuss different addressing mode of 8085 µp with illustration. [04]

OR

Q.4(A) Explain method of writing, assembling and executing a simple program in 8085 µp with necessary example. [07]
Q.4(B) Differentiate between op-code and operand. [03]

Q.5(A) Explain different logical instructions with suitable example. [06]
Q.5(B) Write a programme to load two numbers in two registers now subtract one number from other such that carry flag will set and display the answer at output port. [04]

OR

Q.5(A) Explain different arithmetic instructions with suitable illustration. [06]
Q.5(B) Write a programme: To load 7C H and 3B H in register C and D respectively. Now increment content of C than add both the number and display the sum at output port. [04]

Q.6(A) Describe conditional and un-conditional jump instructions giving suitable examples. [06]
Q.6(B) Write a program to load numbers 8A H and 32 H in two different registers and add this numbers. If the sum is greater that FF H than display 01 H at output port otherwise display the sum. [04]

OR

Q.6 Discuss different additional data transfer instructions and 16-bit arithmetic instructions with illustration of each. [10]

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