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SARDAR PATEL UNIVERSITY V.V.NAGARB.Sc. (Vth SEM.) INSTRUMENTATION(VOC.)20th NOVEMBER-2019 EXAMINATION

8-BIT MICROPROCESSOR PROGRAMMING AND APPLICATION-1

SUB.CODE-US05CINV05

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

MARKS-70

Q-1 Choose correct answer**[10]**

1. The content of accumulator is CF H, after execution of RAR instruction it becomes _____.
 (A) 55 H (C) A5 H
 (B) AA H (D) none of above
2. _____ Flag is affected during data transfer operation.
 (A) Carry (C) Zero
 (B) Sign (D) none of above
3. In 8085 up INX instruction is _____ byte.
 (A) 1 (C) 3
 (B) 2 (D) none of above
4. The address buses of 8085 μ p contain _____ bit.
 (A) 8 (C) 16
 (B) 7 (D) none of above
5. _____ is machine control instruction.
 (A) NOP (C) JC
 (B) HLT (D) none of above
6. RRC is _____ type instruction.
 (A) Data transfer (C) Logical
 (B) Branch (D) none of above
7. RET is _____ byte instruction.
 (A) One (C) Three
 (B) Two (D) none of above
8. Which of following is three byte instruction?
 (A) MVI B,0A H (C) JC 2A00 H
 (B) MOV B,A (D) none of above
9. An 8085 Microprocessor require _____ power supply.
 (A) 15 V (C) 10 V
 (B) 5 V (D) none of above
10. 8085 up has _____ types of interrupt.
 (A) 5 (C) 3
 (B) 4 (D) none of above

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

1. Briefly Explain: Why data bus is bi-directional in 8085 μ p?
2. Briefly explain program and software.
3. State characteristics of logical instruction.
4. Explain HLT instruction.
5. State meaning of RRC and RLC with illustration.
6. What do you mean looping and counting technique?
7. Define static and dynamic debugging.

8. What is ALU? And explain its function.
9. Briefly explain DCX and DCR instruction.
10. State two byte instructions.
11. List pins of interrupt control section of 8085 microprocessor.
12. List different type of flag register.

Q.3 Draw the architectural block diagram of 8085 μ p and explain function of each section in detail. [10]

OR

Q.3 Explain the following : A) Bus timing, B) De-multiplexing the bus AD_0-AD_7 [10]

Q.4(A) Explain classification of instruction of 8085 μ p. [06]

Q.4(B) State different types of addressing mode of 8085 μ p with illustration. [04]

OR

Q.4(A) Explain the method of writing, assembling and executing a simple program in 8085 μ p. [07]

Q.4(B) Briefly explain op-code and operand of 8085 μ p. [03]

Q.5(A) Discuss different Arithmetic instructions with suitable illustration. [07]

Q.5(B) Write a programme: to load 3B H and 9A H in register C and D respectively. Now increment content of C than add both the number and display the sum at output port. [03]

OR

Q.5(A) Explain Different Logical instructions with suitable example of each. [07]

Q.5(B) Write a programme to load two numbers in two registers now Add one number from other such that carry flag will set and display the answer at output port. [03]

Q.6(A) Explain conditional and un-conditional jump instructions giving suitable examples. [05]

Q.6(B) Write a program to load 47 H and A7 H in register B and C respectively. Now add both the numbers, if the sum is greater than FF H display 01 at output port 0, otherwise display the sum. [05]

OR

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