

SEAT No. _____

No. of Printed Pg.: 2

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[49]

SARDAR PATEL UNIVERSITY

T.Y.B.Sc. (SEM-VI) INSTRUMENTATION (VOC.)

Wednesday, 4th April 2018 Examination

8- Bit Microprocessor Programming (US06CINV05)

TIME: 10:00 AM TO 1:00PM

TOTAL MARKS: 70

Q. 1 Choose the correct answer.

[10]

- (1) Rotate accumulator right instruction is _____.
(A) RLC (C) RAR
(B) RRC (D) RAL
- (2) Maximum time delay using single register program is _____.
(A) 1 ms (C) 1.8 ms
(B) 1.8 Sec (D) 2.8 ms
- (3) _____ is conditional instruction.
(A) JNZ (C) RNZ
(B) JZ (D) All of above
- (4) _____ is one technique of dynamic debugging.
(A) Single step (C) Memory examine
(B) Multi step (D) None of above
- (5) An up - counter counts in _____ order.
(A) Discrete (C) Ascending
(B) Descending (D) None of above
- (6) JC is _____ instruction.
(A) Conditional (C) Rotational
(B) Unconditional (D) None of above
- (7) To design counter and time delay _____ and _____ techniques are used.
(A) Nesting, subroutine (C) Looping, counting
(B) Debugging, indexing (D) None of above
- (8) Counter program used to _____.
(A) Stacking (C) Generate delay
(B) Masking (D) Counting
- (9) RET _____ byte instructions.
(A) One (C) Two
(B) Three (D) None of above
- (10) The decimal equivalent of FF H is _____.
(A) 255 (C) 252
(B) 153 (D) 254

Q.2 Answer the following.(attempt ten)

[20]

- (1) Explain LHLD and ADC M instructions.
- (2) State different techniques of dynamic debugging.
- (3) Define T state in 8085 microprocessor.
- (4) List the instruction related to stack.
- (5) Which instruction is used to retrieve the data from the stack?
- (6) Explain DAA instruction.
- (7) Define counter and time delay.
- (8) Explain briefly EI and DI instruction.
- (9) Define RAR and RRC instruction.
- (10) What is ASCII code? And briefly explain
- (11) Draw the flow chart of counter and time delay using single register.
- (12) What do you mean by debugging?

(1)

[P.T.O.]

- Q.3 (A) Discuss different arithmetic instruction related to memory with illustration. [05]
(B) Explain different techniques used for debugging a program. [05]

OR

- Q.3 (A) Discuss different compare instruction with illustration. [05]
(B) Write a program to load CB H in register A and rotate content of accumulator twice in right direction. Save the result in memory location 20XX H. [05]

- Q.4 Explain instruction with illustration: [10]
1.Subroutine
2.Stack
3.CALL
4.RET
5.HLT

OR

- Q.4 Write a program to count continuously from 0 to 9 with 1 second delay [10] between each count. Display each count at one of the output port. Assume the frequency of system is 2 MHz and number of loop T-state is 15.

- Q.5 Write a programme to convert two digit BINARY numbers stored in memory [10] location to its equivalent un-packed BCD number.

OR

- Q.5 Write a programme to convert two digit BCD number stored in memory [10] location to its equivalent binary number.

- Q.6 A set of Ten pack BCD number is stored in memory location starting at [10] XX20 H. Write a program with subroutine to add all these numbers in BCD if carry is generated save it in register B after adjusting it for BCD.

OR

- Q.6 What do you mean by interrupt? Draw interrupt vector diagram and discuss it [10] in detail.

(2)