

(6 pages)

Reg. No. :

Code No. : 10753

**Sub. Code : R 3 CS 4 A/
R 3 CA 4 A/B 3 CS 4 A/
B 3 CA 4 A**

**B.Sc./B.C.A. (CBCS) DEGREE EXAMINATION,
APRIL 2013.**

Fourth Semester

Computer Science — Main

Elective : MICRO PROCESSOR

(For those who joined in July 2008 to 2011)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer.

1. A byte has _____ nibbles
(a) 4 (b) 2
(c) 8 (d) 16.
2. _____ is an example of Embedded System
(a) Personal Computer
(b) Microcomputer
(c) A copying machine
(d) Disks and CD-ROMS.

3. _____ has nichrome or polysilicon wires arranged in a matrix
(a) Masked ROM (b) PROM
(c) EPROM (d) Flash memory.
4. Assignment of memory addresses to a memory chip is done through _____
(a) chip-select logic
(b) chip-assignment logic
(c) chip-enable logic
(d) chip-address logic.
5. Individual bits in the Accumulator can be set or reset using _____ instructions
(a) data transfer (b) arithmetic
(c) logical (d) none of the above.
6. Instruction to rotate each bit in the accumulator to the right through carry is _____
(a) RRC (b) RAR
(c) RAC (d) None.
7. Number of T-States for OUT PORT 1 instruction is _____
(a) 7 (b) 6
(c) 10/7 (d) 10.

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8. When a subroutine is called, the address of the instruction following the CALL instruction is stored in/on the _____
- (a) stack pointer (b) accumulator
(c) program counter (d) stack.
9. To display a BCD digit a SEVEN-SEGMENT-LED, the _____ technology is used
- (a) projection (b) table look up
(c) unpacking (d) packing.
10. Expand BCD
- (a) Binary Converted Decimal
(b) Bit Coded Digit
(c) Bin Coded Digit
(d) Binary Coded Decimal.

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Write about Memory and I/O components of microprocessor based system.

Or

- (b) Write about 8085 Flags. Draw the diagram.

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12. (a) Explain about externally initiated signals and interrupts.

Or

- (b) Define :

- (i) Instruction cycle
(ii) Machine cycle
(iii) T-state.

13. (a) What are loops? How are they classified?

Or

- (b) Write about conditional jump instructions.

14. (a) Calculate the time delay in the following loops, assuming system clock period is 0.5 ms

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MVI B, 38H      7T
LOOP 2: MVI C, FFH  7T
LOOP 1: DCR C      4T
        JNZ LOOP 1 10/7T
        DCRB        4T
        JNZ LOOP 2 10/7 T

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Or

- (b) Write about subroutine documentation and parameter passing.

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[P.T.O.]



15. (a) Write in detail about DAA instruction.

Or

- (b) Write instructions to display the contents of stack pointer register at output ports.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

16. (a) How are the microcomputers classified? Briefly explain its classifications.

Or

- (b) Write, Assemble and execute a simple program in 8085 language to add two numbers.

17. (a) Write about Memory classification with a block diagram.

Or

- (b) Explain Address Decoding and reading from memory with a diagram.

18. (a) What are Logical Compare instructions? Explain with example.

Or

- (b) What is dynamic debugging? Explain.

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19. (a) Write a Program and draw a flowchart for a zero-to-Nine Counter.

Or

- (b) Write the sequence of events in execution of CALL instruction. Draw the data transfer during execution of CALL.

20. (a) A set of ten BCD readings is stored in the input buffer. Convert the numbers into binary and add the numbers. Store the sum in the output buffer, the sum can be larger than FFH.

Or

- (b) Design a down-counter to count from 99 to 0 in BCD with 500 ms delay between each count. Display the count at an output port.

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