Code No. : 41449 E   **Sub. Code : SSCA 4 A**

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2019.

Fourth Semester

Computer Application

Skill Based Subject : MICRO PROCESSOR

(For those who joined in July 2017 onwards)

Time : Three hours   Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer :

1. The microprocessor communicates and operates in the binary numbers, called _____
    (a)   bits   (b)   bytes
    (c)   micros   (d)   macros

2. The common pathway between I/O, memory and microprocessor are called a _____
    (a)   gate   (b)   bus
    (c)   path   (d)   channel

3. MPU stands for
    (a)   Micro Processing Unit
    (b)   Micro Programming Unit
    (c)   Macro Processing Unit
    (d)   Macro Programming Unit

4. The 8085 has _____ signal lines that are used as the address bus
   (a) 2   (b) 4
   (c) 8   (d) 16

5. Which flag is set when a carry is generated by digit D3 and passed on to digit D4?
   (a) Sign flag
   (b) Zero Flag
   (c) Auxiliary Carry Flag
   (d) Parity Carry Flag

6. The latch should be enabled when IO/M is active _____ and WR is active _____
   (a) high, high   (b) low, low
   (c) high, low   (d) low, high

7. The accuracy of the time delay depends on the accuracy of the _____
   (a) Counters   (b) Timers
   (c) Registers   (d) System's clock

8. A _____ is a group of instructions written separately from the main program to perform a function that occurs repeatedly in the main program
   (a) function   (b) procedure
   (c) sub-function   (d) subroutine

9. A BCD number between 0 and 99 is stored in a R/W memory location called the _____
   (a) Buffer   (b) Register
   (c) INBUF   (d) OUTBUF

10. DCX instruction represents _____
    (a) Decrement Register Pair
    (b) Decrement Accumulator Pair
    (c) Declare Register Pair
    (d) Define Register Pair

PART B — (5 × 5 = 25 marks)

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

11. (a) Describe the evolution from Large computers to Single-Chip Microcontrollers.

    Or

    (b) Explain about the Data Transfer Operations.

12. (a) Explain about the Microprocessor-Initiated Operations and 8085 Bus Organization.

    Or

    (b) Explain the Basic Concepts in Memory Interfacing.

13. (a) Explain about Arithmetic Operations.

    Or

    (b) Explain about Dynamic Debugging.

14. (a) Explain about Counter and Time Delay.

    Or

    (b) Explain in detail about Stack.

15. (a) Convert 72_{BCD} into its binary equivalent.

    Or

    (b) Write a subroutine to subtract one packed BCD number from another BCD number. The minuend is placed in register B, and the subtrahend is placed in register C by the calling program. Return the answer into the accumulator

PART C — (5 × 8 = 40 marks)

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

16. (a) Explain in detail about Machine Language, Assembly Language and High-Level Languages.

Or

(b) Explain 8085 Programming Model.

17. (a) Explain about the Classification of Memory.

Or

(b) Explain in detail about the ALU.

18. (a) Describe about the Addressing Modes of the Microprocessor.

Or

(b) Explain about the logical Rotate Operations.

19. (a) Illustrate Modulo ten counter.

Or

(b) Explain the concept of Subroutine and its instructions.

20. (a) Write a program to convert an 8-bit Binary number into a BCD number.

Or

(b) (i) Add two packed BCD numbers : 77 and 48. (And)

(ii) Registers BC contain 2793H, and registers DE contains 3182H. Write instructions to add these two 16-bit numbers, and place the sum in memory locations 2050H and 2051H.

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