D 52769 (Pages : 2) Name.....

Reg. No.....

FIRST SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

(CUCBCSS—UG)

Complementary Course (Computer Science)

BCS 1C 01—COMPUTER FUNDAMENTALS

(Common for 2014 and 2017 Admissions)

Time : Three Hours Maximum : 64 Marks

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

I. Choose the correct answer from the choices given :

1 Which of the following is not an I/O device ?

(a) Printer. (b) Accumulator.

(c) Plotter. (d) Trackball.

2 The Base value of hexadecimal system is :

(a) 16. (b) 8.

(c) 10. (d) 2.

3 Which of the following is not a logic gate ?

(a) XOR. (b) XNOR.

(c) NAND. (d) XAND.

II. Fill in the blanks :

4 The number of bits used to store a BCD digit is ———.

5 ——— device converts data into machine readable format.

6 ASCII stands for ———.

III. State whether the following statements are True *or* False :

7 A flowchart will terminate in rhombus symbol.

8 Control unit of CPU is used to produce interrupts.

9 Parity bit is used for error correction.

(9 × 1 = 9 marks)

Part B

Answer **all** *questions.*
Each question carries 2 *marks.*

10. What are Boolean functions ?
11. How will you convert a hexadecimal number to decimal ?
12. What is the significance of secondary storage devices ?
13. Convert $(731)_8$ to hexadecimal number system.
14. What do you mean by magnetic tape ?

(5 × 2 = 10 marks)

Part C

Answer any **five** *questions.*
Each question carries 5 *marks.*

15. Explain binary addition and subtraction with suitable examples.
16. Differentiate NAND and NOR gates.
17. Explain DMA .
18. Draw a flowchart to find the Fibonacci series till term ≤ 1000.
19. Explain the merits and demerits of Flowcharts.
20. What are pointing devices ? Explain mouse, touch pad and track ball.
21. Briefly explain the components of CPU ?
22. Compute the following :—

    (a) $(0110111)_2 + (1101110)_2$.
    (b) $(10000)_2 - (01010)_2$.
    (c) $(1100)_2 + (1010)_2$.
    (d) $(11001)_2 - (101)_2$.

(5 × 5 = 25 marks)

Part D

Answer any **two** *questions.*
Each question carries 10 *marks.*

23. State and prove theorems of Boolean Algebra.
24. Discuss how the CPU of a computer works with the help of a block diagram.
25. What are the importance of secondary storage devices ? Explain the features of the following devices :

    (a) Magnetic tape.
    (b) Hard disk.
    (c) CD Drive.

(2 × 10 = 20 marks)