

APRIL/MAY 2019

**BSC11 — DIGITAL LOGIC &
PROGRAMMING IN C**

Time : Three hours

Maximum : 75 marks

SECTION A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. Obtain the 1's and 2's compliment of the following number :1010101.
2. Write down the truth table of NAND gate.
3. What is the functionality of demultiplexer?
4. Define Combinational circuit.
5. Write down the syntax of Switch statement.
6. Define Library function.
7. Define Arrays.
8. What is call by value?
9. List any two uses of Pointers.
10. List out any two differences between random access and sequential access methods.

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SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Write down the name, graphic symbol and algebraic function of logic gates.

Or

- (b) Explain the most common postulates used to formulate various algebraic structures.

12. (a) With suitable diagram explain the functionality of flip-flops.

Or

- (b) Explain the half adder with neat diagram.

13. (a) Explain the C data types in brief.

Or

- (b) Write a short note on Expression.

14. (a) With suitable example explain the user defined functions.

Or

- (b) Write C program to find the factorial of a given number.

15. (a) With suitable example explain the Command line arguments.

Or

- (b) Explain the Error handling mechanism.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Simplify the following Boolean functions to a minimum number of literals:

(a) $xy + xy'$

(b) $(x+y)(x+y')$

(c) $xyz + x'y + xyz'$

17. With suitable diagram explain the functionality of Multiplexers.

18. Describe the decision making statements in detail.

19. Elaborately explain the different types of storage classes.

20. Write a C program using file to prepare the mark statement.