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**(FOR THE CANDIDATES ADMITTED** **23UDA102**

**DURING THE ACADEMIC YEAR 2023 ONLY)** **REG.NO. :**

**N.G.M. COLLEGE (AUTONOMOUS) : POLLACHI**

**END-OF-SEMESTER EXAMINATIONS: NOVEMBER 2023**

**BSC COMP.SCIENCE WITH DA(SF)** **MAXIMUM MARKS: 75**

**SEMESTER:1** **TIME: 3 HOURS**

**PART - III**

**23UDA102 – DIGITAL ELECTRONICS**

**SECTION – A (10 X 1 = 10 MARKS)**

**ANSWER THE FOLLOWING QUESTIONS. (K1)**

1. Boolean Algebra is also called

a) Switching algebra b) Arithmetic algebra c) Linear algebra d) Algebra

2. The NAND gate is AND gate followed by ……

a) NOT gate b) OR gate c) AND gate d) None of the above

3.Which computer language that is written in binary codes only is _____

a) machine language b) C c) C# d) pascal

4. 4. How many types of logic families exist?

a) Two b) Six c) Four d) Seven

5. When both inputs of a J-K flip-flop is low than cycle, the output will _____

a) Be invalid b) Change c) Not change d) Toggle

**ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES (K2)**

6 Mention the commonly used code for representing alphanumeric information?

7. Define combinational circuit

8. Define De Morgan's law.

9. What is demultiplexer?

10. Differentiate between latch and flip flop.

**SECTION – B (5 X 5 = 25 MARKS)**

**ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.**

**(K3)**

11. a) Describe Hamming code

**(OR)**

b) Compute binary multiplication 11011.101 by 101.111

(CONT..2)

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12.a) Sketch 2-input Exclusive NOR Gate

**(OR)**

b) Sketch the basic gates with is symbol truthtable

13.a) Compute two variable and three ventable K map

**(OR)**

b) Describe Boolean Functions and minterms and Netterms.

14.a) Explain is the functions of Multiplexers with Circuit.

**(OR)**

b) What conclusions can you draw for Encoders?Justify

15.a) Demonstrate the Rs flipflop with its truthtable.

**(OR)**

b) Describe the logic Circuit of T flipflop with truth table.

**SECTION – C (5 X 8 = 40 MARKS)**

**ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K4 (Or) K5)**

16. a) Convert 5C6 (Hexadecimal) into binary decimal.

**(OR)**

b) Convert $1073_{10}$ into a binary number

17. a) Applications of XOR Gate

**(OR)**

b) Explain NAND,NOR and XNOR get its truth table.

18. a) Evaluate De Morgan's Law statement and Proof with example.

**(OR)**

b) Examine the Boolean Algebra**.**with example.

19.a) Construct the full adder and prepare its truth table

**(OR)**

b) Examine the working of master slave flipflop

20.a) Discuss the asynchronous counter with its timing diagram and truth table.

**(OR)**

b) Outline the triggering Flip Flop and Compare the Various flipflops.

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