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Name.....

Reg. No.....

**FIRST SEMESTER (CUFYUGP) DEGREE EXAMINATION
NOVEMBER 2025**

Electronics

ELE 1FM 105—COMPUTER HARDWARE

(2024 Admission onwards)

Time : One Hour and a Half

Maximum : 50 Marks

Part A

Number of questions to be answered 8-10.

Each question carries 2 marks.

Ceiling marks : 16.

1. List the characteristics of a computer.
2. Write a note on mainframe computers.
3. Discuss the functions of I/O devices.
4. Compare the address bus and data bus.
5. Convert the string "123" to ASCII decimal values.
6. Discuss the representation of positive number in binary arithmetic.
7. Draw the symbol and write the truth table of NAND gate.
8. State the identity law of Boolean operations.
9. Prove that $A + AB = A$.
10. Draw the symbols of AND, OR and NOT logic gates.

Part B

Number of questions to be answered 4-5

Each question carries 6 marks.

Ceiling marks : 24

11. Discuss the first, second and third generations of computers.
12. Apply DeMorgan's Theorem to prove

$$\left((A' + B)' \cdot (C + D) \right)' = A \cdot B' + C' \cdot D'$$

Turn over

13. Explain the working of SSD and list the advantages over HDD.
14. Write a note on application softwares.
15. Discuss the functions of CPU, control unit and ALU in a computer.

Part C

*Answer any one question.
Question carries 10 marks.*

16. Convert the given decimal numbers to binary, hexadecimal and octal numbers.
 - (i) $(455)_{10}$; and
 - (ii) $(1024)_{10}$.
17. Explain Different RAM and ROM memories.

(1 × 10 = 10 marks)