TB241790V

Reg. No :.....

Name :.....

BACHELOR'S DEGREE (C.B.C.S) EXAMINATION, NOVEMBER 2024

2024 ADMISSIONS REGULAR

B.VOC S.W.D SEMESTER I - GENERAL

CA1C01B23 - Computer Fundamentals and Digital Principles

Time : 3 Hours **Maximum Marks : 80**

Part A

I. Answer any Ten questions. Each question carries 2 marks **(10x2=20)**

1. Expand a) ALU b) CPU
2. Define Hardware
3. Describe System Software.
4. Discuss e-mail.
5. List the different types of PC Operating systems.
6. Describe the use of an interpreter.
7. Convert $(146.51)_8$ to decimal equivalent
8. Convert $(829)_{10}$ into Hexadecimal number
9. Name the Logic gate which gives a HIGH output only when all its inputs are HIGH. Show its truth table
10. Define Logic Gate
11. Name two combinational circuits
12. List the uses of a Flip-Flop

Part B

II. Answer any Six questions. Each question carries 5 marks **(6x5=30)**

13. Distinguish between Software and Hardware.
14. Illustrate the various functions of an Operating system.
15. Explain the different categories of a computer network.
16. Explain with suitable example, the steps for 2's complement subtraction?
17. Convert the decimal number 5361 to its BCD equivalent
18. Design the K-Map of the following equation $Y=\sum m(1,2,4,7,8,10,13,14,15)$
19. Design the K-Map for the following SOP expression A'B'C'D'+A'BC'D'+A'BCD+ABC'D+AB'C'D'+AB'CD
20. Explain the working of Half-Adder
21. Explain the working of a subtractor

Part C

III. Answer any Two questions. Each question carries 15 marks **(2x15=30)**

22. Describe the different topologies connected with a computer network with diagram.
23. Explain about the different number systems used in a computer System
24. Simplify the Boolean expression using K -Map $f(ABCD) = \sum m(1,2,7,8) + \sum d(10,11,12,13,14,15)$
25. Explain the working of any two flipflops