



QP CODE: 19101008



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Reg No :

Name :

B.Sc/B.C.A .DEGREE(CBCS)EXAMINATION, DECEMBER 2018

First Semester

CORE - CS1CRT01 - COMPUTER FUNDAMENTALS AND DIGITAL PRINCIPLES

(Common to B.Sc Computer Applications Model III Triple Main, Bachelor of Computer Application)

2017 Admission Reappearance

036CBF6F

Maximum Marks: 80

Time: 3 Hours

Part A

Answer any **ten** questions.

Each question carries **2** marks.

1. Differentiate between RAM and ROM.
2. What are the disadvantages of CRT monitor?
3. What is GUI?
4. Differentiate between DOS and Windows OS
5. Why do digital computers use binary numbers for their operations?
6. What are BCD numbers?
7. Explain how NAND gate act as OR gate?
8. Convert the expression into canonical form $f = AB + B'C$
9. Explain the rules used in K-map to simplify an expression.
10. What is a flip-flop?
11. What is the need of a half adder?
12. What is the function of multiplexer?

(10×2=20)

Part B

Answer any **six** questions.

Each question carries **5** marks.

13. Explain different parts of a computer system.
14. Compare the features of WAN with MAN.
15. Which are the features of Internet?





16. Convert $(101.00101)_2 = (\dots\dots) 8 = (\dots\dots) 10$
17. Subtract: (a) $1101 - 0101$ (b) $1001 - 0110$ (c) $1100111 - 110001$
18. Explain XOR gate and its applications.
19. Simplify the following using Boolean laws only. a. $F = AB + A(B+C) + B(B+C)$ b. $F = A'B + BC' + BC + AB'C'$ c. $F = A + AB + AB'C$
20. Discuss the truth table of decoder.
21. Difference between static and dynamic shift registers.

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **15** marks.

22. Explain about various optical input devices.
23. What are complements in binary system? Explain with example.
24. Using Kmap simplify $f = \sum m(1,2,4,7,8,9,10,14,15) + \sum d(0,3,5,11,12)$ Realize the reduced expression using NOR gates?
25. What are the differences between J-K and Master Slave flip

(2×15=30)

