

QP CODE: 22102137



Reg No : .....

Name : .....

**B.Sc/BCA DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE  
EXAMINATIONS, JULY 2022**

**First Semester**

**Core Course - CS1CRT01 - COMPUTER FUNDAMENTALS AND DIGITAL  
PRINCIPLES**

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

2017 Admission Onwards

3BA57B7A

Time: 3 Hours

Max. Marks : 80

**Part A**

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. Distinguish between data and information.
2. What does an image scanner do?
3. Explain Network Operating system.
4. What is CAN?
5. What are the rules for binary addition?
6. What are BCD numbers?
7. Prove  $AB + A\bar{C} + BC = AB + A\bar{C}$
8. State the Principle of Duality.
9. Define Maxterm.
10. What is the need of a half adder?
11. List out two types of multiplexing.
12. What is a register?

(10×2=20)

**Part B**

*Answer any **six** questions.*

*Each question carries **5** marks.*





13. Explain any two high quality printer.
14. Explain the working of Internet.
15. Explain any two internet based applications.
16. How to represent decimal numbers 0 to 15 in 4-bit binary form.
17. Perform the Subtraction using 2's complement method (a) 00111010 - 00011011  
(b) 00010010 - 11110111
18. Draw Kmap and simplify the following boolean expression.  
 $f(A,B,C,D)=\sum(3,4,5,6,7,11,12,13,14,15)$
19. What are parity bits? Explain its use.
20. Explain Octal to Binary encoder.
21. Explain the J-K flip flop with proper circuit diagram & truth table.

(6×5=30)

### Part C

Answer any **two** questions.

Each question carries **15** marks.

22. Explain the different types of computers for individual users.
23. Explain with examples; Conversion-From Decimal to (a) binary (b) octal ( c) hexadecimal
24. Using Kmap simplify  $f=\sum M(2,8,9,10,11,12,14)$  Realize the reduced expression using NOR gates.
25. What is a flip flop? Explain any three types of flip flops.

(2×15=30)

