



21102407

QP CODE: 21102407

Reg No : .....

Name : .....

**B.Sc/BCA DEGREE(CBCS)EXAMINATIONS, OCTOBER 2021**

**First Semester**

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

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

2017 Admission Onwards

C6717A08

Time: 3 Hours

Max. Marks : 80

**Part A**

*Answer any **ten** questions.*

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

1. Why most standard keyboards are called 'QWERTY' keyboards?
2. List the four factors we should consider when comparing monitors.
3. What is LAN ?
4. What is a web browser?
5. Convert  $(127)_{10}$  to octal.
6. What are the rules for BCD addition?
7. Explain how NAND gate act as AND gate?
8. Demorganize the expression  $f = ((AB)'(CD+E'F) + ((AB)' + (CD)'))$
9. Define Parity.
10. Draw the truth table of a R-S flip flop
11. Draw the truth table of half adder.
12. What is the need of encoder?

(10×2=20)

**Part B**

*Answer any **six** questions.*

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





13. Explain any two optical input devices.
14. Which are the different types of PC operating System?
15. Explain the working of Internet.
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 - 111101111
18. Convert the following SOP expression to an equivalent POS expression.  
 $A'B'C' + A'BC' + A'BC + AB'C + ABC$
19. Draw Kmap and simplify the following boolean expression  
 $f(A,B,C,D) = \prod M(0,2,5,7,8,10,13,15)$
20. Differentiate between Multiplexer and Demultiplexer.
21. Write short note on JK flip flop.

(6×5=30)

### Part C

Answer any **two** questions.

Each question carries **15** marks.

22. Explain about the essential computer hardwares.
23. Explain the binary addition and subtraction processes with suitable example.
24. Explain the different logic gates with truth table and logic diagram.
25. With neat diagrams explain the working of following types of shift registers  
(a) Serial-in, Serial-out (b) Serial-in, parallel-out (c) Parallel-in, Parallel-out

(2×15=30)

