23104609

QP CODE: 23104609

Reg No : .....

Name : .....

B.Sc/BCA DEGREE (CBCS) REGULAR/IMPROVEMENT/REAPPEARANCE EXAMINATIONS, FEBRUARY 2023

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

6A8580E4

Time: 3 Hours Max. Marks : 80

Part A

*Answer any **ten** questions.*

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

1. What is the function of control unit?
2. What are the functions of the software in a computer system?
3. What is network?
4. What is an electronic mail?
5. Convert (29A6)16 to binary.
6. Expand BCD code.
7. What is a truth table? Explain with an example.
8. What is a NOR gate?
9. What is the concept of parity bit?
10. Draw the truth table of full adder.
11. Define decoder.
12. What is the function of multiplexer?

(10×2=20)

Part B

*Answer any **six** questions.*

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

13. What is a monitor? Differentiate between CRT monitor and Flat panel monitor.
14. Explain the types of Operating System in detail.
15. What is Internet.Explain the history of Internet?
16. How to represent decimal numbers 0 to 15 in 4-bit binary form.
17. Briefly explain about 1’s complement and 2’s complement subtraction concepts with example.
18. Using Boolean Algebra a) ABC + (ABC' +AB'C +A'BC) b) XY + XYZ + XY'Z + XY'Z'
19. Express the following in sum of minterms a) f(A,B,C,D)=D(A'+B)+B'D b) f(A,B,C,D)=(A' + B)(B' +C).
20. Differentiate between Serial-in, serial-out and Serial-in, Parallel-out.
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 various input devices.
23. Explain the binary addition and subtraction processes with suitable example.
24. Using Kmap simplify f=∏M(2,8,9,10,11,12,14) Realize the reduced expression using NOR gates.
25. How can a R-S flip flop be constructed using NOR gate? Explain its working with truth table.

(2×15=30)