Reg. No ..... Name **20U105**

B. C. A DEGREE END SEMESTER EXAMINATION - OCT 2020 : FEBRUARY 2021

SEMESTER 1 : MOBILE APPLICATIONS AND CLOUD TECHNOLOGY

COURSE : **19U1CRBCA1 : COMPUTER FUNDAMENTALS AND ORGANISATION**

(For Regular - 2020 Admission and Supplementary/Improvement - 2019 Admission)

Time : Three Hours Max. Marks: 75

PART A
Answer All (1 mark each)

1. What is a system software?
2. Define Computer virus.
3. Define ALU.
4. Define Canonical form.
5. State absorption law.
6. Define decoder.
7. What is code segment?
8. What is accumulator?
9. What you mean by URL.
10. What is Search engine.Give 2 examples.

(1 x 10 = 10)

PART B
Answer any 8 (2 marks each)

11. What is VLSI?
12. Differentiate between the tower model and the desktop model of computers.
13. What is a digitizer?
14. What is the purpose of a modem?
15. Prove de morgans theorm using truth table.
16. Simplify Commutative law with Truth table and logical circuits.
17. Draw the Logic circuit for the expression F= x'y'z+xyz+x'y.
18. Explain the general purpose registers in a microprocessor.
19. List the components of the bus interface unit.
20. Compare Switch and Hub.

(2 x 8 = 16)

PART C
Answer any 5 (5 marks each)

21. Discus about the workstations, minicomputers and the mainframe computers
22. Differentiate between fourth generation of computers and fifth generation of computers.
23. What is ROM? Explain any three types of ROM.
24. Steps to convert SOP to its Standard normal form and convert the expressions given below.
    a) F(A,B,C) = A+AB+C
    b) F(X,Y,Z)= XZ+X'Y+Z
25. Explain about RS flip flops and its working.
26. What is based indexed addressing mode? Write the syntax and example.
27. Differentiate LAN,WAN and MAN.

(5 x 5 = 25)

PART D

Answer any 2 (12 marks each)

28. Explain the classification of computers based on their size and power.

29. Explain about different type of adders.

30. Define K-MAP and don't care condition. Simplify using k-map.
    a) $F(N,X,Y,Z)=\sum(0,1,2,3,5,7,8,9,10,12,13)$
    b) $F(X,Y,Z,W)=\sum M(0,2,6,10,11,12,13)$ and $dc(X,Y,Z,W)=\sum M(3,4,5,14,15)$
    c) $F(a,b,c,d)=\sum(0,1,3,4,5,6,7,13,15)$

31. Explain the classification of instruction set of a microprocessor.

(12 x 2 = 24)