K21U 3443

Reg. No. : .....

Name : .....

II Semester B.C.A. Degree (CBCSS-OBE-Reg./Sup./Imp.) Examination, April 2021
(2019 Admission Onwards)
Core Course
2B02BCA : DIGITAL SYSTEMS

Time : 3 Hours Max. Marks : 40

PART – A

Answer **all** questions (**1** mark).

1. How many entries will be in the truth table of a 3 input NAND gate ?
2. Define ASCII.
3. What is SOP and POS ?
4. What are the applications of the octal number system ?
5. What is a multiplexer ?
6. What is a Race condition ?

PART – B

Answer **any 6** questions (**2** marks).

7. What is the difference between PROM and EPROM ?
8. What are the limitations of the Karnaugh Map ?
9. What is Full-Adder ?
10. What is Encoder ?
11. How can X-OR can be used as inverter ?
12. Write down the characteristics of Shift Register.
13. Write short notes on Excess 3 code.
14. What are the advantages and disadvantages of the K-Map method ?

P.T.O.

PART – C

Answer **any 4** questions (**3** marks).

15. Explain the significance of complements in binary number system. Distinguish between 1's complement and 2's complement.

16. What is a flip flop ? Why flip flops are considered to be the building block of computer memory ?

17. What is Universal gate ? Realise NAND as Universal gate.

18. Explain the advantages of Bidirectional Shift Registers.

19. Explain the working principle of demultiplexers.

20. How will you implement a full subtractor from a full adder.

PART – D

Answer **any 2** questions (**5** marks).

21. What is the function of shift register ? With the help of simple diagram explain its working.

22. Answer the following :
    i) Draw symbol and construct the truth table for three input Ex-OR gate.
    ii) What is the principle of Duality theorem ?
    iii) What are Minterms and Maxterms ?
    iv) Define : Noise margin, Propagation delay.

23. Write short notes on ROM.

24. Compare and contradict synchronous and asynchronous counters.