



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).

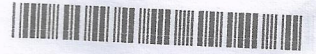
1. How many entries will be in the truth table of a 3 input NAND gate ?
2. Define ASCII.
3. What is SOP and POS ?
4. What are the applications of the octal number system ?
5. What is a multiplexer ?
6. What is a Race condition ?

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.