Reg. No. : ....

Name : ....
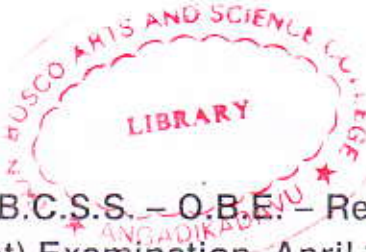
II Semester B.C.A. Degree (C.B.C.S.S. – O.B.E. – Regular/Supplementary/
Improvement) Examination, April 2022
(2019 Admission Onwards)
Core Course
2B02BCA : DIGITAL SYSTEMS

Time : 3 Hours

Max. Marks : 40

PART – A

Answer **all** questions. **Each** question carries **one** mark.

1. Give the base value and numbers of hexadecimal number system.

2. How many flip flops are needed for MOD 7 counter ?

3. In which input condition JK Flip Flop generates toggle output condition ?

4. Mention the number of input and output of demultiplexer.

5. List one example for sequential for a sequential circuit.

6. Specify any one error detection code.

PART – B

Answer **any six** out of eight. **Each** question carries **two** marks.

7. What is full adder ?

8. What is demultiplexer ?

9. What is latch ?

10. What are up/down counter ?

11. What is a register ?

12. Why NAND is known as a universal gate ?

13. Define a Karnaugh map and state its use.

14. Draw the block diagram of clocked RS flip-flop.

PART – C

Answer **any four** out of six. **Each** question carries **three** marks.

15. What is a flip flop ?

16. Explain different types of shift registers.

17. State the laws and rules of Boolean algebra.

18. Show the steps in converting a binary number to its equivalent gray code .

19. Give the logic symbol of Master Slave J-K flip-flop.

20. Give the timing diagram for 3 bit synchronous counter.

PART – D

Answer **any two** out of four. **Each** question carries **five** marks.

21. Describe different types of gates with truth tables.

22. Explain Demultiplexer with logic diagram.

23. Write notes on full adder.

24. Explain mod 10 Asynchronous counter.