M 8707

Reg. No. : ....

Name : ....

II Semester B.C.A. Degree (CCSS – Supple./Improv.) Examination, May 2015
(2013 and Earlier Admn.)
Core Course 2B03BCA : DIGITAL SYSTEMS

Time : 3 Hours   Max. Weightage : 21

Instructions : 1) Answer **all** questions from Section **A**. Weightage for a
bunch of **four** questions is **1**. Maximum weighted grade
point **1(w) × 2 (bunch) × 4 (Max GP) = 8**.

2) Answer **any 5** questions from Section **B**, weightage **1 each**.
Max WGP = **20**.

3) Answer **any 5** questions from Section **C**, weightage **2 each**.
Max. WGP = **40**.

4) Answer any **1** question from Section **D**, weightage **4**.
Max. WGP = **16**.

SECTION – A

Answer **all** questions. Weightage for a bunch of **four** questions is **1**.

1. The number of select lines required for an 8 line to 1 line MUX is

2. The terminal count of a modulus-11 binary counter is

   a) 1010   b) 1011   c) 1001   d) 1111

3. The number of bits present in an ASCII Character is

4. _____ code is also known as self-complementary code.

5. Which of the following is a two level logic gate.

   a) NAND   b) XOR   c) OR   d) NOT

6. The logic circuit that can store one bit of information is known as

7. The output value of an XNOR gate when I/P combination is $x = 0$ and $y = 0$ is

8. The decimal equivalent of binary 01011 is   **(2×1=2)**

P.T.O.

SECTION – B

Answer **any 5** questions. Weightage **1 each**.

9. What is a truthtable ? Give eg.

10. Discuss about NAND gates.

11. Discuss Demorgan's law.

12. Discuss about full adder.

13. Discuss about Octal and Hexadecimal number system.

14. Discuss about parallel in serial out registers.

15. What are positive edge triggered D flip-flops ?

16. How a synchronous counter can be build using a J-K Flip-Flop ?　　　　**(5×1=5)**

SECTION – C

Answer **any 5** questions. Weightage **2 each**.

17. Discuss in detail about logic gates.

18. Write notes on Laws of Boolean Algebra.

19. Write notes on parity generators and checkevs.

20. Discuss in detail about K-map.

21. Differentiate between JK and D flip-flops with necessary diagrams.

22. Explain in detail about serial in serial out and serial in parallel out registers.

23. Differentiate between asynchronous and synchronous counters.

24. Write notes on decade counters.　　　　**(5×2=10)**

SECTION – D

Answer **any one** question. Weightage **4**.

25. With necessary diagrams discuss in detail about encoders and its types.

26. Explain in detail about the concept of flip-flops.　　　　**(1×4=4)**

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