



M 6545

Reg. No. :

Name :

II Semester B.C.A. Degree (CCSS – Reg./Supple./Improv.)

Examination, May 2014

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 $1 (W) \times 2 (\text{bunch}) \times 4 (\text{Max GP}) = 8$.

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. Number are stored and transmitted inside a computer in _____ form.
2. 1 kb corresponds to _____ bits.
3. A 5 variable Karnaugh Map has _____ number of cells.
4. The basic types of programmable arrays are made up of OR gate and _____ gates.
5. The number of outputs on a BCD decoder is _____
6. A Digital Multiplexer can be used as a _____
 - a) Data structure
 - b) Parity checker
 - c) Data Generator
 - d) Check sum

P.T.O.



7. A demultiplexer is also called a _____
- a) Parity Generator
 - b) Data Distributor
 - c) Checker
 - d) Counter
8. Which is not a weighted value positional numbering system ?
- a) Octal
 - b) BCD
 - c) Binary
 - d) Unary
- (2×1=2)

SECTION – B

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

- 9. What is a Boolean Algebra ?
 - 10. Discuss about XOR gates.
 - 11. What is a demultiplexer ?
 - 12. What is a graycode ?
 - 13. Write a brief note on SR Master Slave flipflops.
 - 14. Discuss about serial-in parallel out registers.
 - 15. What are asynchronous counters ?
 - 16. Discuss about Johnson Counter.
- (5×1=5)

SECTION – C

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

- 17. Write a note on digital wave forms.
- 18. With a neat diagram explain the functioning of a demultiplexer.
- 19. Write note on Parity Generators and Checkers.
- 20. With necessary logic diagram discuss about full subtracter.
- 21. With necessary diagram explain about JK Master Slave flipflops.



22. Discuss in detail about Parallel in Parallel out register.

23. Discuss about Mod-10 counters.

24. Write notes on decoding gates.

(5×2=10)

SECTION – D

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

25. Write detailed notes about :

- a) ASCII code
- b) Excess-3 codes, providing sufficient examples.

26. Discuss in detail about :

- a) Synchronous counters
- b) Asynchronous counters.

(1×4=4)
