

Subject : Computer science

Time : 1 hour

Test No : 2 NUMBER SYSTEM

Mark : 40

I. CHOOSE THE BEST ANSWER

15 X 1= 15

1. What is the 1's complement of 11001100
 - a) 00110011
 - b) 11001100
 - c) 11001101
 - d) 00110010
2. NOR is a combination of ?
 - a) NOT (OR)
 - b) NOT(AND)
 - c) NOT(NOT)
 - d) NOT(NOR)
3. Which is a basic electronic circuit which operates on one or more signals?
 - a) Boolean algebra
 - b) Gate
 - c) Fundamental gates
 - d) Derived gates
4. For 11012 what is the Hexadecimal equivalent? A) F B) E C) D D) B
5. The term data comes from the word _____.
 - A) Datum
 - B) Digit
 - C) Datam
 - D) Dateum
6. A word can have a length of _____.
 - A) 2,5,10 bits
 - B) 15,25,50 bits
 - C) 16,32,64 bits
 - D) 12,24,48 bits
7. How many standard number system are there to use? A) 2 B) 4 C) 8 D) 16
8. NAND is called as _____ Gate.
 - a. Fundamental Gate
 - b. Derived Gate
 - c. Logical Gate
 - d. Electronic Gate
9. The right most bit in the binary number is called as _____.
 - a. LSB
 - b. SLB
 - c. MSB
 - d. LMB
10. The most commonly used numbering system is the _____ system.
 - a. Binary
 - b. Decimal
 - c. Octal
 - d. Hexadecimal

II ANSWER ANY 10 OF THE FOLLOWING (Q.No 17 & 28 is compulsory) 10 x 2 = 20

16. What are the different Number systems?
17. What is Decimal Number System?
18. What are the Methods to Convert Decimal Number to Binary?
19. Write the steps to be followed to find 1's complement of a number?
20. Write a note on ASCII?
21. Write a note on EBCDIC?
22. What are the Logical Operations in Boolean algebra?
23. Define AND Operator
24. Define NAND Operator

25. Define NOR Operator
26. Define AND Gate
27. Define OR Gate
28. What is XNOR Gate?

III Answer the following questions

2 X 5 = 10

29. Perform the following binary computations.

- a) $(44)_{10} + (55)_{10}$
- b) Convert the hexa decimal number into its binary - 9BCA
- c) Give the truth table for XNOR gate
- d) Find the 2'S complement for - 97
- e) Subtract $11010111 - 110101$

(OR)

- a) Convert $(22.25)_{10}$ to binary.
- b) Convert $(11011110101110)_2$ to Hexadecimal number.
- c) Convert $4A8C_{16}$ to binary.
- d) Convert $(128)_8 \rightarrow (?)_{10}$
- e) 1's complement of $(1001)_2$

30. Explain the fundamental gates with expression and truth table.

(OR)

What is number system? Describe different number system in detail.