

Number Systems
Model Exam Question paper - 3
11th Standard
Computer Science

Reg.No. :

--	--	--	--	--	--

I. Answer all the questions.

II. Use blue pen only.

Time : 01:00:00 Hrs

Total Marks : 45

10 x 1 = 10

Part-A

- 1) The term 'bit' stands for
(a) Byte Digit (b) Binary Digit (c) Boolean Digit (d) Byte Information Transmission
- 2) The radix of a binary system is
(a) 8 (b) 16 (c) 10 (d) 2
- 3) The hexadecimal equivalent of the binary sequence 110010011101_2 is
(a) $A9D_{16}$ (b) $C9D_{16}$ (c) $C8D_{16}$ (d) $A8D_{16}$
- 4) The 2's complement of - 23 is 8 bit representation
(a) 00001001 (b) 00010111 (c) 11001001 (d) 11101001
- 5) In AND gate A and B are represented by
(a) $A + B$ (b) $A' B'$ (c) $A . B$ (d) $\overline{A} . \overline{B}$
- 6) Which operator is used to defined OR operator in boolean algebra?
(a) dot (b) overbar (c) plus (d) apostrophe
- 7) $A . A =$
(a) 0 (b) A (c) 1 (d) 0 or A
- 8) Which one of the following is called standard product term?
(a) Maxterm (b) Sumterm (c) Product of sums (d) Minterm
- 9) ALU stands for
(a) All and Long Unit (b) Arithmetic and Logic Unit (c) Arithmetic and Long Unit (d) All and Logic Unit
- 10) If $A=0$ then $\overline{A}=$
(a) 0 (b) -1 (c) 1 (d) None

Part-B

11 x 2 = 22

- 11) Define memory read and memory write operations.
- 12) What is a storage device?
- 13) What are registers?
- 14) Add $-7_{10} + 5_{10}$ in 8 bit system using 2's complement in signed binary addition.
- 15) List the binary subtraction operations.
- 16) What is Boolean expression?
- 17) What is meant by literal?
- 18) Do the following signed binary arithmetic operations.
(a) $10_{10} + 15_{10}$
(b) $-12_{10} + 5_{10}$
(c) $14_{10} - 12_{10}$
(d) $(-2_{10}) - (-6_{10})$
- 19) Explain OR operator?
- 20) Define "POS" Product Of Sums
- 21) Convert the decimal number into octal number: 512

Part-C

1 x 3 = 3

- 22) Convert the decimal number into binary number: 1729

Part-D

2 x 5 = 10

- 23) What is sign + magnitude representation? Why this method is not adopted to represent signed integers? What is the most efficient way of representing a signed integer?
- 24) Draw the truth table of the Boolean Expression
 $(\overline{A} + \overline{B} + \overline{C})$
