

Number Systems
Model Exam Question paper - 2

11th Standard

Computer Science

Reg.No. :

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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) In AND gate A and B are represented by
(a) $A + B$ (b) $A' B'$ (c) $A . B$ (d) $\overline{A} . \overline{B}$
- 2) The basic logical operations can be defined in a form known as
(a) Truth table (b) Table (c) False table (d) Boolean Table
- 3) Which one of the following operator has one input and one output?
(a) AND (b) OR (c) NOT (d) NAND
- 4) The combination of NOT and AND is
(a) AND (b) OR (c) NOR (d) NAND
- 5) The algebraic expression of the NOR function is
(a) $Y = A + B$ (b) $Y = \overline{A} . \overline{B}$ (c) $Y = A . B$ (d) $Y = \overline{A + B}$
- 6) If $A = 1$ then $\overline{\overline{A}}$ =
(a) 0 (b) A (c) 1 (d) $\overline{A}$
- 7) Which one of the following is not a minterm?
(a) $\overline{x} \overline{y} \overline{z}$ (b) $\overline{x} \overline{y} z$ (c) $xy\overline{z}$ (d) $\overline{x}yz$
- 8) The numbers in the binary system are represented to the base
(a) 4 (b) 8 (c) 16 (d) 2
- 9) The numbers in the Hexa system are represented to the base
(a) 4 (b) 8 (c) 16 (d) 2
- 10) MSB stands for
(a) Most Significant Bit (b) Most Stand Bit (c) Most Signed Bit (d) Most Single Bit

Part-B

- 11) What are registers?
- 12) What is Boolean expression?
- 13) What is product of sums?
- 14) What is minimum sum of products?
- 15) Convert the following binary numbers to decimal numbers
(a) 1011_2
(b) 101110_2
(c) 1010011_2
- 16) Convert the following hexadecimal numbers to binary numbers.
(a) $F2_{16}$
(b) $1A8_{16}$
(c) $39EB_{16}$
- 17) Define Analog Data
- 18) Explain 'AND' operator?
- 19) Define "POS" Product Of Sums
- 20) Convert the decimal number into octal number: 512
- 21) Convert the decimal number into octal number: 1729

Part-C

- 22) Convert the decimal number into binary number: 777

Part-D

- 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) Convert the following decimal numbers to binary using sum of powers of 2 methods
(a) 41_{10} (b) 77_{10} (c) 95_{10}

1 x 3 = 3

2 x 5 = 10
