Classwork

① Which of the following(s) cannot be used as inverter?

ⓐ NAND , ⓑ AND , ⓒ NOR , ⓓ XOR

Ans:- ⓑ AND

② A gate is enabled when its enable input is at logic 1. The gate is:-

ⓐ OR , ⓑ NAND , ⓒ NOR , ⓓ NONE

Ans:- ⓑ NAND

③ The output of logic gate ā 1, When all its inputs are at logic 1. The gate is either

    ⓐ a NAND or a NOR , Ⓑ an AND or an XNOR

    ⓒ an OR or a NAND , ⓓ an XOR or an XNOR

Ans: Ⓑ an AND or an XNOR

④ The no. of rows in the truth table of a 4-input gate is

    ⓐ 4   ⓑ 8   ⓒ 12   ⓓ 16

Ans: ⓓ 16

⑤ For the gate shown in the figure, the output will be HIGH

    ⓐ if both inputs are HIGH

    Ⓑ if one of the inputs is HIGH

    ⓒ if one of the inputs is LOW

    ⓓ if and only if both the inputs are LOW.

Ans: Ⓑ if one of the inputs is HIGH.

⑥ Consider the expression $Z = A \oplus B \oplus C$, where A, B, C are input variables and Z is the output variable. Z will be logic 1 if

    ⓐ an even no. of input variables are 1

    Ⓑ an odd no. of input variables are 1

    ⓒ an even no. of input variables are 0

    ⓓ an odd no. of input variables are 0

Ans: Ⓑ an odd no. of input variables are 1

(7) The X-OR and X-NOR gates can have how many inputs?

   (a) 2   (b) 1   (c) 4   (d) any number

Ans:- (a) 2

(8) The logic expression $AB + \bar{A}\bar{B}$ can be implemented by giving the input A and B to a two input

   (a) NOR gate   (b) NAND gate   (c) X-OR gate   (d) X-NOR gate

Ans:- (d) X-NOR gate