ST. LAWRENCE HIGH SCHOOL

A Jesuit Christian Minority Institution

WORKSHEET - 22 (ANSWER KEY)

Topic – Logic Gates

Subject: COMPUTER SCIENCE   **Class - 11**   **F.M:15**

Chapter: Boolean Algebra   **Date: 15/08/2020**

Choose the correct answer for each question: **[5 X 1 = 15]**

1. A _____ gate gives the output as 1 only if all the inputs signals are 1.
   a) **AND**
   b) OR
   c) EXOR
   d) NOR

2. Which of the following gate will give a 0 when both of its inputs are 1?
   a) AND
   b) OR
   c) **NAND**
   d) EXOR

3. The gate which is used to reverse the output obtained is _____
   a) NOR
   b) NAND
   c) EXOR
   d) **NOT**

4. The output of an AND gate with three inputs, A, B, and C, is HIGH when _____.
   a)   A = 1, B = 1, C = 0
   b)   A = 0, B = 1, C = 0
   c)   **A = 1, B = 1, C = 1**
   d)   A = 1, B = 0, C = 0

5. Which of following are known as universal gates?
   a) **NAND & NOR**
   b) AND & OR
   c) XOR & OR
   d) EX-NOR & XOR

6. If a 3-input NOR gate has eight input possibilities, how many of those possibilities will result in a HIGH output?
   a)   **1**
   b)   6
   c)   7
   d)   8

7. The logic gate that will have HIGH or "1" at its output when any one of its inputs is HIGH is a/an .... gate.

a) AND

b) **OR**

c) EXOR

d) NOR

8. The output of a logic gate is 1 when all the input are at logic 0 as shown below:

INPUT		OUTPUT
A	B	C
0	0	1
0	1	0
1	0	0
1	1	0

INPUT		OUTPUT
A	B	C
0	0	1
0	1	0
1	0	0
1	1	1

The gate is either _____

a) A NAND or an EX-OR

b) An OR or an EX-NOR

c) An AND or an EX-OR

d) **A NOR or an EX-NOR**

9. How many two input AND gates and two input OR gates are required to realize Y = BD + CE + AB?

a) **3, 2**

b) 4, 2

c) 1, 1

d) 2, 3

10. The NOR gate output will be high if the two inputs are _____

a) **00**

b) 01

c) 10

d) 11

11. How many AND gates are required to realize Y = CD + EF + G?

a) 4

b) 5

c) 3

d) **2**

12. Both OR and AND gates can have only two inputs:

a. True

b. **False**

13. The output will be a LOW for any case when one or more inputs are zero in a/an

a) **AND**

b) OR

c) EXOR

d) NOR

14. How many two-input AND and OR gates are required to realize Y = CD+EF+G?

a) **2, 2**

b) 2, 3

c) 3, 3

d) 3, 2

15. The boolean expression of an OR gate is _____

a) A.B

b) A'B+AB'

c) **A+B**

d) A'B'

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