ST. LAWRENCE HIGH SCHOOL

A Jesuit Christian Minority Institution

FOR GOD AND COUNTRY

WORKSHEET - 22

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

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

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

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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