ST. LAWRENCE HIGH SCHOOL

A Jesuit Christian Minority Institution

FOR GOD AND COUNTRY

WORKSHEET - 20 (ANSWER KEY)

Topic – Introduction to Boolean Algebra

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

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

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

1. The following truth table belongs to :

x	y	xy
0	0	0
0	1	0
1	0	0
1	1	1

a) **AND operation**
b) OR operation
c) NOT operation
d) None of these

2. The following truth table belongs to :

x	y	x+y
0	0	0
0	1	1
1	0	1
1	1	1

a) AND operation
b) **OR operation**
c) NOT operation
d) None of these

3. In boolean algebra, the OR operation is performed by which properties?
a) Associative properties
b) Commutative properties
c) Distributive properties
d) **All of the Mentioned**

4. The expression for Absorption law is given by _____
a) **A + AB = A**
b) A + AB = B
c) AB + AA' = A
d) A + B = B + A

5. According to boolean law: A + 1 = ?
   a) **1**
   b) A
   c) 0
   d) A'
6. Which law states : A + B = B + A ?
   a) Associative properties
   b) **Commutative properties**
   c) Distributive properties
   d) All of the Mentioned
7. The involution of A is equal to _____
   a) **A**
   b) A'
   c) 1
   d) 0
8. (A + B)(A' * B') = ?
   a) 1
   b) **0**
   c) AB
   d) AB'
9. DeMorgan's theorem states that _____
   a) **(AB)' = A' + B'**
   b) (A + B)' = A' * B
   c) A' + B' = A'B'
   d) (AB)' = A' + B
10. A (A + B) = ?
    a) AB
    b) 1
    c) (1 + AB)
    d) **A**
11. Complement of the expression A'B + CD' is _____
    a) (A' + B)(C' + D)
    b) **(A + B')(C' + D)**
    c) (A' + B)(C' + D)
    d) (A + B')(C + D')
12. Simplify Y = AB' + (A' + B)C.
    a) **AB' + C**
    b) AB + AC
    c) A'B + AC'
    d) AB + A
13. Which law states (A. B). C = A . (B . C)?
    a) **Associative properties**
    b) Commutative properties

c) Distributive properties

d) All of the Mentioned

14. The boolean function A + BC is a reduced form of _____

a) AB + BC

b) **(A + B)(A + C)**

c) A'B + AB'C

d) (A + C)B

15. The following truth table belongs to :

x	F
0	1
1	0

a) AND operation

b) OR operation

c) **NOT operation**

d) None of these

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