ST. LAWRENCE HIGH SCHOOL

A Jesuit Christian Minority Institution

FOR GOD AND COUNTRY

WORKSHEET - 21 (ANSWER KEY)

Topic – Boolean Algebra rules and simplification of Boolean Expression

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

Chapter: Boolean Algebra **Date: 10/08/2020**

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

1. Simplification of : **YZ(XY'Z + X'Y'Z+X'YZ)** yields the following result:
   a. XYZ
   b. X'YZ
   c. XY'Z
   d. XYZ'
2. Simplification of : **AB + AB' + A'C + A'C'** yields the following result:
   a. 1
   b. 0
   c. A
   d. B
3. Simplification of : **AB'C' + A'B'C' + A'BC'+ A'B'C** yields the following result:
   a. BC + AC + AB
   b. BC + AC + AB
   c. 0
   d. B'C'+A'C'+A'B'
4. Simplification of : **C(A + B') + B +AC'** yields the following result:
   a. A+B+C
   b. A'+B+C
   c. A+B'+C
   d. A+B+C'
5. Simplification of : **C + ABC** yields the following result:
   a. A
   b. B
   c. C
   d. 1
6. Simplification of : **AC + ABC** yields the following result:
   a. A
   b. AC
   c. ABC
   d. AB
7. Simplification of : **xy + xy'** yields the following result:
   a. **X** c. 1
   b. y d. 0

8. Simplification of : **(X + Y)(X + Y′)** yields the following result:
    - **a. X**
    - b. Y
    - c. 0
    - d. 1
9. Simplification of : **XYZ + X′Y + XYZ′** yields the following result:
    - a. X
    - **b. Y**
    - c. Z
    - d. 1
10. Simplification of : **(A+B)′(A′+B′)′** yields the following result:
    - a. A
    - b. B
    - **c. 0**
    - d. 1
11. Which among the following is given by Commutative law?
    - a. X + 1 =1
    - **b. X + Y = Y + X**
    - c. X′′ = X
    - d. None of these
12. Which among the following is given by Idempotent Law?
    - a. X + 1 = 1
    - b. X + Y = Y + X
    - c. X. 0 = 0
    - **d. Both (a) and (c)**
13. Simplify the following : **(BC′+A′D)(AB′+CD′)**
    - a. A
    - b. B
    - c. C
    - **d. 0**
14. Which among the following is given by Associative law?
    - a. X + 1 =1
    - **b. X + (Y + Z) = (Y + X) + Z**
    - c. X′′ = X
    - d. None of these
15. Which among the following is given by Distributive law?
    - a. X + 1 =1
    - b. X + Y = Y + X
    - c. X′′ = X
    - **d. (X + Y)(X + Z) = X + Y.Z**

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