



ST. LAWRENCE HIGH SCHOOL

A Jesuit Christian Minority Institution



WORKSHEET - 21

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
 - b. Y
 - c. 1
 - d. 0

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