



INDIAN SCHOOL AL WADI AL KABIR

Class: XI	Department: Computer Science	Date of submission: 07/05/2024
Worksheet -2	Topic: Boolean Algebra	Note: To be written in NB

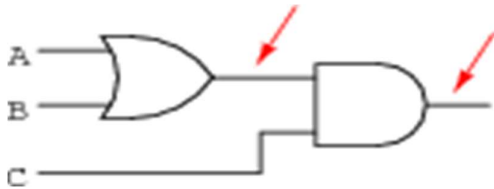
1. Prove the Boolean Laws shown below using Truth Table.

1. $X + X \cdot Y = X + Y$
2. $X + XY = X$
3. $X + YZ = (X + Y)(X + Z)$

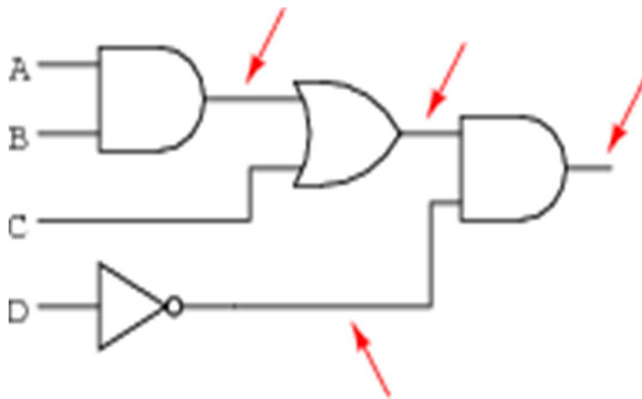
2. State and prove De Morgan's Theorems using truth table

3. Convert the following logic gate circuit into a Boolean expression. (Write the Boolean expression for the given circuits)

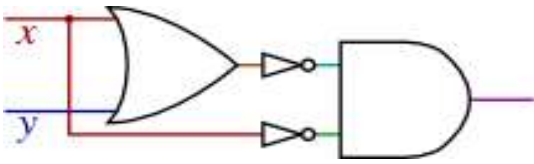
1.



2.



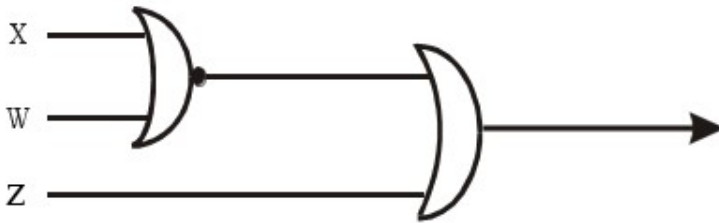
3.



4.

1. Draw Logic circuit for $y = A.C + B.C' + A'.B.C$
2. Draw Boolean Logical Circuit from the given Boolean expression: $Q = A.B + B.C.(B+C)$
3. Draw Logic circuit for $y = A.C + B.C' + A'.B.C$
4. Draw a circuit diagram corresponding to the following Boolean Expression:
 - a) $y = A+C .B+C' . A'+B+C$
 - b) $F = A'.B.C.(A+D)'$
 - c) $F = A.B'+C'.D$
 - d) $F = (U.V')+(U'.W')$
 - e) $F = A.B + A.C' + B'.A'.C$
 - f) $F = (X+Y).(X'+Z').(Y+Z)$

5. Obtain logic expression for the following logic circuit:



6. Find the result of the following logic circuit

