**Boolean Algebra Full Marks - 50**

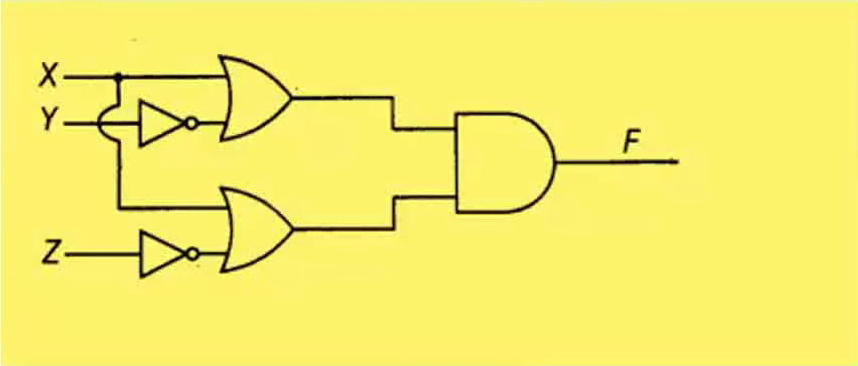
1. **Using Boolean identities, reduce the given Boolean expression:**

**F(X, Y, Z) = X′Y + YZ′ + YZ + XY′Z′**

1. **State and prove Absorption law.**
2. **State and prove Distributive law.**
3. **Verify by using truth Table.**

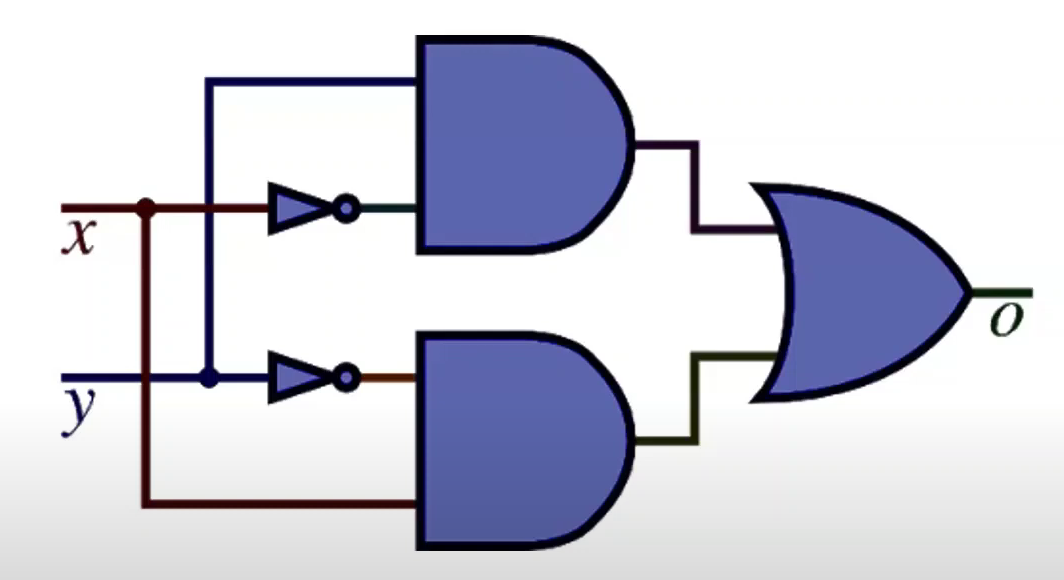
X + X’Y = X + Y

1. Draw a Logic Circuit diagram for the following Boolean expression:
2. X’.(Y’+Z)
3. AB’ + A’B
4. UVW’ + UW’Y + U’VW
5. A’.B’ + A.B
6. (X+Y).(X’+Z’).(Y+Z)
7. XY+XY’+X’Z
8. (A+B) (B+C) (C’+A’)
9. A’B’C’D + AB’C’D + ABC’D +ABCD’
10. Derive the Boolean expression for the following logic circuits.

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**A diagram of a circuit

Description automatically generated**



A blue background with black lines

Description automatically generated

A black line drawing of a circuit board

Description automatically generated with medium confidence

A diagram of a circuit

Description automatically generated

A diagram of a block

Description automatically generated

1. Solve the following Boolean expression algebraically.
2. X.Y + Y.Z +Y’.Z = X.Y+Z
3. X.(X+Y) =X
4. (X.Y)’ + X’ + XY = X’ +XY +Y’
5. X + Y.Z = (X+Y) . (X+Z)
6. X.Y + X’.Z + Y.Z = X.Y +X’.Z
7. X + X’Y = X+Y
8. X’.Y’Z’ + X’.Y.Z’ + X.Y’.Z’ + X.Y.Z’ = Z’
9. (A’ + B’) . (A+B) = A’.B + A.B’
10. XY + YZ +YZ’ = Y
11. X’Y’Z’ + X’Y’Z + X’YZ + X’YZ’ + XY’Z’ + XY’Z = X’ + Y’