

Lab Module 3 - Simplification

By using basic postulates, properties and theorems of Boolean Algebra, derive the most simplified version of the given Boolean expression F1, F2, F3, F4. Justify each step of the Boolean simplification.

- a) $F1 = AB + A(B+C) + B(B+C)$
- b) $F2 = (AB + AC)' + A'B'C$
- c) $[AB'(C+BD) + A'B']C$
- d) $A'BC + AB'C' + A'B'C' + AB'C + ABC$

By using CEDAR Simulation tool, derive the circuit equivalent for original and simplified design respectively. Use the timing diagram to show the equivalent.