

CPEN430 - Problem Set

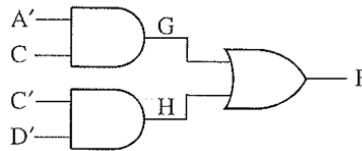
Problem #1

Write out the truth table for the following equation.

$$F = (A \oplus B) \cdot C + A' \cdot (B' \oplus C)$$

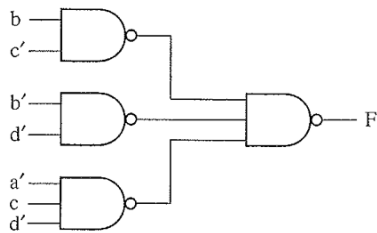
Problem #2

Identify the static 1-hazards in the following circuit. State the condition under which each hazard can occur. Draw a timing diagram that shows the sequence of events when a hazard occurs.



Problem #3

Find all of the 1-hazards in the given circuit. Indicate what changes are necessary to eliminate the hazards.



Problem #4

- (a) Show how you can construct a T flip-flop using a J-K flip-flop.
- (b) Show how you can construct a J-K flip-flop using a D flip-flop and gates.