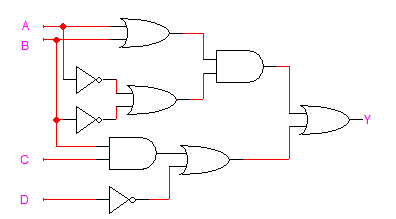
**Question 3. (12 points)**

* 1. Express the Boolean function Y of the following given circuit as a Boolean expression without simplification: **(3 points)**



* 1. Given the Boolean function : **(6 points)**

1. Express F as a **product-of-maxterms**, .
2. Find the ***algebraic* sum-of-minterms** expression for *F*.
   1. Given that and express the function as a **sum-of-minterms**. **(3 points)**