CSE 40534 HW #3 Name:_____

Dr. Izadi

Problem 1 (20 Points)

a. Mark all single stuck faults on Figure 1, taking one fault from each equivalence class.
b. Use the Boolean difference to determine all possible tests for the fault "primary input B stuck-at-1" in Figure 1.

Problem 2 (20 Points)

a. Use the D-algorithm to obtain a test pattern T that detects the fault "line α stack-at-0" in the logic circuit of Figure 1.
b. Identify at least three other stuck at faults that are detected by the same test T.

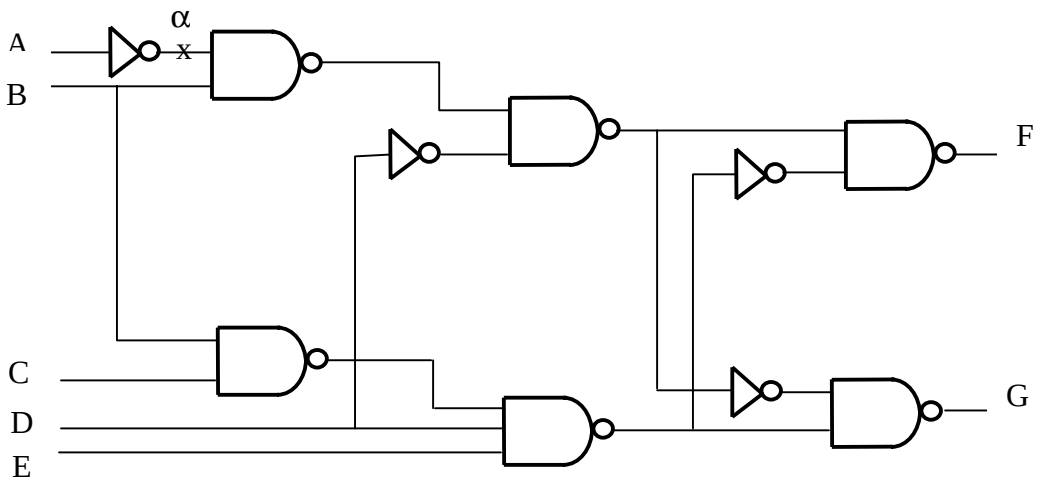

Figure 1

Problem 3 (20 Points)

Consider a 5-dimensional hypercube.

a) How many 4 dimensional subcubes are available in such a hypercube. List them.
b) How many fault-free 4-dimensional subcubes are available if the link connecting node 11011 and node 10011 is broken? List them.
c) How many fault-free 4-dimensional subcubes are available if in addition to the above link, nodes 11010 and 01000 are faulty. List them.