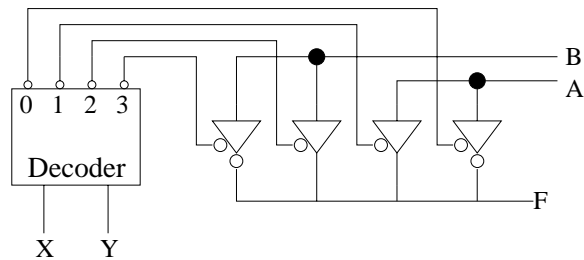


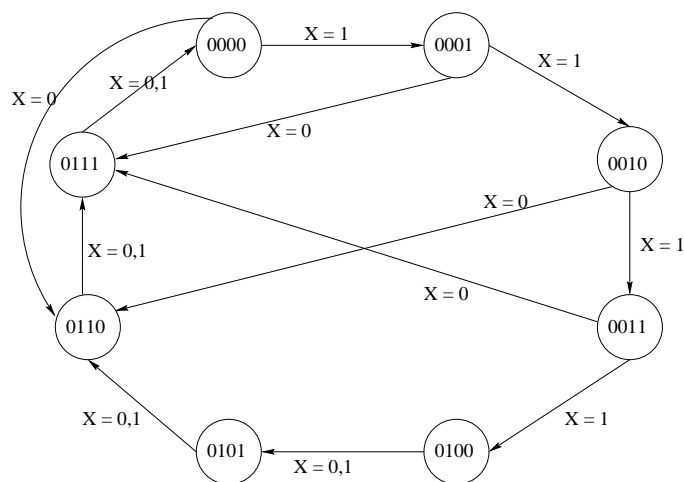
COE/EE 243
Homework Assignment #9
Due Friday May 9 at 5:00pm

Show your work on all of the problems below. If you want to see sample problems with solutions go to <http://www.ddpp.com/student/student.html> or the examples on the course web page.

1. Determine the function, F , realized by the following network.



2. Problem 8.16 in your text
3. Problem 8.36 in your text
4. Use two 74x163 4-bit binary counters and a single gate to design a counter circuit that counts from 0 to 129 repeatedly (a modulo-130 counter). Do not leave any inputs on the counters unconnected.
5. Realize the state machine described by the state diagram below using a 74X163 counter and added gates. Use the order $Q_d Q_c Q_b Q_a$ for the state variables.



6. Derive and sketch a network to realize the state table shown below using the PAL shown on the next page

Present State AB	Next State (A+B+)				Output(YZ)			
	WX = 00	01	10	11	WX = 00	01	10	11
00	11	10	01	00	00	10	11	01
01	00	01	10	11	10	10	11	11
10	11	00	01	01	00	10	11	01
11	10	10	01	00	00	00	01	01

