**Ve270 Introduction to Logic Design Homework 8**

**Assigned: July 12, 2018**

**Due: July 19, 2018, 2:00pm.**

**The homework should be submitted in hard copies.**

1. Design a finite state machine described by the following state diagram using D type flip flops. The state machine has one input X and one output Y. (30 Points)



reset

(a). Create a state table and find equations for the next state and FSM outputs.

(b). Complete the timing diagrams of states and output **Y** according to the given inputs.

(c). Is the FSM self-starting? If not, make it a self-starting FSM.

**Clock**



**Y**

**reset**

**State**

**X**

1. Repeat the same questions as Problem 1 on the following state diagram. (30 Points)



reset

**Clock**



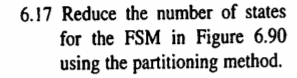
**Y**

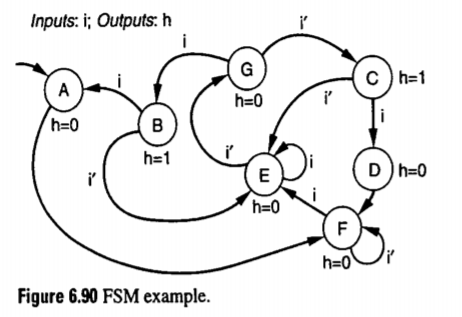
**reset**

**State**

**X**

1. Problem 6.17, using implication table method (20 Points)





1. Problem 6.18 (assuming the next state of S3 is S0) (20 Points)

