CSE3015-02 Introduction to digital circuits, Fall 2020

Final Exam

Student ID number : Name :

1. Draw truth table and excitation table for SR, JK, D, T flip-flops. (10Pt.)
2. Construct a Mealy Machine that recognize the sequence 1010 using T, SR flip-flops(state diagram, state table, K-Map, circuit diagram). (20Pt.)
3. Construct a Moore Machine that recognize the sequence 1010 using T, SR flip-flops(state diagram, state table, K-Map, circuit diagram). (20Pt.)
4. Design a synchronous 3 bit counter that goes through the sequence (state diagram, state table, K-map, circuit diagram)

0 6 1 3 7 2 4 and repeat

using D filp flops. (20Pt.)

1. Explain three sources of power consumption. (10Pt.)
2. Show OBDD of the following function f = ab + ac + ad: (20Pt.)
3. order : a -> b -> c -> d
4. order : b -> a -> d -> c

