Ahsanullah University of Science and Technology
Department of Computer Science and Engineering
Course No: CSE2106 Course Title: Digital Logic Design Lab
Assignment 10

Group B1

a. Design a Switch Controlled Binary Random Up-Down Counter Using J-K Flip-Flop for the Following Sequence:

If S=0, DOWN : $4 \leftarrow 2 \leftarrow 5 \leftarrow 0 \leftarrow 3$

If S=1, UP : $4 \rightarrow 2 \rightarrow 5 \rightarrow 0 \rightarrow 3$

b. Design a 4-Bit Synchronous DOWN Counter Using T Flip-Flop.

c. Design a BCD Ripple UP Counter using D Flip-Flop.

Use 4013 for D-FlipFlop and you can convert JK-FlipFlop to function as a T Flip-Flop.