Student Name(s): _____

Experiment 5 - Registers and Counters Sign-Off Sheet

Part 1. Serial in – Parallel out register

1. The D flip-flop selected is: _____

2. While keeping the input constant, what happens to the outputs with each clock transition?
_____

3. If **LED3** is the MSB, and **LED0** is the LSB, explain how you load "1010" into this register.

    _____

Part 2. Ripple Counter

1. The JK flip-flop selected is:_____

2. What happens to the output of the counter shown on page 4 with each clock transition?

3. Explain how to setup the counter to count down.

    _____

Part 3. Synchronous Counter

1. Draw the waveform of the **clock**, output **LED0**, and **LED1**.
2. Representing a state using "**LED1 LED0**", draw the state transition diagram of this counter.