

ECE 223 Laboratory Experiments # 12

Preparation:

1. Draw the logic diagram of the JK flip-flop; make the truth table of the operation of the circuit.
2. Explain the triggering of the flip-flops. How many different ways exist for the triggering of the flip-flops?
3. What is master slave flip flop? What is the difference of this flip-flop from the other flip-flops? What is 7476 and 7474? Draw the pin diagrams. Please explain the triggering source of these flip-flops. Are they sensitive to pulse duration or pulse transition?
4. Using two D latch design a master slave D flip flop.

Experiment:

1. Set up the flip-flop circuits in preparation parts 1 and verify experimentally the operation of the flip-flop.
2. Set up circuits using 7476 and 7474 and see the operation of these devices individually.
3. Set up your D flip-flop that is designed using D latches in part 4..

Report:

In your report draw all circuit diagrams, and explain the circuit operation

Part List:

7476, 7474, OR gates, NAND gates, NOR gates,

Good Luck
Orhan GAZI