Lab 2 Check-off Questions A

February 24, 2014

1 Checkoff Questions: 15 minutes to complete

1.
   - Demonstrate your lamp striking with the standard capacitor.
   - The TA will replace the lamp's capacitor with a different one – demonstrate that your code still strikes the lamp.

2. Show your answers for the SBC questions in the lab handout.

3. Could the circuit in Figure 1 work as shown? Assume ideal components. Explain.

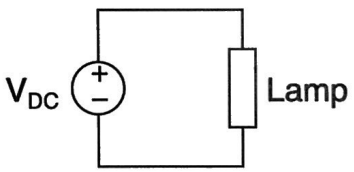

Figure 1: Proposed Lamp System

4. The AC power supply in Figure 2 has a peak-to-peak amplitude of 40 volts. Could this circuit work as shown? Assume ideal components. Explain.

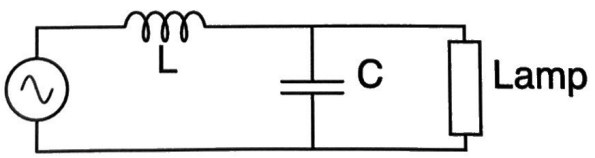

Figure 2: Proposed Lamp System

5. The circuit in Figure 3 is driven with a square wave with a frequency near the resonant frequency of the LC tank. What is the shape of the output voltage waveform V_{out}? Assume ideal components. Explain.

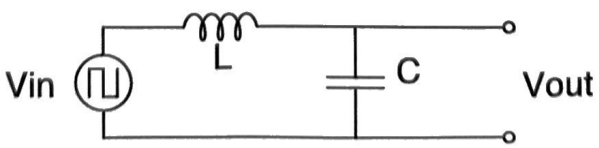

Figure 3: Proposed Lamp System

6. When using the 8254 in Mode 3, will you get a higher maximum period when using a 1 MHz clock or a 10 MHz clock?

7. Point to PSoC chip on development board. Demonstrate your PSoC running blinky.

2 Code Modification

Change your automatic lamp striking circuit and code to use a different counter on the 8254. Demonstrate that you can still successfully strike the lamp using the new counter. You may use the 8254 datasheet and your notes.

3 Lab Notebook and Code

Show your lab notebook and code to the TA for discussion.