Lab 8 Answer Sheet

Name and Std ID:_____ **Lab Section:**_____

Date:_____

Submission Instructions:

Prelab:
1. **Complete the prelab**
2. **Submit this report with the prelab completed to Canvas before your lab starts**

Lab:
1. **Complete the lab according to the instructions**
2. **Take screenshots of your ModelSim waveform (note: to receive points your NetID has to be present in the screenshot) and insert them into this document.**
3. **Include screenshots of any related block design files or Verilog files in the report**
4. **Complete this report and reupload it to Canvas**

PRELAB:

Q1. Read section 2.1 and write the Verilog code for a 4-to-1 multiplexer.

Q2. Design a 4-bit shifter as described in Section 3.1 of the lab description. Sketch the block diagram for your design showing the multiplexers, the inputs, outputs and the selectors to each multiplexer.

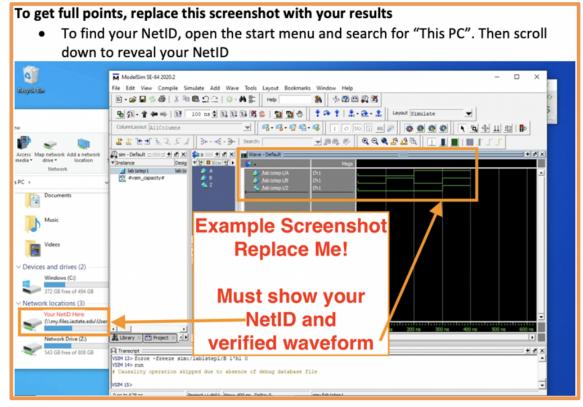**Q3.** Refer to Section 3.1 of the lab description and complete the following table before you come to the lab:

X3	X2	X1	X0	X-1	X-2	X-3	S1	S0	F3	F2	F1	F0
1	0	0	1	1	1	0	0	1	0	0	1	1
1	1	1	0	0	0	0	1	1				
1	1	1	0	0	1	1	0	0				
1	1	0	1	0	1	0	1	0				
1	0	1	1	0	1	1	0	1				

LAB:

2.1 Hardware results demonstrate a good circuit.
<<Insert a screenshot or copy your 4-to-1 multiplexer here>>

<<< Insert a screenshot of your waveform for the 4-to-1 multiplexer here>>>

3.2 Hardware results demonstrate correct code.
<<Insert a screenshot of your shifter here>>

<<< Insert a screenshot or copy your DO file here >>>

<<< Insert a screenshot of your waveform for the shifter here>>>