

# LABORATORY 6

Please print this sheet prior to coming to laboratory. Complete the pre-laboratory tasks in your lab notebook. Complete the lab tasks in **both** your lab notebook and this submission sheet.

## 1 Pre-laboratory Verification

3E -- 36

3E -- 37

3E -- 38

3E -- 39

3E -- 40

3E -- 41

## 2 Laboratory Verification

3E -- 42

3E -- 43

### 3 Deliverables

1. Attach **multiplex.vhd** VHDL code (decoder is not necessary).
2. Attach block diagram.
3. Attach three required photos of board, printed on a single sheet of paper.
4. When implementing blanking for the seven-segment display that was created using hardware (previous laboratory), a combinational circuit had to be developed. What would need to be changed in order to implement blanking on the FPGA?

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5. What would need to be changed in order to display hexadecimal (**A-F**) digits?

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6. What is the function of a multiplexer (summarize, as if explaining to a child)? Give two real-world applications of multiplexers.

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