

KEY

Score: \_\_\_\_\_

Name: \_\_\_\_\_

### ECE 3055 Quiz III, Wednesday, June 12

The following sequence of MIPS instructions is clocked into the pipeline shown on page 472-476 of your textbook. Examine this figure carefully to see exactly where each signal is located (i.e. before or after pipeline registers). After Clock cycle 5, Indicate the resulting register values in **hexadecimal** in the spaces provided below. Assume all data memory locations contain the word address of the location. Assume that each register contains a value equal to the register number prior to execution of this code.

|      |             |
|------|-------------|
| add  | \$4,\$3,\$4 |
| sw   | \$2,1       |
| add  | \$2,\$6,\$5 |
| andi | \$6,\$7,8   |
| sub  | \$3,\$5,\$1 |

Aug 7.7/10

Instruction = 30E6 0008 (sw)

Read Data 1 = 00000007

Read Data 2 = X or 00000006

ALU Result = 0000000B

(Data Memory) Write Data = 00000002

Write Register (Address) = 04

Write Data (input at register file after mux) = 00000007

ALU control input = 010

MemWrite = 1

ALU Op = 10