Score: _____ Name: _____

ECE 3055 Quiz III, Wednesday, September 9

The instruction, **lw $2, 4($8)** is assembled using standard MIPS/SPIM syntax and executed on the MIPS single clock cycle datapath described in Section 4.4 and summarized in Figure 4.17 of the textbook. Assume the registers are all loaded with the register number prior to execution and all data memory words are loaded with the (byte addressable) memory address of the first byte of the 32-bit word. Fill in the values of the following control signals and buses.

MIPS Datapath bus values in hexadecimal

10 00 11 01 000 00010 0x0004

Instruction Bus = 8D020004

Register file Read Data Bus 1 = 0x00000008

ALU Result Bus = 0x0000000C

Write Register Bus = 0x02

Write Data Bus = 0x0000000C

MIPS Control Signals in Binary

RegWrite = 1

ALUSrc = 1

MemtoReg = 1

ALU Op (two-bits) = 00

ALU control (four bits) = 0010