Name: _____ ID: _____

Department of Computer Science and Engineering

CSE340: Computer Architecture

Fall 2014

Quiz-2

Full Marks:15 Time: 30 Mins

1. What are the purpose of PC and $sp**.** **2**

2. Encode the MIPS instruction **addi $16,$17, 18** and **lw $16,40($17)** also find their type**.** **3**

3. Write MIPS instruction for the expression **if (i<=10) f=g+h,** using minimum number of Register. **3**

4. Describe how JUMP address is calculated with figure. **4**

5. Convert ***bgt $s1,$s2,*** *Exit* into equivalent MIPS code. [blt= branch if less than] **3**

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CSE340: Computer Architecture

Spring 2014

Quiz-2

Full Marks: 15 Time: 25 Mins

1. What do you mean by zero and sign extended? **2**

2. **1 00001111 10101000000000000000000** convert this to decimal value using **IEEE754 32-bit** floating point representation. **3**

3. Write Show the **IEEE 754** binary representation of the floating point number **-11.1** using eight bit register have one bit for sign, three bits for exponent and four bits for fraction part. **5**

4. Add $\mathbf{0.5_{ten}}$ and $\mathbf{-0.4365_{ten}}$ IEEE 754 floating point addition. **5**

Name: _____ ID: _____

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Spring 2015

Quiz-2

Full Marks: 15 Time: 20 Mins

1. What do you mean by zero and sign extended? **2**

2. Write MIPS instruction for the expression **f=(g*h)+(i*j),** using minimum number of registers. **5**

3. Convert ***bgt $s1,s2****, Exit* into equivalent MIPS code. [bgt= branch if greater than] **3**

4. Encode the following also mention their types: **5**

a. srl $t1,$t2,8.

b. slt $t1,$t2,$t3.

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Quiz-2

Full Marks:15 Time: 20 Mins

1. Define **compiler** and **assembler.** **2**

2. Encode the MIPS instruction **subi $16,$17, 18** and **sw $16,40($17)** also find their type**.** **3**

3. Write MIPS instruction for the expression **f=(g+h)-(i+j),** using minimum number of Register. **3**

4. What type instruction is **JAL**? What value does $**ra**/**$31** stores**?** **3**

5. Convert ***ble $s1,s2,*** *Exit* into equivalent MIPS code. [ble= branch if less than or equal] **4**

Name: _____ ID: _____

Department of Computer Science and Engineering
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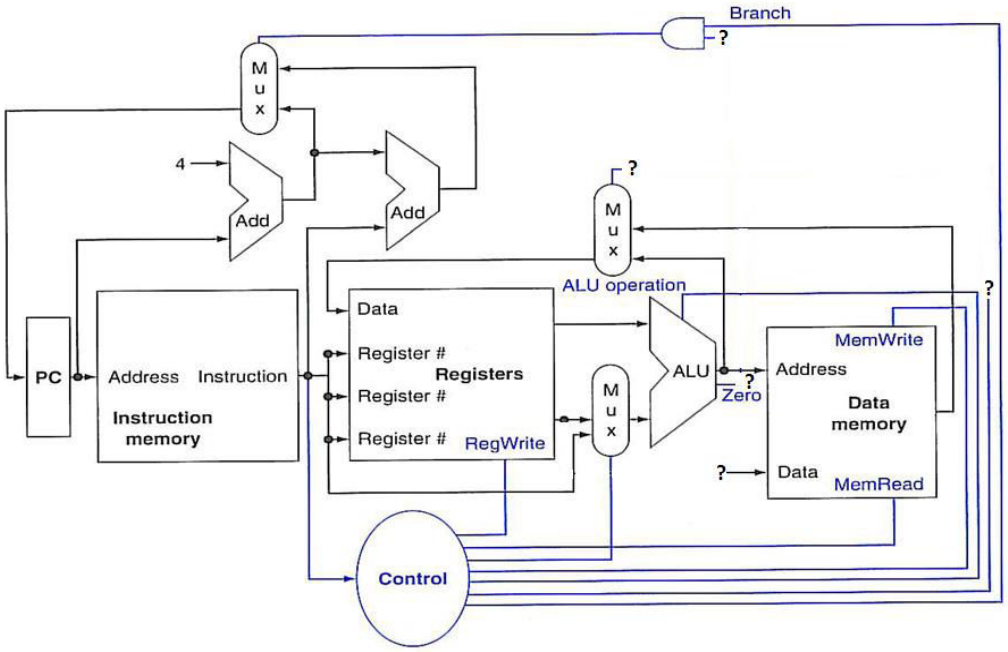
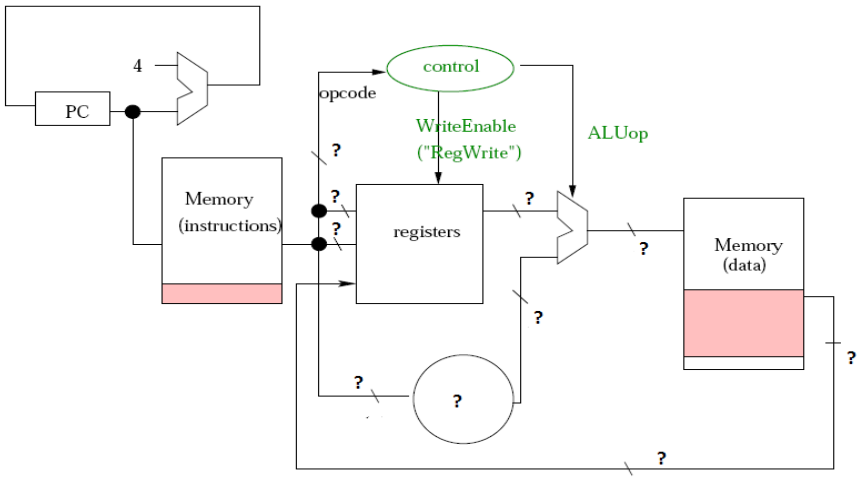
Summer 2013
Quiz-3
Full Marks: 15 Time: 25 Mins

1. Draw the missing links? **3**



2. What do you mean by combinational elements and State elements? **2**

3. Following figure shows the datapath for **lw** instruction, label the figure where marked "**?**". **5**

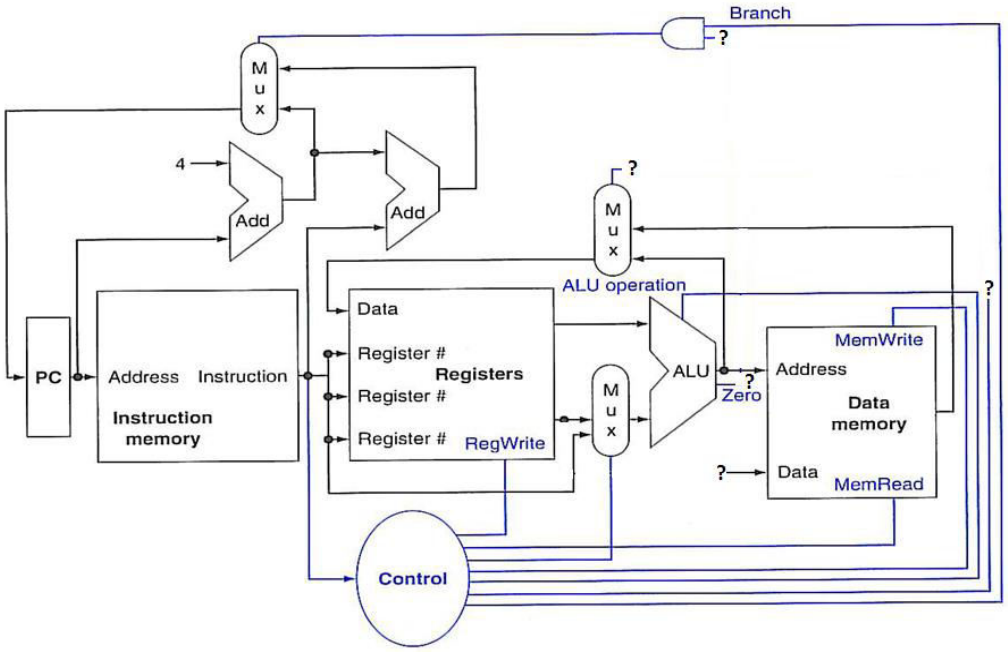


4. How address of the next instruction is calculated in **Jump** instruction, explain with appropriate figure. **5**

Name: _____ ID: _____

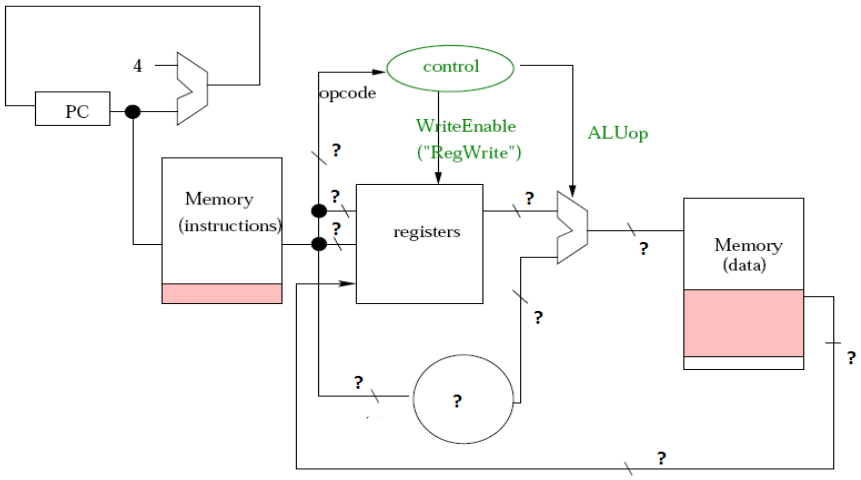
Department of Computer Science and Engineering
CSE340: Computer Architecture
Summer 2013
Quiz-3
Full Marks: 15 Time: 25 Mins

1. Draw the missing links? **3**



2. What do you mean by combinational elements and State elements? **2**

3. Following figure shows the datapath for **lw** instruction, label the figure where marked "**?**". **5**



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Name: _____ ID: _____

Department of Computer Science and Engineering

CSE340: Computer Architecture

Fall 2014

Quiz-3

Full Marks:15 Time: 30 Mins

1. Why do you need multiple unites of same component in a single cycle datapath? **2**

2. Let A= $(0\ 1010\ 101)_2$ and B= $(0\ 1101\ 110)_2$ perform (A+B) using IEEE754 floating point addition**.** Also show the decimal equivalent. **4**

3. What do you mean by Response time, Throughput, CPI and effective CPI? **4**

4. Draw the datapath for instruction: add $10,$11,$12. Also show the dataflow. **5**

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Quiz-3

Full Marks: 15 Time: 25 Mins

1. State single cycle datapath advantages and disadvantages? **3**

2. What do you mean by combinational elements and state elements? **2**

3. Explain the five steps of load instruction. ` **5**

4. What is pipelining? What makes Pipelining easy? Why it is hard at the same time? **5**

A

Name: _____ ID: _____

Department of Computer Science and Engineering
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Quiz-3
Full Marks: 15 Time: 20 Mins

1. **1 00001111 10101000000000000000000** convert this to decimal value using **IEEE754 32-bit** floating point representation. **7**

2. Add $\mathbf{0.5_{ten}}$ and $\mathbf{-0.4365_{ten}}$ IEEE 754 floating point addition. Also show the overflow status. **8**

B

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Full Marks: 15 Time: 20 Mins

1. **1 00000111 10111000000000000000000** convert this to decimal value using **IEEE754 32-bit** floating point representation. **7**

2. Multiply $\mathbf{0.5_{ten}}$ and $\mathbf{-0.4365_{ten}}$ IEEE 754 floating point addition. Also show the overflow status. **8**

C

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Quiz-3
Full Marks: 15 Time: 20 Mins

1. Show the **IEEE 754** single precision binary representation of the floating point number **-13.3**. Also show equivalent hex representation of the binary value. **8**

2. Add $\mathbf{0.5_{ten}}$ and $\mathbf{0.124_{ten}}$ IEEE 754 floating point addition. Also show the overflow status. **7**

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Quiz-3

Full Marks: 15 Time: 25 Mins

1. State single cycle datapath advantages and disadvantages? **3**

2. What do you mean by CPU time, CPI and effective CPI? **3**

3. Explain the five steps of load instruction. ` **4**

4. What is pipelining? What makes Pipelining easy? Why it is hard at the same time? **5**