**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ID: \_\_\_\_\_\_\_\_\_\_\_ Section: \_\_\_\_**

**Department of Computer Science and Engineering**

**CSE340: Computer Architecture   
Spring 2017**

**Quiz-2, A**

**Full Marks: 15 Time: 20 Mins**

1. What are the roles of a computer architect? **5**
2. Write MIPS code for the following C code: if (A [7] ==A [5]) f=g [3] -C [7]; else f=f-C [3] +3; Assume base addresses for A, g and C are $s0, $s1 and $s2 respectively. 10

|  |  |
| --- | --- |
| lw $t0,28($s0)  lw $t1,20($s0)  bne $t0,$t1, ELSE  lw $t2,12($s1)  lw $t3,28($s2)  add $t4,$t2,$t3  ELSE: | lw $t2,12($s2)  sub $t4,$$t4,$t2  addi $t4,$t4,3 |

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**Department of Computer Science and Engineering**

**CSE340: Computer Architecture   
Spring 2017**

**Quiz-2, B**

**Full Marks: 15 Time: 20 Mins**

1. Draw the diagram of Harvard Model of computer. **5**
2. Write MIPS code for the following C code: if (A[6]==A[3]) f=g[6]-C[2]+9; else f=g[6]+A[9]; Assume base addresses for A, g and C are $s0,$s1 and $s2 respectively and f is stored in $s3. **10**

|  |  |
| --- | --- |
| **lw $t0,24($s0)**  **lw $t1,12($s0)**  **bne $t0,$t1,ELSE**  **lw $t2,24($s1)**  **lw $t3,8($s3)**  **sub $s3,$t2,$t3** | **addi $s3,$s3,9**  **ELSE:**  **lw $t2,24($s1)**  **lw $t3,36($s0)**  **add $s3,$t2,$t3** |

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**Department of Computer Science and Engineering**

**CSE340: Computer Architecture   
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**Quiz-2, C**

**Full Marks: 15 Time: 20 Mins**

1. Compare between RISC and CISC architecture. **5**
2. Write MIPS code for the following C code: if (A[6]!= C[5]) A[5]=g[6]-C[7]; else A[7]=g[5]-C[3]+f; Assume base addresses for A, g and C are $s0,$s1 and $s2 respectively and f is stored in $s3. 10

|  |  |
| --- | --- |
| **lw $t0,24($s0)**  **lw $t1,20($s2)**  **beq $t0,$t1,ELSE**  **lw $t2,24($s1)**  **lw $t3,28($s2)**  **sub $t2,$t2,$t3**  **sw $t2,20($s0)**  **ELSE:**  **lw $t2,20($s1)**  **lw $t3,12 ($s2)**  **sub $t2,$t2,$t3**  **add $t2,$t2,$s3** |  |

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**Department of Computer Science and Engineering**

**CSE340: Computer Architecture   
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**Quiz-2, D**

**Full Marks: 15 Time: 20 Mins**

1. Define Multiprocessor system with diagram. **5**
2. Write MIPS code for the following C code: if (A[6]!=C[6]) f=g[8]+C[5]-A[2]; else f=g[5]+C[3]; Assume base addresses for A, g and C are $s0,$s1 and $s2 respectively and f is stored in $s3. 10

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**Quiz-2, E**

**Full Marks: 15 Time: 20 Mins**

1. Define Datapath with diagram. **5**
2. Write MIPS code for the following C code: if (A[3]==C[4]) C[10]=g[6]-C[5]+f; else C[7] = g[5] + C[6] +f; Assume base addresses for A, g and C are $s0,$s1 and $s2 respectively and f is stored in $s3. 10