BRAC University

Department of Computer Science and Engineering

CSE340: Computer Architecture

Midterm Examination, Fall 2015

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

Section: \_\_\_\_\_\_\_

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| Instructions   * Answer all the questions * You should answer within the space provided in the question paper * You can use the provided exam script to do your rough work * Return both your question and answer script after your exam * **Please do not turnover the page until you are asked to do so** | |  |  |  | | --- | --- | --- | | **Total**  **Marks** | | **Marks Obtain** | | **30** | |  | | **Time** | **1 hour** | | |

Good Luck

1. Compare **RISC** and **CISC** processors? **[5]**
2. Design a combinational shift register and explain its operation. **[5]**
3. Encode the following MIPS instructions and identify their types? **[5]**
   1. **sll $8,$9,7**
   2. **bne $10,$11,-5**
   3. **ble $12,$13,Exit**
4. Apply booth’s method to multiply **7** and **-5**. **[5]**
5. The following problems deal with translating from C to MIPS. Assume that the variables **f** and **g** are assigned to registers **$s0** and **$s1**, respectively. Assume that the base address of the arrays **A** and **B** are registers **$s6** and **$s7**, respectively. **[6]**
   1. **f= g+A[7];**
   2. **B[5]=g+A[4];**
6. Explain how do MIPS handle a procedure call**? [4]**