BRAC University

Department of Computer Science and Engineering

CSE340: Computer Architecture

Midterm Examination, Spring 2016,

SET A

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

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 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. Define Compiler and Assembler? **[3]**
2. Give the instruction format of various instructions type available in MIPS. **[3]**
3. Encode the following MIPS instructions and identify their types? **[5]**
   1. MULT $8,$9
   2. Li $10,100
   3. ADDI $10,$11,-5
4. Explain how BRANCH address is calculated. **[5]**

1. Design a counter using T-FF that can count from 0 to 13. **[5]**
2. The following problems deal with translating from C to MIPS. Assume that the base address for arrays **f** **g and A** are assigned to registers **$s0** and **$s1**, **$s6** respectively. **[6]**
   1. f[3]= g[2]+A[7];
   2. if (A[3]=!A[5]) f[5]=A[3]+A[2]
3. Convert -31.213 in to IEEE 754 floating Point representation**? [3]**