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

**Department of Computer Science and Engineering**

**CSE340: Computer Architecture   
Fall 2015**

**Quiz-3, A**

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

1. Convert (-87.125)10 into IEEE single precision floating point representation. Represent the result in equivalent Hex representation.  **8**
2. A Program is running on a specific machine (CPU) with the following parameters: 7

**Total executed instruction count: 10,000,000 instructions Average CPI for the program: 2.7 cycles/instruction. CPU clock rate: 300 MHz** (clock cycle = 5x10-9 seconds) 5 nsec clock cycle => 200 MHz clock rate What is the execution time for this program?

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

**Department of Computer Science and Engineering**

**CSE340: Computer Architecture   
Fall 2015**

**Quiz-3, B**

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

1. Convert (AE153250)16 into equivalent decimal value using IEEE 754 signal precision floating point representation. **8**
2. Using IEEE 754 signal precision floating point representation multiply (0.457)10 and (0.123)10. **7**

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

**Department of Computer Science and Engineering**

**CSE340: Computer Architecture   
Fall 2015**

**Quiz-3, C**

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

1. Using IEEE 754 signal precision floating point representation Add (1.325)10 with (0.713)10. **8**
2. A Program is running on a specific machine with the following parameters: 7

**Total executed instruction count, I: 10,000,000 instructions, Average CPI for the program: 2.5 cycles/instruction. CPU clock rate: 230 MHz.** Using the same program with these changes:

**A new compiler used: New instruction count 9,500,000, New CPI: 3.0, Faster CPU implementation: New clock rate = 300 MHZ.** What is the speedup with the changes?

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

**Department of Computer Science and Engineering**

**CSE340: Computer Architecture   
Fall 2015**

**Quiz-3, D**

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

1. Convert (-39.339)10 into IEEE single precision floating point representation. Represent the result in equivalent Hex representation. **8**
2. Using IEEE 754 signal precision floating point representation multiply (0.157)10 and (0.123)10 7

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

**Department of Computer Science and Engineering**

**CSE340: Computer Architecture   
Fall 2015**

**Quiz-3, E**

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

1. Using IEEE 754 signal precision floating point representation Add (2.025)10 with (0.313)10. **8**
2. A Program is running on a specific machine with the following parameters: 7

**Total executed instruction count, I: 8,000,000 instructions, Average CPI for the program: 2.9 cycles/instruction. CPU clock rate: 230 MHz.** using the same program with these changes:

**A new compiler used: New instruction count 9,500,000, New CPI: 3.2, Faster CPU implementation: New clock rate = 310 MHZ.** What is the speedup with the changes?