BRAC UNIVERSITY
Department of Computer Science and Engineering

Examination: Quiz - 3 | Semester: Spring 2025
Duration: 30minutes | Full Marks: 15

CSE 340: Computer Architecture

Name:	ID:	Section:

1. Given the number A = 1.1011×2^232500; can this number be represented using a 34-bit IEEE-754 floating-point format, where the fraction field is 12 bits? You must provide a justification for your answer. [2+1]

Answer:

2. Suppose you have two floating point numbers 3.14 and 2.15 stored respectively in **f2** and **f3** registers. Now you run the following code:

feq.s X3, f2, f3

After running the code, what would be the value inside the X3 register?

Note: both values stored in f2 and f3 are in IEEE-754 single precision format. [1]

Answer:

3. Given two numbers 119_{10} and 127_{10} .We want to multiply these two numbers using the **Long Multiplication** method. Answer the following questions: [4]

a. How many iterations are necessary to complete this multiplication?
b. What would be the size of the product register?
c. What would be the size of the multiplier register?
d. What would be the size of the inputs of ALU?

Answer:

a.
b.
c.
d.

4. Given a number, W = 0xA00A05002 in 36-bit IEEE-754 representation, where the size of the fraction field is 16 bits. Find the equivalent decimal number of the given number W. [7]