


# National University of Computer and Emerging Sciences, Lahore Campus

	Course Name:	Computer Architecture	Course Code:	EE204
	Program:	BS(Computer Science)	Semester:	Fall 2019
	Duration:	30 Minutes	Total Marks:	20
	Paper Date:	17-09-2019	Weight	~3
	Exam Type:	Quiz 1e	Page(s):	2

Student : Name: \_\_\_\_\_ Roll No. \_\_\_\_\_  
Section: \_\_\_\_\_

## Question 1a [2]

1. In R-type instruction Shift amount is represented by bit numbers \_\_\_\_\_.
2. In I-type instruction Destination field is represented by bit numbers \_\_\_\_\_.

## Question 1b [8]

Convert the following numbers to binary scientific notation then multiply the resulting values. The answer will be normalized and then its 32-bit IEEE 754 floating point representation will be provided as answer.

- a. 38.5
- b. 0.1875

# Question 2 [10]

Given the following values

$A = (69)_{10}$   $B = (5)_{10}$

a) Draw the circuit diagram of a 4-bit divider circuit. (Optimized version of the Divider)

b) Use your circuit in part (a) to compute  $A / B$ . Show the binary values of all the registers at every step.

Iteration	Step	Dividend→Remainder/ Quotient	Divider
0	Initial values	0100 0101	0101
1			
2			
3			
4			
5			