

Computer Organization and Assembly Language

Quiz# 4, Spring 2025

Tuesday, March 04, 2025

Name: _____

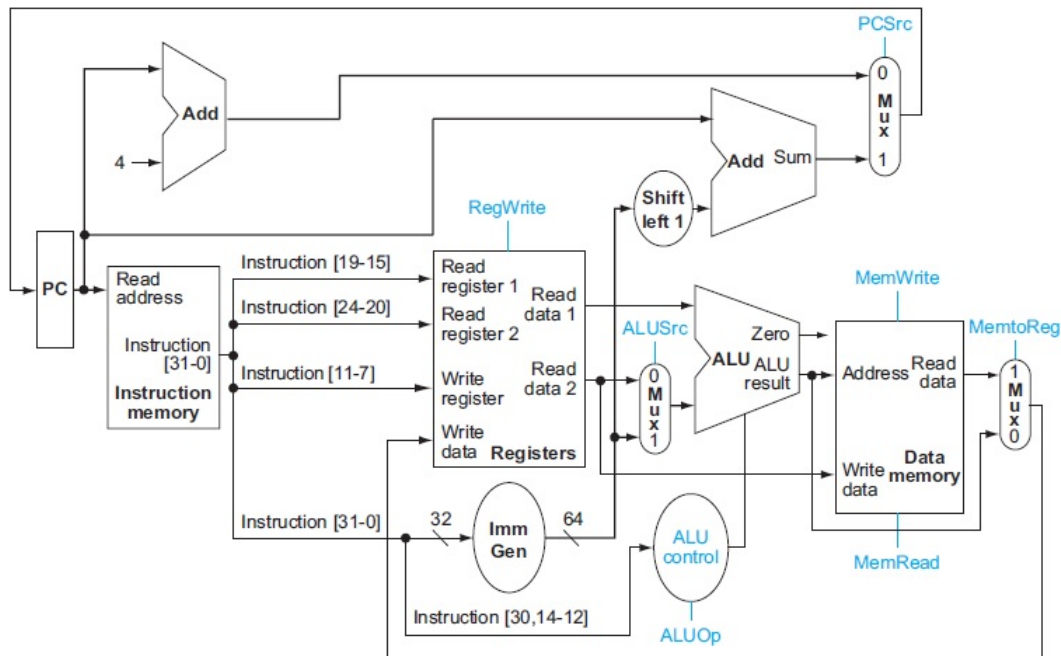
Roll Number: _____

Maximum Time Allowed: 10 minutes

Maximum Marks: 10

1. Following two instructions are run on the datapath (shown in Figure below). Identify the values of the control signals for both the instructions. [5]

| Instructions | RegWrite | ALUSrc | MemWrite | MemRead | MemToReg |
|-----------------|----------|--------|----------|---------|----------|
| ld x5, 0(x7) | | | | | |
| sub x8, x9, x10 | | | | | |



2. Write an RISC-V assembly language code that calculates the factorial of a number in *x10* and stores the result in *x11*. (Assume that the number stored in *x10* is between 1 and 20 both inclusive). [5]