Computer Architecture

Quiz 1

Total Marks: 20

Name:_____   **Student Id:**_____

Section:____

Question 1:

    Marks 10

Draw diagram of Register file and other datapath components that are being used in Decode stage of MIPS with all of its control signals and briefly explain its working. Also write value of control singles for Load instruction.

Question 2:
Marks 10
Consider three different processors P1, P2, and P3 executing the same instruction set with the clock rates and CPIs given in the following table

Processor	Clock Rate	CPI
P1	5 GHz	4.0
P2	1 GHz	2.0
P3	10 GHz	5.0

(a) Which processor has the highest performance? Show complete working.

(b) If processor P2 executes a program in 10 seconds, find the number of cycles and number of instructions.