

CSE 305 – Computer Architecture

Class Test -1 (Total Marks: 20)

Student No:

1. The following table shows the numbers of instructions for a program.

Arithmetic	Store	Load	Branch
500	50	100	50

The following table shows the number of cycles taken by each instruction.

Arithmetic	Store	Load	Branch
1	5	5	2

- a. What is the execution time of the program in a 4 GHz processor? (5)
 - b. What is the CPI of the program? (5)
 - c. If the number of load instructions can be reduced by half, what is the speed-up and CPI? (5)
2. Suppose a program runs in 100 seconds on a computer, with division operations responsible for 80 seconds of this time. How much do you have to improve the speed of division if you want the program to run four times faster? (5)