

**CEE 598 – Traffic Simulation Modelling and Applications**

**Instructor: Professor Xuesong Zhou**

**Assignment: Homework #4**

**Done by: Mohamed Jatit**

***Question #1:***

The number of customers served per day = 29 customers

Total delay per day = 201.92 minutes

Average delay per customer = 21.92 minutes

***Question #2:***

***Part A:***

*Figure 1: Cumulative Arrival and Departure*

Before 30 minutes → 8t

After 30 minutes → 2t + C

Cumulative arrival → 8t 0 ≤ t ≤ 30

2t + C 30 < t

Cumulative departure → 5t t ≥ 0

The queue will disappear @ 60 minutes

***Part B:***

The same equation is used to calculate the queue lengths for 60 minutes

There’s a total of 300 vehicles so the average waiting time is:

***Question #3:***