

**ESCUELA SUPERIOR POLITÉCNICA DEL LITORAL**  
**FACULTAD DE INGENIERÍA EN ELECTRICIDAD Y COMPUTACIÓN**  
**CALIDAD DE SERVICIOS DE RED (TLMG1005)**



**SEGUNDA EVALUACIÓN - PRIMER TÉRMINO 2019 – 30/08/2019**

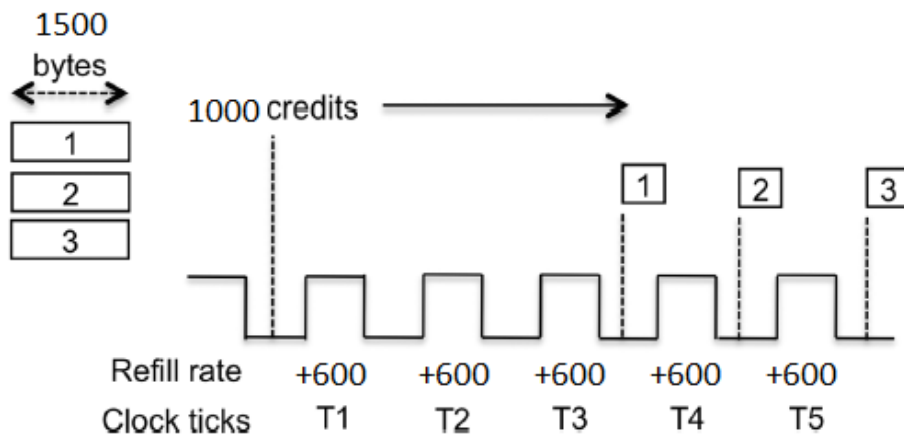
Estudiante:

Matricula:

Quien firma, acepta cumplir como estudiante lo dispuesto en el Código de Ética de la ESPOL, con respecto al capítulo "Comportamiento de la Comunidad Politécnica" en todos sus artículos. En caso de no cumplimiento, aceptaré acatar las sanciones que disponga la ESPOL hacia mi persona.

Firma del estudiante:

1.- The figure below represents a full operation of a token bucket implementation. (20marks)



a.- What is the BW limit right (number of credits) after the second clock tick? (4marks)

b.-What will happen with the packet number 2? (4marks)

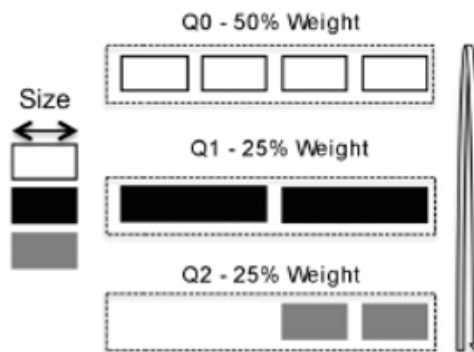
c.- What is the BW limit right after the fourth clock tick? (4marks)

d.- What will happen with the packet number 3? (4marks)

e.- What is the BW limit right after the fifth clock tick? (4marks)

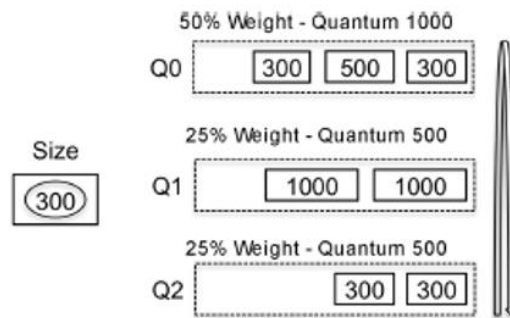
2.- Please explain in detail how the Weighted Round Robin algorithm works. A graph is highly recommended (15 marks).

3.- In the figure below, what would be output if Weighted Round Robin (WRR) is the algorithm used. Draw the output. (15 marks).



4.- Please explain the key parameters in Deficit Weighted Round Robin (DWRR) algorithm. (10 marks).

5.- Regarding the graph shown below and assuming DWRR is the algorithm used. Describe the scheduling process. (20 marks).



6.- Explain in detail how Random Early Discard (RED) method works. In addition, plot the drop probability in this method, and compare it with the common tail drop behavior. To what extent do you agree with this method? (20 marks).