

**CALIDAD DE SERVICIOS DE RED (TLMG1005)**  
FINAL EXAM – SEMESTER II-2019

**STUDENT:**

**ID:**

*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 las sanciones que disponga la ESPOL hacia mi persona.*

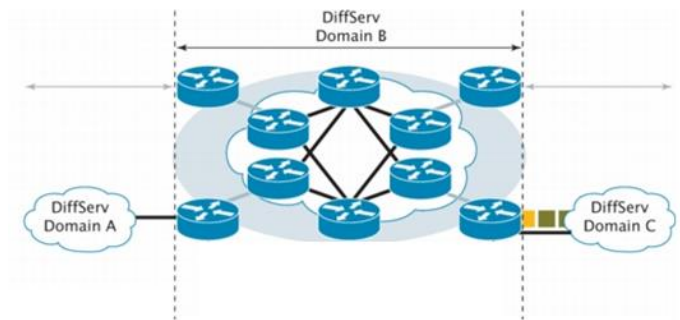
*Student signature:*

*Circle the answer that fits the best among the options given.*

- 1) Which one of the following **is not** related to the traffic control made through integrated services:
  - a) Packet scheduler
  - b) Admission control
  - c) Layer analysis
  
- 2) In integrated services, one of the stages that have to be done previous packet classification is:
  - a) Packet planning
  - b) Resource reservation
  - c) Control policing
  
- 3) In integrated services, one of the features of the packet planning is:
  - a) To identify the traffic flow
  - b) To determine which of the queues is the first is to be conveyed
  - c) To determine what resources are available for the transmission
  
- 4) Which one of the following **is not** approach to the granularity in the integrated services:
  - a) The requirement of per-flow reservations in the network
  - b) The requirement of per-flow admission in the ingress traffic.
  - c) The requirement of per-flow classification at routers
  
- 5) Which one of the following is a characteristic of the queueing and scheduling performance in DiffServ?
  - a) Identify and split traffic into different classes
  - b) Burst controlling through the analysis of conform traffic
  - c) Isolate traffic based on markings

*Provide answers with technical criteria. Each argued answer will pass through an exhaustive revision.*

- 6) In a DiffServ scenario, what is the key feature of a border router that performs traffic conditioner?



- 7) Regarding to Weighted Fair Queueing (WFQ), explain the behavior of the data traffic according to the queue size and the bandwidth available.

8) When applying congestion control in data buffers:

- a) Provide a brief explanation of the performance during transmission.

- b) What are the layers involved in congestion control and flow control?

c) Why the sending rate could be optimal for the transmission of streaming contents?

9) Explain the QoS prioritization process in real-time data networks? Provide a schematic that describes this process.

10) What is the advantage of metering an IP packet stream and marking by coloring (green, yellow, or red)?