

# ECSE-6961:Internet Protocols

## Quiz 3

**Time:** 75 min (strictly enforced)

**Points:** 50

YOUR NAME:

*Be brief, but DO NOT omit necessary detail*

## **True or False? [2\*8 = 16]**

**T or F [0.5 points ]. If false, state the correct explanation/reason. [1.5 pts]. It is a good idea to justify anyway - right ideas earn partial credit.**

**Using SNMPv1 you can download an multi-level MIB sub-tree in one transaction (request+response)**

**With BOOTP, a host can get the OS boot image and a dynamic IP address in a single packet exchange.**

**DHCP can multiplex N addresses among more than N active users (active: currently using IP addresses)**

**T F**

- ❑ ❑ IGMP lets us know whether there is a receiver of a multicast group in a set of subnets**
  
- ❑ ❑ Stateless autoconfiguration in IPv6 involves contacting DHCPv6 servers and using the neighbor discovery procedure**
  
- ❑ ❑ Traffic conditioning, signaling and SLA negotiation are part of the per-hop behaviors (PHBs) supported by interior routers in a differentiated services domain**

**❑ ❑ “Challenge-response” is a technique which can be used to assure integrity of transactions**

**❑ ❑ RMON is a MIB extension which allows collection of subnet-wide statistics**

- **1. [7 pts] IPv6 chose a 128-bit address instead of a 64-bit address. Discuss at least two pros and two cons of this choice.**

- **2. [12 pts] Public key cryptography involves the following concepts: public/private keys, certificate authorities, hash functions, message digests and digital signatures. Briefly explain these concepts and how they combine to offer the properties of authentication, integrity, privacy and non-repudiation.**



- **3) (10 pts) Explain the architectural differences between integrated services and differentiated services. Also describe how each addresses the need for “better-than-best-effort” Internet services ?**



- **4) (5 pts) A CEO's address to shareholders is being multicast over the MBONE. At a high level briefly explain how a receiver joins this multicast group and begins to get data (i.e. explain how do you get through IGMP and Multicast routing and join the transmission)**

