

# CSE 556 Internetworking Fall Semester 2002

Quiz No. 2

October 21, 2002

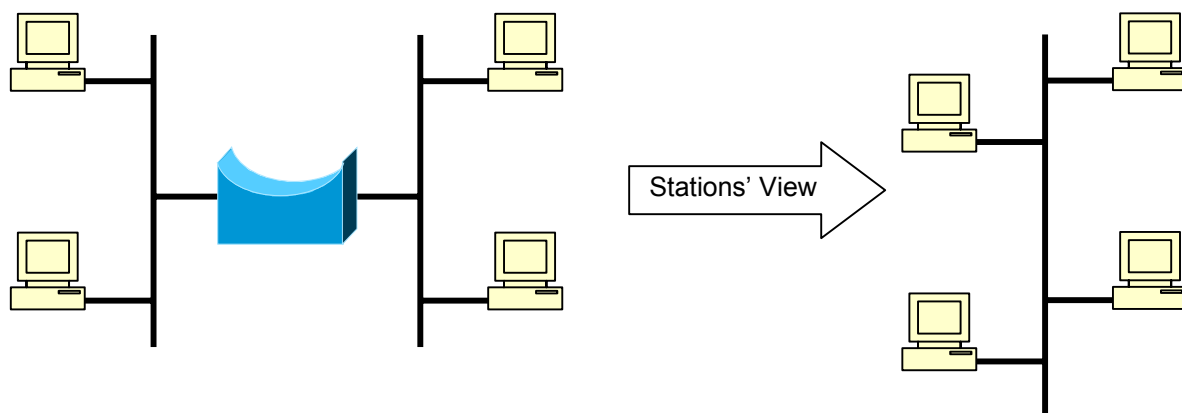
Time Allowed: 15 Minutes

Name: **SOLUTION**

Total: 40 Points (10 Points each)

**Question 1:** What makes a transparent bridge transparent?

The transparent bridge is transparent because it performs its function without the stations being aware of its presence. Neither the bridge nor the stations require any configuration to use the bridge. The bridge is self-learning, it builds up its forwarding table by just looking at the frames being transmitted on the wire. The stations are not even aware that they are communicating by means of the services being provided by the bridge.



**Question 2:** Name the three types of bridges discussed in the class. Only name the types.

**Transparent Bridge** – used to interconnect Ethernet LANs

**Source Routing Bridge** – used to interconnect Token Ring LANs

**Translational Bridge** – used to interconnect dissimilar LANs e.g., Ethernet to Token Ring

**Question 3:** What is the broadcast MAC identifier, in hex and in binary?

Broadcast MAC identifier (hex): FFFFFFFF

Broadcast MAC identifier (binary): 11

FF FF FF FF FF FF

**Question 4:** Why is a MAC address not a true address?

The MAC address is not a true address because, in general, the MAC address, unlike a true address, does not specify the location of a machine to which it belongs. It is only used as an identifier. On the other hand IP addresses have a network portion which is used to locate the network where a host belongs and a host portion which identifies the host within that network. Even though MAC addresses are 48-bits long (longer than 32-bits long IP addresses) so they could be used to create a hierarchical address space whereby the MAC address could be used as a true address. However, in practice the MAC addresses are fixed and assigned to the NIC by the manufacturer. To keep the LAN devices plug and play the MAC address is just used as a unique identifier.