

Computer Networks 1

Lab 1

Network Devices

Student Name:

Student No.:.....

I. Objectives:

- Get to know basic network devices
- Understand functions of network devices
- Able to connect different network devices together to form a simple network

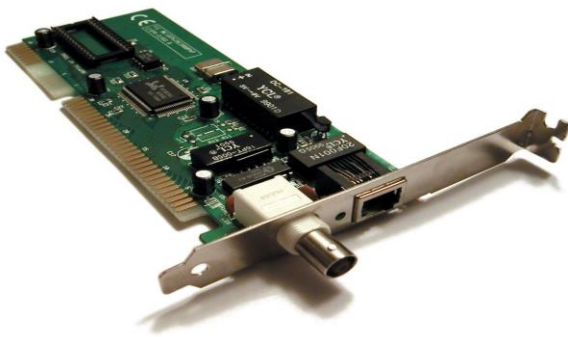
II. Content

1. Get to know network devices:

- ✓ Network Interface Card (NIC)
- ✓ Cables
- ✓ Hub
- ✓ Switches
- ✓ Routers
- ✓ Access Points
- ✓ Modems

2. Understanding functions of network devices

a. Network Interface Card (NIC)



NIC functions:

Code of NIC processors:

Check NIC of a computer, what is its MAC address?

The NIC allows computers to communicate over a computer network, either by using cables or wirelessly. It acts as both physical layer and data link layer device provides physical access to a networking medium and, for IEEE 802 and similar networks, provides a low-level addressing system through the use of MAC addresses that are uniquely assigned to network interfaces.

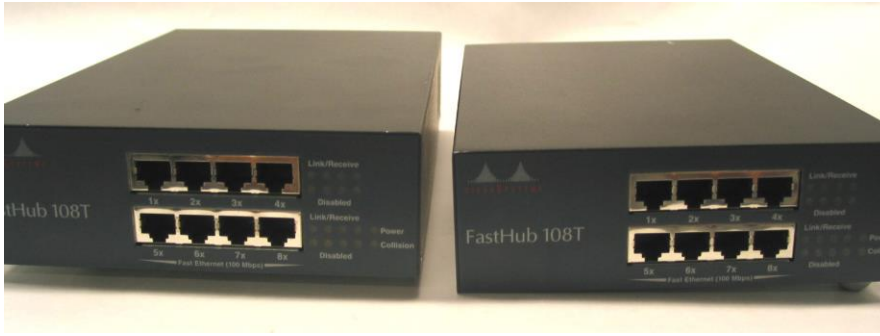


Cable to connect NIC to a network:

Type: _____

Standard: _____

b. Hubs



Roles of hub in a network:

Main characteristics:

Weaknesses of hub:

Hub ports:

c. Switches



Roles of switches in a network:

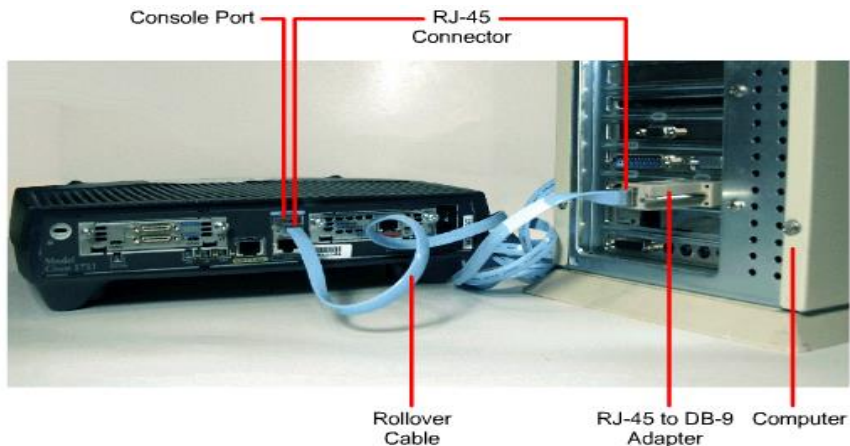
Main characteristics of switches:

Differences between hubs and switches:

Weaknesses of switches:

Switch ports:

d. Routers



Roles of routers in a network:

Main characteristics of routers:

Differences between routers and switches:

Router ports:

d. Access Points



Roles of access points:

Main characteristics of access points:

Access point's interfaces:

Compare access point and other networking devices mentioned above:

e. Modem



Differentiate:

- Dial-up modem
- ADSL Modem
- Cable Modem

For each type of modem describe its roles and characteristics:

3. Connecting network devices:

Identify the type of network cable can be used for below network connections:

- a) Computer and hub _____
- b) Computer and switch _____
- c) Computer and router _____
- d) Computer hub and hub _____
- e) Hub and switch _____
- f) Hub and router _____
- g) Switch and switch _____
- h) Switch and router _____
- k) Router and router _____