**Course Name: O Level (2nd Sem)** **Subject: ICT**

**Topic: Networking O/S and devices** **Date: 19-05-20**

**Networking O/s:** The O/s that is designed specially to work in a networked environment is called Networking O/s. We also call them LAN O/s.

These O/s are different from regular O/s because many components like PDC (Primary Domain Controller), Active Directory, Multicast grouping, Server configuration etc. are given here especially to deal with a networked environment.

Some of the popular LAN O/s are:

1. Windows
    a. Windows NT
    b. Windows 2000 Server
    c. Windows 2003 Server
    d. Windows 2008 Server
    e. Windows 2011 Server
    f. Windows 2013 Server
    g. Windows 2018 Server

2. Linux
    a. Redhat Linux
    b. Fedora
    c. Solaris

**Standard vs Non Standard LANs:** The LAN that is designed on the basis of some predefined standards (rules and regulations by IEEE), is called as a standard LAN. Those that are designed in a generic way without following the guidelines are called Non-Standard LANs.

**For Ex:** A network built on Bluetooth is a standard network whereas a network that is built on USB cable will not be a standard LAN.

**Networking Devices:**

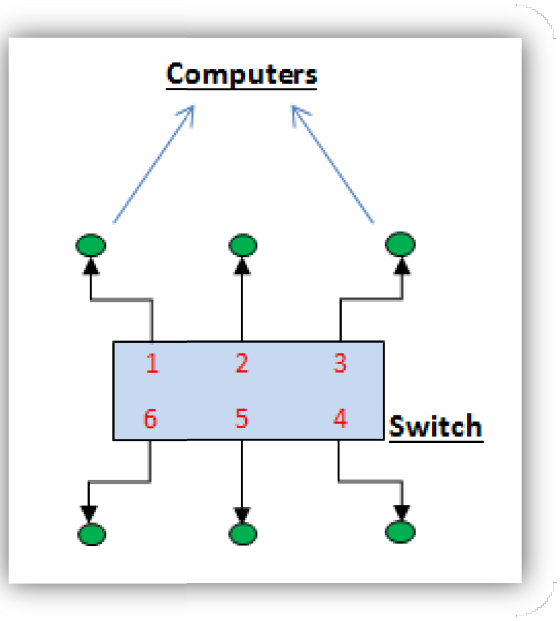
1. Hub
2. Switch
3. Router

4. Bridge
5. Gateway
6. Repeater

**Hub:** Hub is the simplest networking device. It connects many PCs in a star topology network. However all the PCs get all the data because the packets received by a hub, are broadcasted for all machines connected in the network.

**Switch:** Switches are a little smarter than hubs. Instead of just broadcasting packets, switches maintain a list of MAC addresses of all machines connected to them. This list is called switching table and is stored in the memory of switches.

When a packet arrives to a switch, it checks its destination's MAC and then by consulting the switching table it delivers the packet to the targeted machine.




The switching table looks like-

| | |
|---|---|
| 24:00:c3:5f:9a:1d | 1 |
| 24:00:c3:b3:07:bd | 2 |
| 24:00:c3:5a:6a:0d | 3 |
| 24:00:c3:50:00:4c | 4 |
| 24:00:c3:02:39:ff | 5 |
| 24:00:c3:1f:40:cd | 6 |

**Assignments:**

1. What is a LAN O/S? List any three O/S of such type.
2. What is difference between a hub and a switch?