**Week#3**

**Set up a core network**

**Learning objectives:**

A. To get an exposure to core network used in internet.

B. Appreciate the significance of the routers in the core network.

**This session has 2 parts**

**1. Network with two routers.**

**2. Simple network with 3 routers.**

**1. Network with two routers.**



|  |  |  |  |
| --- | --- | --- | --- |
|  | **Do** | **Observe** | Write down / Answer the question |
| 1 | **Create the topology given** |  |  |
| 2 | Do the Configurations properly |  |  |
| 3 | Enter Gateway addresses carefully.  Eg: at PC0 1.1.1.1  At PC3 2.2.2.1 |  |  |
| 4 | Configure Routing Table  At Router R0:  Go to ‘config’  Select ‘Static’  Enter the following:  Network: 2.0.0.0  Mask 255.0.0.0  Next hop 3.3.3.2  Go to settings and save |  |  |
| 5 | Similarly configure R1 |  | **Network: 1.0.0.0**  **Mask 255.0.0.0**  **Next hop 3.3.3.1** |
| 6 | Ping from any PC to any other |  | **Note the results**  **Ans : Successful** |

***Standing instruction :***

***1. Whenever Router is configured, don’t forget to save. Reason is when the network is reset clicking POWER CYCLE DEVICES, configuration will be lost, if you have not saved.***

***2. In order to know the port labels, select OPTIONS , and select ‘preferences’ and then ‘show always port labels.***

**2.Network with 3 routers.**



**Configure the network as above [ IP addresses and Gateway addresses ]**

**Configure the routing table : Note that, in every router, you should enter the details of 2 destination networks.**

**For example, at Router R0:**

**Network 2.0.0.0**

**Mask 255.0.0.0**

**Nexthop 3.3.3.2**

**Network 6.0.0.0**

**Mask 255.0.0.0**

**Nexthop 3.3.3.2**

**SAVE Details entered**

**Check connectivity and record the details.**

**Ans : Every Ping is successful**

**at Router R1:**

**Network 1.0.0.0 Network 6.0.0.0**

**Mask 255.0.0.0 Mask 255.0.0.0**

**Nexthop 3.3.3.1 Nexthop 5.5.5.1**

**at Router R2:**

**Network 2.0.0.0 Network 1.0.0.0**

**Mask 255.0.0.0 Mask 255.0.0.0**

**Nexthop 5.5.5.2 Nexthop 5.5.5.2**