**Lab 3 [Router and Routing Table]**

**Outline:**

1. Introducing a router for communication outside the network
2. Basic router configurations
3. Viewing routing table
4. Default Gateway implementation

**Tasks:**

1. Create two networks each with one switch and five PCs.
2. Name switch 1 as “SystemsLabSwitch” and switch 2 as “ProgrammingLabSwitch”.
3. Take a router and connect the switches with its ethernet ports using suitable cables.
4. Configure the router: hostname “RCET”, setup password for configuration mode, assign IP addresses to the used ports for both switches. Save the configurations as: *Router# copy running-config startup-config.* Current interfaces status can be viewed using: *Router# show ip interface brief* and running configurations using: *Router# show running-config*
5. Setup the networks with following configurations.

|  |  |  |  |
| --- | --- | --- | --- |
| **Networks** | **Gateway** | **Switch Ids** | **Host Ids** |
| ProgrammingLabSwitch | 220.168.10.1 (255.255.255.0) | 220.168.10.2 (255.255.255.0) | 220.168.10.3 and onward |
| SystemsLabSwitch | 220.168.20.1 (255.255.255.0) | 220.168.20.2 (255.255.255.0) | 220.168.10.3 and onward |

1. Use *show ip route* command to view routing table in router.
2. Use ping command to test the connections by pinging different nodes over the LAN as well as WAN.