**Computer Networking Lab**

**Experiment – 7**

**Title: Configuration of IPv4 addresses using Packet Tracer**

All the steps performed:

1. Take two routers(1941). Name them R1 and R2 respectively.
2. Take one switch(2960-24TT). Name it S1.
3. Take one entry device(PC).
4. Add WAN interface cards to both the routers.
5. For connectivity use Copper straight-through. From R2 connect from GigabitEthernet 0/0 to S1 GigabitEthernet 0/1. From S1 connect to PC0.
6. For connectivity between R1 and R2, use Serial DCE. Connect from R1 Serial 0/0/0 to R2 Serial 0/0/0.
7. Label the ports.
8. Mark two networks.
9. For one network use network address as 10.1.1.0/24. For another one use 172.16.1.0/30.

10)Configure the IP address of PC0. Go to IP configurations, set the ip as 10.1.1.10, set the subnet mask as 255.255.255.0, set the default gateway as 10.1.1.1.

11)Configure the ip address for the interface GigabitEthernet 0.0. Use the command `interface gigabitEthernet 0/0`. To set the ip address use the command `ip address 10.1.1.1 255.255.255.0`.

12)Exit out of the configure terminal and save the changes by running the command `copy running-config startup-config`. Verify the configuration using the command `show running-config`. Also we can verify using `ip interface brief`.

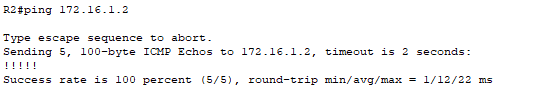
13)For enabling the GigabitEthernat 0/0 interface use the `no shutdown` command.

14)Verify the connectivity using ping to the gateway 10.1.1.1

15)Configure R2, set the ip address to 172.16.1.1 and subnet mask to 255.255.255.252. Give the `no shutdown` command.

16)Configure R1. set the ip address to 172.16.1.2 and subnet mask to 255.255.255.252. Give the `no shutdown` command.

17)Ping the router R1 from R2 using ping command. It will show success rate as 100 percent.



Q2.

192.168.10.0

/25

X.X.X.10000000

No. of Subnets = 2^1 = 2

No. of Hosts/Subnet = 2^7 = 128

Valid subnets = 256-128 = 128 0 & 128

Broadcast address for each subnet = 127 & 255

Valid Hosts = 1 to 126 (Subnet 0)

129 to 254 (Subnet 128)

1)Set PC0 ip address to 192.168.10.1, subnet mask to 255.255.255.128 and default gateway to 192.168.10.4.

2)Set PC1 ip address to 192.168.10.2, subnet mask to 255.255.255.128 and default gateway to 192.168.10.4.

3)Set PC2 ip address to 192.168.10.3, subnet mask to 255.255.255.128 and default gateway to 192.168.10.4.

4)Set PC3 ip address to 192.168.10.129, subnet mask to 255.255.255.128 and default gateway to 192.168.10.132.

5)Set PC4 ip address to 192.168.10.130, subnet mask to 255.255.255.128 and default gateway to 192.168.10.132.

6)Set PC5 ip address to 192.168.10.131, subnet mask to 255.255.255.128 and default gateway to 192.168.10.132.

)Set Router’s GigabitEthernet0/0 ip address to192.168.10.4 and subnet mask to 255.255.255.128.

)Set Router’s GigabitEthernet0/0 ip address to192.168.10.132 and subnet mask to 255.255.255.128.

) To check connectivity open command prompt of PC0 and ping 192.168.10.131.