PRACTICAL – 10 (a)

AIM :

Internetworking with routers in CPT simulator.

Design and configure as simple internetworking using a router

In this network a router and 2PCs are used. Computers are connected with routers using a copper straight through cable.

Procedure :

Step–1 (Configure Router i) :

1. Select the router and OPEN CLT
2. Press Enter to start Configuring Router 1
3. Type enable to activate the priviledged mode.

Step–2 (Configuring PC's) :

1. Assign IP addresses to every PC in the network.
2. Go to desktop and select IP Config and IP address
3. Assign the default gateway of PCO as 192.168.10.1

4) Assign the default gateway of PC1
as 192.168.20.1

step-3 (connecting PCs with Router):

1. Connect Fast Ethernet(0) port of
PC0 with Fast Ethernet 0/0 port of
R1 using Copper cable.
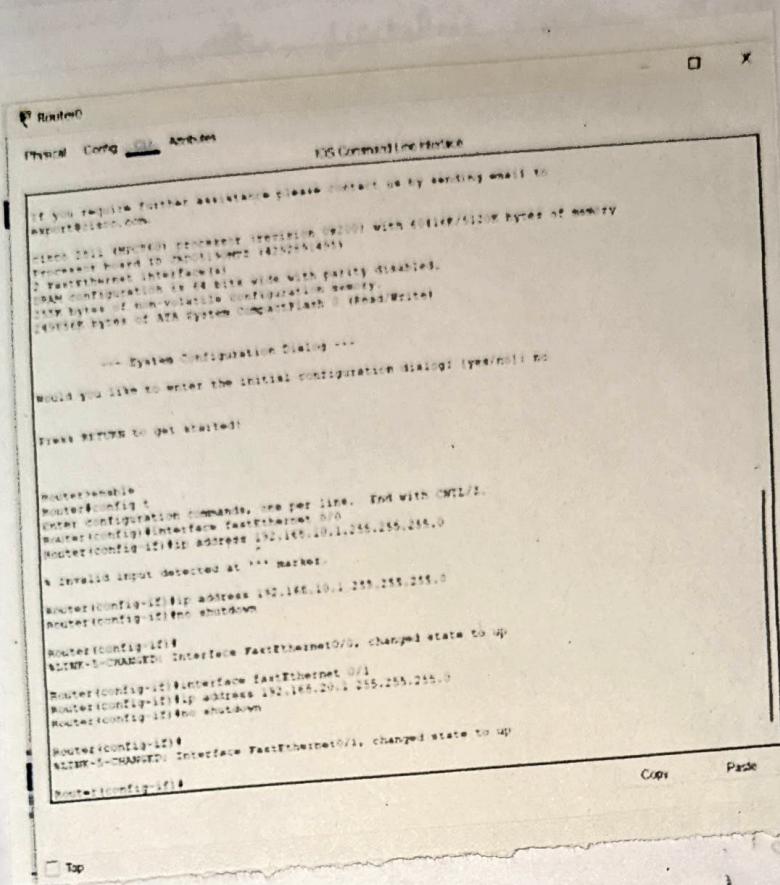
2. Similarly do the same for
port of PC1

Router Configur Table:
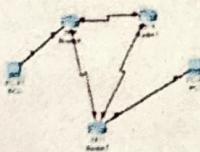
Device Name	IP addr Fast Eth 0/0	subnet mask	IP addr F. Eth 0/1	Subnet mask
Router 1	192.168-10.1	255. 255. 255.0	192.168. 20.1	255.255.255

PC Configuration Table:

Device name	IP address	subnet mask	Gateway
PC0	192.168.10.2	255.255.255.0	192.168.10.1
PC1	192.168.20.2	255.255.255.0	192.168.20.1

```
RouterO

Physical  Config  ___  Attributes

                    IOS Command Line Interface

If you require further assistance please contact us by sending email to
export@cisco.com.

Cisco 2811 (MPC860) processor (revision 0x200) with 60416/65536 bytes of memory
Processor board ID FHK0524W03H (425255455)
2 FastEthernet interface(s)
DRAM configuration is 64 bits wide with parity disabled.
239K bytes of non-volatile configuration memory.
249760 bytes of ATA System CompactFlash 0 (Read/Write)

        --- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>enable
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface fastEthernet 0/0
Router(config-if)#ip address 192.168.10.1.255.255.255.0

% Invalid input detected at '^' marker.

Router(config-if)#ip address 192.168.10.1 255.255.255.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

Router(config-if)#interface fastEthernet 0/1
Router(config-if)#ip address 192.168.20.1 255.255.255.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

Router(config-if)#
```

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PRACTICAL- 10 (b)

AIM :

Design an configure internetworks using wireless router, DHCP server and internet colad.

Part 1 :

Build a simple network in the logical Topology workspace.

Step 1 :

Launch Packet Tracer.

step 2 :

Build the Topology

a) Add network devices to workspace

b) Change display names of the network devices.

c) Add the physical cabling between devices on the workplace.

Part 2 :

Configure the Network devices.

step 1 :

Configure the wireless router

a. Create the wireless network

on the wireless router

Configure the internet connection

... on the wireless router, click setup tab in the wireless GUI.

b. Click on the Save Setting tab

Step 2: Configure the laptop

    a. Configure the Laptop to access the wireless network.

    b. Click on the Desktop tab at the top and select the PC wireless icon

Step 3: configure the PC

    a. Configure the PC for the wired network

Step 4: Configure the Internet cloud

    a. Install modules if necessary

    b. Identify the 'from' & 'to' ports

    c. Identify the type of provider

Step 5: Configure the Cisco.Com Server

    a. Configure the Cisco. Com server as a DHCP server.

    b. Configure the Cisco. Com server as a DNS server to provide domain name to IPv4 address resolution

    c. Configure the Cisco. Com server global settings.

d.) Configure the Cisco.com server Fast Elernet () Interface settings in

Part 3: Verify Connectivity

Step 1: Refresh the IR4 settings on the PC

a) Verify that the PC is receiving IPv4 Configuration information from DHCP

b) Test Connectivity to Cisco.com server from the PC.

Student observation:

Question 1:

Key features of Configuting a wireless router and DHCP server.

Answer:
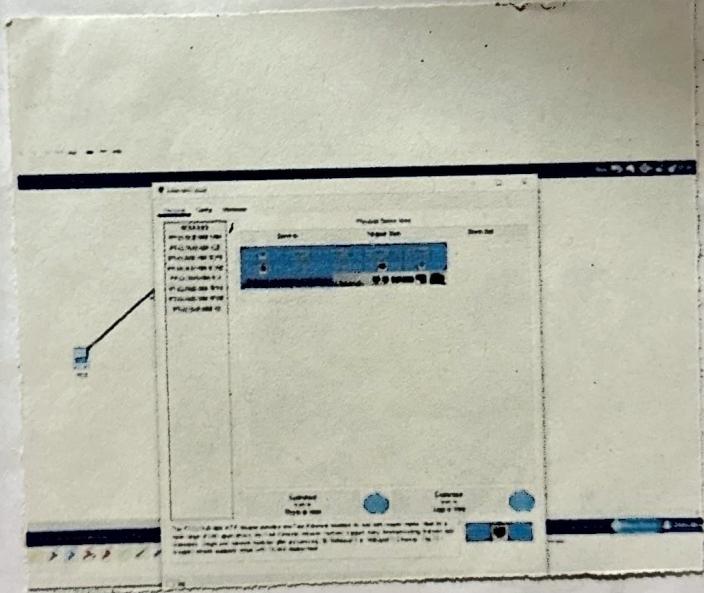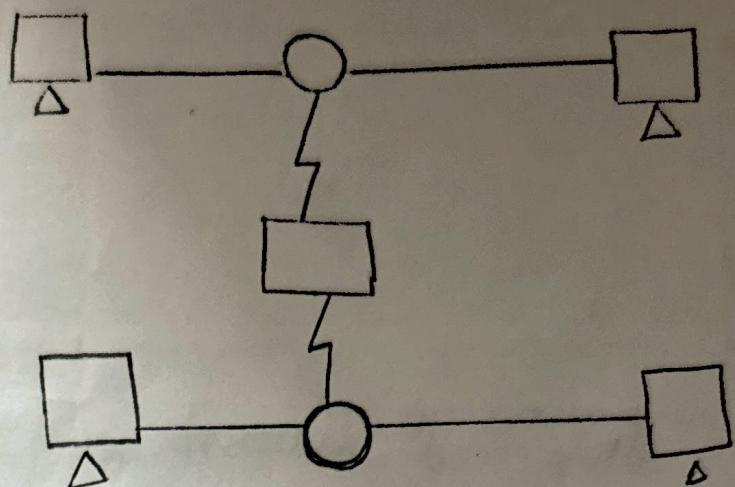
→ Wireless Router Configuration

→ DHCP server Configuration

Question 2:

Significance of DHCP in internetworking

→ Elimination manual configuration

→ Prevents IP address conflicts

→ Enables scalability & Mobility

Question 3 :

Design of lab inter - network

Result :

thus the internetworking was performed suceessfully.