Part 1:-

Step 1: Launch Packet Tracer

Step 2: Build the Topology.

(a) Add Network devices to the workspace.

(b) Change display names of the network devices.

(c) Add the physical cabling between devices on the workspace.

Part 2:-

Step 1:- Configure the wireless router.

(a) Create the wireless network on the wireless router.

(b) Click on the Save Settings tab

Step 2: Configure the Laptop

(a) Configure the Laptop to access the wireless network.

Step 3: configure the PC.

(a) Configure the PC for the wired network.

Step 4: Configure the Internet cloud.

(a) Install network modules if necessary.

(b) Identify the From and To ports.

(c) Identify the type of provider.

Step 5: Configure the cisco.com Server.

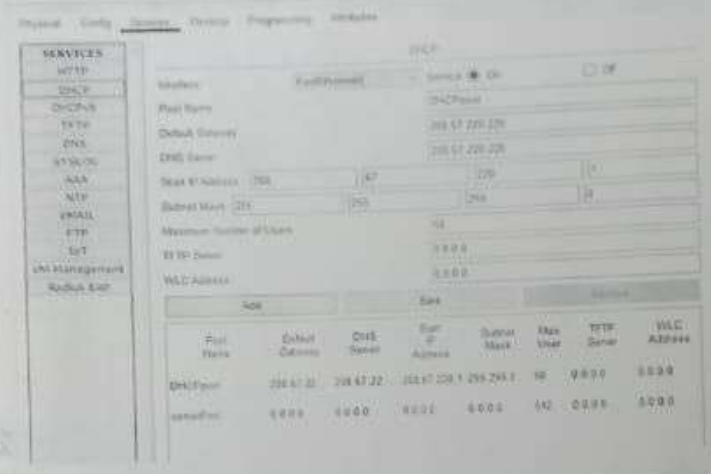
(a) configure the cisco.com Server as a DHCP Server

(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 FastEthernet 0 Interface Settings.



Part 3:- Verify Connectivity

Step 1:- Refresh the IPv4 Settings on the PC.

(a) Verify that the PC is Receiving IPv4 configuration information from DHCP.

(b) Test Connectivity to the cisco.com Server from PC.

```
C:\>ping 192.168.0.1

Pinging 192.168.0.1 with 32 bytes of data:

Reply from 192.168.0.1: bytes=32 time=26ms TTL=255
Reply from 192.168.0.1: bytes=32 time=9ms TTL=255
Reply from 192.168.0.1: bytes=32 time=6ms TTL=255
Reply from 192.168.0.1: bytes=32 time=11ms TTL=255

Ping statistics for 192.168.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 6ms, Maximum = 26ms, Average = 13ms
```

Student observation :-

1) write down the Key Features of configuring Wireless router & DHCP Server.

Wireless router configuration includes setting SSID, Security Key, IP rang, and enabling DHCP for automatic IP Assignment

2) what is the significance of DHCP Server in internetworking?

DHCP Server simplifies internetworking by automatically assigning IP addresses, reducing manual configuration errors.

3) Design & configure an inter-network in your lab using Switch, router and Ethernet cables.

A Network was designed using a router, Switch & PCs connected via Ethernet cables, each device configured with unique IP Addresses for communication.

Result :-

The internetwork was successfully designed and configured using a wireless router, DHCP Server, and internet cloud.