Practical 8

AIM:-

b) Configuration of Wireless LAN using CISCO Packet Tracer.

Procedure:

Step 1: Open Cisco Packet Tracer and Set Up Devices

1. Open Cisco Packet Tracer and start a new project.

2. Add Devices:

   o Router: Drag a wireless router (e.g., WRT300N or WRT300N-PT) onto the workspace.

   o Access Points: You may add a wireless access point (optional if using a wireless router).

   o PCs and Laptops: Add at least one PC and one Laptop to the workspace.

   o Mobile Devices (optional): Add a smartphone or tablet to connect to the WLAN.

Step 2: Connect Devices to the Router

1. Connect Wired PC:

   o Use Copper Straight-Through cables to connect any wired PCs to the Ethernet ports of the router.

2. Configure Laptops and Mobile Devices for Wireless:

   o Click on the Laptop and go to Physical tab.

   o Remove the Wired Network Adapter (if present).

   o Add a Wireless Network Adapter (e.g., PT-Laptop-NM-1W for wireless capability).

Step 3: Configure the Wireless Router

1. Enter Router Configuration:

- Click on the wireless router > GUI tab.

2. **Set Basic Wireless Settings:**

    - Under the Setup or Wireless section:

        ▪ Network Mode: Set to Mixed (to support multiple device types).

        ▪ SSID: Set a network name (e.g., MyWirelessNetwork).

        ▪ Channel: Leave as default, or select a specific channel to reduce interference.

        ▪ SSID Broadcast: Enable this to make the network visible to devices.

3. **Configure Wireless Security:**

    - Under the Wireless Security section:

        ▪ Security Mode: Set to WPA2 Personal (recommended for security).

        ▪ Passphrase: Set a Wi-Fi password (e.g., SecurePassword123).

    - Save settings.

Step 4: Configure IP Settings (Optional)

1. Enable DHCP:

    - In the Setup > Basic Setup section of the router, ensure DHCP is enabled.

    - Set a Starting IP Address for clients (e.g., 192.168.1.100) and define the range.

    - Save Settings.

Step 5: Configure Wireless Devices

1. Configure Laptop Wireless Settings:

    - Click on the Laptop > Desktop > PC Wireless.

    - Click Connect or Refresh to detect available networks.

- Select MyWirelessNetwork and click Connect.

- Enter the Wi-Fi password (SecurePassword123).

- Obtain IP: Go to IP Configuration to verify that the laptop has received an IP address from the router's DHCP.

2. **Configure Mobile Device Wireless Settings:**

- Click on the Mobile Device > Config > Wireless0.

- Select SSID as MyWirelessNetwork.

- Enter the password (SecurePassword123) and apply changes.

Step 6: Test Connectivity

1. Ping the Router:

- Go to Simulation Mode in Packet Tracer.

- Use the Ping tool on the laptop or mobile device to ping the router's IP address (usually 192.168.1.1).

2. Ping Other Devices:

- Try pinging from the wireless laptop to the wired PC or other connected devices to confirm successful WLAN configuration and connectivity.

Step 7: Save the Configuration

1. Save Your Project:

- Go to File > Save to save the network configuration in Packet Tracer.

OUTPUT:

PC-PT
PC0

PC-PT
PC2

PC-PT
PC1

WRT300N
Wireless Router0