

## Assignment - 04

**Aim:** To configure and test static routing.

**Objectives:** Configuring and verifying two routers connection using static routing.

**Devices Needed:**

Sl no.	Device	Model	Qty
01	PC	PC-PT	04
02	Switch	2950T	02
03	Router	Router-PT	02

**Steps:**

- (1) First select all devices mentioned in the table and create a network topology as shown in the diagram.
- (2) Configure the PCs with IP address and subnet mask according to the given table.
- (3) Now configure routers with IP address and subnet mask.
- (4) To configure static routing use Route → static :  
 In Router 6 : Network : 192.168.3.0  
 Mask : 255.255.255.0  
 Next Hop : 192.168.2.2

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In Router 7: Network: 192.168.1.0

Mask: 255.255.255.0

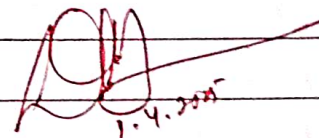
Next Hop: 192.168.2.1

- 5) Verify the network by pinging the IP address of a pc in another network.

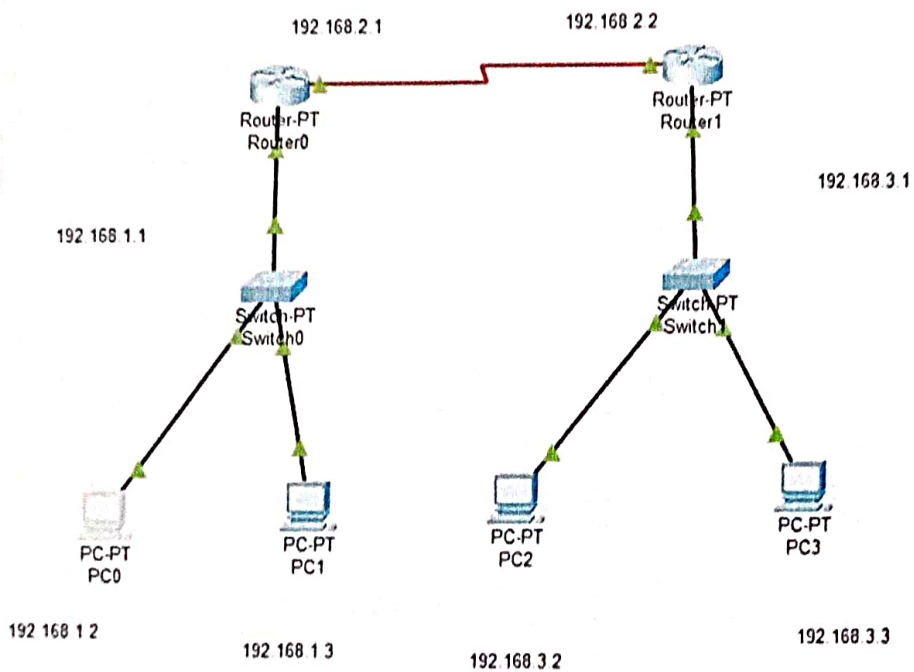
In PC4 : command prompt

⇒ ping 192.168.3.2

- 6) End.

  
1.4.2025

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## Assignment - 05

- Aim  $\Rightarrow$  To configure and test dynamic routing.
- Objectives  $\Rightarrow$  Configuring and testing two router connection using RIP Routing Algorithm (Dynamic Routing)
- Devices Needed  $\Rightarrow$  All required devices along with their IP configuration are listed below :

	SL	Device	Interface	IP Address	Gateway Address
	01	PC0	Fast Ethernet	192.168.1.2	192.168.1.1
	02	PC1	Fast Ethernet	192.168.1.3	192.168.1.1
	03	PC2	Fast Ethernet	192.168.3.2	192.168.3.1
	04	PC3	Fast Ethernet	192.168.3.3	192.168.3.2
	05	Switch0	Fast Ethernet		
	06	Switch1	Fast Ethernet		
	07	Router0	" / Serial DTE	192.168.1.1 / 192.168.2.1	
	08	Router1	" / Serial DTE	192.168.2.2 / 192.168.3.1	

- Steps

- (1) First, open the Cisco packet tracer desktop and select the devices given below.

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Cisco Packet Tracer PC Command Line 1.0  
C:\>ping 192.168.3.2

Pinging 192.168.3.2 with 32 bytes of data:

Request timed out.

Reply from 192.168.3.2: bytes=32 time=1ms TTL=126

Reply from 192.168.3.2: bytes=32 time=3ms TTL=126

Reply from 192.168.3.2: bytes=32 time=15ms TTL=126

Ping statistics for 192.168.3.2:

Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),  
Approximate round trip times in milli-seconds:

Minimum = 1ms, Maximum = 15ms, Average = 6ms



- (2) After creating topology, connect cables between them.
- (3) Configure PCs (hosts) with IPv4 and subnet mask according to the IP Addressing.

SL	Device	Interface	IP Address	Subnet Mask
01	Router 0	FastEthernet 0/0	192.168.1.1	255.255.255.0
		Serial 2/0	192.168.2.1	255.255.255.0
02	Router 1	FastEthernet 0/0	192.168.3.1	255.255.255.0
		Serial 2/0	192.168.2.2	255.255.255.0

- (4) After this click on Routing tab at Router 0 and add RIP Routes for Router 0 : 192.168.1.0 and 192.168.2.0
- (5) Similarly click on Router 1 ' Routing tab and add RIP Routes for Router 1 : 192.168.2.0 and 192.168.3.0
- (6) Verify the network, by opening PC0's command prompt under desktop tab and pinging IP address of any PC in other network (eg. 192.168.3.2).
- (7) End.



A screenshot of a Windows 10 taskbar. On the left, there is a search bar with a magnifying glass icon and the word "Search". To its right are several pinned application icons: File Explorer, Microsoft Edge, a folder icon, a game controller icon, a speech bubble icon, a mail icon, a calendar icon, a clock icon, and a globe icon. On the far right, the system tray shows a weather widget displaying "28°C Clear", a language indicator for "ENG IN", a network status icon, a volume icon, and a clock showing "6:27 AM 4/28/2025".



## Assignment - 06

### Analysis

■ Aim: Network Traffic Using Wireshark

■ Objectives: 1) Installing and configuring Wireshark.  
2) Capture and Analyze live network traffic.

■ Requirements: 1) Wired LAN connection.  
2) Wireshark software.  
3) Computer.

■ Steps:

1. Installation & Setup: Install Wireshark & Npcap (for windows).

2. Capturing Packets: • Launch Wireshark, it will show available network interfaces and an empty capture window.

- Go to Capture > options.
- Select Ethernet Interface
- Uncheck "Hide capture info dialog".
- Click start to begin packet capture.


3. Generate Network Traffic: Open a web page, after the page fully loads click on "stop" in Wireshark.



4. Analyzing Traffic : Now view details of Ethernet, IP, TCP and HTTP Layers.

To identify a specific protocol click on filter.

5. End.

  
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