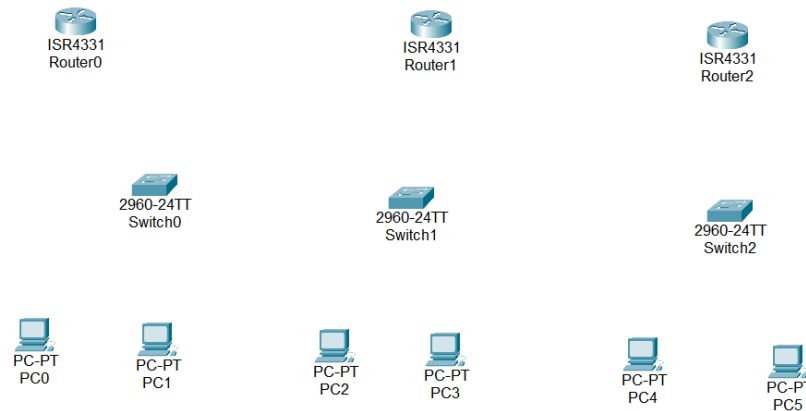
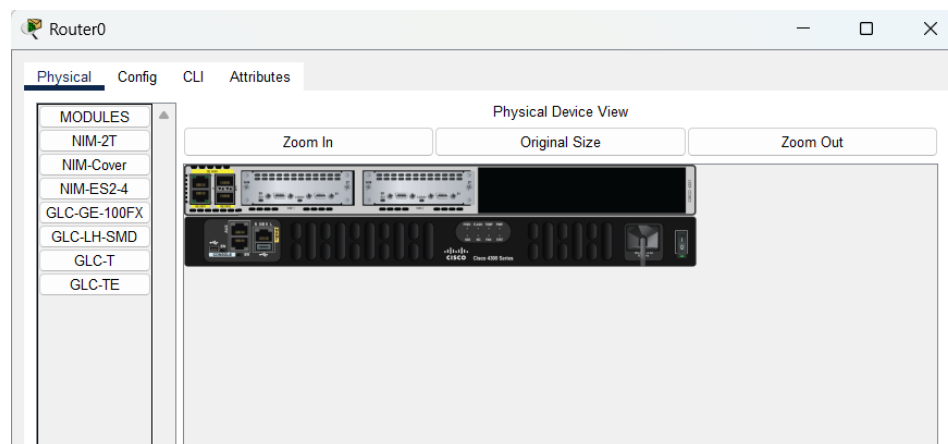
 Marwadi University Marwadi Chandarana Group	Marwadi University Faculty of Engineering and Technology Department of Information and Communication Technology	
Subject: Computer Networks (01CT0503)	Aim: Perform dynamic routing protocol (RIP) and analyze the results.	
Experiment No: 06	Date: 22-09-2025	Enrolment No: 92301733024

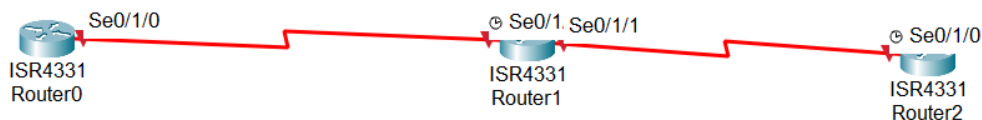
Step – 1:- Open the Cisco Packet tracer and take three routers, three switch and six PC's.




Step – 2 :- To long distance communication we need to connect router using Serial DTE cable. For the serial port we have to open router turn off it and drag and drop WIC-1T on router and turn on router.

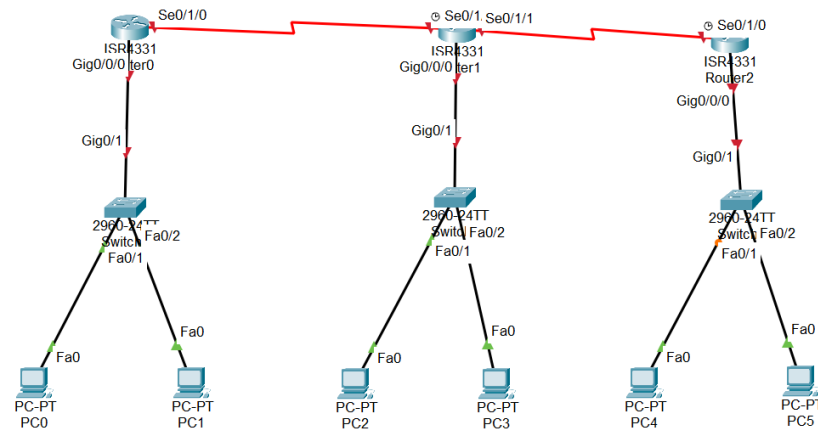


Step – 3 :- Now Connect Two Routers Using Serial DTE Cable.



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Step – 4 :- Now Connect the Switches with routers using Copper Straight through cable In GigaEthernet Port. And Connect PC's with Switches using copper Straight through cab



Step – 5:- Now assign the IP address And Subnet mask and Gateway to all PC's.

PC0
Physical Config Desktop Programming Attributes
IP Configuration
Interface FastEthernet0
IP Configuration
☐ DHCP
☒ Static
IPv4 Address 192.168.1.1
Subnet Mask 255.255.255.0
Default Gateway 192.168.1.100
DNS Server 0.0.0.0


PC1
Physical Config Desktop Programming Attributes
IP Configuration
Interface FastEthernet0
IP Configuration
☐ DHCP
☒ Static
IPv4 Address 192.168.1.2
Subnet Mask 255.255.255.0
Default Gateway 192.168.1.100
DNS Server 0.0.0.0

PC2
Physical Config Desktop Programming Attributes
IP Configuration
Interface FastEthernet0
IP Configuration
☐ DHCP
☒ Static
IPv4 Address 192.168.2.1
Subnet Mask 255.255.255.0
Default Gateway 192.168.2.100
DNS Server 0.0.0.0

PC3
Physical Config Desktop Programming Attributes
IP Configuration
Interface FastEthernet0
IP Configuration
☐ DHCP
☒ Static
IPv4 Address 192.168.2.2
Subnet Mask 255.255.255.0
Default Gateway 192.168.2.100
DNS Server 0.0.0.0

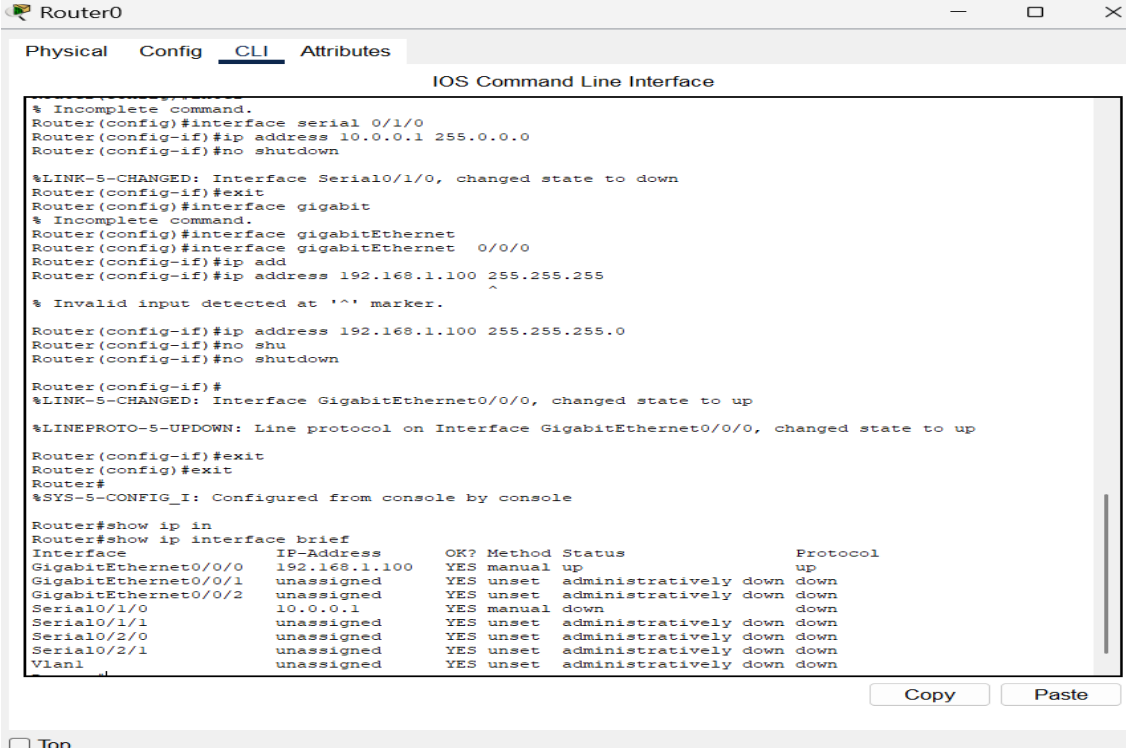
PC4
Physical Config Desktop Programming Attributes
IP Configuration
Interface FastEthernet0
IP Configuration
☐ DHCP
☒ Static
IPv4 Address 192.168.3.1
Subnet Mask 255.255.255.0
Default Gateway 192.168.3.100
DNS Server 0.0.0.0

PC5
Physical Config Desktop Programming Attributes
IP Configuration
Interface FastEthernet0
IP Configuration
☐ DHCP
☒ Static
IPv4 Address 192.168.3.2
Subnet Mask 255.255.255.0
Default Gateway 192.168.3.100
DNS Server 0.0.0.0

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Step – 6:- Assign IP Address to Routers

Router – 0 :-



```

Router0
Physical Config CLI Attributes
IOS Command Line Interface

% Incomplete command.
Router(config)#interface serial 0/1/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial0/1/0, changed state to down
Router(config-if)#exit
Router(config)#interface gigabit
% Incomplete command.
Router(config)#interface gigabitEthernet
Router(config)#interface gigabitEthernet 0/0/0
Router(config-if)#ip add
Router(config-if)#ip address 192.168.1.100 255.255.255.0
Router(config-if)#ip address 192.168.1.100 255.255.255.0
Router(config-if)#no shu
Router(config-if)#no shutdown

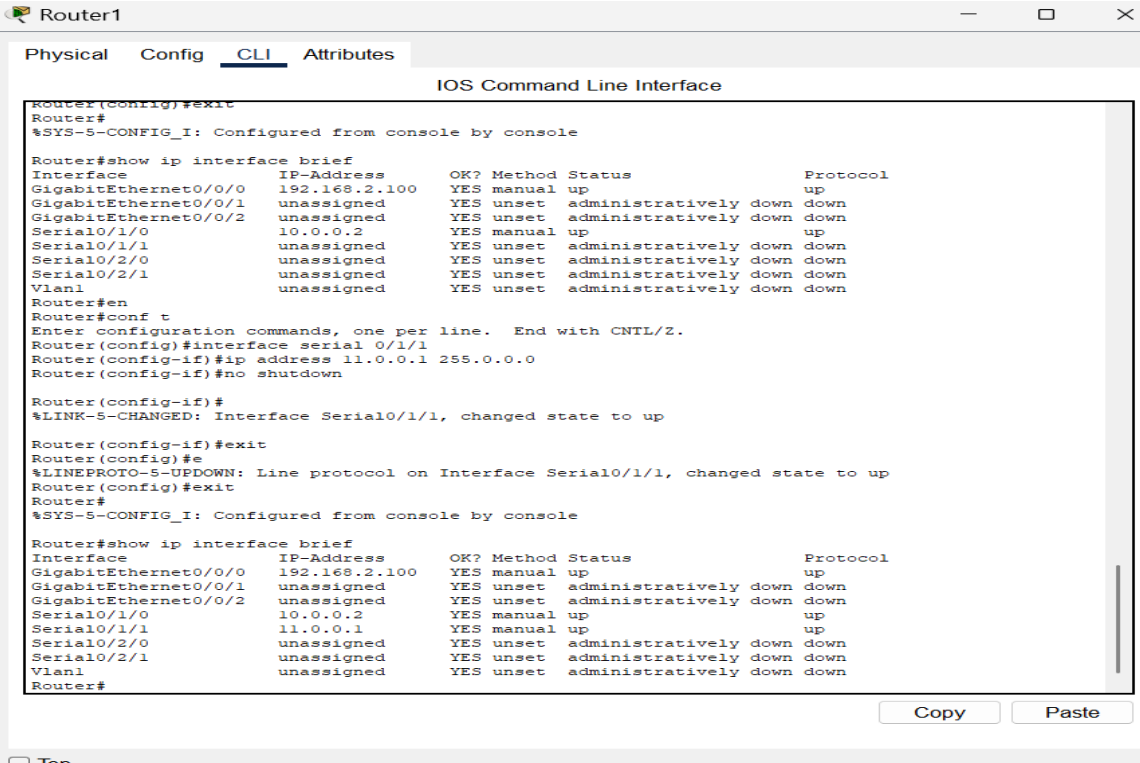
Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0, changed state to up

Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#show ip in
Router#show ip interface brief
Interface IP-Address OK? Method Status Protocol
GigabitEthernet0/0/0 192.168.1.100 YES manual up up
GigabitEthernet0/0/1 unassigned YES unset administratively down down
GigabitEthernet0/0/2 unassigned YES unset administratively down down
Serial0/1/0 10.0.0.1 YES manual down down
Serial0/1/1 unassigned YES unset administratively down down
Serial0/2/0 unassigned YES unset administratively down down
Serial0/2/1 unassigned YES unset administratively down down
Vlan1 unassigned YES unset administratively down down

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```

Router – 1 :-



```

Router1
Physical Config CLI Attributes
IOS Command Line Interface

Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#show ip interface brief
Interface IP-Address OK? Method Status Protocol
GigabitEthernet0/0/0 192.168.2.100 YES manual up up
GigabitEthernet0/0/1 unassigned YES unset administratively down down
GigabitEthernet0/0/2 unassigned YES unset administratively down down
Serial0/1/0 10.0.0.2 YES manual up up
Serial0/1/1 unassigned YES unset administratively down down
Serial0/2/0 unassigned YES unset administratively down down
Serial0/2/1 unassigned YES unset administratively down down
Vlan1 unassigned YES unset administratively down down


Router#en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface serial 0/1/1
Router(config-if)#ip address 11.0.0.1 255.0.0.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/1, changed state to up

Router(config-if)#exit
Router(config)#e
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/1, changed state to up
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#show ip interface brief
Interface IP-Address OK? Method Status Protocol
GigabitEthernet0/0/0 192.168.2.100 YES manual up up
GigabitEthernet0/0/1 unassigned YES unset administratively down down
GigabitEthernet0/0/2 unassigned YES unset administratively down down
Serial0/1/0 10.0.0.2 YES manual up up
Serial0/1/1 11.0.0.1 YES manual up up
Serial0/2/0 unassigned YES unset administratively down down
Serial0/2/1 unassigned YES unset administratively down down
Vlan1 unassigned YES unset administratively down down

Router#
Copy Paste
Top
  
```

 Marwadi University Marwadi Chandarana Group	Marwadi University Faculty of Engineering and Technology Department of Information and Communication Technology	
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Experiment No: 06	Date: 22-09-2025	Enrolment No: 92301733024

Router – 2 :-

```

Router#en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface serial 0/1/0
Router(config-if)#ip add
Router(config-if)#ip address 11.0.0.2 255.0.0.0
Router(config-if)#no shut down
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#interface giga
Router(config)#interface gigabitEthernet 0/0/0
Router(config-if)#ip add
Router(config-if)#ip address 192.168.3.100
% Incomplete command.
Router(config-if)#ip address 192.168.3.100 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#show ip interface brief
Interface                IP-Address      OK? Method Status          Protocol
GigabitEthernet0/0/0     192.168.3.100   YES manual up              up
GigabitEthernet0/0/1     unassigned      YES unset  administratively down down
GigabitEthernet0/0/2     unassigned      YES unset  administratively down down
Serial0/1/0              11.0.0.2        YES manual up              up
Serial0/1/1              unassigned      YES unset  administratively down down
Serial0/2/0              unassigned      YES unset  administratively down down
Serial0/2/1              unassigned      YES unset  administratively down down
Vlan1                    unassigned      YES unset  administratively down down
Router#

```

Step – 7:- now we will configure router for RIP Protocol.

Router - 0

```

Router#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#rou
Router(config)#router rip
Router(config-router)#ver
Router(config-router)#version 2
Router(config-router)#net
Router(config-router)#network 192.168.1.100
Router(config-router)#net
Router(config-router)#network 10.0.0.0
Router(config-router)#end
Router#
%SYS-5-CONFIG I: Configured from console by console

```


Router – 1 :-

```

Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#rou
Router(config)#router rip
Router(config-router)#ver
Router(config-router)#version 2
Router(config-router)#network 192.168.2.100
Router(config-router)#network 10
^
% Invalid input detected at '^' marker.

Router(config-router)#network 10.0.0.0
Router(config-router)#network 11.0.0.0
Router(config-router)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console

```

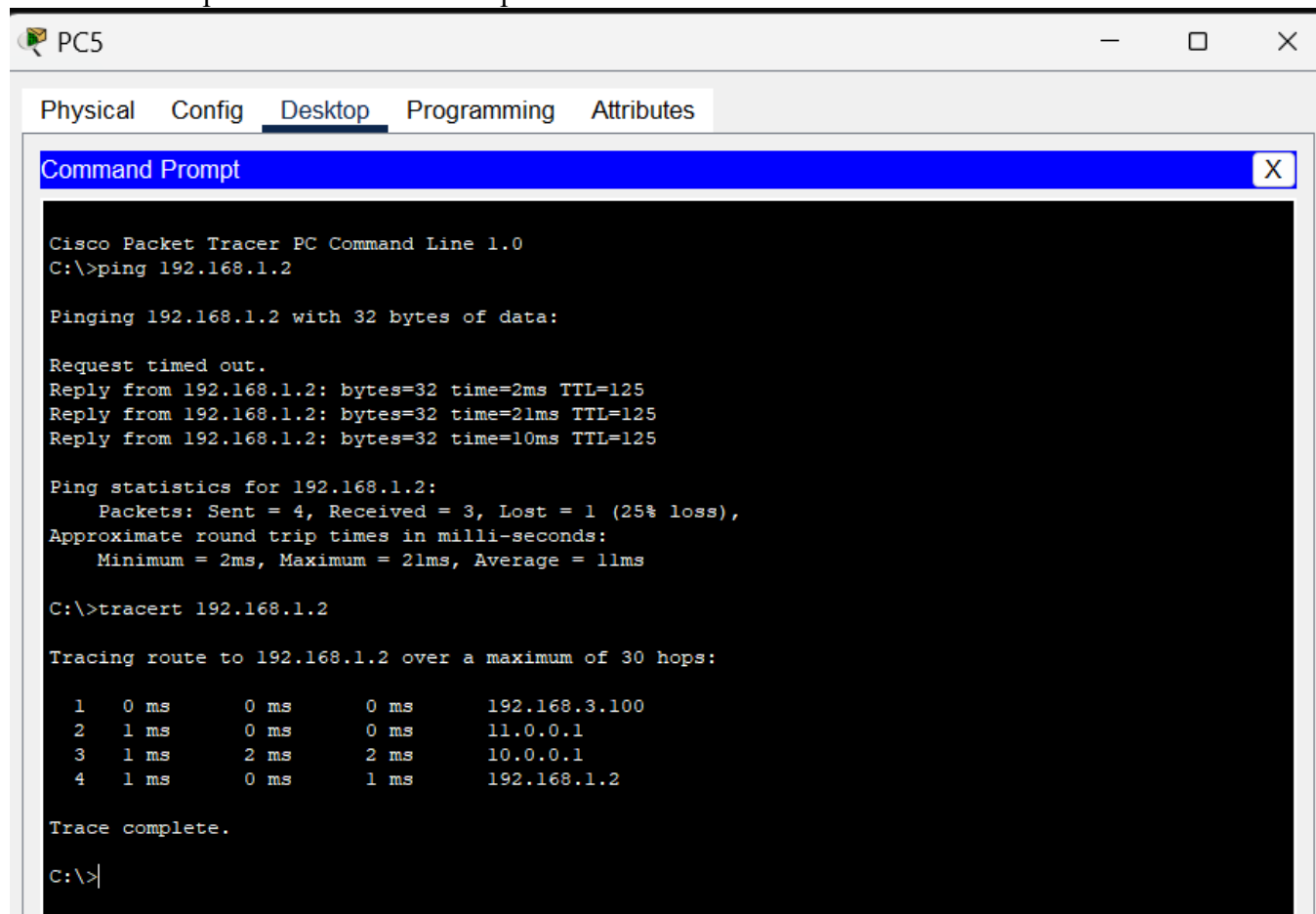
 Marwadi University Marwadi Chandarana Group	Marwadi University Faculty of Engineering and Technology Department of Information and Communication Technology	
Subject: Computer Networks (01CT0503)	Aim: Perform dynamic routing protocol (RIP) and analyze the results.	
Experiment No: 06	Date: 22-09-2025	Enrolment No: 92301733024

Router-2 :-

```
Router#cong t
^
% Invalid input detected at '^' marker.

Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#rou
Router(config)#router rip
Router(config-router)#ver
Router(config-router)#version 2
Router(config-router)#net
Router(config-router)#network 192.168.3.100
Router(config-router)#network 11.0.0.0
Router(config-router)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

Step – 8 :- now we will check connection using ping command. And using tracert ip_add command we can check how packet will be reach at ip add.



The screenshot shows a window titled "PC5" with tabs for Physical, Config, Desktop, Programming, and Attributes. The "Desktop" tab is active, displaying a "Command Prompt" window. The Command Prompt shows the output of the following commands:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Request timed out.
Reply from 192.168.1.2: bytes=32 time=2ms TTL=125
Reply from 192.168.1.2: bytes=32 time=21ms TTL=125
Reply from 192.168.1.2: bytes=32 time=10ms TTL=125

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 21ms, Average = 11ms

C:\>tracert 192.168.1.2

Tracing route to 192.168.1.2 over a maximum of 30 hops:

  0  0 ms    0 ms    0 ms    192.168.3.100
  1  1 ms    0 ms    0 ms    11.0.0.1
  2  1 ms    2 ms    2 ms    10.0.0.1
  3  1 ms    0 ms    1 ms    192.168.1.2

Trace complete.

C:\>
```

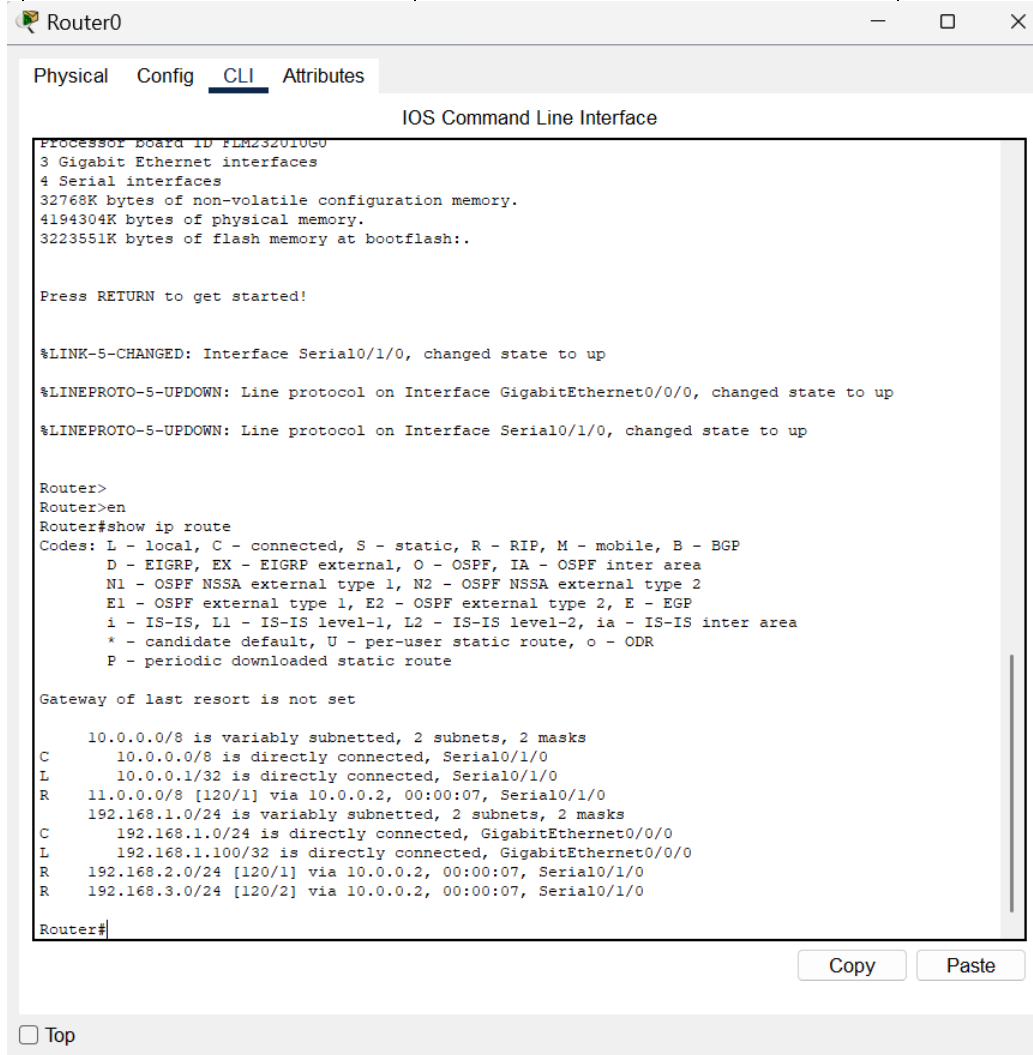
Subject: Computer Networks (01CT0503)

Aim: Perform dynamic routing protocol (RIP) and analyze the results.

Experiment No: 06

Date: 22-09-2025

Enrolment No: 92301733024



Router0

Physical Config CLI Attributes

IOS Command Line Interface

```

Processor board ID FLM232010GU
3 Gigabit Ethernet interfaces
4 Serial interfaces
32768K bytes of non-volatile configuration memory.
4194304K bytes of physical memory.
3223551K bytes of flash memory at bootflash:.

Press RETURN to get started!

%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed state to up

Router>
Router>en
Router#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

    10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C       10.0.0.0/8 is directly connected, Serial0/1/0
L       10.0.0.1/32 is directly connected, Serial0/1/0
R       11.0.0.0/8 [120/1] via 10.0.0.2, 00:00:07, Serial0/1/0
R       192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.1.0/24 is directly connected, GigabitEthernet0/0/0
L       192.168.1.100/32 is directly connected, GigabitEthernet0/0/0
R       192.168.2.0/24 [120/1] via 10.0.0.2, 00:00:07, Serial0/1/0
R       192.168.3.0/24 [120/2] via 10.0.0.2, 00:00:07, Serial0/1/0

Router#
  
```

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Conclusion :-

Through this experiment, I learned the importance of routing protocols in facilitating communication between different networks, specifically the Routing Information Protocol (RIP). By examining the output of the "show ip route" command.