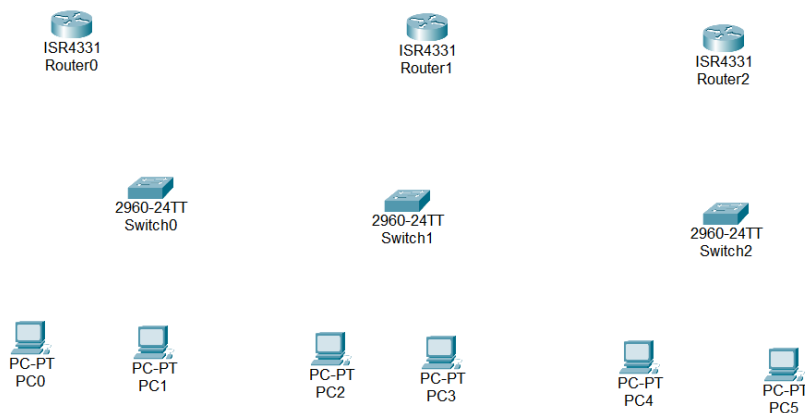
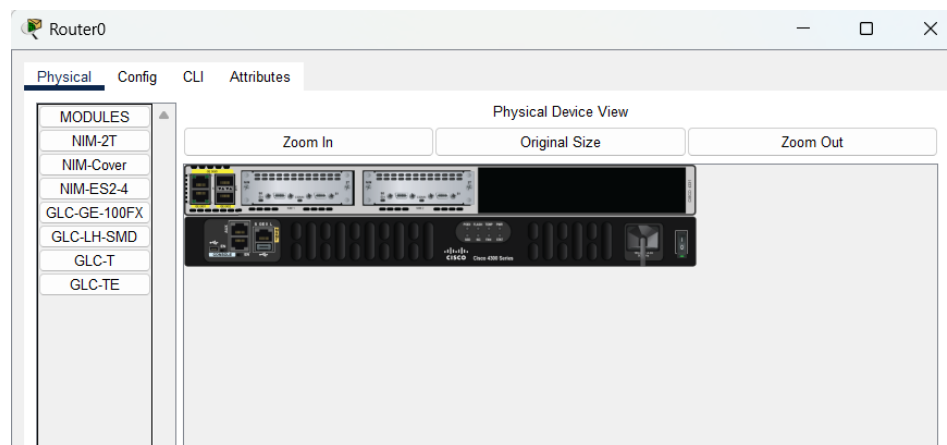
 Marwadi University Marwadi Chandarana Group	Marwadi University Faculty of Engineering and Technology Department of Information and Communication Technology	
Subject: Computer Networks (01CT0503)	Aim: Guided project.	
Experiment No: 14	Date: 24-11-2025	Enrolment No: 92301733024

Multi-Lab College Network using RIP Protocol

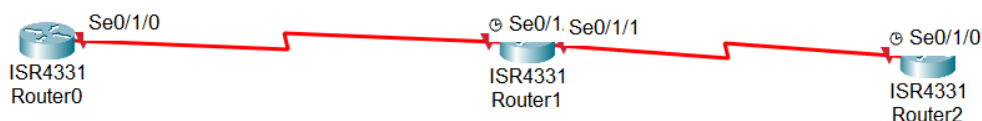
Step – 1:- Open the Cisco Packet tracer and take three routers, three switch and six PC's.




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.

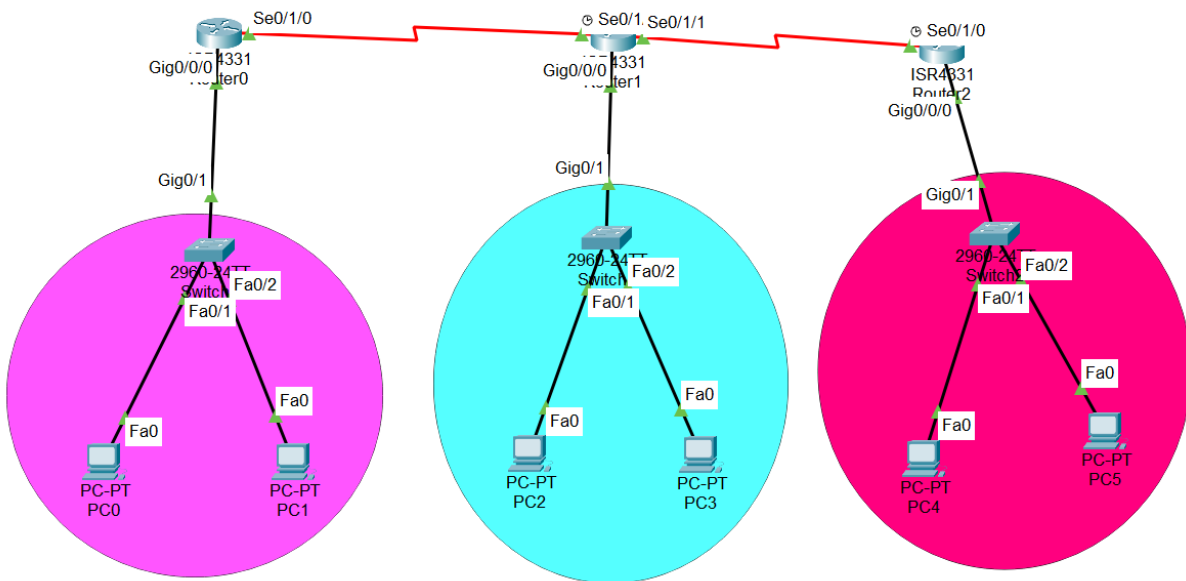


Step – 3 :- Now Connect Two Routers Using Serial DTE Cable.

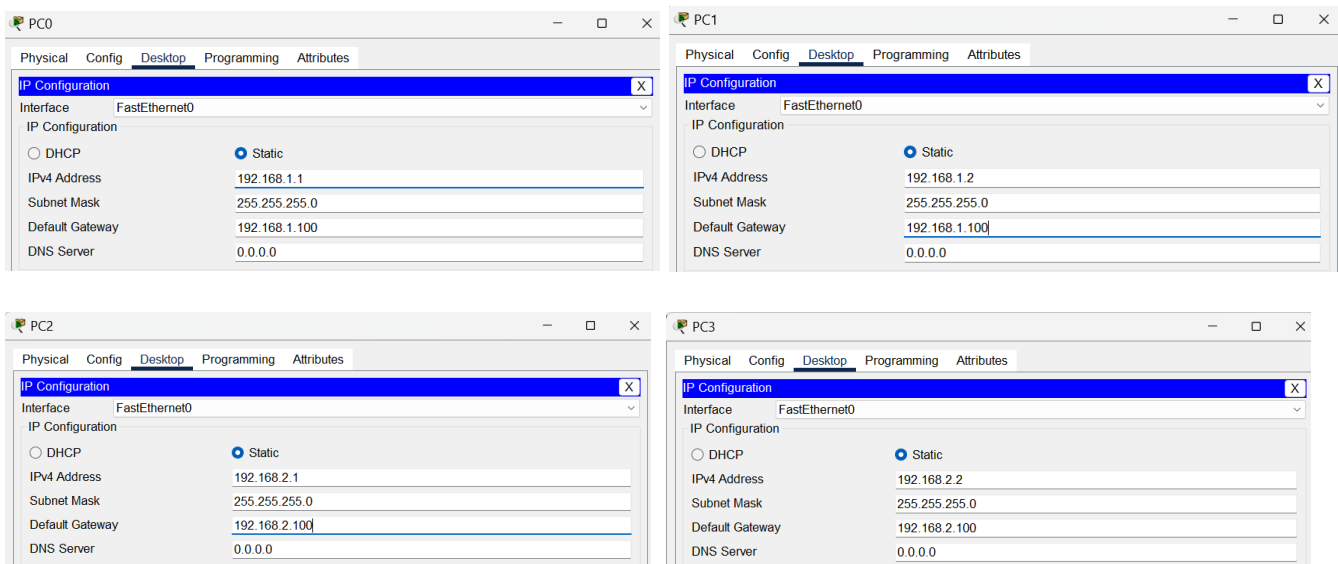



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Step – 4 :- Now Connect the Switches with routers using Copper Straight through cable In GigaEthernet Port. And Connect PC's with Switches using copper Straight through cab



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



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PC4

Physical Config Desktop Programming Attributes

IP Configuration X

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 X

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

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.
^
% Invalid input detected at '^' marker.

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 :-

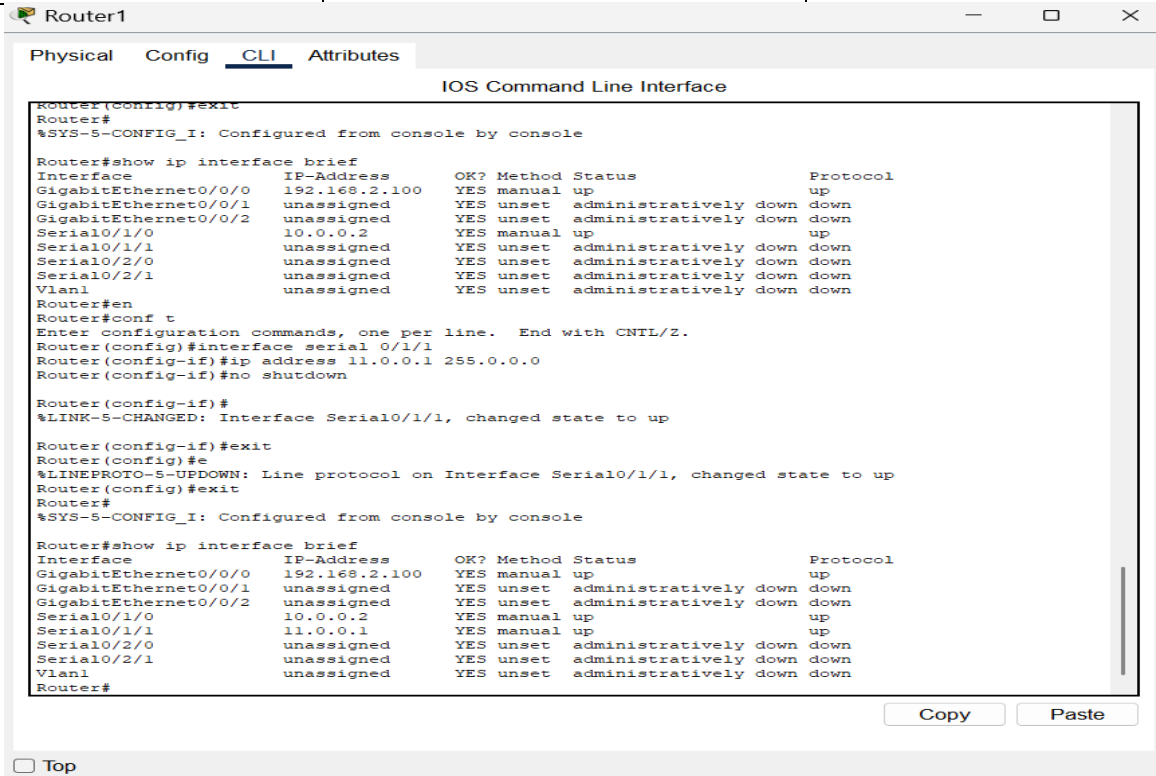
Subject: Computer Networks (01CT0503)

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```

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

```

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

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```

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

```

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.



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Aim: Guided project.

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PC5

Physical Config Desktop Programming Attributes

Command Prompt

X

```
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:\>
```



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Aim: Guided project.

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Router0

PhysicalConfigCLIAttributes

IOS Command Line Interface

```
Processor board ID FLM23201060
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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