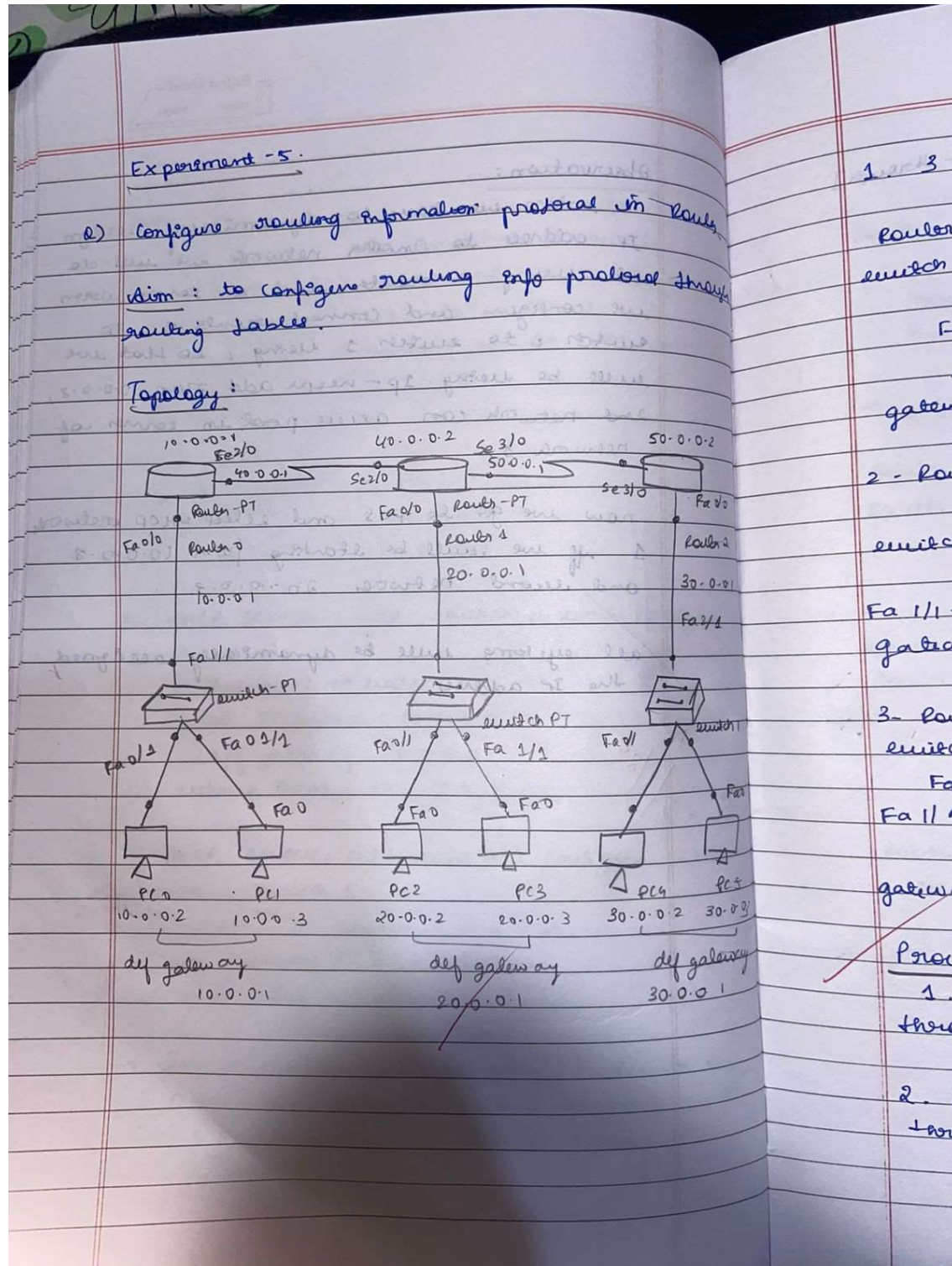


Avani.A (1BM22CS059)

EXPERIMENT-5

Aim: Configure RIP routing Protocol in Routers .

Topology , Procedure and Observation:



1. 3 routers, 3 switches and 6 PC's.

Router 1 → IP → 10.0.0.1

switch 1 → Fa 0/1 → PC0 → 10.0.0.2.

subnet: 255.0.0.0

Fa 1/1 → PC1: IP: 10.0.0.3

subnet: 255.0.0.0

gateway for PC0 and PC1 is 10.0.0.1

2. Router 2 → IP 1 → 40.0.0.2

IP 2 → 50.0.0.2

switch 2 → Fa 0/0 → 20.0.0.1

Fa 0/1 → PC2: IP: 20.0.0.2, subnet: 255.0.0.0

Fa 1/1 → PC3 → IP: 20.0.0.3, subnet: 255.0.0.0

gateway for PC2 and PC3 is 20.0.0.1

3. Router 3 → IP - 50.0.0.2

switch 3 → Fa 0/0 → 30.0.0.1

Fa 0/1 → PC4 → IP 30.0.0.2, subnet: 255.0.0.0

Fa 1/1 → PC5 → IP: 30.0.0.3, subnet: 255.0.0.0

gateway for PC4 and PC5 is 30.0.0.1

Procedure:

1. Connect the end devices to the switches through copper - straight through wire

2. Connect the router to the other routers to through serial dce.

3. Router - switches [copper - ethernet - thorough]

→ Configure all the 8 routers :

Router 0

Router > enable

config t

interface serial 2/0

ip address 40.0.0.1 255.0.0.0

no shut

exit

interface fastethernet 0/0

ip address 10.0.0.1 255.0.0.0

no shutdown

exit

Router 1

Router > enable

config t

interface serial 2/0

ip address 40.0.0.1

no shutdown

exit

interface se 3/0

ip address 80.0.0.1 255.0.0.0

no shutdown

Router 2

Router (config) # interface Fa 0/0

Ip address 30.0.0.1 255.0.0.0

Interface Se 2/0

Ip address 50.0.0.2 255.0.0.0

→ Configure the route.

Router 0:

Router (config) # router rip

network 10.0.0.0

network 40.0.0.0

Router 1:

Router (config) # router rip

network 40.0.0.0

network 20.0.0.0

network 50.0.0.0

Router 3:

Router (config) # router rip

network 30.0.0.0

network 50.0.0.0

Test connectivity:

Ping 30.0.0.1

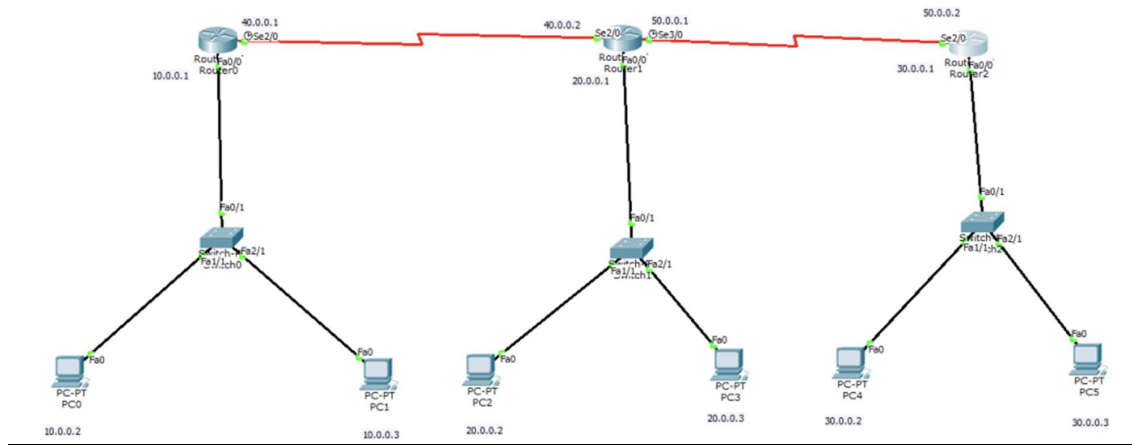
sent = 4 loss = 0 100%

Observation :

The routers communicate with each other, share a common routing table, once RIP is installed / activated in routers. Every router shares its routing protocol with its neighbors. Hence, it is always every router will know about all info that their neighbors are connected to.

✓
3/1/25

Screenshots:



```
PC0
Physical Config Desktop Custom Interface
Command Prompt
Pinging 30.0.0.2 with 32 bytes of data:

Request timed out.
Reply from 30.0.0.2: bytes=32 time=7ms TTL=125
Reply from 30.0.0.2: bytes=32 time=6ms TTL=125
Reply from 30.0.0.2: bytes=32 time=7ms TTL=125

Ping statistics for 30.0.0.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 6ms, Maximum = 7ms, Average = 6ms

PC>ping 30.0.0.2

Pinging 30.0.0.2 with 32 bytes of data:

Reply from 30.0.0.2: bytes=32 time=4ms TTL=125
Reply from 30.0.0.2: bytes=32 time=7ms TTL=125
Reply from 30.0.0.2: bytes=32 time=7ms TTL=125
Reply from 30.0.0.2: bytes=32 time=7ms TTL=125

Ping statistics for 30.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 4ms, Maximum = 7ms, Average = 6ms

PC>
```