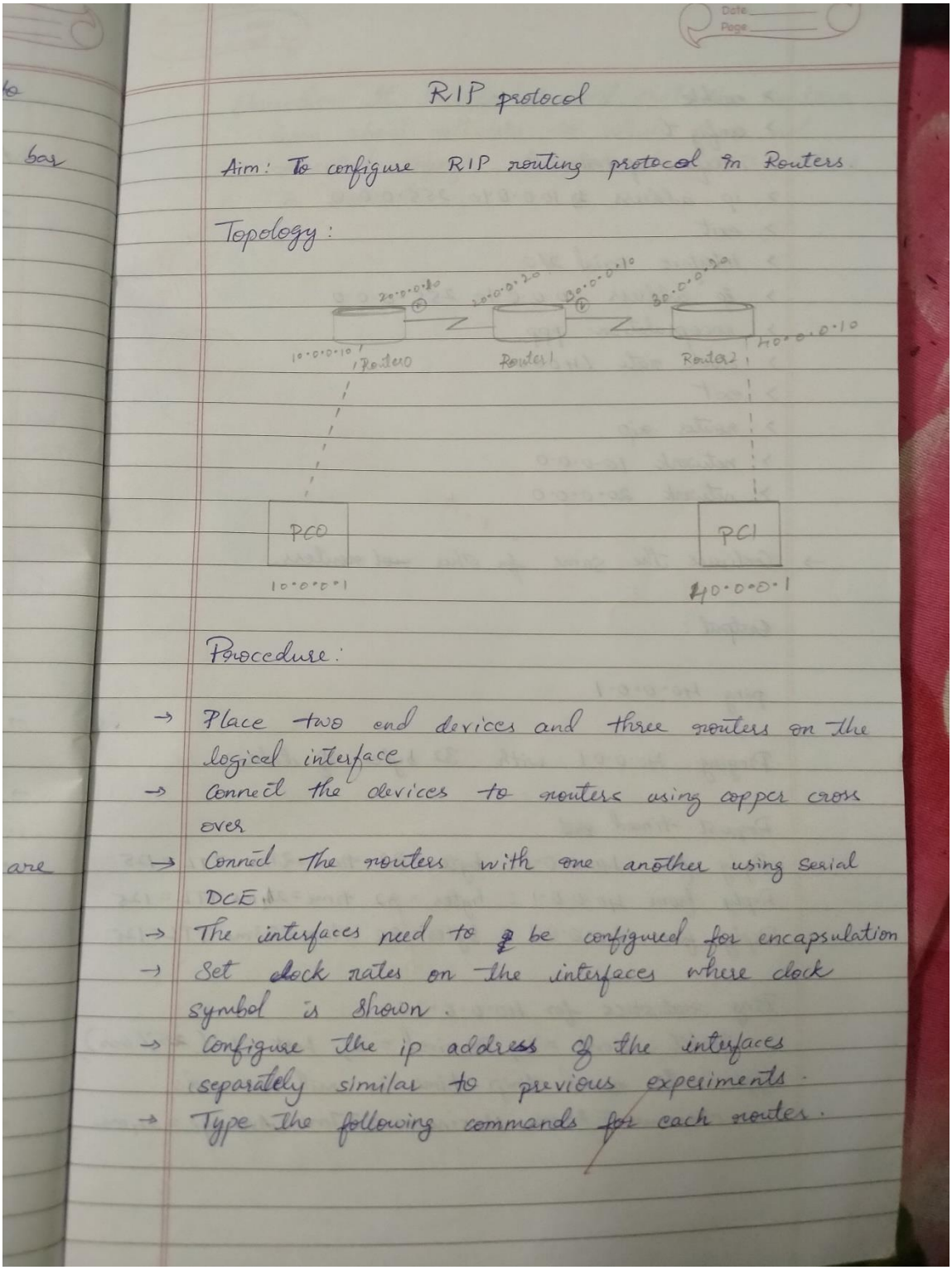
Experiment 5:

RIP routing protocol



RIP protocol

Aim: To configure RIP routing protocol in Routers

Topology:

Procedure:

→ Place two end devices and three routers on the logical interface
→ Connect the devices to routers using copper cross over
→ Connect the routers with one another using serial DCE.
→ The interfaces need to be configured for encapsulation
→ Set clock rates on the interfaces where clock symbol is shown.
→ Configure the ip address of the interfaces separately similar to previous experiments.
→ Type the following commands for each routes.

> enable
> config t
> interface fastethernet
> ip address 10.0.0.10 255.0.0.0
> exit
> interface serial 2/0
> ip address 20.0.0.10 255.0.0.0
> encapsulation ppp
> clock rate 64000
> exit
> router rip
> network 10.0.0.0
> network 20.0.0.0

→ Continue the same for other routers. (exit)

Output:

ping 40.0.0.1

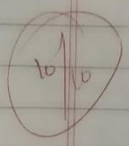
Pinging 40.0.0.1 with 32 bytes of data:

Request timed out
Reply from 40.0.0.1: bytes=32 time=27ms TTL=125
Reply from 40.0.0.1: bytes=32 time=24ms TTL=125
Reply from 40.0.0.1: bytes=32 time=23ms TTL=125

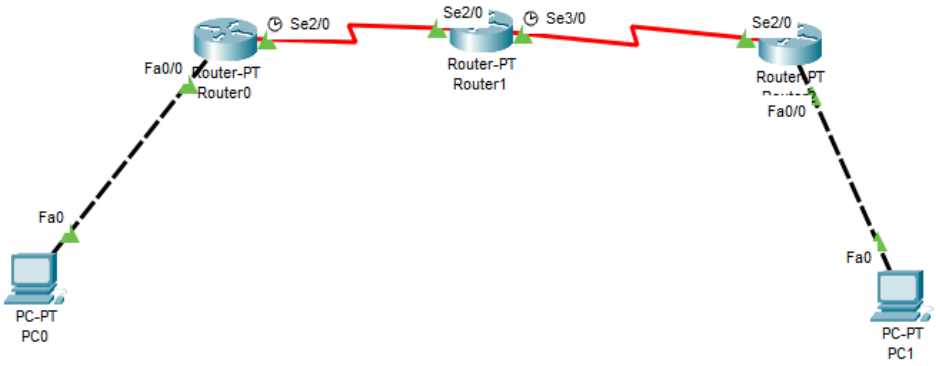
Ping statistics for 40.0.0.1:
Packet: Sent = 4, Received = 3, Lost = 1 (25% loss)
Approximate round trip time in milli-seconds:
Minimum = 23ms, Maximum = 27ms, Average = 24ms.

Observation: It can be observed that the routers learn about networks to which it is not connected through rip protocols. Static routing is avoided.

25/7/23



Topology and output screenshots:



PC0

Physical Config Desktop Programming Attributes

Command Prompt X

```
Reply from 30.0.0.10: bytes=32 time=24ms TTL=254
Reply from 30.0.0.10: bytes=32 time=20ms TTL=254
Reply from 30.0.0.10: bytes=32 time=14ms TTL=254
Reply from 30.0.0.10: bytes=32 time=19ms TTL=254

Ping statistics for 30.0.0.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 14ms, Maximum = 24ms, Average = 19ms

C:\>ping 40.0.0.10

Pinging 40.0.0.10 with 32 bytes of data:

Reply from 40.0.0.10: bytes=32 time=24ms TTL=253
Reply from 40.0.0.10: bytes=32 time=29ms TTL=253
Reply from 40.0.0.10: bytes=32 time=25ms TTL=253
Reply from 40.0.0.10: bytes=32 time=2ms TTL=253

Ping statistics for 40.0.0.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 29ms, Average = 20ms

C:\>ping 40.0.0.1

Pinging 40.0.0.1 with 32 bytes of data:

Request timed out.
Reply from 40.0.0.1: bytes=32 time=29ms TTL=125
Reply from 40.0.0.1: bytes=32 time=27ms TTL=125
Reply from 40.0.0.1: bytes=32 time=20ms TTL=125

Ping statistics for 40.0.0.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 20ms, Maximum = 29ms, Average = 25ms

C:\>
```

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