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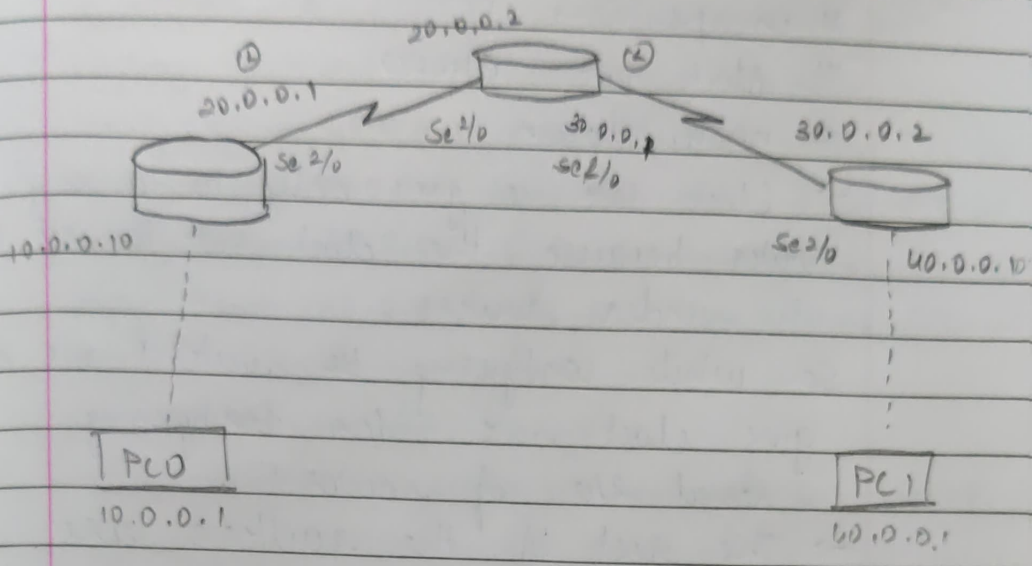
Experiment 5:

Aim: Configuring RIP routing protocol in Router

Topology:



Procedure:

→ Place 2 PC's and 3 routers in the logical workspace
→ Connect 3 routers using serial DCE cable
→ Connect both PC's PC0 to router 0 and PC1 to router 2 using copper cross over cable
→ Config both the PC's by setting their IP addresses and gateways and subnet mask.
→ Serial connections is used for WAN and serial DCE is used to connect the router and the sender side has a clock and the reciever is by default set

DCE — Data ~~terminal~~ carrier equipment.

to DTE : Data Terminal equipment.
-> Configure the router B with serial DCE. ~~which~~ (Router 0)
interface serial 2/0
ip address 20.0.0.1 255.0.0.0
encapsulation PPP
clock rate 64000
noshutdown
-> Clock rate is given only to a single router because the clock rate is set by the sender router.
So while configuring ~~the~~ router 1 we don't give clock rate for configuring serial 2/0 of router 1.
-> The rest of the routers are configured using the commands above and changing the appropiate IP address
-> Now to configure the dynamic routing we use RIP sub-panel and type the commands for B configuring Router 0
router rip
network 10.0.0.0
network 20.0.0.0
exit
-> RIP - router information protocol which gives the router the ability to learn the path on its own.
-> Configure the ~~rest~~ remaining routers using appropiate network numbers.

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-> Ping the computer to check for errors.

Result:

ping 40.0.0.1
pinging 40.0.0.1 with 32 bytes of data
reply from 40.0.0.1 bytes=32 time=10ms TTL=125
reply from 40.0.0.1 byte=32 time=15ms TTL=125
reply from 40.0.0.1 bytes=32 time=23ms TTL=125
reply from 40.0.0.1 bytes=32 time=10ms TTL=125

ping statistics for 40.0.0.1
packets: sent=4 recieved=4 lost=0

Observation:

RIP is router information protocal which is a dynamic routing protocol that uses hop count to find path between source and network. It is way better than static routing for bigger networks because the router learns the path on its own rather than teaching the path to the router.

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