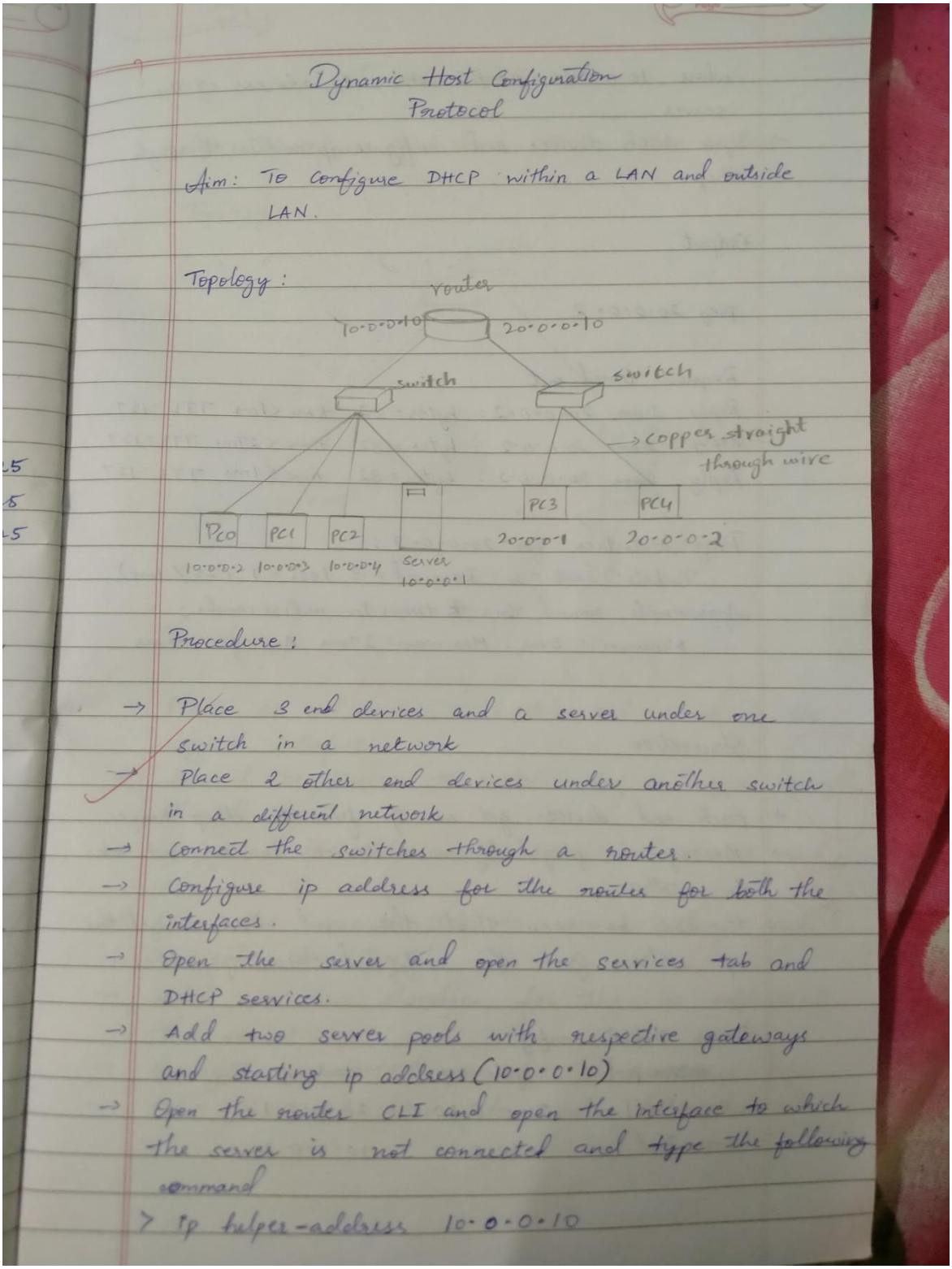
Experiment 4:

Dynamic Host Configuration Protocol



Dynamic Host Configuration Protocol

Aim: To configure DHCP within a LAN and outside LAN.

Topology:

Procedure:

→ Place 3 end devices and a server under one switch in a network
→ Place 2 other end devices under another switch in a different network
→ Connect the switches through a router.
→ Configure ip address for the router for both the interfaces.
→ Open the server and open the services tab and DHCP services.
→ Add two server pools with respective gateways and starting ip address (10.0.0.10)
→ Open the router CLI and open the interface to which the server is not connected and type the following command

> ip helper-address 10.0.0.10

where 10.0.0.10 is the static ip address of the server.

→ Open each devices and configure ip address through dhcp.

Output

ping 20.0.0.2

Request timed out
Reply from 20.0.0.2: bytes=32 time<1ms TTL=127
Reply from 20.0.0.2: bytes=32 time<27ms TTL=127
Reply from 20.0.0.2: bytes=32 time<1ms TTL=127

Ping statistics for 20.0.0.2:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milliseconds:
Minimum = 0ms, Maximum = 27ms, Average = 9ms.

Observation

→ Each end devices get an ip from the dhcp server
→ Message is pinged from a device in one network to another.
→ It can be seen that the end devices get the ip address from the configured start ip address.

Server DHCP config:

pool	gateway	start ip
serverPool1	20.0.0.10	20.0.0.1
serverPool	10.0.0.10	10.0.0.2

Topology and output screenshots: