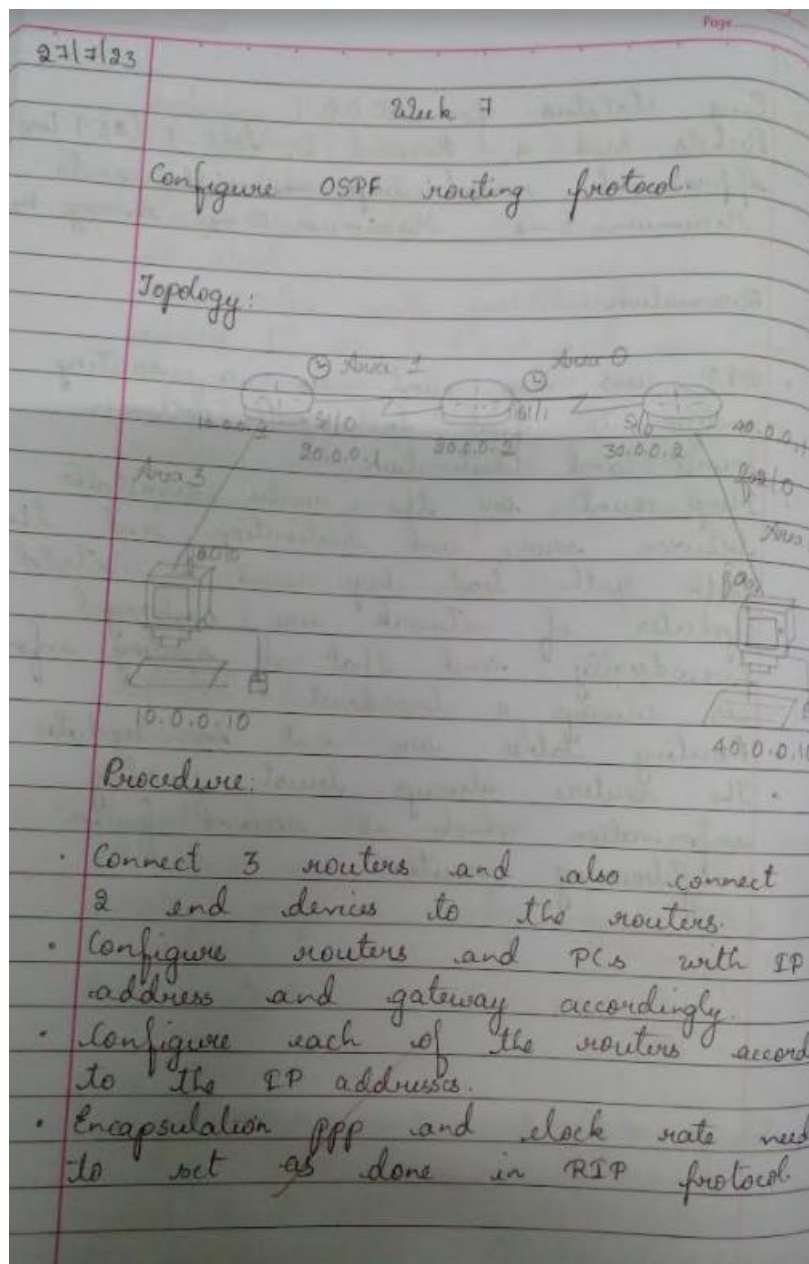


WEEK 7

Configure OSPF routing protocol

Observation :



Router 1

```

R1(config)# router ospf 1
R1(config-router)# router-id 1.3.3.3
R1(config-router)# network 10.0.0.0 0.255.255.255
R1(config-router)# network 20.0.0.0 0.255.255.255

```

Repeat the same for other routers as well with respective network IP, subnets.

- Show ip route
- Now, add the loopbacks.

```

R1(config)# interface loopback 0
IP address 172.16.1.252 255.255.0.0
No shut

```

Repeat the same for other 2 routers.

- Create a virtual link between R1, R2. also create a virtual link to connect to area 0.
- In config mode of R1:


```

R1(config)# router ospf 1
R1(config-router)# area 1 virtual link 2.2.2.2
R1(config-router)# exit

```
- In router 2's config mode R2(config)# router ospf 1


```

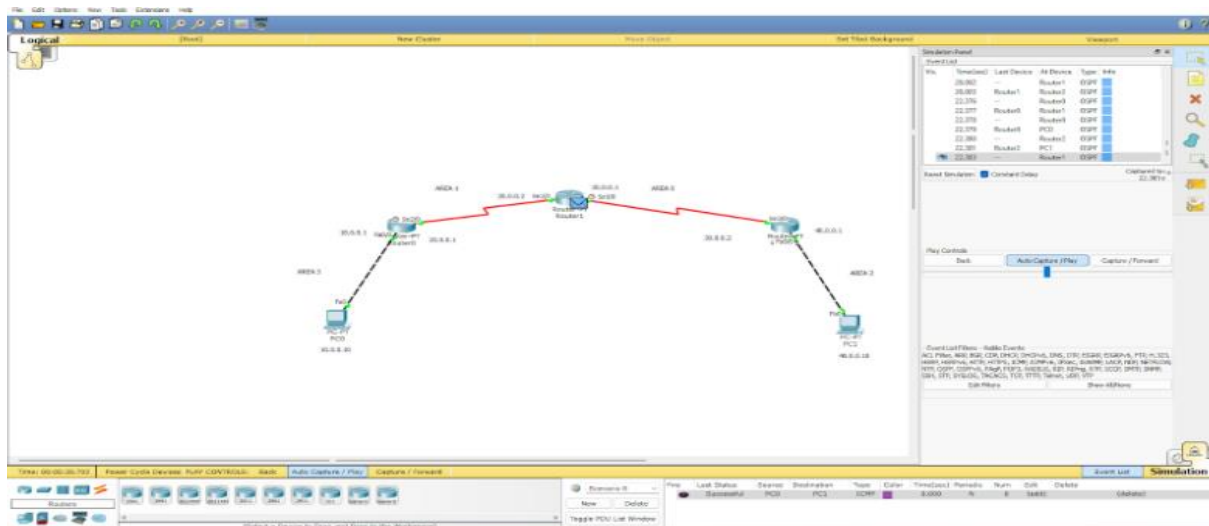
R2(config-router)# router ospf 1
R2(config-router)# area 1 virtual link 1.1.1.1

```
- Show ip route

Observation:

- OSPF is a link state routing protocol which is used to find the best path between source and destination routers using its own SPF algorithm.
- This network is divided into 4 areas where area 0 is the backbone.
- After we make virtual link between the areas which is not connected to backbone, we can ping messages successfully.

Topology :



Output :

```

Command Prompt

Packet Tracer PC Command Line 1.0
PC>ping 40.0.0.10

Pinging 40.0.0.10 with 32 bytes of data:

Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.

Ping statistics for 40.0.0.10:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

PC>ping 40.0.0.10

Pinging 40.0.0.10 with 32 bytes of data:

Request timed out.
Reply from 40.0.0.10: bytes=32 time=4ms TTL=125
Reply from 40.0.0.10: bytes=32 time=6ms TTL=125
Reply from 40.0.0.10: bytes=32 time=12ms TTL=125

Ping statistics for 40.0.0.10:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 4ms, Maximum = 12ms, Average = 7ms

PC>

```