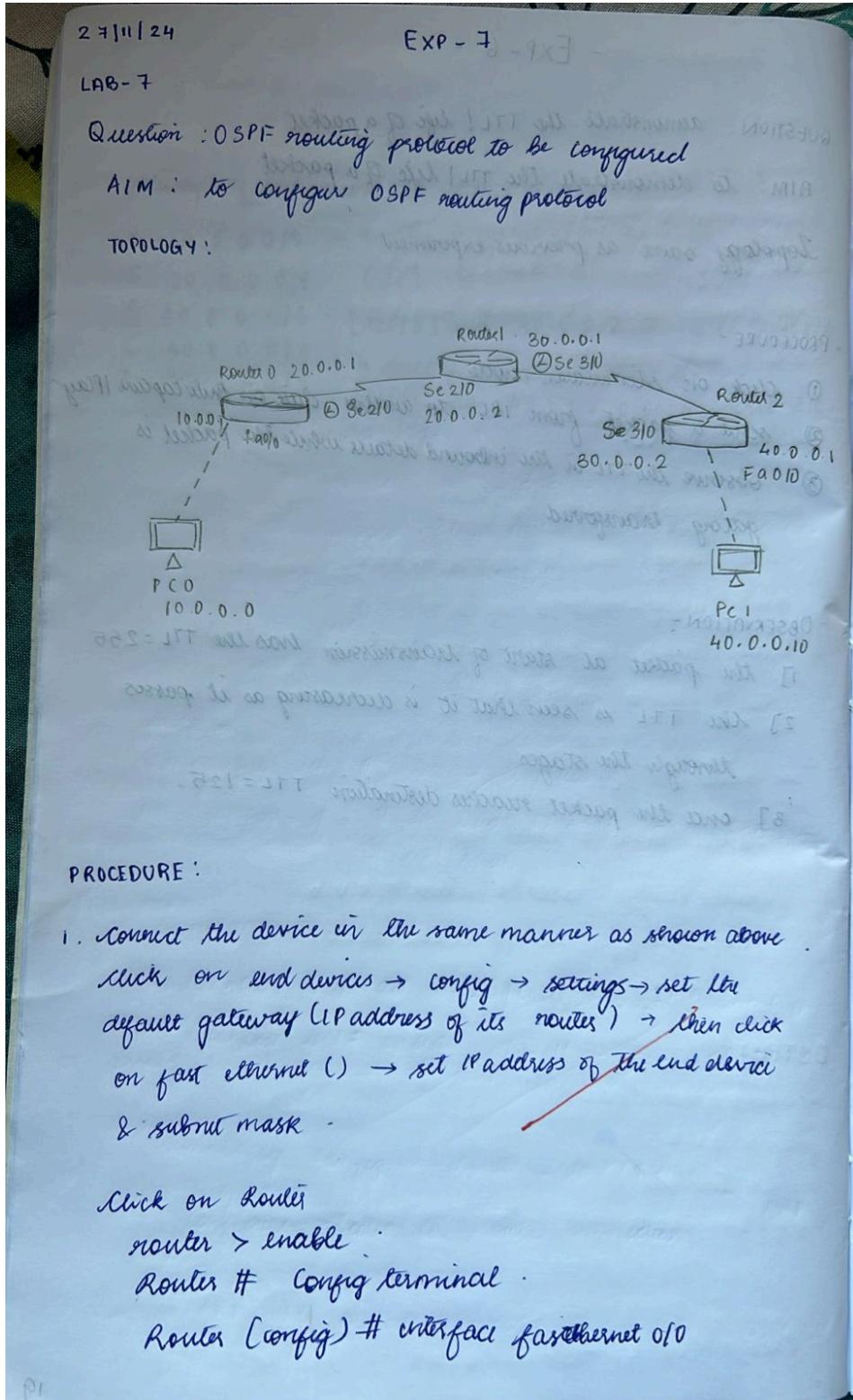


EXP-7

OBSERVATION



Router(config-if) # ip address 10.0.0.1 255.0.0.0

router(config) # no shutdown

exit

Similarly configure Router 2 to PC1 & configure routers to router connections

2. for router 1

R(config)# interface serial 2/0

R(config-if)# ip address 20.0.0.2 255.0.0.0

R(config-if)# encapsulation ppp

R(config-if)# no shutdown

R(config-if)# exit

same for router 2

R(config)# interface 3/0

R(config-if)# ip address 30.0.0.1 255.0.0.0

encapsulation ppp

clock rate 64000

no shutdown

exit

do similarly for router 0 & Router 2

3. in router 0

R(config)# router ospf 1

R(config-router)# router-id 1.1.1.1

" # network 10.0.0.0 0.255.255.255 area 3

" # network 20.0.0.0 0.255.255.255 area 1

" # exit

In router 1

```
R (config) # router ospf 1  
# router-id 2.2.2.2  
# network 20.0.0.0 0.255.255.255 area 0  
# " 80.0.0.0 area 0  
# exit
```

in router 2 0.0.0.2 0.0.0.0 0.255.255.255 area 0

```
R (config) # router ospf 1  
# router-id 3.3.3.3  
# network 30.0.0.0 0.255.255.255 area 0  
" 40.0.0.0  
# exit
```

4. similarly

```
RD (config-if) # interface loopback 0  
RD (config-if) # ip add 172.16.1.252 255.255.0.0  
# no shut
```

similarly

```
R1 (config) # ipadd 172.16.1.253 255.255.0.0
```

```
R2 (config-if) # ipadd 172.16.1.254 255.255.0.0
```

similarly configure Router 2 to PC1 &

configure routes to router connection

~~skip~~

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5. Create virtual link b/w R1 & R2
in R2

R2 (config) # router ospf 1

R2 (config-router) # area 1 virtual link 2.2.2.2

in R1

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

- OBSERVATION :

in R2

Router # show ip route

0.0.0.0/8 [110/128] via 30.0.0.1 09:57:23

C 40.0.0.0/8 is directly connected, FastEthernet 0/0 serial 210

0.0.0.0/8 [110/128] via 30.0.0.1 00:57:05, serial 210

C 30.0.0.0/8 is directly connected, serial 210

C 172.16.0.0/16 is directly connected, loopback 0

similarly the output is shown for Router 0 & 1

Ping output :

(from PC0 to PC1)

PC0 → command prompt

C : \> ping 40.0.0.10

pinging 40.0.0.10 with 32 bytes of data

Request timed out .

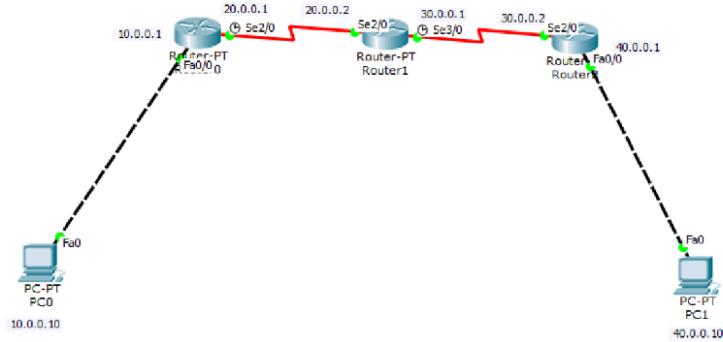
18/12/20 Reply from 40.0.0.10 bytes = 32 time = 21ms TTL=125

Reply from 40.0.0.10 " " " " "

" " " " " " " "

packets sent = 4 , Received = 3 lost = 1 (25% loss)

TOPOLOGY



OUTPUT

Router0

```

Router#enable
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - BGP
      L1 - IS-IS level-1, L2 - IS-IS level-2, Ls - IS-IS level-2, ia - IS-IS inter area
      * - candidate default, U - per-user static route, o - ODR
      P - periodic downloaded static route

Gateway of last resort is not set

C 10.0.0.0/8 is directly connected, FastEthernet0/0
C 20.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C   20.0.0.1/32 is directly connected, Serial2/0
C   20.0.0.2/32 is directly connected, Serial2/0
C 30.0.0.0/8 [110/12] via 20.0.0.2, 00:06:09, Serial2/0
C 40.0.0.0/8 [110/12] via 20.0.0.2, 00:06:09, Serial2/0
C 172.16.0.0/16 is directly connected, Loopback0
Serial2/0

```

Router#

Router2

```

Router#enable
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - BGP
      L1 - IS-IS level-1, L2 - IS-IS level-2, Ls - IS-IS level-2, ia - IS-IS inter area
      * - candidate default, U - per-user static route, o - ODR
      P - periodic downloaded static route

Gateway of last resort is not set

C 10.0.0.0/8 [110/12] via 20.0.0.1, 00:06:21, Serial1/0
C 20.0.0.0/8 [110/12] via 20.0.0.1, 00:07:12, Serial1/0
C 30.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C   30.0.0.0/8 is directly connected, Serial1/0
C   30.0.0.1/32 is directly connected, FastEthernet0/0
C 40.0.0.0/8 is directly connected, Loopback0
Serial1/0

```

Router#

