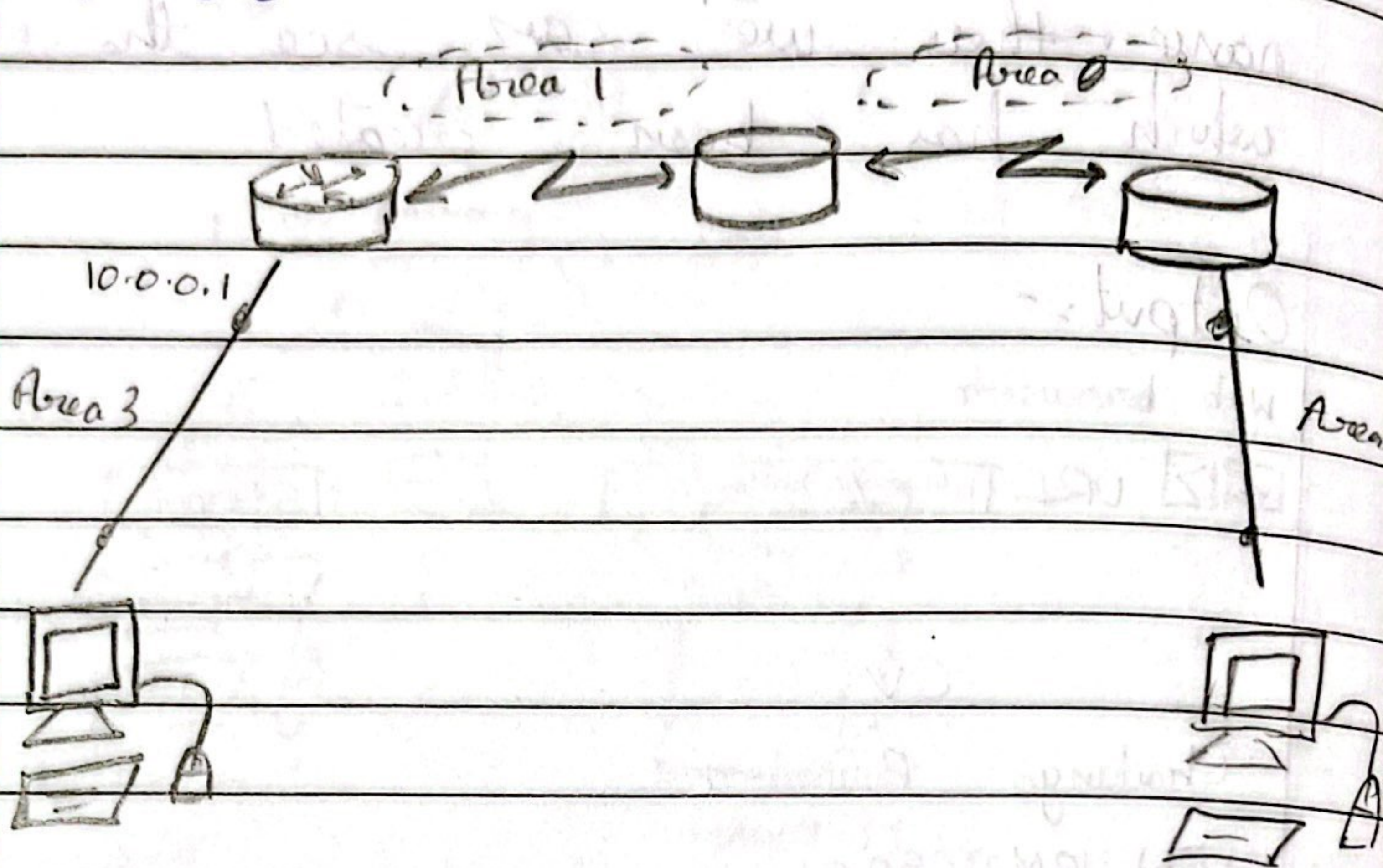


# Topology



## Procedure

- 1) Configure the PC with IP address and gateway according to topology
- 2) Configure the routers accordingly with the IP addresses given
- 3) Encapsulation ppp and clock rate need to be set as done in RIP protocol experiment

In Router R1

```
R1 (config) # router
```

```
R1 (config-if) # interface loopback 0
```

```
R1 (config-if) # ip add 172.16.1.252 255.255.255.0
```

```
R1 (config-if) # no shutdown
```



~~R2(Config-if)#~~ ~~lster~~

In Router R2

R2(Config)# router ospf 1

R2(Config-router)# router-id 2.2.2.2

R2(Config-router)# network 20.0.0.0 0.255.255.255 area 1

R2(Config-router)# network 30.0.0.0 0.255.255.255 area 0

In router R3

R3(Config)# router ospf 1

R3(Config-router)# router-id 3.3.3.3

R3(Config-router)# network 30.0.0.0 0.255.255.255 area 0

R3(Config-router)# ~~network~~ 40.0.0.0 0.255.255.255 area 2

R3(Config-router)# exit

Set interface loopback

R1(Config-if)# interface loopback 0

R1(Config-if)# ip address 172.16.1.252 255.255.255.0

R1(Config-if)# no shutdown

R2(Config-if)# interface loopback 0

R2(Config-if)# ip address 172.16.1.252 255.255.255.0

R2(Config-if)# no shutdown

R3(Config-if)# interface loopback 0

R3(Config-if)# ip address 172.16.1.254 255.255.255.0



R3 (config-if) # no shutdown

→ In router R1

R1 (config) # router ospf 1

R2 (config) # area 1  
1.1.1.1

R2 (config) # exit

1) After this show IP route, it shows all #

Ping output :-

Packet tracer PC command line 10

P1 Ping 10.0.0.10

Pinging 10.0.0.10 with 32 bytes of data:  
Request timed out

Reply from 10.0.0.10: bytes=32 Time=11ms

Reply from 10.0.0.10: bytes=32 Time=11ms

Reply from 10.0.10: bytes=32 Time=8ms

Ping statistics for 10.0.0.10

Packets: sent=4 received=3 lost=1

Approximate round trip time in milliseconds

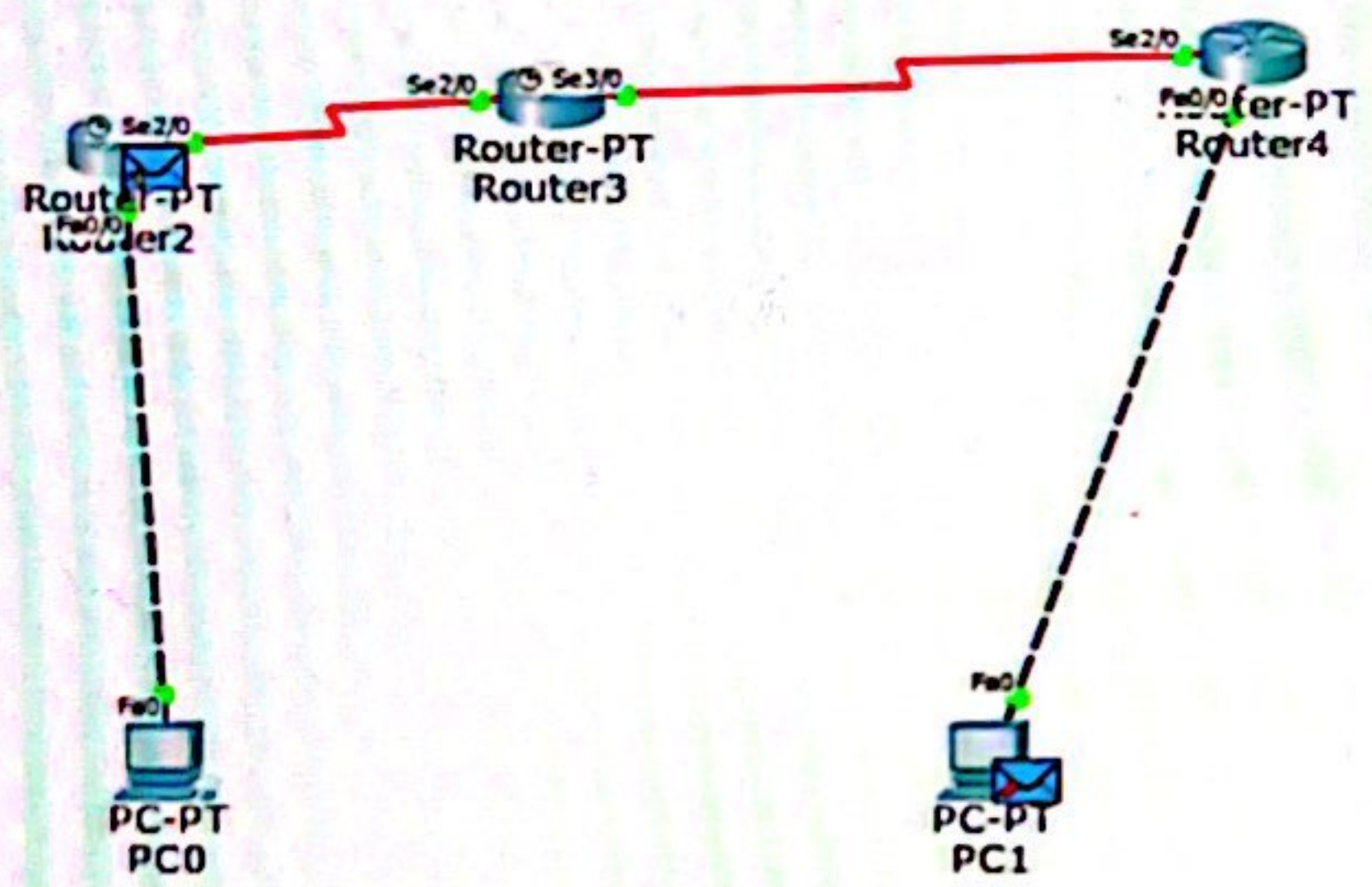
Minimum=28ms ; Maximum=11ms Average=10ms

Observation:-

OSPF is a state routing protocol that is used to find the best possible path b/w router and destination router using its SPF algorithm.

After we make the vertical link b/w the area which is not connected to the backbone area, we can ping messages successfully.





Simulation Panel

Event List

Vis.	Time(sec)	Last De	At Dev	Type	Info
	2.329	Router2	PC0	OSPF	
	2.331	--	Rout...	OSPF	
	2.331	--	Rout...	OSPF	
	2.332	Router3	Rout...	OSPF	
	2.332	Router4	PC1	OSPF	

Reset Simulation

☒ Constant Delay

Play Controls

Back

Auto Capture / Play

Event List Filters - Visible Events

ACL Filter, ARP, BGP, CDP, DHCP, DHCPv6, DNS, DTP, EIGRP, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, NTP, OSPF, OSPFv6, PAgP, POP3, RADIUS, RIP, RIPng, RTP, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, VTP

Edit Filters

Show



# Command Prompt

Ping statistics for 40.0.0.10:  
Packets: Sent = 4, Received = 3, Lost = 1 (25%  
loss),  
Approximate round trip times in milli-seconds:  
Minimum = 2ms, Maximum = 11ms, Average = 5ms

PC>ping 40.0.0.10

Pinging 40.0.0.10 with 32 bytes of data:

Reply from 40.0.0.10: bytes=32 time=9ms TTL=125  
Reply from 40.0.0.10: bytes=32 time=10ms TTL=125  
Reply from 40.0.0.10: bytes=32 time=2ms TTL=125  
Reply from 40.0.0.10: bytes=32 time=2ms TTL=125

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 = 10ms, Average = 5ms

pc>