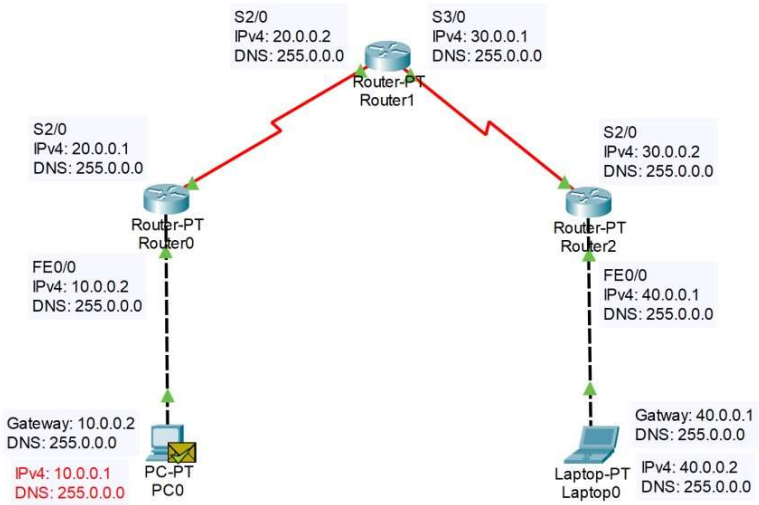
LABORATORY PROGRAM – 4(A)

Configure default route, static route to the Router.




```
Gateway of last resort is 30.0.0.1 to network 0.0.0.0

C    30.0.0.0/8 is directly connected, Serial2/0
C    40.0.0.0/8 is directly connected, FastEthernet0/0
S*   0.0.0.0/0 [1/0] via 30.0.0.1

S     10.0.0.0/8 [1/0] via 20.0.0.1
C     20.0.0.0/8 is directly connected, Serial2/0
C     30.0.0.0/8 is directly connected, Serial3/0
S     40.0.0.0/8 [1/0] via 30.0.0.2
```

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC0	Laptop0	ICMP		0.000	N	0	(edit)	

After: ping 20.0.0.10
Received = 4 Lost = 0

ping 30.0.0.2
Received = 4 Lost = 0

Routing has been observed as follows for Router0

C 10.0.0.0/8 is directly connected, FastEthernet 0/0
S 20.0.0.0/8 [1/0] via 30.0.0.2
C 30.0.0.0/8 is directly connected, Serial 2/0

Routing has been observed as follows for Router2:

S 10.0.0.0/8 [1/0] via 30.0.0.1
C 20.0.0.0/8 is directly connected, FastEthernet 2/0
C 30.0.0.0/8 is directly connected, Serial 2/0

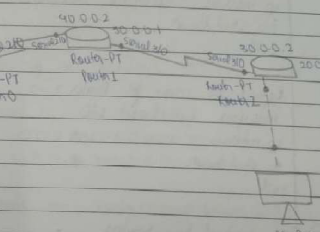
Lab 4

Date 23/10/24

Configure default route, static route to the routers

Aim: To demonstrate static and default route using 3 routers and 2 PCs

Topology:



Procedure:

1. Launch Cisco Packet Tracer
2. Add 2 end devices and 3 routers
3. Connect PC0 to Router0 and PC1 to Router2 using Copper cross-over
4. Connect Router0 to Router1 using Serial DCE 2/0 and Router1 to Router2 using Serial DCE 3/0
5. IP config on device → ip address
   PC0: 10.0.0.10 255.0.0.0
   PC1: 20.0.0.10 255.0.0.0
   def gateway →
   PC0: 10.0.0.1
   PC1: 20.0.0.1

6. Router0 config → CLI
   enable
   config terminal
   interface FastEthernet 0/0
   ip address 10.0.0.1 255.0.0.0
   no shutdown
   exit

   Repeat the same for Router2 →
   interface FastEthernet 2/0
   ip address 20.0.0.1 255.0.0.0
   no shutdown
   exit

7. To connect two routers

   Router0 → CLI →
   enable
   config terminal
   interface Serial 2/0
   ip address 40.0.0.1 255.0.0.0
   exit

   Router2 → CLI →
   interface Serial 2/0
   ip address 40.0.0.2 255.0.0.0
   exit

   interface Serial 3/0
   ip address 30.0.0.1 255.0.0.0
   exit

Router2 → CLI →
enable
config terminal
interface Serial 3/0
ip address 30.0.0.2 255.0.0.0
exit

8. Static Routes on Router1 →
   enable
   config terminal
   ip route 10.0.0.0 255.0.0.0 40.0.0.1
   ip route 20.0.0.0 255.0.0.0 30.0.0.2

9. Default Route on Router0 and Router2 →
   enable
   config terminal
   ip route 0.0.0.0 0.0.0.0 40.0.0.2

   enable
   config terminal
   ip route 0.0.0.0 0.0.0.0 30.0.0.1

10. Select PC0 → desktop → Command prompt → ping msg to PC1 and other Routers

Date / /
Page

Observation:
After all the connection done when we try to ping msg from PC0 to PC1 and other Routers for PC1 (Destination host unreachable) for Router 2 and Router 1 (Request timed out) but only for Router 0 C Packets: Sent = 4, Received = 4, Lost = 0 as it is directly connected through Copper cross wire

ping 20.0.0.10
Destination host unreachable x4
Received = 0 Lost = 4

ping 30.0.0.2
Request timed out x4
Received = 0 Lost = 4

ping 10.0.0.1
Sent = 4 Received = 4 Lost = 0

So we have to manually ~~do~~ connect all the devices to each other This is shown in point (7)
now,

ping 20.0.0.10
Sent = 4 Received = 4 Lost = 0

ping 30.0.0.2
~~Request timed out~~
Sent = 4 Received = 4 Lost = 0

ping 30.0.0.1
Sent = 4 Received = 4 Lost = 0

Date / /
Page

Routing tree been observed as follows for Router 0:

C 10.0.0.0/8 is directly connected, FastEthernet 0/0
C 40.0.0.0/8 is directly connected, Serial 2/0
S* 0.0.0.0/0 [1/0] via 40.0.0.2

Routing tree been observed as follows for Router 1:

S 10.0.0.0/8 [1/0] via 40.0.0.1
S 20.0.0.0/8 [1/0] via 30.0.0.2
C 30.0.0.0/8 is directly connected Serial 3/0
C 40.0.0.0/8 is directly connected, Serial 2/0

Routing tree been observed as follows for Router 2:

C 20.0.0.0/8 is directly connected, FastEthernet 2/0
C 30.0.0.0/8 is directly connected, Serial 3/0
S 0.0.0.0/0 [1/0] via 30.0.0.1

23/10/24