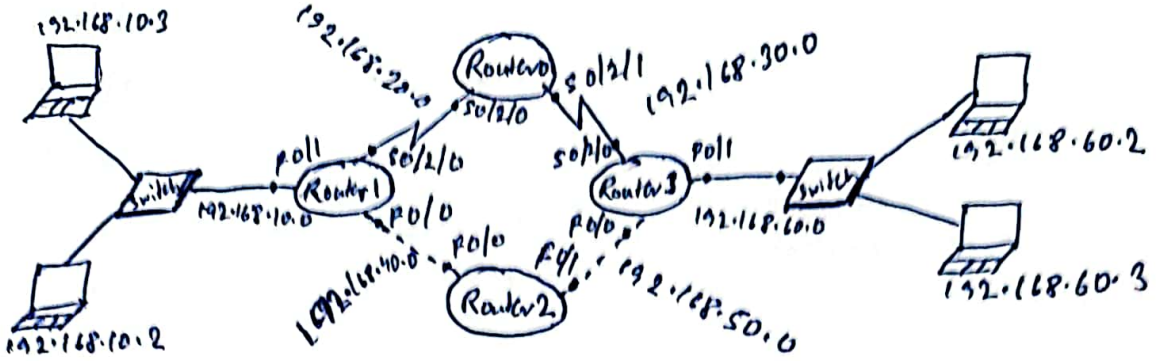
ASSIGNMENT-8

1. State Static Routing, Floating Routing in a Internetwork



→ Routers are connected in a circular way like Router1, Router0 and Router3 are connected with serial DTE wire. And Router 1, Router 2 and Router 3 are connected with copper cross-over wire.

→ Data transmission through serial port is less as compared to fast ethernet or gigabit ethernet port.

→ Ports through fast ethernet is primary link
Ports through serial port is secondary link.
If link through fast-ethernet port is down, then data transmission will occur through serial port.

→ IP address of each PC's were manually given and default gateway as Routers IP address.

→ IP address for the Routers at each ports :-

Router1	IP Address	Subnet Mask
F0/0	192.168.40.1	255.255.255.0
F0/1	192.168.10.1	255.255.255.0
S0/2/0	192.168.20.1	255.255.255.0

Router3		
F0/0	192.168.50.2	255.255.255.0
F0/1	192.168.60.1	255.255.255.0
S0/2/0	192.168.80.2	255.255.255.0

Router 0

	IP Address	Subnet Mask
S0/2/0	192.168.20.2	255.255.255.0
S0/2/1	192.168.30.1	255.255.255.0

Router 2

F0/0	192.168.40.2	255.255.255.0
F0/1	192.168.50.1	255.255.255.0

→ State Routes for the Routers 0 and Router 2 :-

	Network	Mask	Next Hop
Router 0	192.168.60.0	255.255.255.0	192.168.30.2
	192.168.10.0	255.255.255.0	192.168.20.1
Router 2	192.168.10.0	255.255.255.0	192.168.40.1
	192.168.60.0	255.255.255.0	192.168.50.2

→ State Routes for the Router 1 and Router 3 in CLI :-

Router 1

```
Router> en
Router# config t
Router(config)# ip route 192.168.60.0 255.255.255.0 192.168.40.2
Router(config)# ip route 192.168.60.0 255.255.255.0 192.68.20.2 10
Router(config)# exit
Router# wr
Building configuration....
[OK]
```

Router 3

```
Router> en
Router# config t
Router(config)# ip route 192.168.10.0 255.255.255.0 192.168.50.1
Router(config)# ip router 192.168.10.0 255.255.255.0 192.168.30.1 10
Router(config)# exit
Router# wr
Building configuration.....
[OK]
```

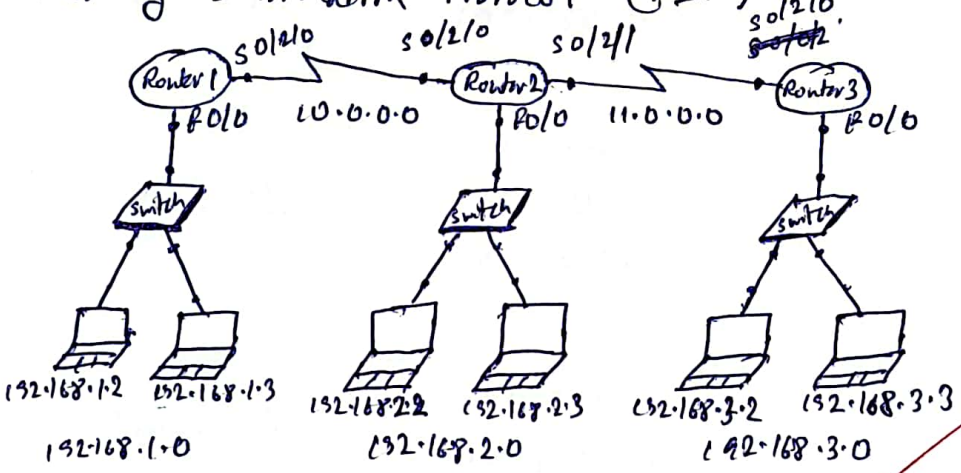
→ Packets can be transferred from any PC to another PC connected with different Routers.
At first we will get 25% loss
At last we will get 0% loss

In Simulation Mode

Send 2 packet from PC(192.168.10.3) to PC(192.168.60.2)

- As fast ethernet port is the primary link, packet will travel from fast ethernet port. Therefore while packet travels, we will shut down the Router 2 port so that packet will get transferred from serial port.
- When the packets will get received we will set the Router 2 port on. Then we can see that data will travel from ethernet port again.

2. Routing Information Protocol (RIP)



→ Routers are connected serially with serial DTE wire and then connected to switch and Two PCs seperately.

→ IP address of each PCs were manully given and default gateway as Routers IP address.

→ IP address for the Routers at each port :-

Router1	IP Address	Subnet Mask
F0/0	192.168.1.1	255.255.255.0
S0/2/0	10.0.0.1	255.0.0.0

Router2		
F0/0	192.168.2.1	255.255.255.0
S0/2/0	10.0.0.2	255.0.0.0
S0/2/1	11.0.0.1	255.0.0.0

Router3		
F0/0	192.168.3.1	255.255.255.0
S0/2/0	11.0.0.2	255.0.0.0

→RIP Routing for Routers :-

[redacted]	Network
Router1	10.0.0.0
	192.168.1.0
Router2	10.0.0.0
	11.0.0.0
	192.168.2.0
Router3	11.0.0.0
	192.168.3.0

Saud 5/10/23

→Now Packets can be transferred from any PC to another PC connected with different Routers.

At first we will get 25% loss.

At last we will get 0% loss.