Program 4
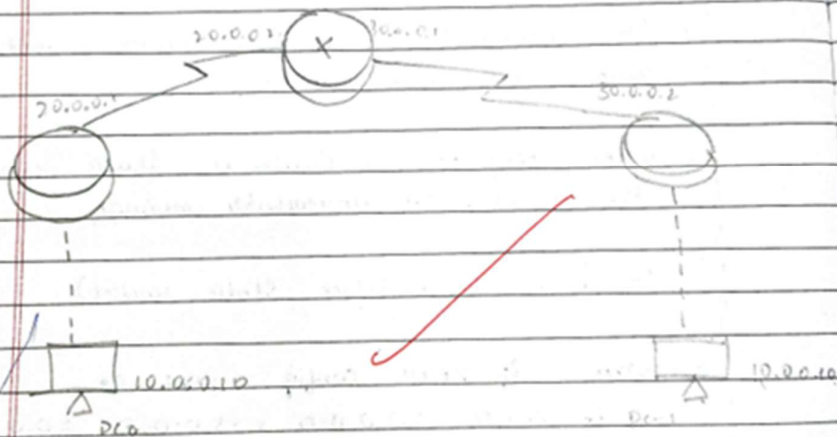**Aim:**Configure default route, static route to the Router(Part 2).

Topology , Procedure and Observation:

Lab-04

Aim: To configure a default route and static route in a network and verify connectivity

Topology

Router 0 and Router 2 are connected Serially via router 1 using DCE cable. PC0 is connected to Router 0 using copper-cross-over. Similarly it is connected to Router-2.

Procedure
→ Configure the fast ethernet connection between the PC and the router with appropriate IP addresses
② Router set to Static routing
*#Router(config)# ip route 40.0.0.0 250.0.0.0 20.00.2
* Router(config)# ip route 10.0.0.0 255.0.00 20.0.0.1

3   Set the default routing for router 0
     and router 2.
   - open CLI on Router 0
        Router # config-t
        Router (config) # ip route 0.0.0.0 0.0.0.0 20.0.0.2

   - open CLI on Router 2
        Router # config-t
        Router (config) # ip route 0.0.0.0 0.0.0.0 30.0.0.1

     When the network and the subnet mask are
     set as 0.0.0.0. Any unknown network will be
     transferred to the next hop address mentioned

Observation
        After configuring the default route, PCs
   could communicate with external networks,
   including PCs. The static route ensured
   that packets followed the specified path as
   given in the static route
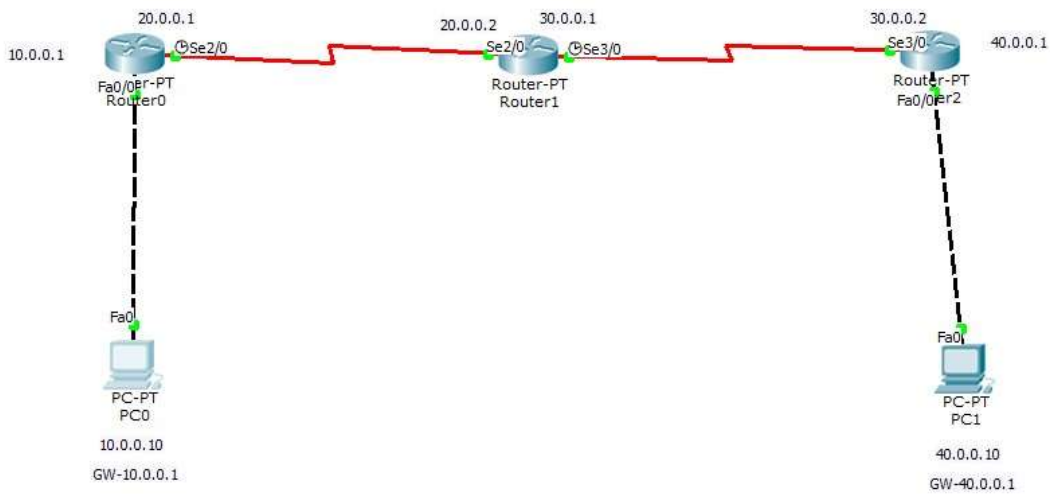
OUTPUT:
   For Router 1 on show ip route
   s   10.0.0.0/8 via 20.0.0.1
        20.0.0.0/8 is directly connected
        30.0.0.0/8 is directly connected
        40.0.0.0/8 via 30.0.0.2

   Similarly 3 router configs & were shown
     to router 0 and router 1.

Screen Shots:

Network topology:
- Router0: 10.0.0.1 (Fa0/0), 20.0.0.1 (Se2/0), Router-PT
- Router1: 20.0.0.2 (Se2/0), 30.0.0.1 (Se3/0), Router-PT
- Router2: 30.0.0.2 (Se3/0), 40.0.0.1 (Fa0/0), Router-PT
- PC0 (PC-PT): 10.0.0.10, GW-10.0.0.1
- PC1 (PC-PT): 40.0.0.10, GW-40.0.0.1

PC0 — Command Prompt

```
Pinging 40.0.0.10 with 32 bytes of data:

Request timed out.
Reply from 40.0.0.10: bytes=32 time=7ms TTL=125
Reply from 40.0.0.10: bytes=32 time=6ms TTL=125
Reply from 40.0.0.10: bytes=32 time=5ms 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 = 5ms, Maximum = 7ms, Average = 6ms

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=8ms TTL=125
Reply from 40.0.0.10: bytes=32 time=7ms TTL=125
Reply from 40.0.0.10: bytes=32 time=9ms TTL=125
Reply from 40.0.0.10: bytes=32 time=6ms 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 = 6ms, Maximum = 9ms, Average = 7ms

PC>
```