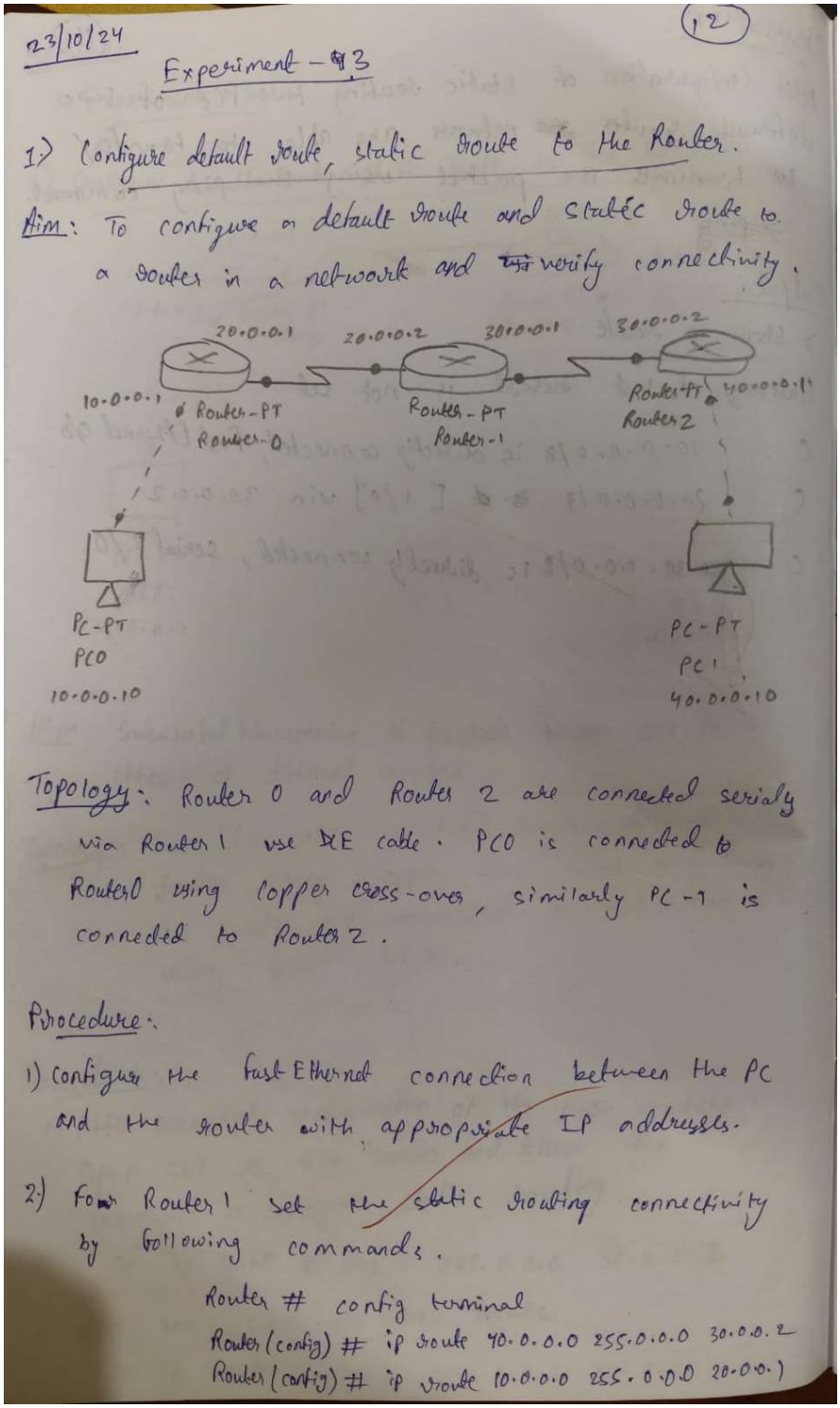
**Program 4**

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

**Topology , Procedure and Observation:**



23/10/24

(12)

Experiment - 13

1) Configure default route, static route to the Router.

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



Topology: Router 0 and Router 2 are connected serially via Router 1 use DCE cable. PC0 is connected to Router0 using copper cross-over, similarly PC-1 is connected to Router 2.

Procedure:

1) Configure the fast Ethernet connection between the PC and the router with appropriate IP addresses.

2) For Router 1 set the static routing connectivity by following commands.

```
Router # config terminal
Router(config) # ip route 40.0.0.0 255.0.0.0 30.0.0.2
Router(config) # ip route 10.0.0.0 255.0.0.0 20.0.0.1
```

These commands will set the state Routing of the Router 1.

3.) set the default Routing if Router 0 and Router 2.

- Open CLI on Router 0.

```
Router # config terminal.
Router (config) # ip route 0.0.0.0  0.0.0.0  20.0.0.2
```

- Open CLI on Router 2

```
Router # config terminal.
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, PC0 could communicate with external networks, including PC1. The static route ensured that packets are followed the specified path as given in the static routing.

Output:

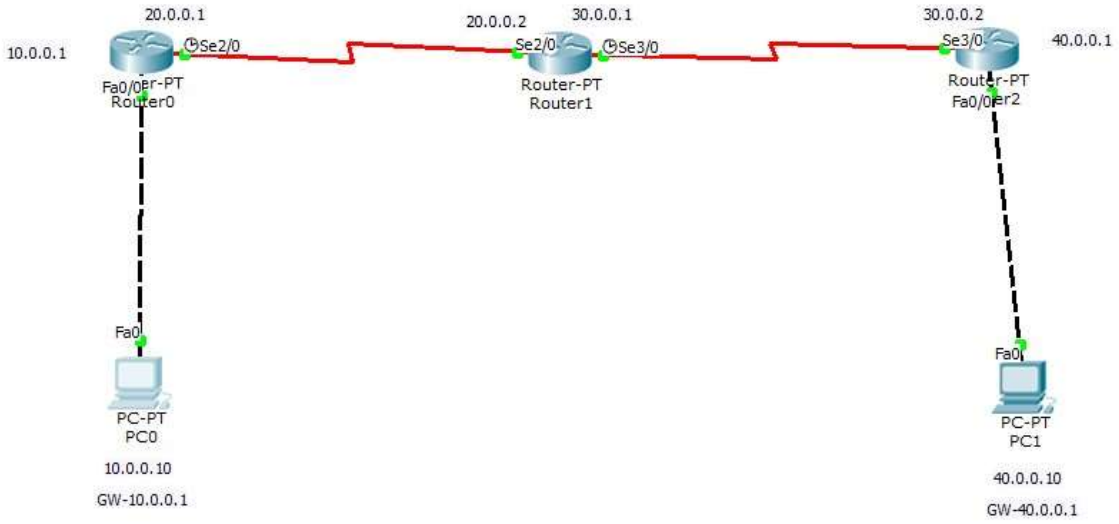
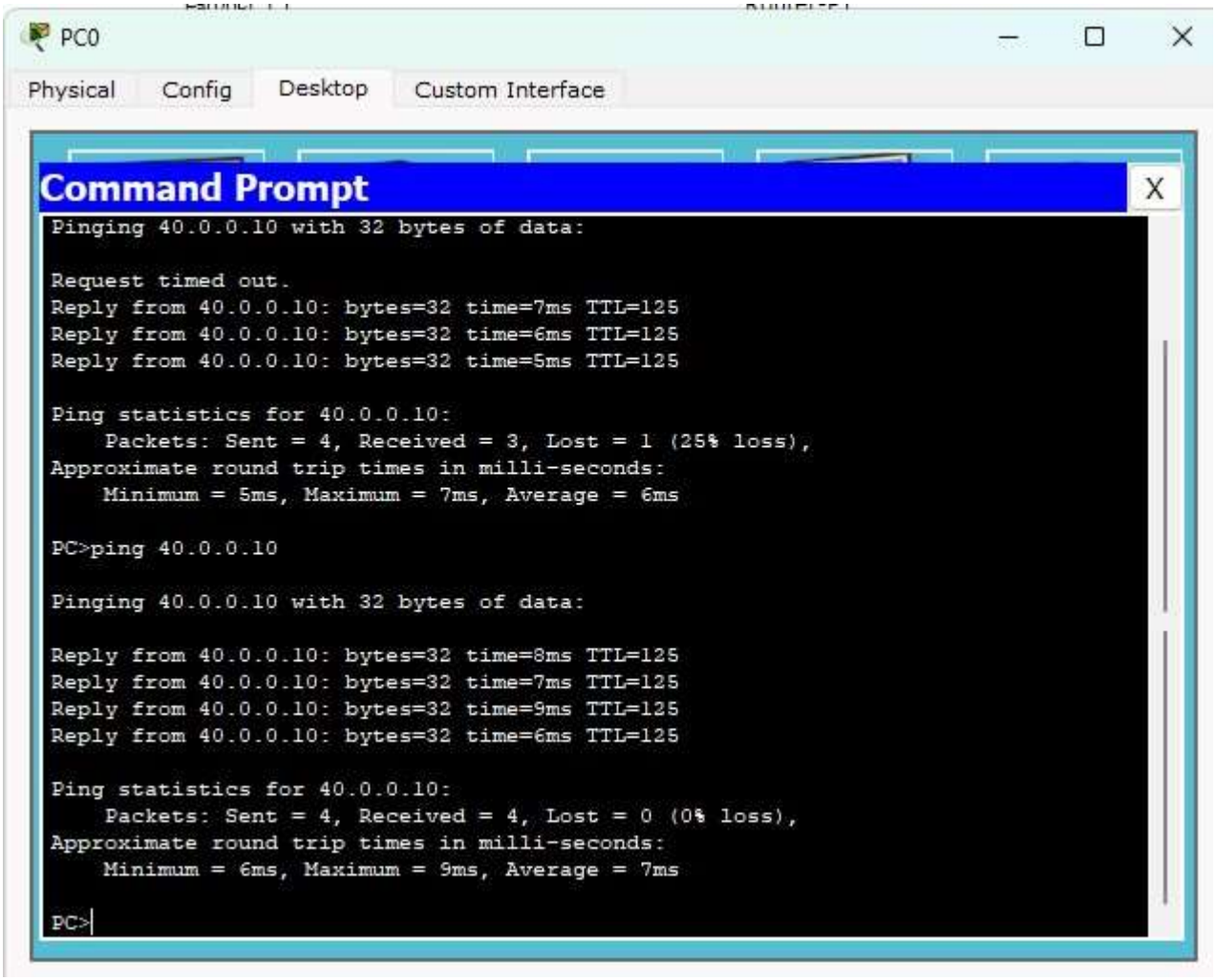
Router 1: # show ip route

```
S  10.0.0.0/8  [1/0] via 20.0.0.1
C  20.0.0.0/8  is directly connected, serial 2/0
C  30.0.0.0/8  is directly connected, serial 3/0
S  40.0.0.0/8  [1/0] via 30.0.0.2
```

Router 0 : # show ip route

C 10.0.0.0/8 is directly connected, FastEthernet 0/0
C 20.0.0.0/8 is directly connected serial 2/0
S* 0.0.0.0/0 [1/0] via 20.0.0.2

Router 2 : # show ip route

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

**Screen Shots:**