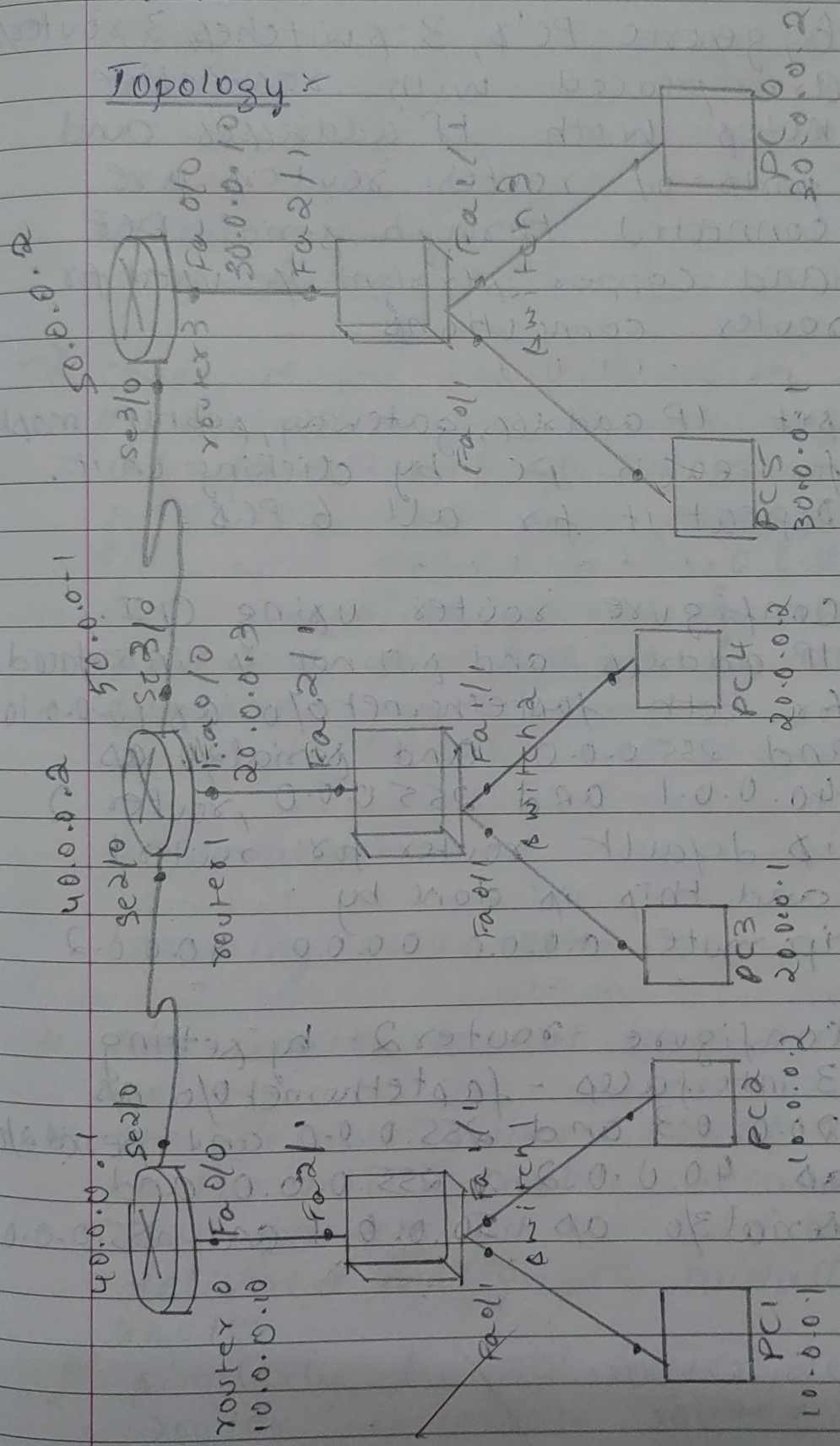


24/11/23

Aim :- configuring default route to router

Topology :-



Procedure:-

- 6, generic PC's, 3 switches, 3 routers are placed with respective notes with IP addresses and ports of router. routers are connected through serial DCE and copper straight is used for router connections.
- set IP address, gateway, subnet mask for each PC by clicking on it. Repeat it for all 6 PC's.
- configure router using CLI.
 IP address and subnet is interfaced for both fastethernet0/0 as 10.0.0.10 and 255.0.0.0 and serial2/0 as 40.0.0.1 and 255.0.0.0, router 2 is default router for router 1 and this is done by

```
ip route 0.0.0.0 0.0.0.0 40.0.0.2
```
- configure router 2 by setting 3 interfaces - fastethernet0/0 as 20.0.0.3 and 255.0.0.0 and serial2/0 as 40.0.0.2 & 255.0.0.0 and serial3/0 as 50.0.0.1 and 255.0.0.0

router 2 does not have any default routers and static routing is done for the network 10 and 40 by the following command,

```
ip route 10.0.0.0 255.0.0.0 40.0.0.1
```

```
ip route 30.0.0.0 255.0.0.0 50.0.0.2
```

→ configure for router 3 with IP addresses and subnet mask
 a0 - fastethernet 0/0 with 30.0.0.10 and 255.0.0.0 and serial serial 2/0 with 50.0.0.2 & 255.0.0.0.

the default router for router 3, router 2 and this set by the command

```
ip route 0.0.0.0 0.0.0.0 50.0.0.1
```

Observation:-

Learning outcomes:-

- * One router cannot have 2 default routers.
- * the default router for first router is the middle router because any packets which have to be delivered will go to middle router.
- * Similarly for 3rd router, default router is middle router.
- * No default router for middle

router because if one of the router is made default then there is a chance, that the packets which are to be sent to the switch are sent to the router.

Result:-

ping 20.0.0.1

pinging 20.0.0.1 with 32 bytes of data
 request timed out
 reply from 20.0.0.1: bytes=32, time=1ms,
 reply from 20.0.0.1: bytes=32, time=2ms,
 reply from 20.0.0.1: bytes=32, time=6ms,

ping 30.0.0.2

pinging 30.0.0.2 with 32 bytes of data
 request timed out
 reply from 30.0.0.2: bytes=32, time=4ms,
 reply from 30.0.0.2: bytes=32, time=4ms,
 reply from 30.0.0.2: bytes=32, time=4ms,

2
 1/12/22