Department of ICT

Faculty of Technology

University of Ruhuna

Computer Networks – ICT1253 **Level 1 - Semester - 2**

Lab Sheet 13

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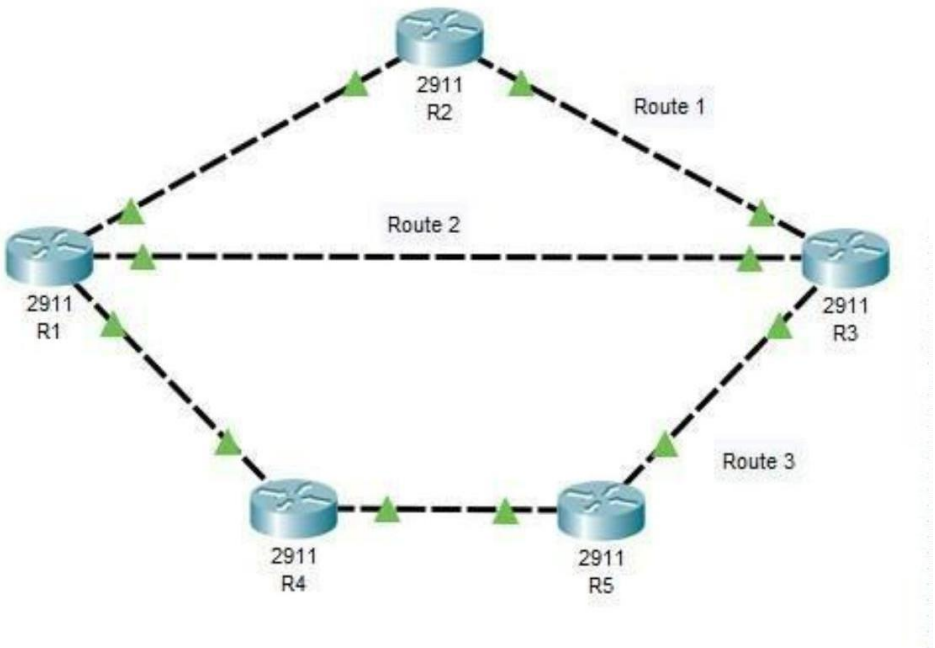
Goals:

Understand dynamic routing protocols (Part 3)

Exercise 1:

1. Read the document about IGRP and EIGRP.
2. Consider following network segment.



3. Assume these networks have speeds like below

   Route 1: R1 (128kbps) R2 (128kbps) R3: Total speed = 128kbps + 128kbps = 256kbps

   Route 2: R1 (64kbps) R3: Total speed = 64kbps

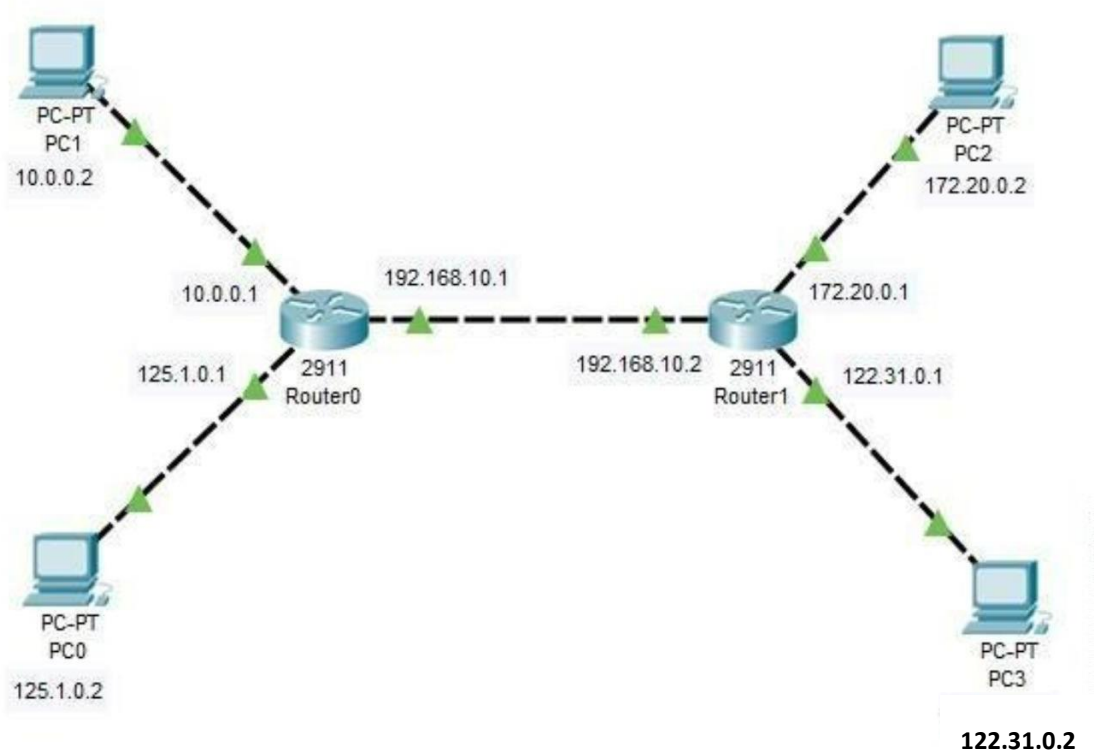
   Route 3: R1 (128kbps) R4 (128kbps) R5 (128kbps) R3: Total speed = 128kbps + 128kbps + 128kbps = 384kbps

4. From IGRP the Route 3 is selected.

Exercise 2:

1. Open Cisco packet tracer. **(You may not have able to use IGRP in your packet tracer version. So just study how to apply IGRP)**

2. Add devices to the workspace.



3. Connect those using proper cables.

4. Assign IP addresses to relevant PCs and routers.

IP blocks:

192.168.10.0 / 30
125.1.0.0 / 16
10.0.0.0 / 8
172.20.0.0 / 16
122.31.0.0 / 16

5. IGRP configuration for Router 0.

```
Router(config)#router igrp 10
Router(config-router)#network  10.0.0.0
Router(config-router)#network 125.0.0.0
Router(config-router)#network  192.168.10.0
```

6. IGRP configuration for Router 1.

```
Router(config)#router igrp 10
Router(config-router)#network 122.0.0.0
Router(config-router)#network 172.20.0.0
Router(config-router)#network  192.168.10.0
```

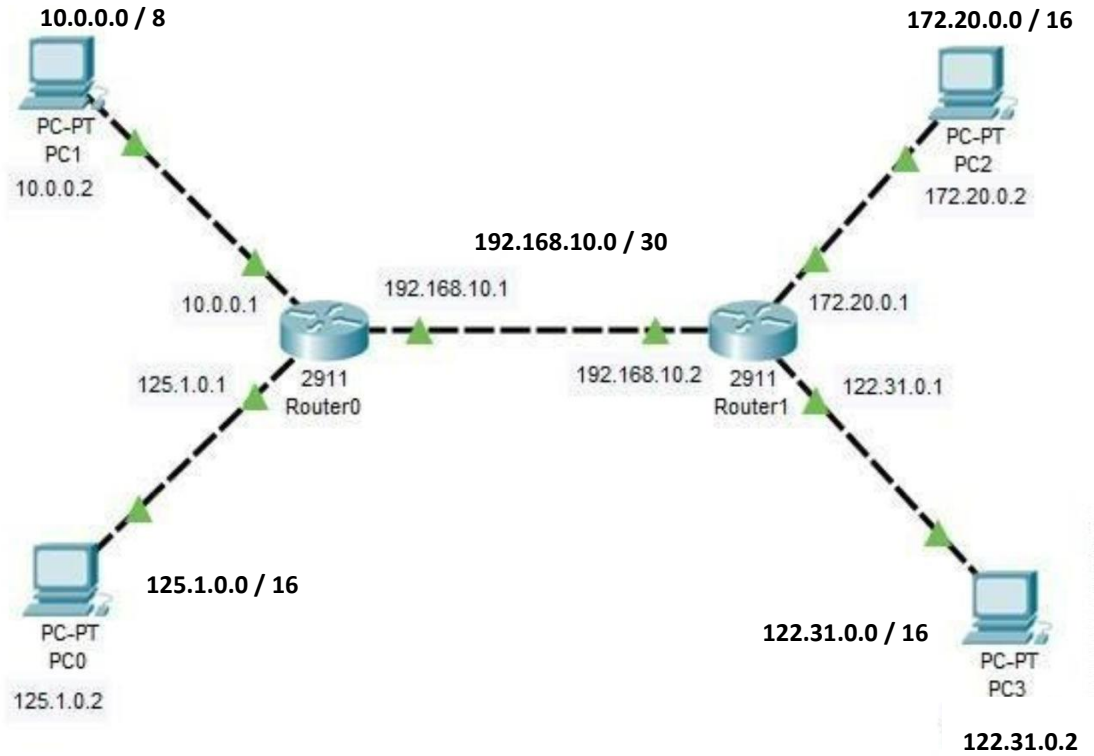
7. Try these commands.

```
Router#show ip route
Router#show ip route igrp
```

8. Ping between PCs. Then save the workspace.

Exercise 3:

1. Open Cisco packet tracer.
2. Add devices to the workspace.



3. Connect those using proper cables.
4. Assign IP addresses to relevant PCs and routers.
5. EIGRP configuration for Router 0.

```
Router(config)#router eigrp 50
Router(config-router)#network  10.0.0.0
Router(config-router)#network 125.1.0.0
Router(config-router)#network 192.168.10.0
Router(config-router)#no auto-summary
```

6. EIGRP configuration for Router 1.

```
Router(config)#router eigrp 50
Router(config-router)#network 122.31.0.0
Router(config-router)#network 172.20.0.0
Router(config-router)#network 192.168.10.0
Router(config-router)#no auto-summary
```

7. Try these commands.

```
Router#show ip route

Router#show ip route eigrp
```

8. Ping between PCs. Then save the workspace.

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