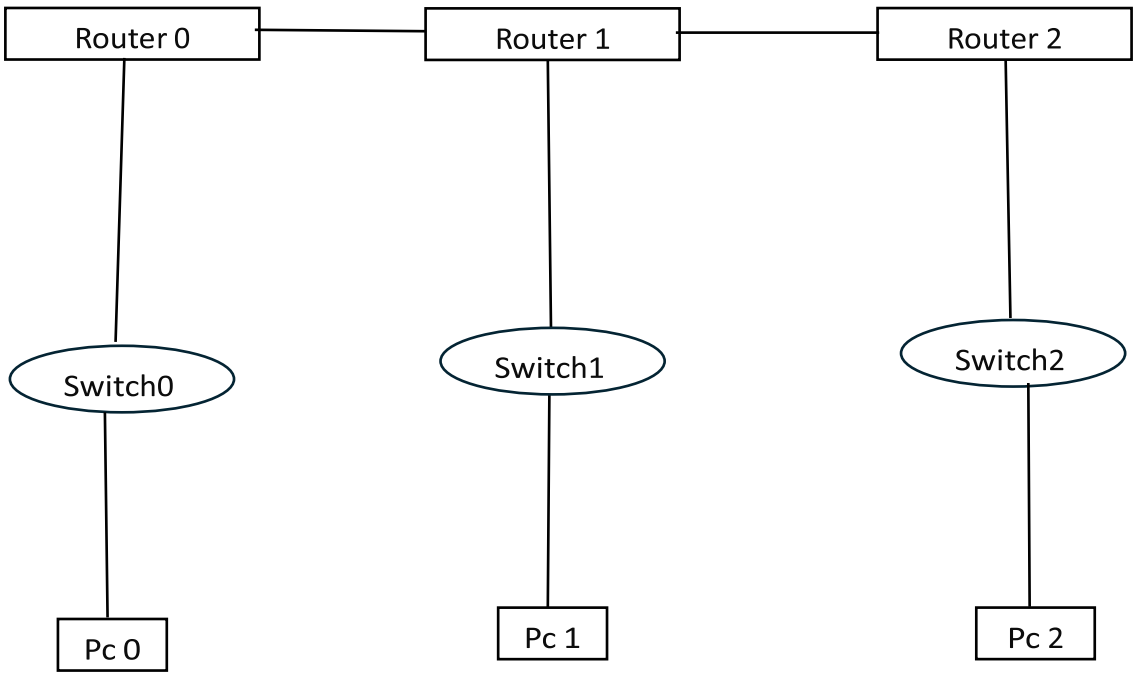
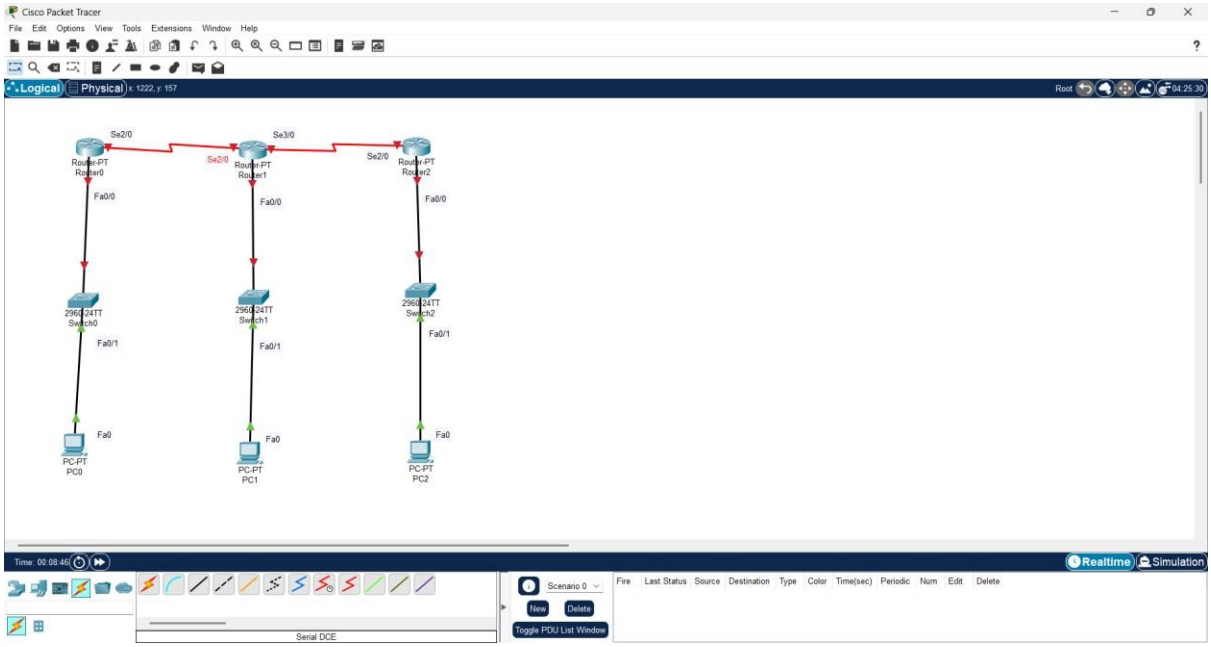
Register No:	**99220040570**
Name	**KAPILAVAI HANUMAAN**
Class/Section	**8501A/S06**
Ex.No:	**7b**
Date of Submission	**20.02.2025**
Name of the Experiment	**Distance Vector Routing**
Google Drive link of the packet tracer file (give view permission):	https://drive.google.com/drive/folders/1V9iDL8cQRT544znyoHE-_vh5bCRrIuKb?usp=drive_link

1. **Device Requirements:**
   1. Router 0
   2. Router 1
   3. Router 2
   4. Switch 0 5. Switch 1
   6. Switch 2
   7. Pc 0 8. Pc 1
   9. Pc 2
   10. Wires

2. **Network Diagram for your experiment (draw the diagram either hand drawing/ms paint or any other drawing tools)**



3. Network Diagram (Packet Tracer diagram before configuration):



4. Configuration details:

Device Name	Interface Name	IP Address	Subnet mask	Default Gateway
PC0	Fa0	192.168.10.2	255.255.255.0	
PC1	Fa0	192.168.20.2	255.255.255.0	
PC2	Fa0	192.168.30.2	255.255.255.0	
Switch 0	Fa0/1			
Switch 1	Fa0/1			
Switch 2	Fa0/1			
Router 0	Fa0/0, Se2/0,	192.168.10.1 10.0.0.2	255.255.255.0 255.0.0.0	
Router 1	Fa0/0, Se2/0, Se3/0	192.168.20.1 10.0.0.3 20.0.0.2	255.255.255.0 255.0.0.0 255.0.0.0	
Router 2	Fa0/0, Se2/0	192.168.30.1 20.0.0.3	255.255.255.0 255.0.0.0	

5. **Describe step by step configuration steps properly (you may copy the commands used in the configuration tab and paste it.)**

Router 0:

Router>enable

Router#

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface FastEthernet0/0

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up ip

address 192.168.10.1 255.255.255.0

Router(config-if)#ip address 192.168.10.1 255.255.255.0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#no shutdown

Router(config-if)#clock rate 64000

Router(config-if)#ip address 10.0.0.2 255.0.0.0

Router(config-if)#clock rate 64000

Router(config-if)#no shutdown

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#ip address 10.0.0.2 255.0.0.0 Router(config-if)#ip

address 10.0.0.2 255.0.0.0

Router(config-if)#

%LINK-5-CHANGED: Interface Serial2/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#exit

Router(config)#router rip

Router(config-router)#network 192.168.10.0

Router(config-router)#network 10.0.0.0

Router(config-router)#end

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface Serial2/0

Router(config-if)#

%SYS-5-CONFIG_I: Configured from console by console **Router**

1:

Router>enable

Router#

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface FastEthernet0/0

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up ip

address 192.168.10.1 255.255.255.0

Router(config-if)#ip address 192.168.10.1 255.255.255.0

Router(config-if)#exit

Router(config)#interface Serial2/0 Router(config-if)#no

shutdown

Router(config-if)#clock rate 64000

Router(config-if)#ip address 10.0.0.2 255.0.0.0

Router(config-if)#clock rate 64000

Router(config-if)#no shutdown

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#ip address 10.0.0.3 255.0.0.0

Router(config-if)#no shutdown

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#ip address 10.0.0.2 255.0.0.0

Router(config-if)#

%LINK-5-CHANGED: Interface Serial2/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#exit

Router(config)#router rip

Router(config-router)#network 192.168.10.0

Router(config-router)#network 10.0.0.0

Router(config-router)#end

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface Serial2/0

Router(config-if)#

%SYS-5-CONFIG_I: Configured from console by console **Router**

2:

Router>enable

```
Router#

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface FastEthernet0/0

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up ip
address 192.168.10.1 255.255.255.0

Router(config-if)#ip address 192.168.10.1 255.255.255.0

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#no shutdown

Router(config-if)#clock rate 64000

Router(config-if)#ip address 10.0.0.2 255.0.0.0

Router(config-if)#clock rate 64000

Router(config-if)#no shutdown

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#ip address 10.0.0.3 255.0.0.0

Router(config-if)#no shutdown

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#ip address 10.0.0.2 255.0.0.0

Router(config-if)#

%LINK-5-CHANGED: Interface Serial2/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router(config-if)#exit

Router(config)#interface Serial2/0
```

Router(config-if)#exit

Router(config)#router rip

Router(config-router)#network 192.168.10.0

Router(config-router)#network 10.0.0.0

Router(config-router)#end

Router#configure terminal

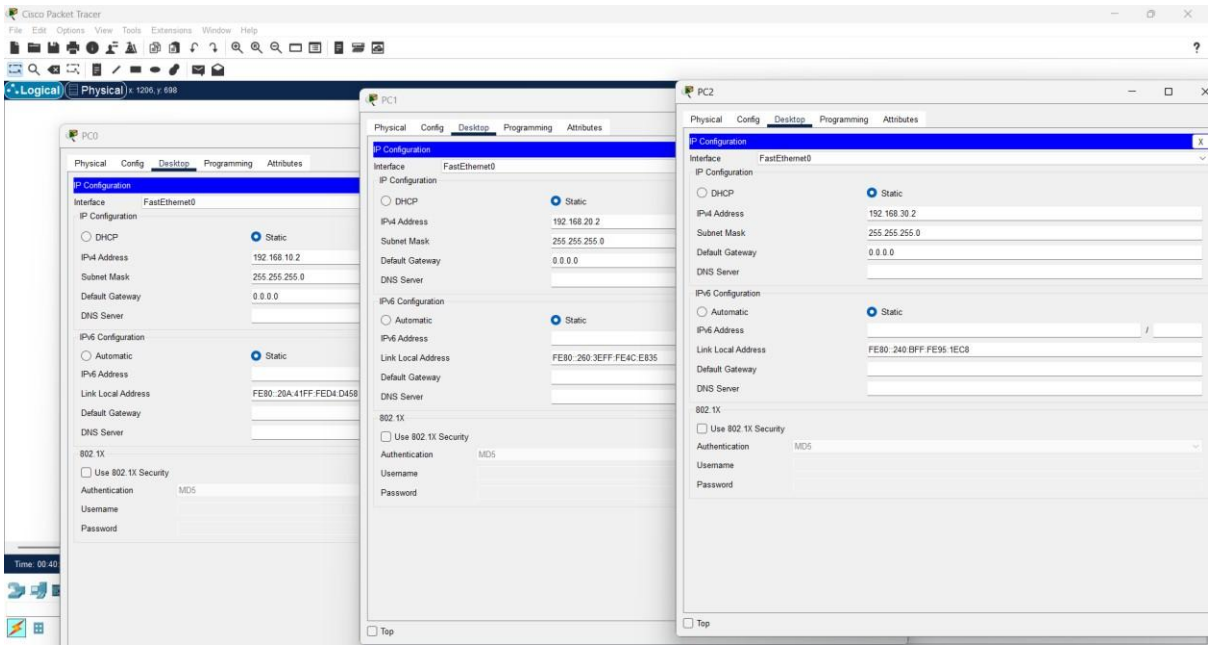
Enter configuration commands, one per line. End with CNTL/Z.

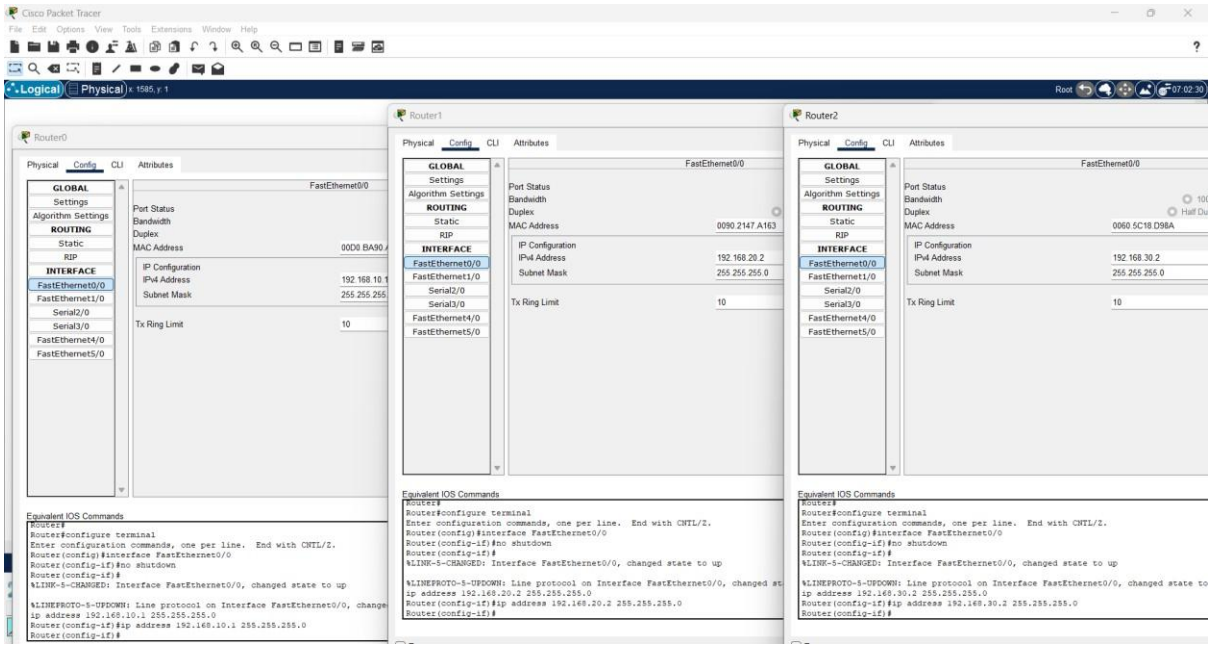
Router(config)#interface Serial2/0

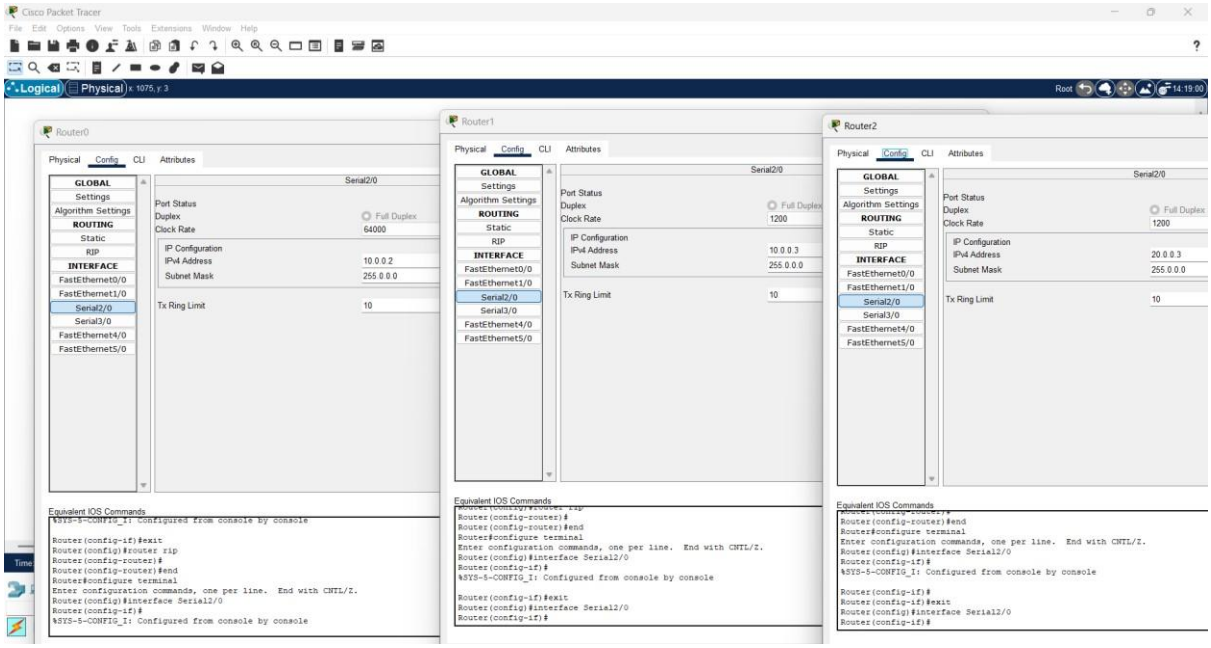
Router(config-if)#

%SYS-5-CONFIG_I: Configured from console by console

6.Output Diagram (Minimum 3 screenshot):




Cisco Packet Tracer
Router0
Router1
Router2
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0
Port Status
Bandwidth
Duplex
MAC Address
IP Configuration
IPv4 Address
Subnet Mask
Tx Ring Limit
Equivalent IOS Commands


Cisco Packet Tracer
Router0
Router1
Router2
Physical
Config
CLI
Attributes
GLOBAL
Settings
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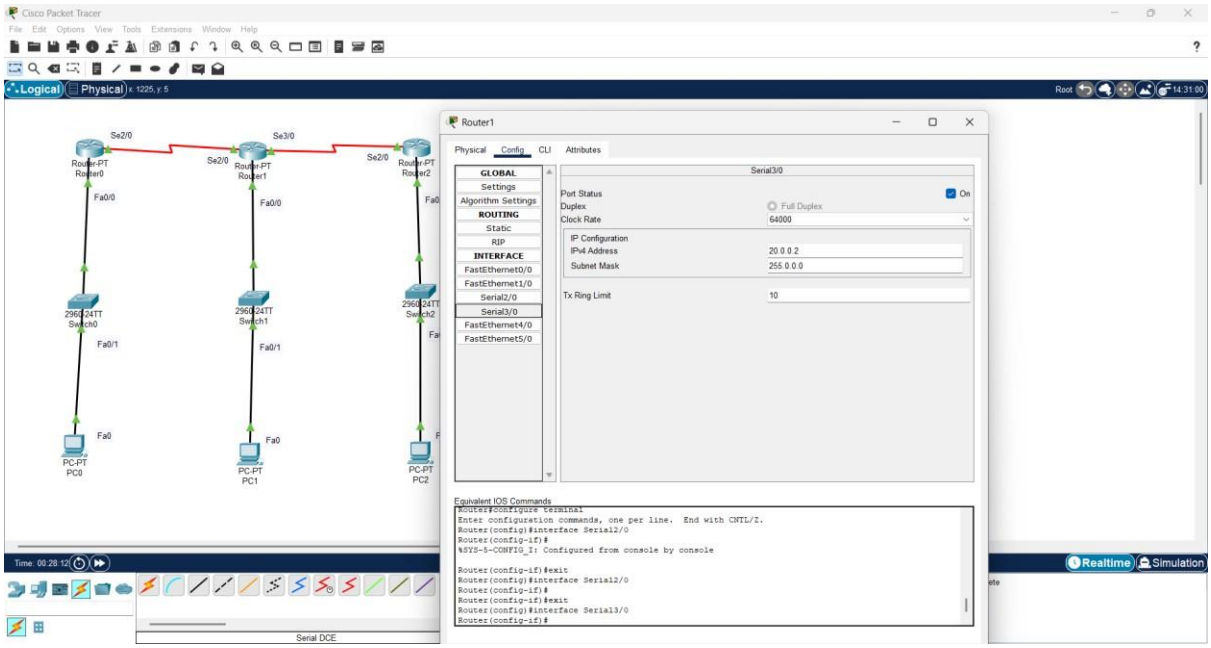
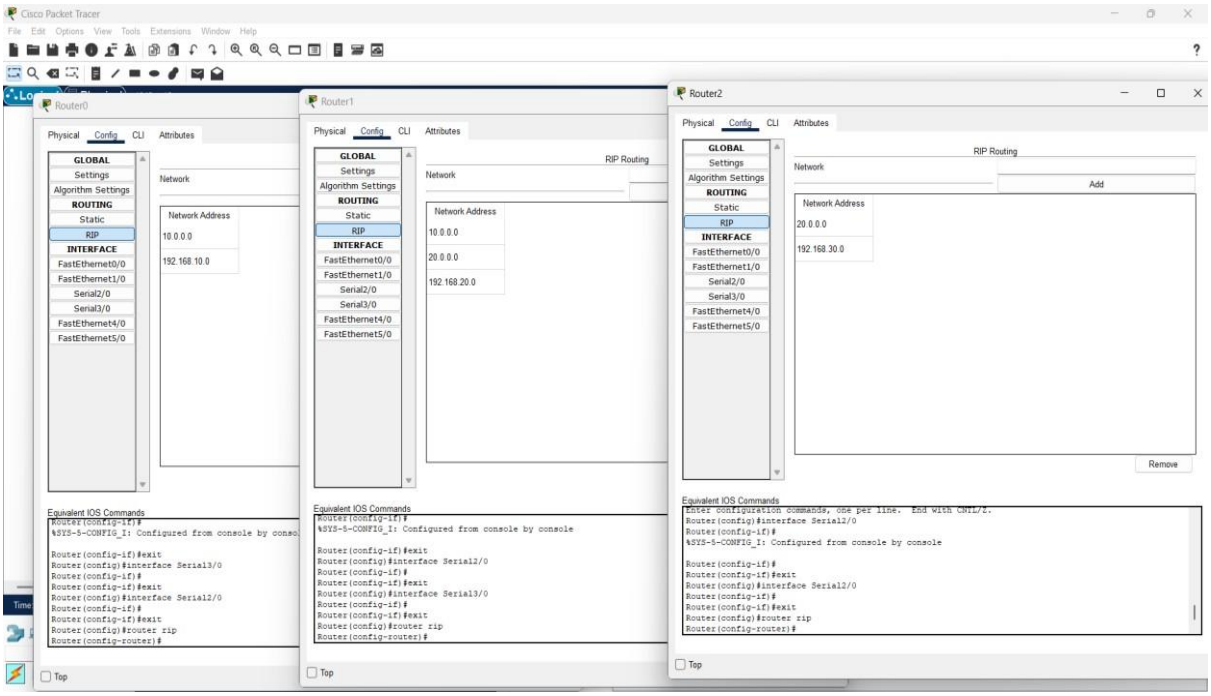
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0
Port Status
Duplex
Clock Rate
IP Configuration
IPv4 Address
Subnet Mask
Tx Ring Limit
Equivalent IOS Commands

99220040570





Google Drive link of the packet tracer file (give view permission):

Link: https://drive.google.com/drive/folders/1V9iDL8cQRT544znyoHE-_vh5bCRrIuKb?usp=drive_link

CONCLUSION (provide conclusion about this experiment):

Configuring Distance Vector Routing Protocol is essential for efficient data packet transmission in an internetwork. By maintaining updated routing tables, network stability and performance are ensured. Proper implementation minimizes manual updates, supports automatic convergence, and enhances routing efficiency. The periodic exchange of routing tables ensures accurate path selection, improving overall network reliability

Rubrics for Experiment Assessment:

Rubrics	Good	Normal	Poor	Marks
Creation of Topology (4)	Created the topology, Identify the proper devices and making the connections **(4)**	Created the topology, Identify the proper devices, making the connections But missing some features **(3)**	Created wrong topology, Failed to Identify the proper devices and making connections **(1)**	
Verify the connectivity (4)	Verified the connectivity in all the levels **(4)**	Verified the connectivity at some levels (only some nodes) **(2)**	Verified the connectivity is not done. **(1)**	
Timely Completion (2)	Completed the lab before the allotted time **(2)**	Completed the lab after the deadline **(1)**	Did not submitted before grading **(0)**	
			Total	

Result: Thus the Design a Configuration of Distance Vector Routing Protocol has been done successfully**.**