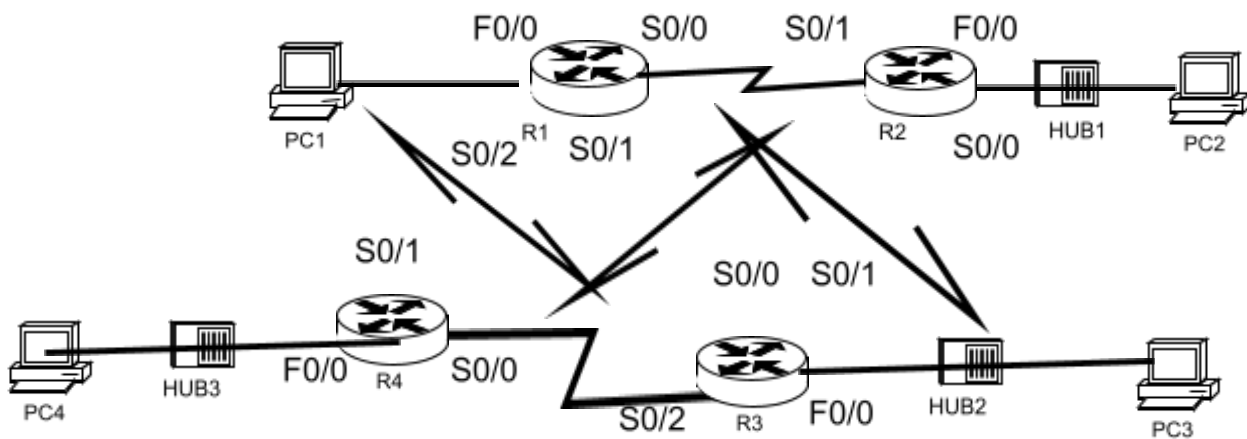


### Lab 3.1 : Network Design and Configurations (RIP routing)



PC	IP Address	Subnet Mask	Default Gateway
PC1			
PC2			
PC3			
PC4			

Router	Hostname	F0/0	S0/0	S0/1	S0/2
R1	R1				
R2	R2				
R3	R3				
R4	R4				

Setup a network similar to the one in the diagram. Any router that meets the interface requirements displayed in the above diagram, such as 800, 1600, 1700, 2500, 2600 routers, or a combination, may be used.

**Step 1.** Calculate subnet and IP address

Use a network number 203.100.14.0 / 24 to calculate the subnet for the network above and assign the ip address for the PCs , Routers and link. Write the ip address in the table.

**Step 2.** Setup Router Interface

Use the value that you 're assign in the table above to set up the interface of the router R1,R2, R3 and R4

**Step 3.** Adding RIP Vresion 3 routing protocol.

- a. In global configuration mode , add RIP routing protocol on

R1, R2 , R3 , R4

R1(config)# **router rip**

R1(config-router)# **version 2**

R1(config-router)# \_\_\_\_\_

R1(config-router)# \_\_\_\_\_

R1(config-router)# \_\_\_\_\_

R1(config-router)# \_\_\_\_\_  
R2(config)# \_\_\_\_\_  
R2(config-router)# \_\_\_\_\_  
R2(config-router)# \_\_\_\_\_  
R2(config-router)# \_\_\_\_\_  
R2(config-router)# \_\_\_\_\_  
R3(config)# \_\_\_\_\_  
R3(config-router)# \_\_\_\_\_  
R3(config-router)# \_\_\_\_\_  
R3(config-router)# \_\_\_\_\_  
R3(config-router)# \_\_\_\_\_  
R3(config-router)# \_\_\_\_\_  
R4(config)# \_\_\_\_\_  
R4(config-router)# \_\_\_\_\_  
R4(config-router)# \_\_\_\_\_  
R4(config-router)# \_\_\_\_\_  
R4(config-router)# \_\_\_\_\_

**Step 4.** Verify the new route

- a. Use the command **show ip route** , view the IP routing table for R1, R2, R3 and R4.  
What are RIP routing in the IP routing table for R1?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

What are RIP routing in the IP routing table for R2?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

What are RIP routing in the IP routing table for R3?

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\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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What are RIP routing in the IP routing table for R4?

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**Step 5.** Save the router configuration

R1# *copy running-config startup-config*

R2# *copy running-config startup-config*

R3# *copy running-config startup-config*

R4# *copy running-config startup-config*

**Step 6.** Using ping command to verify routes from PC1.

Destination	Success (y/n)
PC2	
PC3	
PC4	

**Step 7.** Using ping command to verify routes from PC2.

Destination	Success (y/n)
PC1	
PC3	
PC4	

**Step 8.** Using ping command to verify routes from PC3.

Destination	Success (y/n)
PC1	
PC2	
PC4	