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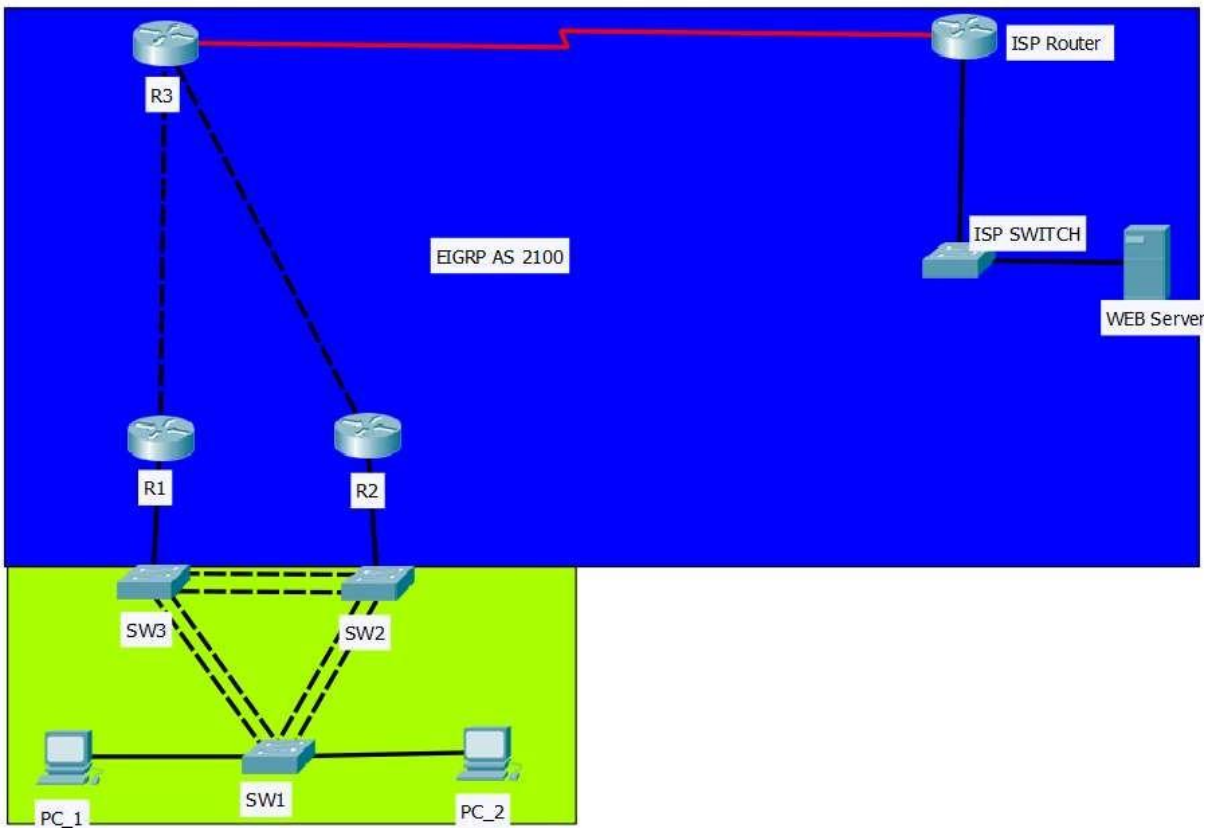
Cisco Professional Core Networks A CN511 Project

Section A

The Following Project should be done using Packet Tracer.

Screen shots should be taken at each step.

Once you have completed the project, please submit not only the screen shots but the PKT file as well



Section A	Question	Mark	Mark
Question 1	Open Packet Tracer and create the following Topology.	10	

Question 2	Topology Build VLAN 10 - Admin - 192.168.10.0 255.255.255.0 VLAN 20 - Marketers - 192.168.20.0 255.255.255.0 PC_1 – VLAN 10 PC_2 – VLAN 20 R_1 to R_3 – 200.10.10.0 255.255.255.252 R_2 to R_3 – 200.20.20.0 255.255.255.252 R_3 to ISP_Router – 100.20.10.0 255.255.255.252 ISP Layer 2 – 172.16.3.0 255.255.255.0	10	
Question 3	Channel-Bonding In order for this network to reach its full potential, we will have to implement ether-channels. Keep in mind that we are using Cisco Devices so a proprietary protocol should be used	20	
Question 4	Layer 2 Redundancy Now in the current network as is only has one Root-Bridge for STP. Which means that we have a channel that we are currently not utilizing. Configure a Layer 2 Protocol that will give each VLAN its own Root-Bridge and at the shortest possible convergence timer Also please see that all non-trunk ports are not part of the STP instance	20	
Question 5	Hot Standby Routing Hot Standby Routing should be implemented not to serve as a back-up Default gate-way but to split to load between VLAN 10 and VLAN 20 R1 – Active for VLAN 10 R2 – Active for VLAN 20	15	
Question 6	Layer 3 Routing protocol Implement EIGRP in your network make sure that it is fully functional with the correct wild cart masked with each statement. Once done you should have full communication between all devices	30	

Question 7	EIGRP Authentication Implement authentication between R1 and R3	10	
Question 8	Challenge handshake Authentication Protocol Now between R3 and ISP_Router I would like you to implement An authentication protocol that preforms a three-way handshake before allowing access	15	
Question 9	Web Server Now that the network is fully functional, we have to get the web server to work with the rest of the network. Step 1 The Website is already on the server called Helloworld.com the only thing we need to do is create the DNS entry for Helloword.com Step 2 Because the DNS entry is only know by the server itself, we will have to get the rest of the network to update their DNS information form the Web server.	15	
Question 10	Access-List For testing purposes PC_2 Should not have access to the Web Server Via HTTPS but should have access via HTTPS	5	
Question 11	Network Address Translation R3 should be your NAT Router converting Both R1 and R2 into one IP address.	10	
	TOTAL	160	