COMPUTER NETWORKS PROJECT

Instructions:

Don’t copy, don’t cheat. The evaluation criteria is very strict, do everything by yourself else you will be in big trouble.

1. Don’t cheat, your efforts will be valued but cheater will be marked 0.
2. Everything is self-explained, solve it yourself.

“Our greatest weakness lies in giving up. The most certain way to succeed always to try just one more time. ”

You are given the network design with minimal technical documentation; your task is to make this up. Use all your mind capabilities to solve and submit this as soon as you can and live rest of your semester relaxed.

- Following are the steps you need to perform in the network according to the given layout. Configure this scenario and find your given IP address in the file “IP address “attached with this. Find out the Network Addresses and start working with them. And Use them as you want.

1. Please find the Number of required host per subnet in the given file and **DO VLSM accordingly**. Each group is given different number of required host per subnet. Networks are labeled alphabetically in the given file of IP ADDRESSES.
2. Use OSPF with area 1 in Second Block, Rip in Block Third and OSPF with area 0 in last block as mention on top of the block.
3. Use Redistribution on Router8 and Router21 for connecting OSPF with OSPF and OSPF with RIP.
4. All host in OSPF area 1 and RIP will get IP address from "DHCP Server" and Host in OSPF area 0 will get IP address from “DHCP Server for VLAN's ".

5. Use EIGRP in First Block for Routing

6. Use Redistribution on Router5 and Router8 for connecting EIGRP with OSPF

7. All host in EIGRP, OSPF area 1 and RIP will get IP address from "DHCP Server" and Host in OSPF area 0 will get IP address from “DHCP Server for VLAN's ".

8. **You have to IMPLEMENT NAT in router with the Network G.** Use Public IP Address given to you in the attached file for implementing NAT.

9. Create VLAN's as mention in scenario.

10. Use VTP and make 3560 switch a server other will be client and switch with light blue shade shouldn't copy any VLAN. 3560 switch is Multi-Level Switch which can act as a switch as well as router.

11. VLAN's hosts must communicate with each Host in Same VLAN. Use Inter-VLAN communication between VLAN 20 and VLAN 40 Only.

12. Configure “DHCP Server for VLAN's “for IP assignment to host in VLAN.

13. PC 0 will not access TFTP server, PC 13 will not access Data server, all host connected with pink shaded switch will not access "Data Sever 3" and Host with red shaded switch will not communicate with Host of "VLAN 40".

14. You have to implement IP security between every router of your network.

15. You have to do VLAN’s routing, and for VLAN routing you can use router on-stick technique.

16. You also have to provide address table for all the IP configurations of the topology.

Note: You have to use VLSM in each of the 4 Blocks in that topology. ONE Network address for each Block.

Instruction file is uploaded for IP Security

Must Read For Bonus Marks:

You need to model your project with physical workspace of packet tracer simulator. Nicely modelled topology is required to make itself explanatory. Your project's physical workspace must depict your network topology embedded in a real world environment. Use some nice background images, cities, buildings, offices and all other mandatory elements to make its physical view more eye-catching. A well designed physical view will lead to award bonus points so go and put your maximum efforts to get some extra points.

Network topology