

# COMPUTER NETWORKS PROJECT

## Instructions:

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

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*The statements are self-Explanatory.*

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1. Use Packet Tracer Instructor Version to simulate this network.
2. Don't cheat, your efforts will be valued but the cheater will be marked 0.
3. Everything is self-explained, solve it yourself.

**NOTE:** You are given the network design with minimal technical documentation; your task is to make this up and run in Cisco Packet tracer.

The following are the steps you need to perform in the topology according to the given layout.

- ✓ Configure this scenario and find your given IP address in the file "IP addresses" attached with this. **Every one of you is assigned with its unique IP address.** Find out the Network Addresses and start working with them. And use them as required.
- ✓ Please find the number of required hosts per subnet in the same attached file. Each student is given a different number of required hosts per subnet. Networks are labeled alphabetically in the given file of IP ADDRESSES.
- ✓ Use the appropriate routing method as mentioned on the top of each block.
- ✓ Use Redistribution on Routers that connect two different blocks with each other.
- ✓ All hosts in **EIGRP, OSPF area 1 and 2, and RIP** will get IP addresses from the "DHCP Server" present in the last block at the bottom.
- ✓ You must use **VLSM** in each network of the topology. Remember that between two routers you need a total of 4 IP addresses. And information about host requirements of all other networks is provided in the attached file as mentioned above.
- ✓ You must **IMPLEMENT NAT** in Router20 (with the Network J) and Router8 (with the Network E). Use the Private IP Address given to you in the attached file for Nating.
- ✓ One of the PCs of Network A will not be allowed to access the web server. One of the Smart Phone of Network E and Network J will not be allowed to access the Web server. All hosts connected to network D will not be allowed to access "**Web Server**". **(Use ACLs on the router connected to the Web Server to enforce these restrictions.)**
- ✓ There is a "**mail server**" in the first block. All the hosts will have email configured and can send email to each other. (You have to explore this configuration by your own)

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**IP addresses link:**

[https://docs.google.com/spreadsheets/d/19NdGhZvEulznw2VNrMutjEQwNMh1DY\\_r8NCd-Ssg\\_ZY/edit?gid=0#gid=0](https://docs.google.com/spreadsheets/d/19NdGhZvEulznw2VNrMutjEQwNMh1DY_r8NCd-Ssg_ZY/edit?gid=0#gid=0)

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**Submission Deadline: 8<sup>th</sup> May 2025, 11:59 PM**