



CL30001 – Computer Networks Lab # 12 Quiz 03

Student Name: _____

Roll No: _____

Time Allowed: 2hr

Total Marks: 20

Weightage: 5

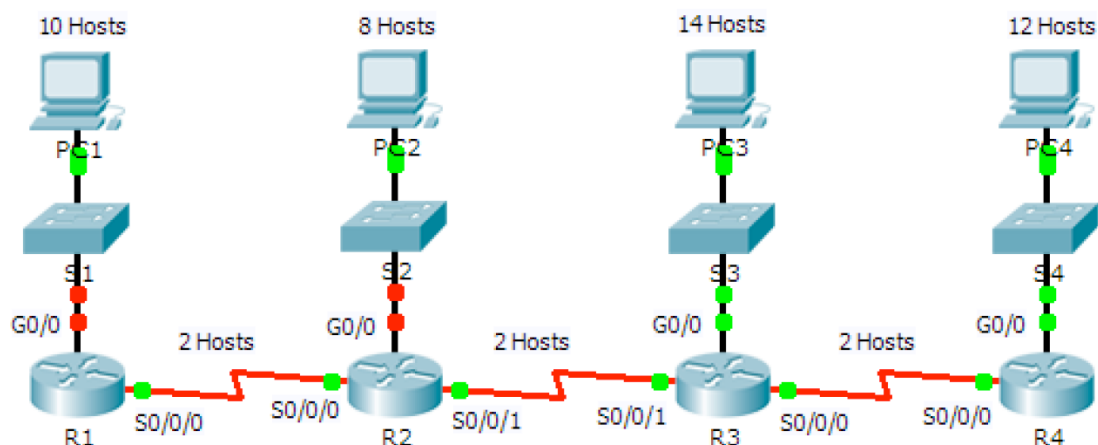
Question 1:

Vicky, a graduate of FAST, starts a company named Network Solutions. He gets a project to design network using three Router, Four Switches, and Six Laptops. One FTP, One DNS, One Email Server and Two web servers. Suppose you are Vicky, **apply** the knowledge of networking learnt from CN Lab to design the network.

Design and implement network topology in packet tracer.

- Create MS word File (Attached screenshots)
 - R1, R2, R3 configuration screenshot
 - Web Servers Screen shot
 - Email received and reply
 - Laptop configured using DHCP service.
- Upload MS Word File/pdf and packet Tracer File

Question 2:





In this activity, you are given the network address of 172.31.1.0 /24 to subnet and provide the IP addressing for the network shown in the Topology. The required host addresses for each WAN and LAN link are labelled in the topology.

1. Based on the topology, how many subnets are needed?
2. How many bits must be borrowed to support the number of subnets in the topology table?
3. How many subnets does this create?
4. Calculate the binary value for the first five subnets?
5. Calculate the binary and decimal value of the new subnet mask
6. Complete the Subnet Table, listing all available subnets, the first and last usable host address, and the broadcast address.