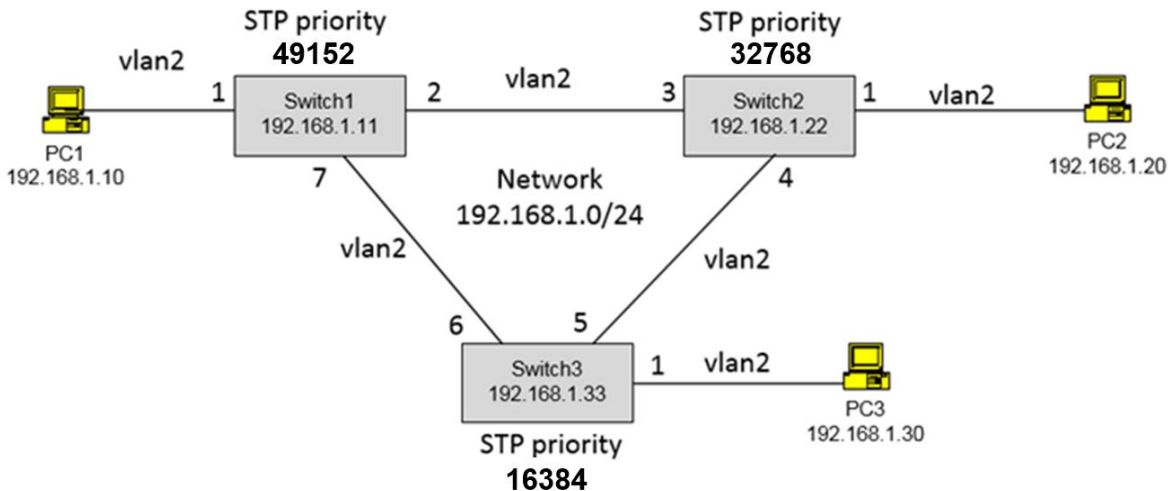# CS4471 Spanning Tree Protocol Lab (version 1.6)

Name_____

CIN_____

Group_____

Use Cisco Packet Tracer to create the network with values shown below containing 3 interconnected Ethernet switches and 3 computers. Verify that from PC1, you can ping the IP address of the other five devices. Subnet mask of all devices should be 255.255.255.0.

1. (1 pt) Submit screenshot of Cisco Packet Tracer network diagram created. Make sure that the port labels are shown (Options->Preferences->Show Port Labels)

2. Submit output of "show running-config" of each switch.
   a. (1 pt) Highlight the Cisco command(s) used to configure each connected switch port to be in vlan 2.
   b. (1 pt) Highlight the Cisco command(s) used to configure the ip address of the switches to be in vlan 2.
   c. (1 pt) Highlight the Cisco command(s) used to configure the spanning-tree priority for vlan 2 of each switch.

3. (1pt) Which switch is the root bridge?
   Support your answer with an appropriate screenshot of "show spanning-tree" executed on the root bridge.

4. (1pt) Which switch ports will become a Spanning-Tree Protocol root port?
   Support your answer with screenshots of "show spanning-tree" executed on switches containing a root port

5. (1pt) Which switch port(s) on each switch will Spanning-Tree Protocol place into forwarding state?
   Support your answer with screenshots.

6. (1pt) Which switch ports(s) on which switch will Spanning-Tree Protocol place into blocking state?
   Support your answer with a screenshot of "show spanning-tree" executed on switch with blocked port.

7. (1pt) If PC1 were to send ICMP ping packets to PC2, which network links will the packets traverse?

8. (1pt) On the switch that has a STP blocked port, what will spanning tree protocol do to this port if you were to administratively "shutdown" the interface of this switch's original STP root port?