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**Department of Computer Science and Engineering**

**FINAL EXAMINATION SPRING 2014**

**CSE490/EEE453: WAN Routing and Technologies**

**Total Marks:60 Time Allowed: 70 minutes**

* Answer ALL FOUR **(4)** questions.
* Figure in bracket [] next to each question indicates marks for that question.

## Question No. 1

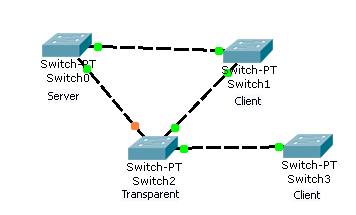
* 1. Where does a switch maintain its table and what is it called? Name the important fields that are present in this table? [3 marks]



**Figure No. 1**

1. What does the symbol below the number 8 imply in figure no. 1? How does it help us? [3 marks]
2. State the purpose of the following command, “ip http server” [2 marks]
3. Why is Store and Forwarding switching better than Cut Through switching? [3 marks]

###### Question No. 2



**Figure No. 2**

1. Refer to the figure no. 2 above; the network administrator has just added the old client switch (Switch 3) to the existing network. After a while the PCs connected to Switch1 and Switch 0 cannot access each other. What are the probable reasons? [4 marks]
2. Is a server switch able to obtain VLAN information when it reboots? [3 marks]
3. Compare between Summary Advertisements and Request Advertisements. (Two points) [3 marks]

Switch 0(config)#vtp password bracu

1. Refer to figure no.2 and the configuration above; a password is set in the server switch only. Now the other switches are not exchanging vtp advertisements anymore, why? [2 marks]

Question No. 3

1. Why does a broadcast storm occur in a switched network? How can you stop it when it occurs and prevent it before it occurs? [3 marks]
2. When a switch first starts up the ports stay in blocking state for 20seconds and then another 30 seconds in two other states after which the ports can go into forwarding state? What are the two other states and what is their basic difference? [3 marks]



**Figure No. 3**

1. Refer to the exhibit above in figure no. 3. Which switch will become the root? Explain why? [3 marks]

1. In RSTP, alternate ports are usually in what state? And what is the benefit of having an alternate port? [3 marks]

## Question No. 4

1. You configure interface Fa0/18 as follows:

S3(config)#interface fa 0/18

S3(config-if)#mls qos trust qos

S3(config-if)#switchport voice VLAN 150

S3(config-if)# switchport mode access

S3(config-if)# switchport access vlan 20

Refer to the configuration above, what is the purpose of the command line (the arrow is pointing to)? Why are we giving voice a separate VLAN number 150? [4 marks]

R(config)#**interface f0/0.99**

R(config-subif)#**encapsulation dot1q 99**

R(config-subif)#**ip add 192.168.99.230 255.255.255.224**

R(config-subif)#**interface f0/0.100**

R(config-subif)#**encapsulation dot1q 100**

R(config-subif)#**ip add 192.168.100.200 255.255.255.224**

1. Explain what “dot1q” represents. After configuration the interfaces are not coming up, what could be the problem? [4 marks]
2. After the problem is fixed for the configuration shown above, the router receives two frames on physical interface f0/0. The destination IP addresses are 192.168.99.300/27 and 192.168.100.245/27. What will the router do with both packets? [4 marks]

##### THE END