**ASSIGNMENT FORMAT**

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| **COURSE** |  | **ASSIGNMENT NO** |  |
| **MODULE** |  | **ASSIGNMENT DATE** |  |
| **STUDENT NAME** |  | **SUBMISSION DATE** |  |

**Q1.** What is the concept of VLAN and what are its advantages?

**Ans:**

*“Answer in points along with the advantages”*

**Q2.**  Your next role involves using two switches divide the internal LAN of your organisation into 3 VLAN’s, having 3 end devices in each switch, you can configure a DHCP server.

The Network assigned to you is 10.15.0.0/16, divide this network into required subnet’s and assign IP to end devices using DHCP servers.

**Solution:**

1. **Draw the Network and show the topology in Packet Tracer**

*“Attach the screenshot of Topology”*

1. **Calculate the total subnet required, show the maths on how many networks required and host ID’s**

*“Do maths clearly showing the new subnet mask and subnets”*

1. **Switch Configuration Steps on packet tracer**

**Go to Switch>>CLI Press ENTER**

**Type the following Commands**

Switch> enable

Switch# configure Terminal

Switch(conf)# hostname<………………>      (Switch Name)

Switch Name(conf)# vlan <………..>     (VLAN Number)

Switch Name(conf-vlan)# name <…………>       (VLAN Name)

Switch Name(conf-vlan) # exit

*“Similarly configure all VLAN’s”*

*“Attach screenshot showing all assigned VLAN’s”*

**Check VLAN Assignment using command**

Switch Name# show vlan brief

**Now, Configure the VLAN Switch Ports**

Switch Name(conf)# interface fastethernet 0/…     (Port Number)

Switch Name(conf-if)# switchport access vlan <…>   (VLAN Number)

Switch Name(conf-if)# switchport mode access

Switch Name(conf-if)# exit

*“Similarly configure all VLAN access ports for all VLAN’s”*

*“Attach screenshots showing VLAN Port assignment”*

**Command for configuring Trunk Port**

**For Switch No: 2960**

Switch Name(conf)# interface fastethernet 0/…     (Port Number)

Switch Name(conf-if)# switchport trunk allowed vlan all

Switch Name(conf-if)# switchport mode trunk

Switch Name(conf-if)# exit

**For Switch No: 3650 & 3560**

Switch Name(conf)# interface fastethernet 0/…     (Port Number)

Switch Name(conf-if)# switchport trunk encapsulation dot1q

Switch Name(conf-if)# switchport mode trunk

Switch Name(conf-if)# exit

**Again, Check VLAN Assignment using command**

Switch Name# show vlan brief

1. **Configure DHCP Server of each VLAN (Refer Day 5 Assignment)**

*“Attach the screenshots of each allocated subnets on DHCP Server”*

1. **Assign IP to all end devices using DHCP Server on each VLAN**

*“Attach one screenshot of each subnet”*

1. **Check continuity of each VLAN one within VLAN and second INTERVLAN**

*“Attach one screenshot of continuity check within VLAN”*

*“Attach one screenshot of continuity check inter VLAN”*

1. **After finishing the connectivity check continuity of each VLAN from both sides check MAC-Address Table**

**First Switch**

**Command** Switch# show mac-address-table

*“Write down your observation”*

*“Attach the screenshot of your findings”*

**Second Switch**

**Command** Switch# show mac-address-table

*“Write down your observation”*

*“Attach the screenshot of your findings”*