



Examination Answer Book

12 Pages

Instructions to candidates

1. Please give the information requested in the boxes below.
2. Enter you name in the space provided to the right and seal to hide your name.
3. The answers must be **legibly** written. The Examiners can either ignore illegible script or have it typed and the expense of typing charged to the candidate.
4. Write your answers in ink.
5. Begin each answer on a fresh page. Do all rough work in the answer book and cross it through.
6. No part of this book is to be torn out; it must be handed in complete.
7. If more books than one are used, fasten them together using the tags available from the invigilator(s).
8. Every book must be handed in. In no circumstances may answer books, used or unused, be taken out of the examination venue.

1	Student Number	1204399
2	Title of Examination Paper	LOCAL AREA NETWORK
3	Module Code	ACCC5002
4	Date and Time of Examination	9th MAY 14:00 - 16:00
5	Examination Venue	LH2
6	Seat Number	4
7	Number of Answer Books handed in	

List the numbers of the questions you have attempted	Office Use
1	14
2	10
3	9
Total	33/75

44

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START:-

Question 1.

A. With the aid of an appropriate..... for LAN's.

Answer:-

Hierarchical network design based on three (3) ~~layer~~ layers. The whole network is divided on three layers. Named below.

- 1 CORE
- 2 Distribution
- 3 Access.

CORE:-

Core layer works on the top with layer 3 switch or router and increase the stability.

Worst?

- Aggregation of Dist. layer Device traffic
- High speed Hardware Switching
- Connection to Internet

Distribution:-

Distribution layer is the middle one. works with Distribution switches and bridges to fast the speed and make access possible to router. ~~a~~ Increases the availability of network.

Access:-

Access layer is on bottom works on end devices and intermediate devices, with access layer human interface to the network is possible. Its there to speed up process and Security for the network.

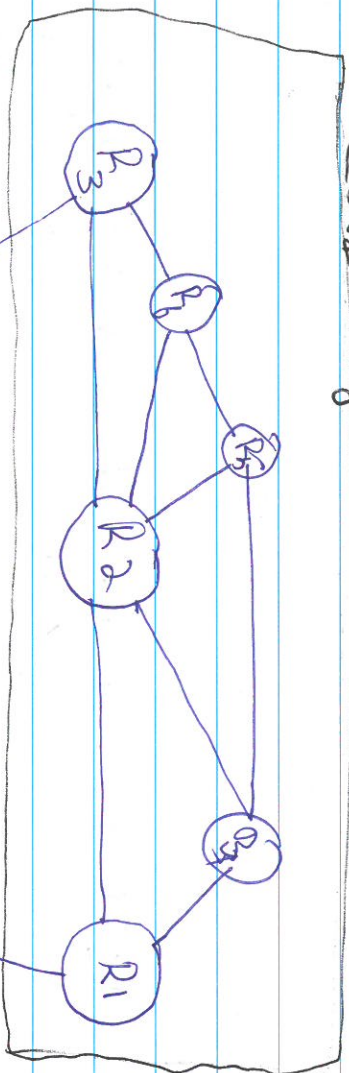
Example:-

(2)

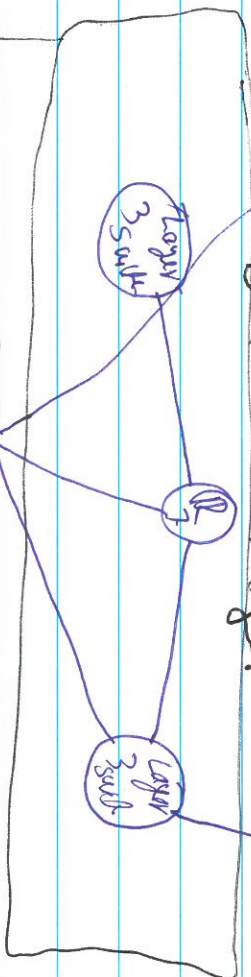
(3)

(2)

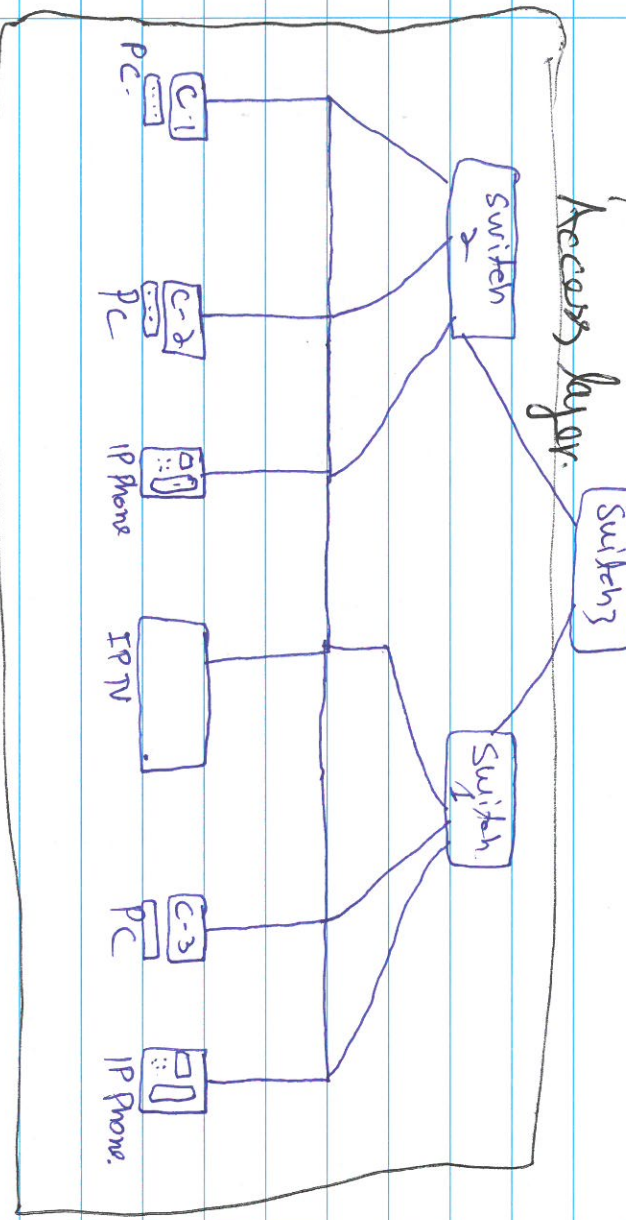
core layer



Distribution layer



Access layer



Above is the hierarchical network design diagram. 3 different layers split with 1ml.

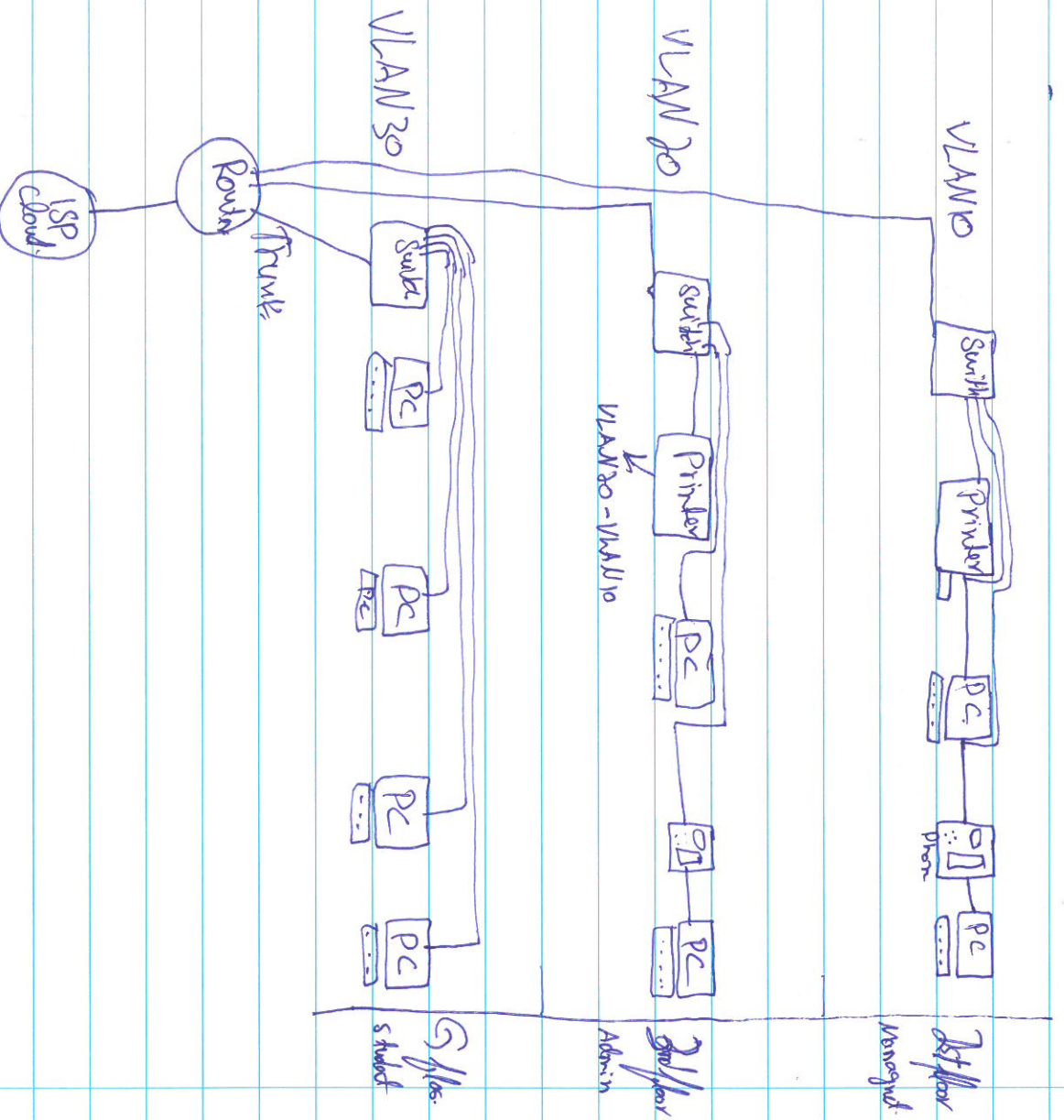
b- Define VLANs..... Using them.

Answer:-

VLANs stand for virtual local area networks. In old days there should be physical network equipments to create or separate a network or users separate the users, with the help of VLANs, VLANs can be created on switches and allow them to talk with each other or prevent them via inter VLAN Routing.

(1)

Diagram:-



In the Diagram its a 3 floor University building where student admin and mangment sharing the same internet and local area network via inter WAN routing configuration but due to VLAN they keep their data separate ~~set~~ as long as network admin allow them to share resources for example ground floor and first floor Sharing Printing machine with each other.

Benefits:

- 1- Security ~~not~~ allowing them to access other pockets
- 2- Resources sharing.
- 3- Using same network and can restrict and allow access to specific application.
- 4- No need expensive ~~for~~ upgrades.
- 5- Network efficiency.

Bandwidth utilization

Simpler Proj. mgmt.

Question two:

a. Explain the diagram.

Answer:

PVST+ is the upgraded version of PVST. PVST is works only with Cisco routers.

①

b. Explain following.

1- VTP Domain:-

where every client contact to get information for VLAN's

①

2- VTP Server:-

VTP server is a configured system or server of VLAN's where ~~the~~ network admin can create a new VLAN, Delete VLAN's or make any changes in VLAN's and its advertise ~~all~~ VLAN's information on network.

②

VTP Client:-

VTP clients receive the advertised from VTP server and save the information and act accordingly. its stay in VTP client until any changes made from VTP servers. New VLAN's ~~cannot~~ be created or deleted.

②

VTP Transparent:-

VTP transparent are the devices of the network which pass the VLAN's information to other devices and don't save the information from VTP server. Cannot make any changes in VLAN's, but local VLAN can be created and deleted.

②

VTP Pruning:-

VTP pruning is the configuration which allows the network admin to restrict the VLAN's data to go any unwanted system. It blocks the ports and prevent the loop in network. It gives more bandwidth to user data and increases the ~~system~~ ⁵ network speeds and security.

(2)

Question 4:

a - what are NAT ?

Answer:

Asked for Brief not Description.

NAT is using between LAN and outside network or ~~public network~~. public network, it converts local area network IP addresses into public IP address, and let the local devices communicate with internet.

Many LAN addresses can be convert into one or more public IP address and give communication. Using nat less public IP addresses are being used and save the public IP address and as well as save the IP address hosting cost.

- Net. Security.
- Flexibility of conn. to net.
- Internal Add. Privacy.

b :- Refer to explain them.

Answer:

last in the Shown figure RSTP Ports are on S1, S2, S3. connects with each other

C- Refer to DHCP server.
Answer:

In shown topology Host 1 is connected to DHCP server on other network via Gateway. Assume all other IP configurations are correct and network communicate properly. In order to work with DHCP server ~~not~~ allows gateway to ~~can~~ send DHCP requests and through the ~~the~~ DHCP packets. To allow gateway ~~send~~ pass DHCP requests give the IP helper command. IP helper allows them to advertise DHCP requests

(7)