|  |  |
| --- | --- |
| Networking Infrastructure Diploma in CSF / IT  Year 2 (2022/23) Semester 3 | Week 11 |
| Tutorial |
| Virtual Local Area Networks (VLAN) | |

**OBJECTIVES**

After completing this session, you should have a better understanding of VLAN, its membership criteria as well as advantages and disadvantages.

**Part A**

1) What is the term used when a device is connected to a switch port, the VLAN membership is automatically assigned to the device?

A. Dynamic

B. Static

C. Port-centric

D. Default

2) Frame tagging places a unique identifier in the header of each frame as it is forwarded across the network \_\_\_\_\_\_\_\_\_\_.

A. microsegment

B. LAN

C. Trunk (backbone)

D. WAN

3) Frame tagging functions at what OSI layer?

A. 2 B. 3 C. 1 D. 4

4) The smaller the VLAN, the smaller the number of users that are affected by which of the following?

A. Packet filtering

B. Switch latency

C. Framing

D. Broadcasts

5) A VLAN makes up a switched network that is logically segmented by all of the following EXCEPT :

A. Collison domains

B. Functions

C. Applications

D. Project teams

6) Dynamic VLANs can be based on which of the following?

A. MAC addresses

B. Protocol type

C. Logical addressing

D. All of the above

7) How can access be controlled on a secured VLAN?

A. Station address

B. Protocol types

C. Application types

D. All of the above

8) When logically segmenting your network with VLANs, what type of device do you need to ensure proper communication between the VLANs that are created?

A. Switch

B. Bridge

C. Hub

D. Router

**Part B**

1. InfoTech is an IT school located in a building in Anson Road. The offices of the teaching staff of the school are located on three different floors of the building.

The school groups teaching staff in different subnets based on the subjects they teach. However, the subject taught by a staff could be changed every semester.

Give a few reasons for recommending the school to make use of VLAN.

What could be a disadvantage of implementing VLAN?

2. List some criteria in which membership in a VLAN could be based on.

1. When VLANs are spread across multiple physical switches, how can the VLAN membership of a device be passed on from one switch to another via the trunk?
2. Explain how devices in one VLAN could communicate with another device in a different VLAN.