**ASSIGNMENT: BIT 2204 NETWORK SYSTEMS & ADMINISTRATION**

**SCT212-0182/2022(Joy Njoroge)**

In 300 words, write a write-up on the difference between the 7-layer OSI reference model and the TCP/IP model.

* The OSI and TCP/IP model are two network protocols that are used in computer networking.
* Both models have similarities, and these are as follows: -

1. Both models provide logical ways of networking, by processing information using a layered system. This is to mean each layer has a specific function to prevent the occurrence of issues.
2. Both models can determine the lack of transmission of data. In the OSI model the data link layer is responsible for this while in the TCP/IP model the hardware layer is responsible for this.

* The differences between the two models are as follows: -

1. **Number of layers.**

-OSI model contains 7 layers. These are: Physical Layer, Data Link Layer, Network Layer, Transport Layer, Session Layer, Presentation Layer and Application Layer.

-TCP/IP model contains 4 layers. These are: network access, internet, transport, and application layer.

1. **Utility**

-The OSI model is less frequent utilised despite it being a model that offers a complete understanding of the network.

- The TCP/IP model is more frequently utilised since it is the protocol that is used in modern computers.

1. **Origin**

-OSI model was created by International Organization for Standardization in the 1980s.

TCP/IP model was created by two researchers Vinton Cerf and Robert Kahn. They made this protocol so as to overcome the shortcomings of the OSI model.

1. **Functionality**

-The OSI model provides both connection and connectionless oriented transmission in the network layer; however, only connection-oriented transmission is present in the transport layer.

-The TCP/IP model provides connectionless transmission in the network layer and supports connecting and connectionless-oriented transmission in the transport layer.

1. **Architectural format**

-The OSI model was developed first, and then protocols were created to fit the network architecture’s needs.

-The TCP/IP model the protocols were created first and then built in.