**BIT 2204** ASSIGNMENT 1

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**COMPARISON BETWEEN THE TCP/IP MODEL AND THE OSI MODEL**

**1. OSI MODEL**

The OSI (Open Systems Interconnection) is a conceptual model from ISO that provides a common basis for the coordination of standards development for the purpose of systems interconnection. In the OSI reference model, the communications between systems are split into seven different abstraction layers: Physical, Data Link, Network, Transport, Session, Presentation, and Application.

**2. THE TCP/IP MODEL**

It is also known as the Internet protocol suite. It is a framework for organizing the set of communication protocols used in the internet and similar computer networks according to functional criteria. It consists of five layers: the application layer, transport layer, network layer, data link layer, and physical layer.

**a)DIFFERENCES**

1. The OSI model is made up of 7 layers while the TCP/IP model is made up of 5 layers.
2. The OSI model is not commonly used nowadays while the TCP/IP model is extensively used.
3. The OSI model is not as reliable as the TCP/IP model.
4. Replacement of tools in the OSI model is much easier compared to the replacement of tools in the TCP/IP model.
5. Packet delivery in the OSI is guaranteed while in the TCP/IP model is not as guaranteed.
6. The OSI model is a communication protocol that is based on standard protocols and allows the connection of hosts over a network while TCP/IP is a structured model that deals with the functioning of a network.

**b)SIMILARITIES**

1. In both models, data are mainly used to convert raw data into packets and help them reach their destination node.
2. The network layers and the transport layers are the same in both models.
3. In both models, protocols are defined in a layer-wise manner.
4. both models use the concept of encapsulation, in which data is packaged into a series of headers and trailers that contain information about the data being transmitted and how it should be handled by the network.
5. In both the function which is performed between the presentation and the network layer is similar to the function performed at the transport layer