**Sct 212-0142/2022**

**Assignment 1**

To grasp and comprehend how computer networks function, two essential frameworks are used: the OSI (Open Systems Interconnection) model and the TCP/IP model. Although both models are essential for network communication, their approaches and layer structures are different.

Seven layers make up the OSI model, each of which has a distinct purpose in standardizing network communication across various hardware and software platforms*. Physical, Data Link, Network, Transport, Session, Presentation, and* *Application* are these levels, in order from bottom to top. The OSI model is quite thorough and provides a clear division of duties, simplifying interoperability and troubleshooting inside each layer.

The Internet Protocol Suite, generally known as the TCP/IP model, has four layers: the *Link Layer, the Internet Layer, the Transport Layer, and the Application* Layer. The OSI's Physical and Data Link layers are combined to form the Link Layer. The top three layers of the OSI model are the Network Layer, the Transport Layer, and the Application Layer of TCP/IP, with the Internet Layer matching the Network Layer of OSI.

Their points of development origin are one of the main distinctions. The International Organization for Standardization (ISO) created the OSI model to offer a thorough and broadly applicable networking architecture. The TCP/IP model, in contrast, was created as a result of the actualization of the TCP/IP protocol suite, which has been essential to the operation of the internet from its conception.

Both models serve to direct network communication and provide a conceptual foundation for creating, implementing, and troubleshooting network protocols and systems, despite differences in layer numbers and structure. Due to the TCP/IP model's direct applicability and use in the current networking landscape, it is more commonly used in practice, especially in internet-based applications and networking.