**BCA Part II**

**Paper- XVI: Internet and Web Technology**

**Topic: OSI and TCP/IP**

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**The following are the similarities between the OSI and TCP/IP model:**

- **Share common architecture**

Both the models are the logical models and having similar architectures as both the models are constructed with the layers.

- **Define standards**

Both the layers have defined standards, and they also provide the framework used for implementing the standards and devices.

- **Simplified troubleshooting process**

Both models have simplified the troubleshooting process by breaking the complex function into simpler components.

- **Pre-defined standards**

The standards and protocols which are already pre-defined; these models do not redefine them; they just reference or use them. For example, the Ethernet standards were already defined by the IEEE before the development of these models; instead of recreating them, models have used these pre-defined standards.

- **Both have similar functionality of 'transport' and 'network' layers**

The function which is performed between the **'presentation'** and the **'network'** layer is similar to the function performed at the **transport** layer.

## Differences between the OSI and TCP/IP model

**Differences between the OSI and TCP/IP model in a tabular form:**

| OSI Model | TCP/IP Model |
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| It stands for **Open System Interconnection.** | It stands for **Transmission Control Protocol.** |
| OSI model has been developed by ISO (International Standard Organization). | It was developed by ARPANET (Advanced Research Project Agency Network). |
| It is an independent standard and generic protocol used as a communication gateway between the network and the end user. | It consists of standard protocols that lead to the development of an internet. It is a communication protocol that provides the connection among the hosts. |
| In the OSI model, the transport layer provides a guarantee for the delivery of the packets. | The transport layer does not provide the surety for the delivery of packets. But still, we can say that it is a reliable model. |
| This model is based on a vertical approach. | This model is based on a horizontal approach. |
| In this model, the session and presentation layers are separated, i.e., both the layers are different. | In this model, the session and presentation layer are not different layers. Both layers are included in the application layer. |
| It is also known as a reference model through which various networks are built. For example, the TCP/IP model is built from the OSI model. It is also referred to as a guidance tool. | It is an implemented model of an OSI model. |
| In this model, the network layer provides both connection-oriented and connectionless service. | The network layer provides only connectionless service. |
| Protocols in the OSI model are hidden and can be easily replaced when the technology changes. | In this model, the protocol cannot be easily replaced. |
| It consists of 7 layers. | It consists of 4 layers. |

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| OSI model defines the services, protocols, and interfaces as well as provides a proper distinction between them. It is protocol independent. | In the TCP/IP model, services, protocols, and interfaces are not properly separated.<br>It is protocol dependent. |
| The usage of this model is very low. | This model is highly used. |
| It provides standardization to the devices like router, motherboard, switches, and other hardware devices. | It does not provide the standardization to the devices. It provides a connection between various computers. |