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NETWORK SYSTEM AND ADMINISTRATION

ASSIGNMENT 1

QUESTION

In 300 words,write up the difference between the seven layers of the OSI model and the TCP/IP model…

GENERERAL REVIEW OF TCP/IP AND OSI MODELS

- Open systems interconnection (OSI) model is a conceptual model created by the International Organization for Standardization which enables diverse communication systems to communicate using standard protocols.
- TCP/IP stands for Transmission Control Protocol/Internet Protocol and is a suite of communication protocols used to interconnect network devices on the internet.
- TCP/IP is a practical model that addresses specific communication challenges and relies on standardized protocols. In contrast, OSI serves as a comprehensive, protocol-independent framework designed to encompass various network communication methods.

These are their differences

- OSI has 7 layers, whereas TCP/IP has 4 layers.
- The OSI Model is a logical and conceptual model that defines network communication used by systems open to interconnection and communication with other systems. On the other hand, TCP/IP helps you to determine how a specific computer should be connected to the internet and how you can be transmitted between them.
- OSI header is 5 bytes, whereas TCP/IP header size is 20 bytes.
- OSI refers to Open Systems Interconnection, whereas TCP/IP refers to Transmission Control Protocol.
- OSI follows a vertical approach, whereas TCP/IP follows a horizontal approach.
- OSI model, the transport layer, is only connection-oriented, whereas the TCP/IP model is both connection-oriented and connectionless.

- OSI model is developed by ISO (International Standard Organization), whereas TCP Model is developed by ARPANET (Advanced Research Project Agency Network).
- OSI model helps you to standardize router, switch, motherboard, and other hardware, whereas TCP/IP helps you to establish a connection between different types of computers.

OSI REFERENCE MODEL	TCP/IP REFERENCE MODEL
7.APPLICATION	
6.SESSION	APPLICATION
5.PRESENTATION	
4.TRANSPORT	**TRANSPORT**
3.NETWORK	INTERNET
2.DATALINK	
1.PHYSICAL	**NETWORK**

These are their Similarity;

- ✓ Model- both TCP/IP and OSI are logical models
- ✓ Structure-both are arranged layered wise which is also called an architecture model. These models have a stack of protocols it means the protocol is arranged in every layer.
- ✓ Networking-both TCP/IP and OSI models define standards for networking.

- ✓ Framework-both provide a framework for creating and implementing networking standards and devices.
- ✓ Communication process-they simplify and divide the network communication process into making their layers.
- ✓ Functionality-both models, single layer defines a particular functionality and set standards for that functionality only.
- ✓ Similar components- In Both TCP/IP models manufacturer allows making sets of devices and network components that can co-exist and work with the devices and components that are made by the other manufacturers.