

Q

OSI model

- It is seven layered reference model.
- Internetworking is not supported.
- It clearly distinguishes between services, interfaces & protocols.
- Network layer provides both connectionless & connection-oriented services.
- Transport layer provides only connection-oriented services.

TCP/IP model

It is four layered model.

TCP/IP supports internet working.

This model fails to distinguish between services, interface & protocols.

The internet layer provides connectionless services.

Transport layer provides both connection-oriented & connectionless services.

Q) Diff between Client Server network & Peer to Peer network.

Client Server

→ A client server provides resources & services to multiple clients, which depend on this server for operations.

→ Servers manage resources & handle client request & use the services provided by server.

→ Security is easier to manage & enforce due to central control point.

Peer to Peer

All nodes (peers) in network have equal status & can act as both clients & servers.

Resources & services are distributed among all peers, with each node potentially sharing its own resources.

Security can be more complex due to lack of central authority, requiring cooperation among peers for security measures.

Q. What are 7 layers of OSI model, function of each is.

3) The 7 layers of OSI model are:-

1) Physical layer

→ Function: deals with physical connection between devices including the transmission of raw bitstreams over physical medium. It defines hardware elements such as cables, switches & NICs.

2) Data link layer

→ provides node to node data transfer, error detection, correction, & flow control. It manages the link between the directly connected nodes & frames data.

3) Network layer

→ handles routing & forwarding of data packets between nodes on different networks. It determines the best path for data transfer & manages logical addressing (IP addresses).

4) Transport Layer

→ ensures reliable data transfer between end systems including error recovery & flow control. It provides end-to-end communication services & manages data segmentation & reassembly.

5) Session Layer

→ manages sessions or connections between applications. It establishes, maintains & terminates sessions, ensuring orderly data exchange & synchronization.

6) Presentation layer

→ Translates data between the application layer & network.
It handles data encryption, compression & translation of data formats (eg: from EBCDIC to ASCII).

7) Application layer

→ provides network services directly to end-user applications.
It includes protocols for specific data communications service on a network such as HTTP for web browsing, FTP for file Transfer & SMTP for email.

4) What are principles behind OSI model.

→ OSI is based on several key principles:

1) Layered Approach:

The model is divided into seven distinct layers, each with specific functions to reduce complexity by isolating different network tasks.

2) Interoperability: Ensures the various hardware & software from different vendors can work together by adhering to standardized protocols.

3) Modularity:

Each layer operates independently, so change in one layer typically do not affect ~~the~~ others, allowing for easier updates & enhancements.

4) Decoupling: - Separates network architecture into layer