

UIUCS009

## Computer Networks

Brijesh RohitQ-1

How do the layers of internet model correlate to the layers of the OSI model?

Ans

→ The TCP/IP Model has 4 layers:-

4. Application
3. Transport
2. Internet
1. Network-Interface layer

→ OSI networking model correlates more accurately to the actual process of communicating over a network. It has 7 layers:-

- |                 |                   |
|-----------------|-------------------|
| 7. Application  | 3. Network        |
| 6. Presentation | 2. Data link      |
| 5. Session      | 1. Physical layer |
| 4. Transport    |                   |

⇒ The correlation is as follows:-

1. The function of Application, Presentation and Session layers (7, 6, 5) OSI of OSI Model is equal to Application layer (4) TCP/IP of TCP/IP
2. Transport and Network of OSI (4, 3) is more likely to transport and Internet of TCP/IP (3, 2)
3. TCP/IP's Network-Interface layer (1) is more likely Data link and Physical layer combine.

## OSI layers

## TCP/IP layers

7. Application

6. Presentation

5. Session

4. Transport

3. Network

2. Data link

1. Physical

4. Application

3. Transport

2. Internet

1. Network-Interface

Q-2

How does information get passed from one layer to the next in the internet model?

Ans

At physical layer, communication is direct between devices. At higher layers communication must move down through the layers on sending device, over to receiving device and then backup through the layers.

Each layer in sending device adds its own information to the message it receive from the layer just above it and passes the whole package to the layer just below it.

At layer 1 the entire package is converted to a form that can be that can be transmitted to the receiving device. At the receiving machine the message is unwrapped layer by layer, with each process receiving and removing the data meant for it.

Q-3

How are OSI and ISO related to each other?

Ans

ISO (International Standard Organization) is a Multi-National Organization that tries to standardize Network communication protocols at International level



~~OSI (Open System Intercommunication)~~  
OSI (Open System Interconnection) is a model that ISO put together as a networking communication standard.

Q-4

Compare OSI model to TCP/IP model?

Ans.

OSI model

TCP/IP model

- |   |   |
|---|---|
| → It has 7 layers   | → It has 4 layers   |
| → It's header is 5 bytes                                    | → It's header size is 20 bytes                                |
| → OSI → open system inter-connection                        | → TCP/IP → Transmission control protocol.                     |
| → It follows a vertical approach                            | → It follows a horizontal approach.                           |
| → In OSI model transport layer is only connection oriented. | → This model is both connection oriented and connection less. |
| → OSI model is developed by ISO                             | → TCP/IP model is developed by ARPANET.                       |

18-5

What are headers and trailers, and how do they get added and removed?

Ans

Headers and trailers are concept of OSI model.

- Headers are information structures which identify the information that follows, such as block of bytes in communication.
- Trailer is the information which occupies several bytes at the end of the block of the data being transmitted. They contain error checking data which is useful for confirming the accuracy and status of the transmission.

During communication of data the sender appends the header and passes it to the upper/lower layer while the receiver removes header and passes it to layer.

Headers are added at 7, 6, 5, 4, 3 and 1 layers

Trailers are added at layer 2.