

1. List layers of Internet model

- (i) Application layer
(ii) Transport layer
(iii) Network layer
(iv) Data link layer
(v) Physical layer

2. Which layers of Internet model are the network support layers

- (i) Network layer
(ii) Data link layer
(iii) Physical layer

3. Which layer in the Internet model is the user support layer

- Network layer

4. Network Layer

It's a forth layer of OSI model.

logical communication between the hosts present on same or different network.

Provides communication between hosts of different networks.

Network Layer

5. What are the header and trailer and How can we add & remove it

→ Headers and trailers are control data added at beginning and the end of each data unit at each layers of the receiver. They provide source and destination addresses, synchronization points, information for error detection, etc.

6. Differentiate between port address & logical address also give difference between physical address & logical address.

Port Address

- (i) port number is used to identify all processes on your system.
- (ii) The port number is 16 bits numbers.
- (iii) port number is the address of the layer-4 protocols.

Logical Address

- Internet protocol Address used to identify a host in network.
- IPv4 is 32 bits size and for IPv6 is 128 bits.
- IP address is the address of the layer-3 IP protocol.

Logical Address

- (i) It is an address generated by the CPU during program execution.
- (ii) User programs deal with the logical address directly.
- (iii) The logical address is referred to as the physical address.

Physical Address

- It refers to a physical location in the memory unit.
- The user program never specifies the physical address.
- Users cannot directly access the physical address.

7. What are the services provided by the application layer in internet model?

→ E-mail, Transferring files, distributing results to the user, directory services, and network resources.

8. Differentiate between OSI & ISO

OSI

ISO

g. What are the responsibility of Data link layer of the internet model.

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- (i) Multiplexing data streams
 - (ii) data frame detection
 - (iii) medium access
 - (iv) error control

10. If data link layer can detect error between 2 devices, what is the need of error detection mechanism in transport layer.

→

11. List of the significant difference between TCP/IP & OSI model.

OSI

TCP/IP

(i) OSI represents open system interconnection.

TCP/IP model represents the transmission control protocol.

(ii) It provides quality services.

It does not provide quality services.

- (iii) It is difficult as distinguished to TCP/IP. It is simpler than OSI.
- (iv) It uses a horizontal approach. It uses a vertical approach.
- (v) The smallest size of the OSI header is 5 bytes. The smallest size of the TCP/IP header is 20 bytes.

Q2. Give some advantages & disadvantages of combining session presentation & application layer to OSI model into one single layer in the internet model.

→ Advantages :

- * It's simple to use
- * you only have a single layer to study, because all the functions are provided by that layer.
- * Functionality is performed by just one layer and it relieved the work for the other two layers.
- * By combining the three layers you reduce the number of layers and increase the bandwidth for your network.
- * It removes the real-life separation of application from the TCP-downward sections of the OSI model.

* Disadvantages :

- * It becomes less reliable because by combining all three sessions it becomes harder for them to use the same code.
- * The architecture of the network system becomes less effective.
- * Troubleshooting becomes more difficult because the error might be in a single place.
- * Because the application security and network security will open in a single point it may cause security issues and expose the network to threats.