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Assignment No. 2

Que. 1. Write about OSI model in detail.

Ans -

O.S.I Reference Model

The OSI reference model is a seven-layered architecture and is designed in a highly structured way. Each layer in the model has specific sets of procedures, functions and protocols. One layer may communicate with adjacent layer using its Interface.

However, if we talk about communication between two machines, one machine may communicate only with corresponding layer of other machine. The layers are such defined that changes in one layer do not require changes in the other layers.

=> Various OSI layers are as follows:

- Application layer
- Presentation layer
- Session layer
- Transport layer
- Network layer
- Data link layer
- Physical layer

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OSI Reference Model -

This model was designed to develop common standards of network architecture (a set of layers and protocols) throughout the world.

7	Application
6	Presentation
5	Session
4	Transport
3	Network
2	Data Link
1	Physical

OSI Reference Model

Interface :

The passing of data and network information down possible by an interface between each pair of adjacent layer.

* Functions of Layers :

1) Physical Layer :-

- Representation of Bits
- Data rate
- Transmission medium
- Synchronization of bits
- Line configuration

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Physical topology
Transmission Mode

2) Data Link Layer :-

- Framing
- Physical addressing
- Flow control
- Error control
- Access control

3) Network Layer :-

- Logical addressing
- Routing

4) Transport Layer :-

- Service point addressing
- Connection control
- flow control
- Error control

5) Session Layer :-

- Dialog control
- Synchronization

6) Presentation Layer :-

- Translation

- Encryption
- Compression

7) Application Layer :-

- Mail services.
- File transfer, access and management in remote computer.
- Network virtual terminal.
- Directory services to provide distributed database access for global information.

Que-2 Write about TCP/IP model.

Ans- TCP/IP uses the client-server model of communication. In which a computer user requests and is provided a service by another computer in the network.

TCP/IP communication is point-to-point meaning each communication is from one point in the network to another point or host computer.

	OSI	TCP/IP	
7	Application	Application	
6	Presentation		↖ Not present in the model
5	Session		↙
4	Transport	Transport	
3	Network	Internet	
2	Data Link	Host-to-network	
1	Physical		

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TCP/IP Model

* Description of TCP/IP Model :—

TCP/IP model has only four layers :

1) Host - to - host Network layer -
This is the lowest layer in TCP/IP reference model. The host to connect to the Network using some protocol, so that it can send the IP packets over it. This protocol varies from host to host and network to network.

2) Internet layer -
The task of the layer is to allow the host to insert packets into any network and then make them travel independently to the destination.

3) Transport Layer -
This is the layer above the internet layer. Its function are same as those of a transport layer on OSI layer. This layer allows the peer entities of the source and destination machines to converse with each other.

4) Application Layer -

-TCP/IP model does not have session or presentation layers, because they are often important in most applications.
The layer on the top of transport layer is called as application layer.