Page No.
Date: / /

Assignment 2

Q1) Write the differences between OSI Model & TCP/IP model.

⇒ The differences between OSI model and TCP/IP model are:

OSI Model	TCP/IP model
1) It is seven-layered reference model.	1) It is four-layered model.
2) Internet working is not supported.	2) TCP/IP supports internet working.
3) It clearly distinguishes between services, interfaces and protocols.	3) This model fails to distinguish between services, interfaces and protocols.
4) Network layer provides both connectionless and connection-oriented services.	4) The Internet layer provides connectionless service.
5) Transport layer provides only connection-oriented service.	5) Transport layer provides both connection-oriented and connectionless service.
6) Protocols in the OSI model are better hidden & can be replaced relatively easily.	6) Protocols in TCP/IP are not hidden & thus cannot be replaced easily.

Page No.
Date: / /

Q2) Differences between client server and peer to peer network.

⇒ The differences between client server & peer to peer network are given as:

Client server network	Peer-to-peer network
1) In this network, clients and server are differentiated.	1) In this network, clients and servers are not differentiated
2) It focuses on information sharing.	2) It focuses on connectivity
3) Centralized server is used to store the data.	3) Each peer has its own data.
4) Server respond the services which is requested by client.	4) Each and every node can do both request and respond for the services
5) Client-server network are earlier than peer-to-peer network.	5) Peer-to-peer network are less costlier than client-server network.
6) It is more stable.	6) It is less stable if the the number of peer increases.
7) It is used for both small & large networks.	7) It is generally suited for small networks with less than 10 computers.

Page No.
Date: / /

Q3) What are the seven layers of OSI model. What is the function of each layer.

⇒ The seven layers of OSI model are:

(I) Physical layer
(II) Data link layer
(III) Network layer
(IV) Transport layer
(V) Session layer
(VI) Presentation layer
(VII) Application layer

Layer 1: Physical layer:-

It is concerned with the transmission of raw data bits over communication lines. The layer is implemented in the hardware of the networking device. It specifies wire and connector for the system to connect.

layer 2: Data link layer:-

It provides a direct link control on the network. This layer is concerned with the reliable transfer of data over the communication channel provided by the physical layer. Data link layer breaks the data into data frames, transmits the frames sequentially over the channel and checks for transmission error.

layer 3: Network layer:

It determines the best path for data transmission. It

It provides routing and related functions that enable multiple data links to be combined into an internetwork.

Layer 4: Transport layer:

It manages end to end connection. It accepts data from the above layer, splits it up into smaller units, and passes these to lower layers isolating from each other. It provides flow control, congestion control and also provides sequencing.

Layer 5: Session layer:

It allows users on different machines to establish sessions between them. It includes setting of various communication parameters like synchronization, dialog control.

Layer-6: Resentation layer:

It selects data structure, provides data transfer syntax and semantics. It maintains the format of data and ensures the data is readable by the application.

Layer-7: Application layer:

It provides an interface between host communication software and any external application. It provides standards for supporting a variety of application independent services.

Page No.
Date: / /

Qv) What are the principles behind OSI Model?

⇒ The OSI model is based on several key principles:

① Layered Approach:

The model is segmented into seven distinct layers, each tasked with specific functions, aiming to reduce complexity by compartmentalizing various networks

② Modularity:

Each layer functions independently, meaning modifications in one layer generally do not impact others, facilitating easier updates and enhancements.

③ Encapsulation:

Data is package with the necessary protocol information as it moves through the layers, allowing each layer to add its own headers and trailers.

④ Decoupling:

The network architecture is segmented into layers, enabling services provided by one layer to be designed and modified independently of others.

⑤ Standardization:

Encourages the adoption of universally accepted protocols and interfaces, simplifying communication and integration across diverse systems.