ASSIGNMENT 2:

1)Differenciate between osi and tcp/ip model.

TCP/IP	OSI Model
The full form of TCP/IP is Transmission Control Protocol/ Internet Protocol.	The full form of OSI is Open Systems Interconnection.
It is a communication protocol that is based on standard protocols and allows the connection of hosts over a network.	It is a structured model which deals which the functioning of a network.
It comprises of four layers: • Network Interface • Internet • Transport • Application	It comprises seven layers: • Physical • Data Link • Network • Transport • Session • Presentation • Application
It follows a horizontal approach.	It follows a vertical approach.
The TCP/IP is the implementation of the OSI Model.	An OSI Model is a reference model, based on which a network is created.
It is protocol-dependent.	It is protocol-independent.

2)differentiate between peer to peer and client server architecture.

Client-Server Network	Peer-to-Peer Network
In Client-Server Network, Clients and server are differentiated, Specific server and clients are present.	In Peer-to-Peer Network, Clients and server are not differentiated.

Client-Server Network	Peer-to-Peer Network
Client-Server Network focuses on information sharing.	While Peer-to-Peer Network focuses on connectivity.
In Client-Server Network, Centralized server is used to store the data.	While in Peer-to-Peer Network, Each peer has its own data.
In Client-Server Network, Server respond the services which is request by Client.	While in Peer-to-Peer Network, Each and every node can do both request and respond for the services.
Client-Server Network are costlier than Peer-to-Peer Network.	While Peer-to-Peer Network are less costlier than Client-Server Network.

3)What are the seven layers of osi model and write functions of each layers.

The seven layers of osi models are as follow:

1. Physical Layer:

- **Function:** Transmits raw bit streams over a physical medium (e.g., copper wires, fiber optic cables, radio waves).

2. Data Link Layer:

- **Function:** Provides error-free transmission of data frames between nodes on a network.

3. Network Layer:

- **Function:** Handles the routing of data packets between different networks.

4. Transport Layer:

- **Function:** Ensures reliable and efficient delivery of data between end systems.

5. Session Layer:

- **Function:** Establishes, manages, and terminates sessions between applications.

6. Presentation Layer:

- **Function:** Translates data between the application layer and the network.

7. Application Layer:

- **Function:** Provides services to the user or application programs.

4) What are the principles behind OSI model?

The principles behind OSI models are as:

Layer Separation:
- Each layer should perform a well-defined function.
- The functions of each layer should be chosen with an eye toward defining internationally standardized protocols.

2. **Abstraction:**

- A layer should be created where a different abstraction is needed.
- Each layer should hide the details of its implementation from the layers above and below it.
- This allows each layer to be modified or replaced without affecting the other layers.

3. **Well-Defined Interfaces:**

- The layer boundaries should be chosen to minimize the information flow across the interfaces.
- This simplifies the interaction between layers and makes it easier to develop and maintain the network.

4. **Modularity:**

- The OSI model should be modular, allowing for each layer to be developed and tested independently.
- This promotes flexibility and makes it easier to add new technologies or protocols.

5. **Scalability:**

- The OSI model should be scalable, allowing for networks of different sizes and complexities.
- This ensures that the model can be used for a wide range of applications.

5)simulate in packet tracer a ping request between two different network.

It has been done in cisco packet tracer