OSI Network Model:

The ISO, International Organization for standardization set up OSI Open Systems Interconnection as an International Standard for Network Architecture, which prescribes protocols authorized by ISO and the OSI basic reference model.

The OSI Model divides the required functions of the network architecture and defines the function of each layer,

This resulted in breaking down of communication process into smaller. Easier, handle able interdependent categories each solving important distinct aspect of the data exchange process.

The objective of OSI is to

"Develop understanding of the complexity and sophistication that this technology has achieved, in addition to developing the concept for inner workings of data communication process"

7 Layers of OSI Model.

1) **Physical Layer- Layer 1**
   1) Defines the physical media over which bit stream is to be transmitted.
   2) Defines Mechanical (Connector Types), Electrical (Voltage Levels), Functional (Ping Assignments) and procedural (Handshake) aspects of physical media.
   3) Defines methods for Activating, maintaining and deactivating physical links.
   4) Defines methods for movement of bits between nodes through physical link.

2) **Data Link Layer 2**
   1) Ensures proper sequence of transmitted data.
   2) Ensures reliable transfer of data between physical links.
   3) Establishes error free communication path over physical link between network nodes.
   4) Frames messages for transmission
   5) Checks integrity of received messages
   6) Manages Access to communication channels
   7) Responsible for data flow control, data frame formatting, error detection and link management functions.

3) **Network Layer – Layer 3**

THE 7 LAYERS OF OSI
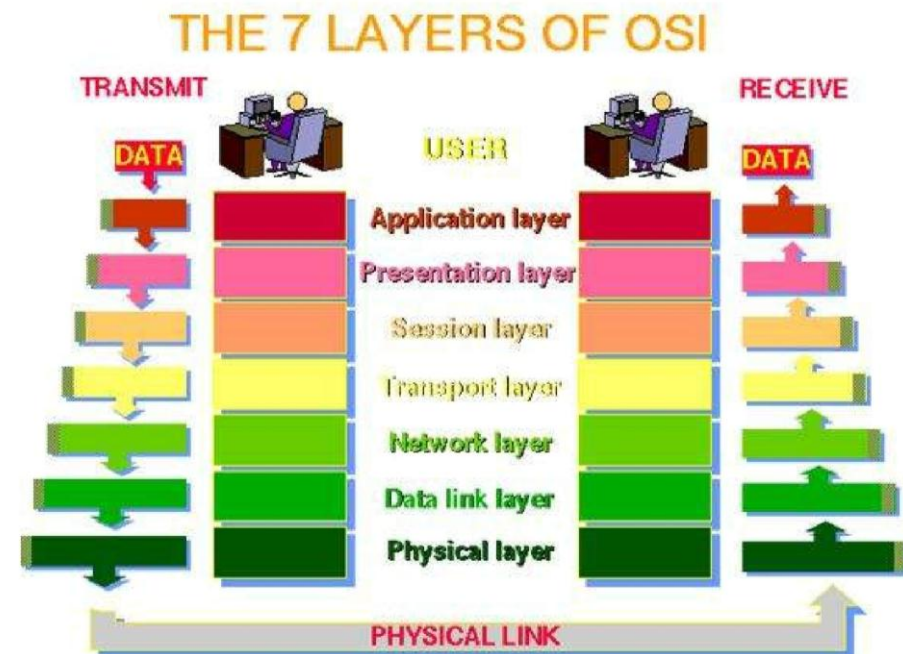
1) Selects best path between nodes to deliver data.
2) Internet protocol operates at this layer.
3) Provides Routing services across the internet.
4) Shields other layers from details about network
5) Responsible for establishing and maintain connections.

4) **Transport Layer – Layer 4**
1) Ensures orderly and reliable delivery of data between end systems.
2) TCP and OSI protocols are used.
3) Performs data multiplexing and de-multiplexing.
4) Divides transmitting messages into packets and reassemble them at receiving end.

5) **Session Layer - Layer 5**
1) Establishes, Maintains and arbitrates dialogues between communicating Applications.
2) Ensures orderly recovery from failures by implementing appropriate check point mechanisms.

6) **Presentation Layer – Layer 6**
1) Formats and display data received by terminals and printers.
2) Resolves difference in data syntax by mechanisms that transform local to common syntax for data exchange.
3) Performs data compression and encrypts data when required.

7) **Application Layer – Layer 7**
1) Provides Support services for user and Application tasks.
2) Determines how user uses data network.
3) Provides network based services to user.Ex: Email, File transfer, resource sharing.
4) Defines nature of task to be performed.