SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING-IOT Including CS&BCT

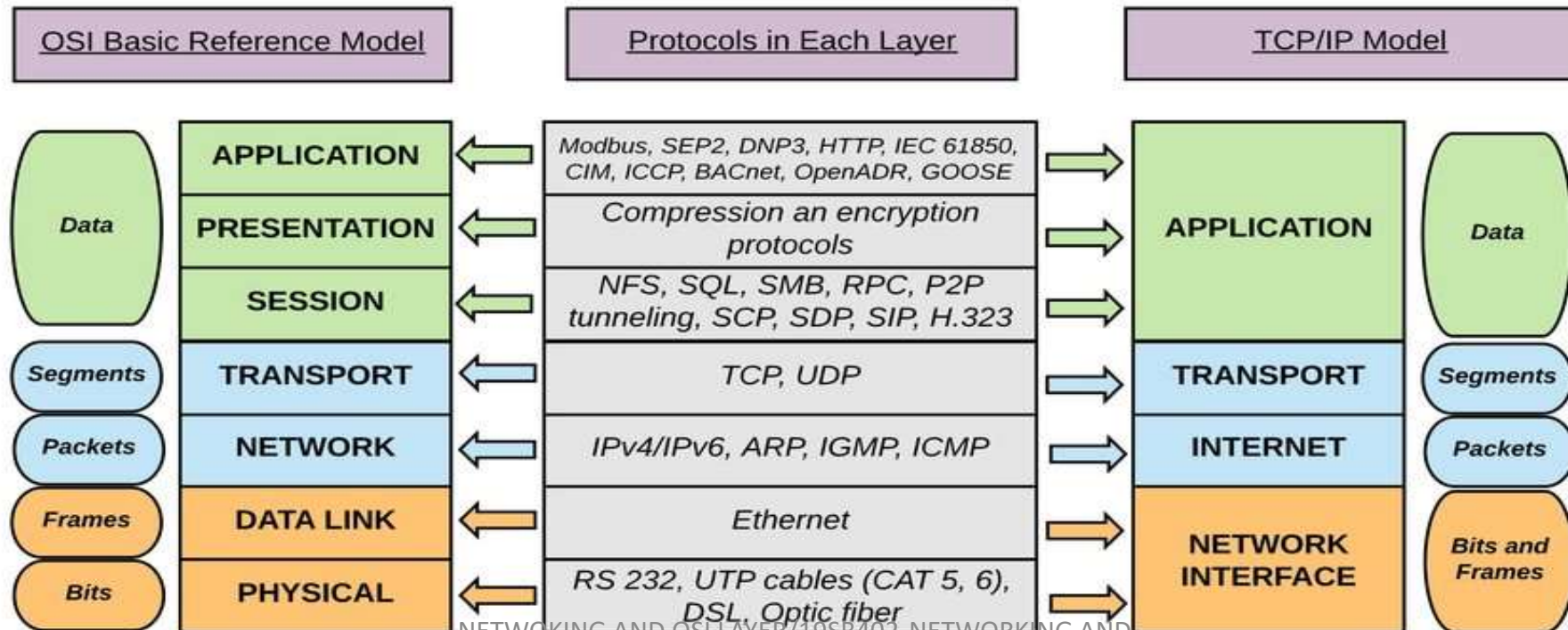COURSE NAME : **19SB402**- NETWORKING AND CYBERSECURITY

II YEAR / III SEMESTER

Unit I- **NETWORK AND OSI LAYER**

Topic : **Reference Model OSI, TCP\IP.**

Reference Model OSI, TCP\IP

OSI Model:

- OSI means Open System Inter Connections (or) inter Connect Model.

- It describes the functions of telecommunications (or) network System.

- Introduce in the year in 1983 by telecom Companies.

Application Layer:

- It is used by end user Software.

- such as web browser, email client.

- It Provide the protocol that allow Software to Send & receive information and present meaningful data to user.

  E.g. HTTP, FTP, POP, SMTP, DNS.

Presentation Layer:

- It Present the data to application layer

- It describe the device encode, encrypt, compress data.

- So that it received correctly on the other end.

Session Layer:

- It create communication channels called session between devices.

- It set checkpoints during data transfer.

- It the session is interrupted, Devices can resume data transfer from the last checkpoint.

Transport Layer:

- It takes data transferred in session layer and breaks it into segments on the transmitting end.

- Again it reassembling the segments on the receiving end.

- It is the responsible for flow control, sending data, receiving data, error control.

Network Layer:

- ➤ It has two main function.

1. One is breaking up segments into network packets & reassembling the packets on the receiving end.

2. Other one is routing packets to the best path.

   It use the IP Addresses to route packets to a destination node.

Data link Layer:

- It establishes and terminates a Connections between two physically connected nodes on a network.

- It breaks up Packets into frames and sends them from source to destinations.

- It Consist of two parts.

    1. LLC (logical link control)

        - It is used to Identity the network Protocol, Performing error Checking and Synchronizes frames and assign MAC (media Access. control) Address to Connect devices.

Physical Layer:

- It is a responsible for the Physical cable (or) wireless Connection between network nodes.

- This layer is the responsible for transmission to of raw data.

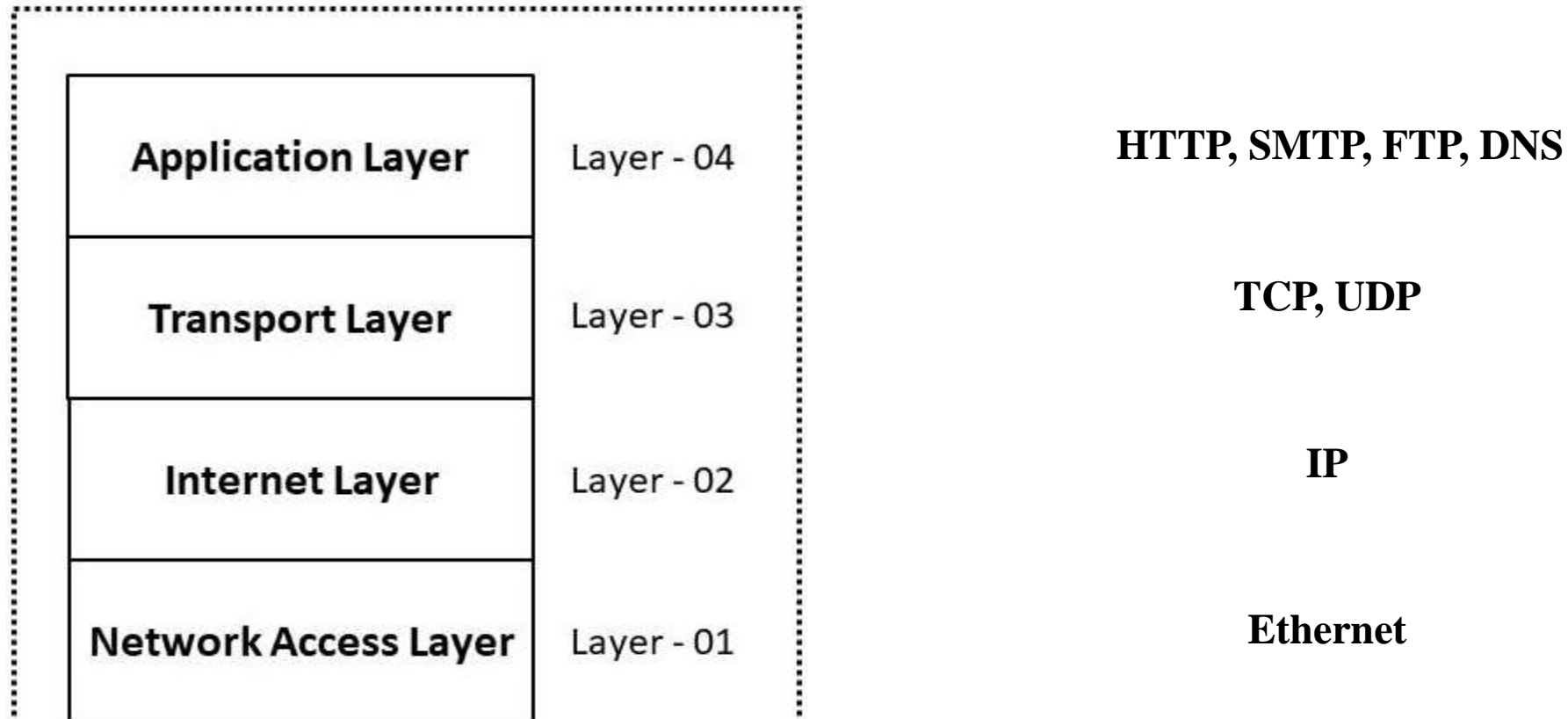- which is Simply series of o's & 1's.

Reference Model OSI, TCP\IP Cont..

TCP\IP Model:
       ✓ It is a 4 layer suite of comm. Protocol.

Suite

TCP\IP Model	Layer	Suite
Application Layer	Layer - 04	**HTTP, SMTP, FTP, DNS**
Transport Layer	Layer - 03	**TCP, UDP**
Internet Layer	Layer - 02	**IP**
Network Access Layer	Layer - 01	**Ethernet**

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TCP\IP Model:

➢ it is older then OSI Model.

➢ It was Created by OSI Dept of Defense.

➢ OSI Layers 5,6,7 are combined into one Application Layer.

➢ OSI Layers 1,2 are combined into one Network Access layer.

Reference Model OSI, TCP\IP Cont..

TCP/IP	OSI
1) It is protocol dependent.	1) It is protocol Independent.
2) It follows a horizontal approach.	2) It follows a vertical approach.
3) It consist of 4 layer.	3) It consist of 7 layer.
4) 1982	4) 1984

Any Queries

Thank You!