1) Compare and contrast the delays in connectionless and connection oriented services. Which services creates less delay if message is large? Which services creates less delay if message is small?

Ans The delays in connectionless and connection oriented services differ in terms of setup and message delivery.

In connectionless services, such as UDP, there is no initial setup or handshake between sender and receiver. The sender simply sends data packets without verifying if they reach destination. As a result, the delay in connectionless services is generally lower compared to connection oriented services. However, since there is no acknowledgment or retransmission mechanism, if message is large and some packets are lost, the receiver will not be able to recover them, leading to potential data loss.

In connection oriented services, such as TCP, a connection setup phase is required before data transfer. This involves a three way handshake to establish a reliable connection between sender and receiver. Although this setup process

introduces additional delay, it ensures that data transmission is reliable. TCP provides acknowledgments and retransmissions to ensure all packets are delivered correctly. Therefore, if message is large, the connection oriented services like TCP would create less delay because it guarantees reliable delivery.

For small messages, connectionless services like UDP would create less delay as they have a lower setup overhead and do not require acknowledgment and retransmission mechanism.

2) There are several network layer model proposed in OSI model. Research and fins two of them. Explain the difference between them.

Ans Two network layer models proposed within OSI framework are TCP/IP model and OSI model itself.

(i) TCP/IP model

- The TCP/IP model is a widely used network layer model. It provides foundation protocols for internet. It was developed by US Department of Defense's ARPA.

distance communication and supports multiple devices on a single communication line. EIA 485 provides differential signaling, allowing for greater noise immunity and longer cable runs compared to EIA 232. It is commonly used in industrial automation, building automation and other applications where robust and reliable serial communication is needed.

Both EIA 232 and EIA 485 are widely adopted standards for serial communication but they differ in terms of their use cases, electrical characteristics and supported transmission distances.