**1.  What is encapsulation versus decapsulation**

Encapsulation refers to sending data where the data is augmented with successive layers of control information before transmission across a network.

Decapsulation is the process of opening up encapsulated data that are usually sent in the form of packets over a communication network.

**2. What does PDU stand for?  Which layers produce a PDU?**

A protocol data unit (PDU) is an open-system interconnection term used in telecommunications that refers to a group of information added or removed by a layer of the OSI model. Transport layer.

**3. Name 1 difference between the physical and logical layer**

Physical topology specifies the layout how devices are physically connected in the network. Instead, logical topology specifies the manner in which data travels between devices in the network.

**4. Name the 7 layers of the OSI mode;**

Physical, Data Link, Network, Transport, Session, Presentation, and Application.

**5. What is the encapsulation process?**

When a network device sends a message, the message will take the form of a packet. The packet is then covered with some information directing it onward to a destination; this is analogous to the address on a letter in which the actual message is carried inside the envelope. Similarly, the message in the packet is encapsulated with some information such as the address of next node, protocol information, the type of data and the source and destination addresses.

**6. What is produced for the Transport Layer to perform its functionality**  
It provides logical communication between application processes running on different hosts within a layered architecture of protocols and other network components.

**7. Define a reliable network and reliable delivery**

Reliable Network – a communication protocol that notifies the sender whether or not the delivery of data to intended recipients was successful.

Reliable Delivery - is concerned with the ability of a network to carry out a desired operation such as communication.

**8. Purpose of Wireshark**

Wireshark is a packet sniffer and analysis tool. It captures network traffic on the local network and stores that data for offline analysis.

**9. What does netstat do?**

The netstat command generates displays that show network status and protocol statistics.