**Q1. In the ring topology what happens if one of the stations is unplugged?**

In the ring topology, multiple stations are connected with each other and a signal is always also circulating in these. If one device does not receive a signal within a specified period, it can cause a serious issue. However, in a simple ring, when we unplug the one station in the ring then, the whole network would stop functioning because the signal has to pass through each station in the ring. But the most ring networks use a mechanism that bypasses the station so, the ring can continue its operations.

**Q2. You have two computers connected by a hub at home. Is this a LAN, a MAN, or a WAN?** Explain your reason. This must be LAN because the area span of the network is very small that connects two computers locally.

**Reason:**

A local area network (LAN) has usually a limited length of cables and wireless capacity, so it allows resources to be shared between personal computers in offices, building, or also on campus. The (MAN) usually used in cities and towns and uses fiber optics, coax cables, telephone wires (DSL), and, in some cases, wireless. The (WAN) mainly used in private networks, corporations, and government use.

**Q3. How do the layers of the Internet model correlate to the layers of the OSI model?**

The internet model was developed before the OSI model. Therefore, the layers in the internet model do not exactly match those in the OSI model. The internet model has four layers, network, internet, transport, and application. However, when the internet model is compared to OSI, we can say that the network layer is equivalent to the combination of the physical and data link layers. The internet layer is equivalent to the network layer, and the application layer is roughly doing the job of the session, presentation, and application layers with the transport layer in IM taking care of part of the duties of the session layer. The OSI model is made of five layers: physical, data link, network, transport, and application. The application, presentation, and session layers of the OSI model are represented by the application layer in the Internet model. The lowest four layers of OSI correspond to the Internet model layers.

**Q4. Suppose a computer sends a packet at the network layer to another computer somewhere on the Internet. The logical destination address of the packet is corrupted. What happens to the packet?**

How can the source computer be informed of the situation? The main problem must be with the network, if it is in a bad situation to corrupt a packet at the transport layer, then the sender’s address is also corrupt. This is Because, when a packet arrives malformed the checksum just tells the receiver the data is garbage, and the packet gets waved. There is no way for an intermediate router to figure out the sender’s address at this point because the entire packet with both the sender’s and receiver’s address cannot be trusted, hence the packet is thrown out and thus, the upper layer protocol will inform the source to resend the packet.