Decide whether the following statements are true or false:

1. **Hardware address is another term for an IP address**

Answer: false

Explanation

A burned-in address, Ethernet hardware address, hardware address, or physical address is another name for a MAC address.

A MAC address is a one-of-a-kind hardware identification number assigned to a NIC (Network Interface Controller/Card), whereas an IP address is a number that helps you identify a network connection.

1. **An IP address can uniquely identify any computer in the world**

False

Explanation

IP Addresses are a type of Internet Protocol. Every computer connected to the Internet has a unique identifier known as an IP Address. Internet Protocol (IP) is the language that computers use to communicate over the Internet.

Because every internet-connected device has an IP address, there are billions of IP addresses.

1. **A modem is needed for all connections to the Internet**

false

Explanation

To connect to the internet, you'll need a computer, an internet service provider, a modem, and communication software.

To connect to the internet, you'll need a computer, an ISP modem, and communication software.

Internet service providers (ISPs) provide internet connectivity. You must register for an account with an ISP. If you want to use your phone line to access the internet, you'll need a modem. It converts the language used by computers into a language that can be transmitted over a phone line and vice versa. Also necessary is communication software (browser and applications to connect to the ISP).

1. **Fibre optic cables are one of the fastest types of network connection**

True

Explanation

A data connection carried by a cable filled with thin glass or plastic fibres is known as fibre optic internet.

Data is transmitted through them in the form of pulsed light beams. Internet speeds are up to 20 times faster with fibre optics than with traditional cable at 1 Gbps

Fiber Internet makes use of fibre optic cable, which is made up of very thin glass strands that allow data to be delivered as light pulses. Fibre Internet has the ability to give Internet speeds that are nearly as fast as light since data can flow over fibre cable at nearly the speed of light.

1. **Local Area Networks always have at least one server**

True

Explanation

A Local Region Network (LAN) is a collection of computers or other devices connected by Ethernet or Wi-Fi inside a single, constrained area.

A client/server LAN is made up of numerous devices (clients) that are all connected to a single server. File storage, application access, device access, and network traffic are all managed by the server.

1. **Data transmitted over the Internet travels through several hosts before reaching its destination**

True

Step 1: Explanation

A computer that is connected to a network is known as a host. A computer connected to a TCP/IP network, such as the Internet, is referred to as a router. Each host on such a network has its own IP address, allowing two hosts to talk directly with one another and one host to communicate with another via a switch.

The paths of different packets from the same message do not have to be the same. That is one of the factors that contributes to the Internet's robustness and speed.

Packets will be passed from one machine to the next until they arrive at their final destination.

The computer receiving the data assembles the packets like a puzzle, recreating the message as they arrive.

1. **Network switches are used to connect several networks together**

True

Explanation

Switches provide for quick in-network communication by intelligently routing data packets between devices, forming a tunnel between source and destination that is unaffected by other network traffic.

In a computer network, a switch is a device that connects other devices. To facilitate communication between different networked devices, multiple data connections are inserted into a switch.

1. **A peer to peer network has no centralised server**

False

Explanation

A group of computers is joined together with equal permissions and responsibilities for processing data in peer-to-peer (P2P) networking.

Each network system (also known as a peer or node) serves as both a client and a server. They are capable in the same way. Because there is no controlling server in the P2P network topology, there is no central point of storage.

Servers perform jobs including user authentication

False

Explanation

A server is a computer or system that across a network distributes resources, data, services, or programmes to other computers known as clients. In theory, computers are considered servers when they share resources with client machines.

An authentication server is a programme that allows an entity attempting to enter a network to be authenticated. A human user or another server could be this entity. A dedicated computer, an Ethernet switch, an access point, or a network access server can all house an authentication server.