Exercise 1:

1. A modem : D. Modulates and demodulates the data into a dgital or an analog signal.
2. A repeater : B. channels incoming data but maintains the bandwidth speed
3. A bridge : f. sends the digital signal further on in the network
4. A router : c. allows wireless devices to connect to the network
5. A gateway : a. is an entrance to another network
6. A switch : e. channels incoming data but shares the bandwidth among the devices present on a network
7. A hub : h. connects networks that use the same protocol
8. A wireless access point : g. connects networks and sends packages of data between them

Exercise 2:

1. Who are the users?

Receptionist, Doctor A, Doctor B, Doctor C, Practice manager

1. What kind of hardware is used?

PC and Server.

1. What do the doctors use it for?

Doctor use it for email connections to hospitals, other practice, and the local health board.

1. What do the receptionists use it for?

To save patients record, drug information, and appointment.

1. What does the practice manager use it for?

To manage financial matters

Exercise 3:

1. What is a network?

A network is a collection of interconnected devices, such as computers, servers, printers, and other hardware, that are linked together to share resources, exchange information, or communicate with one another.

1. What are its hardware components?

Computer and devices, network cables, switches, Access Points, Firewalls, Modems, Servers

1. What is the difference between a local area network and wide area network?

The main differences between LANs and WANs are related to their geographic scope, size, technology, speed, ownership, and use cases. LANs are designed for local communication, while WANs connect LANs over long distances to enable broader connectivity and global communication.

1. What advantages do you think networks have?

Networks offer a wide range of advantages, from resource sharing and communication to scalability, security, and global connectivity. These benefits have a significant impact on businesses, individuals, and society as a whole, enabling more efficient and effective ways of working and communicating.

Exercise 4:

1. LANs link computers and other devices that are placed far apart.

Correction: LANs link computers and devices that are usually placed in the same building, and they cover a limited geographical area.

1. In a client-server architecture, all the workstations have the same capabilities.

Correction: In a client-server architecture, workstations do not necessarily have the same capabilities. The server typically contains the main hard disk and controls the other workstations or nodes.

1. The word protocol refers to the shape of the network.

Correction: The term "protocol" does not refer to the shape of the network. It refers to the set of rules and standards that govern communication within the network.

1. Routers are used to link two computers.

Correction: Routers are used to forward data packets and connect networks, such as a LAN to another network, like the Internet. They are not typically used to link two individual computers.

1. Access points don’t need to be connected to a wired LAN.

Correction: Access points need to be connected to a wired LAN. They provide wireless connectivity to devices within the LAN.

1. Wireless adapters are optional when you are using WLAN.

Correction: Wireless adapters are essential when using a WLAN. They enable devices to connect to the wireless network.

1. Hotspots can only be found inside a building.

Correction: Hotspots are not limited to indoor locations. They can also be found outdoors in places like university campuses and squares.

1. The Internet is an example of a LAN.

Correction: The Internet is not an example of a LAN. It is a Wide Area Network (WAN) that connects computers and networks across the world.

1. Wireless WANs use fiber and cable as linking devices.

Correction: Wireless WANs do not use fiber and cable as linking devices. They are typically linked through mobile telephone networks, not wired connections like fiber and cable.

Exercise 5:

* 1. All the PCs on a **LAN** are connected to one **server,** which is a powerful PC with a large hard disk that can be shared by everyone.
  2. The style of **peer-to-peer** networking permits each user to share resources such as printers.
  3. The star is a topology for a computer network in which one computer occupies the central part and the remaining **nodes** are linked solely to it.
  4. At present Wi-Fi systems transmit data at much more than 100 times the rate of a dial-up modem, making it an ideal technology for linking computers to one another and to the Net in a **WLAN**.
  5. All of the fiber-optic **backbones** of the United States, Canada, and Latin America cross Panama.
  6. A **hub** joins multiple computers (or other network devices) together to form a single network segment, where all computers can communicate directly with each other.