**Pakistan School , Kingdom of Bahrain**

**E- Support and Learning Material / Session 2020-2021**

**Subject: Computer Science Grade : 8**

**Book: Computer Education FIRSTTERM**

1. **Define the two types of Modem.**

**Modem**

Dialup Modem converts digital data into analog data and back into digital data. Dialup Modem is a short form of modulation and demodulation.

**Objective:** At the end of the lesson, the students will be able to define Modem and explain its two types.

**Types of Modem**

Modems are often used to enable computers to communicate with each other across telephone lines. There are two types of Modem

**a. Internal Modem b. External Modem**

**a. Internal Modem**

It is in the form of adapter card and installed inside system unit on motherboard in expansion slot.

**b. External Modem**

It is found as a separate device that is connected externally with motherboard using serial port like USB. Moreover, Wireless and Cable modems are also in use. DSL Modem provides faster data transfer rate then dialup modem and is connected with same telephone line with name as Digital Subscriber Line (DSL).

**Worksheet**

**Fill in the blanks**

* Modem is used to convert \_\_\_\_\_\_\_\_\_\_\_\_\_ into \_\_\_\_\_\_\_\_\_\_\_\_ and vice versa.
* Internal modem is in the form of \_\_\_\_\_\_\_\_\_\_\_.
* Internal modem is installed inside \_\_\_\_\_\_\_\_\_\_\_\_ on \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in expansion slots.
* External Modem is found as a \_\_\_\_\_\_\_\_\_\_ device.
* There are \_\_\_\_ types of Modems.

1. **What advanced technology is used in Fiber Optic Cables?**

The pulses or beam of light is used as an advanced technology in Fiber Optical Cable.

1. **What is the importance of cellular communications?**

**Importance of Cellular Communication:**

**Objective:** At the end of the lesson, the students will be able to explain the importance of cellular communication.

The term Cellular Communication is often used for all cell or mobile phones. The term “cell” comes from cellular towers that receive and transmit data.

For Example **GSM** (Global System for Mobile Communications)

**CDMA** (Code Division Multiple Access)

**AMPS** (Advanced Mobile Phone System)

In cellular communication, cell refers to a circular limited area with a centrally located transmitter and receiver station that identifies all the mobile phones which are switched on in its area.

**Worksheet**

**Fill in the blanks**

* Mobile phone is an example of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ communication.
* In cellular communication, the cell refers to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* \_\_\_\_\_\_\_\_\_\_\_ sends dial tone to the phone.
* The destination phone is located by its \_\_\_\_\_\_\_\_\_\_\_\_\_\_ for routing call towards it.

1. **Define Bluetooth. What type of device does it support to use with it?**

**Bluetooth**

**Objectives:** at the end of the lesson, the students will be able to know the components of computer network.

Bluetooth is short range wireless technology which uses radio waves for communication among the Bluetooth enables devices. Many mobile phones, laptops, MP3 players have built in Bluetooth technology.

**Worksheet**

**Fill in the blanks**

* Bluetooth is short range \_\_\_\_\_\_\_\_\_ technology.
* It uses \_\_\_\_\_\_\_\_\_ waves for communication among the Bluetooth \_\_\_\_\_\_\_\_ devices.

1. **What does GPS stands for? How many satellites does it use?**

GPS stands for Global Positioning System. GPS is a group of 2427 satellites.

**Q4. Write the detailed answers.**

1. **Define communication devices. Why are communication devices important?**

**Objectives:** at the end of the lesson, the students will be able to know the components of computer network.

**Communication Device:**

The communication device connects the sending and receiving devices through communication medium/channel in the Network.

**Function of Communication devices:**

* Allow computers, and other devices to send and receive data to and from each other.
* Are used to track data.
* The communication devices are used to transmit data and information between sending and receiving devices through communication media.

**Worksheet:**

**Fill in the blanks:**

1. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ devices are used to transmit data and information through \_\_\_\_\_\_\_\_\_\_\_\_ media.
2. Devices in the network are connected by \_\_\_\_\_\_\_\_\_ or through \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ devices are used to transmit data and information through \_\_\_\_\_\_\_\_\_\_\_\_ media.
4. **Write the names of four communication devices. Give their definitions also.**

Below is the list of four communication devices.

1. **Bluetooth devices:**

Bluetooth enabled devices use short range technology which uses radio waves for communication. Many mobile phones, laptops, MP3 players have built in Bluetooth technology. It can connect several devices at a time.

1. **Infrared devices:**

A common example of an infrared (Ir) device is a TV remote. However, infrared is also used with computers and devices like a cordless keyboard, cordless mouse, and infrared touch screen.

1. **Modem:**

A Modem converts analog signals into digital signals and back into analog signals so that signals can travel on telephone lines.

1. **Network card:**

A network card is a LAN card. It is also referred to as Network Interface Card (NIC). It is installed into computer and enables that computer for connecting to a Local Area Network.

1. **Do you know what does client/server mean? Describe.**

**Client and Server**

**Objectives:** At the end of the lesson, the students will be able to explain the concept of client and server.

A **client** is a computer that requests and then accesses a service made available by a server. The client is the user’s computer which gets the data and information from the server on a network. A client computer is also called a workstation.

A **Server** is a computer which supplies the data and information to the client computer on a network. A server computer controls all the data or information which is provided to the client computers. A server computer is also called host computer

A Client / Server Model is actually a relationship between two computer’s programs in which one working as client makes requests to other program that is designed as server to fulfill the client’s needs.

**Worksheet:**

**Tick the correct statement**

1. Which of the following provides services to other devices and computers?
2. Server b. Client c. Modem d. Printer
3. Which of the following requests the devices and computers?
4. Server b. Client c. Modem d. Printer

**Fill in the blanks:**

1. A Server computer \_\_\_\_\_\_\_\_\_\_ all the data and information which is provided to the \_\_\_\_\_\_\_ computers.
2. A client computer is also called \_\_\_\_\_\_\_\_\_\_\_.
3. A server computer is also called \_\_\_\_\_\_\_\_\_\_.