**Projects Solution 3**

**Computer Network**

In a network, computers are connected by network cables through which data is transferred in the form of signals. In short, a network is defined as a collection of devices connected together. A computer network is a group of two or more computers that are linked with each other so as to:

* Share files with other computers in the network
* Share resources, such as printers, hard disks and fax machines
* Share application software (such as MS Office) over the network
* Allow electronic communication

**Need of Networking**

Today, computers have become an important part of our lives. We use computers to exchange information in our day-to-day life using different media, such as cables and satellites. Information that would have otherwise taken days to reach us can now be read or heard in minutes. All this is possible due to networking. The benefits of networking are as follows:

* Allows you to share all types of data, such as text, audio, video, pictures and graphics
* Reduces cost by sharing hardware and software resources
* Saves time by transferring data from one computer to others
* Provides high reliability because there are multiple sources of supply
* Increases productivity by easily sharing data
* The different types of networking transmission media is shown in Table 1:

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| S. No. | Name of Transmission Media | Description |
| 1. | Twisted Pair Cable | It contains two twisted wires that use copper as a conductor. These wires have plastic insulation and are twisted. |
| 2. | Coaxial Cable | It consists of two conductors. The first conductor is the inner conductor of solid copper (also called the core conductor). |
| 3. | Fiber Optic Cable | It is a type of cable that contains one or more optical fibers coated with plastic layers. Due to their greater bandwidth, these cables can carry more data. |
| 4. | Microwave | It refers to a radio system that uses high frequencies to send and receive data or information. |
| 5. | Radio Waves | Radio waves are the longest electromagnetic waves in the electromagnetic spectrum. The wavelength used in radio waves is longer than that of the visible light. |
| 6. | Satellite | The satellite wireless media is a special type of microwave media. This is because the satellite communication is a combination of satellite dish (that acts as an antenna), which is placed at the earth station and uses microwave to transmit data signals. |