1. What is a Computer Network?

Computer networks are the basis of communication in IT. They are used in a huge variety of ways and can include many different types of network. A computer network is a set of computers that are connected together so that they can share information.

Computer networks are used to carry out a large number of tasks through the sharing of information. Some of the things that networks are used for include:

- Communicating using email, video, instant messaging and other methods
- Sharing devices such as printers, scanners and photocopiers
- Sharing files
- Sharing software and operating programs on remote systems
- Allowing network users to easily access and maintain information

2. What are the different types of Computer Network?

Depending on one's perspective, networks are classified in different ways.

Based on transmission media: Wired (UTP, coaxial cables, fiber-optic cables) and Wireless

Based on network size: LAN, WAN and MAN

Based on management method: Peer-to-peer and Client / Server

Based on topology (connectivity): Bus, Star, Ring etc.

We will discuss the three main types of networks which are based on network size.

- **Local Area Networks (LAN)**

  Local area network is a group of computers connected with each other in small places such as school, hospital, apartment etc. Due to their small size a LAN is considerably faster and their speed can range anywhere from 100 to 100Mbps.Usually one kind of technology is used throughout the LAN and it serve a department within an organization. LANs are not limited to wire connection, there is a new evolution to the LANs that allows local area network to work on a wireless connection.

  Examples: Network inside the Student Computer lab, Network inside a small office, Network inside your home, Information Technology Center.

- **Wide Area Networks (WAN)**

  Wide area network provides long distance transmission of data. A wide area network is a network that covers a larger geographical area, usually with a radius of more than a kilometer. The size of the WAN is larger than LAN and MAN. A WAN can cover country, continent or even a whole world. Internet connection is an example of WAN. Other examples of WAN are mobile broadband connections such as 3G, 4G etc.

- **Metropolitan Area Networks (MAN)**

  Metropolitan area networks are networks that stretch across a region with the size of a metropolitan area. A MAN is a series of connected LANs in a city, which might also connect to a WAN. In Metropolitan area network various Local area networks are connected with each other through telephone lines. The size of the Metropolitan area network is larger than LANs and smaller than WANs (wide area networks), a MANs covers the larger area of a city or town.

Apart from these primary types, the other networks based on network size are:

- **Personal Area Networks (PAN)**
  A personal area network is a network that is based on an individual's workspace. The individual's device is the center of the network, with other devices connected to it. There are also wireless personal area networks.

- **Home Area Networks (HAN)**
  A home area network connects devices within a home environment. It might include personal computers, tablets, smart phones, printers, TVs and other devices.

- **Campus Networks**
  A campus network is a LAN or set of connected LANs which is used by a government agency, university, corporation or similar organization and is typically a network across a set of buildings that are close together.

- **Enterprise Private Networks**
  An enterprise private network is used by a company to connect its various sites so that the different locations can share resources.

- **Internetworks**
  Internetworks connect different networks together to build a larger network. Internetworking is often used to describe building a large, global network.

- **Backbone Networks (BBN)**
  A backbone is a part of a network that connects different pieces and provides a path for information to be exchanged.

- **Global Area Networks (GAN)**
  A global area network is a worldwide network that connects networks all over the globe, such as the internet.