



## **Assignment # 1**

**Course Title:**

**Computer Network**

**Name:**

**Uqba Gulzar**

**Reg No:**

**2023-BSE-067**

**Section:**

**BSE IVB**

**Submitted to:**

**Dr. Saria Safdar**

**Q#1: Name the types of twisted pair wires that could be used in high speed Gigabit Ethernet LAN.**

Types of twisted pair wires used in high speed Gigabit Ethernet LAN are:

Cat 5e, Cat 6, Cat 6a, Cat 7, Cat 8

**Q#2: Describe the properties of newer categories of twisted pair wires.**

Twisted pair cables are commonly used for network communications, and newer categories have been developed to improve speed, bandwidth, and performance. Here are the properties of the newer categories of twisted pair wires:

- **Cat 5e** – 1 Gbps, 100 MHz, UTP, 100m, reduced crosstalk, used in home networks.
- **Cat 6** – 10 Gbps (55m), 250 MHz, UTP/STP, 100m, better shielding, used in enterprises.
- **Cat 6a** – 10 Gbps, 500 MHz, STP/UTP, 100m, stronger shielding, used in data centers.
- **Cat 7** – 10 Gbps, 600 MHz, S/FTP, 100m, high shielding, used in industrial networks.
- **Cat 8** – 25-40 Gbps, 2000 MHz, S/FTP, 30m, ultra-fast, used in server rooms.

**Q#3: Open media (Space)**

- **RF**
- **Ultraviolet**
- **Microwave and Satellite**

**Definitions of Open Media Types**

1. **Radio Frequency (RF)** – Uses electromagnetic waves for wireless communication in radio, mobile, and Wi-Fi networks.
2. **Ultraviolet (UV)** – Uses high-frequency light waves for short-range secure communication and scientific applications.
3. **Microwave** – Uses high-frequency radio waves for mobile networks, radar, and long-distance data transmission.
4. **Satellite** – Uses orbiting satellites to relay signals for internet, GPS, and global communication.