

Date: 28/06/2024

Lab Practical #02:

Study of different types of network cables & connectors and crimping a LAN.

Practical Assignment #02:

1. List various networks cable. Also, write short description.
2. Difference between guided and unguided media.
3. Give cross-wired cable and straight through cable diagram (Color Code wise).

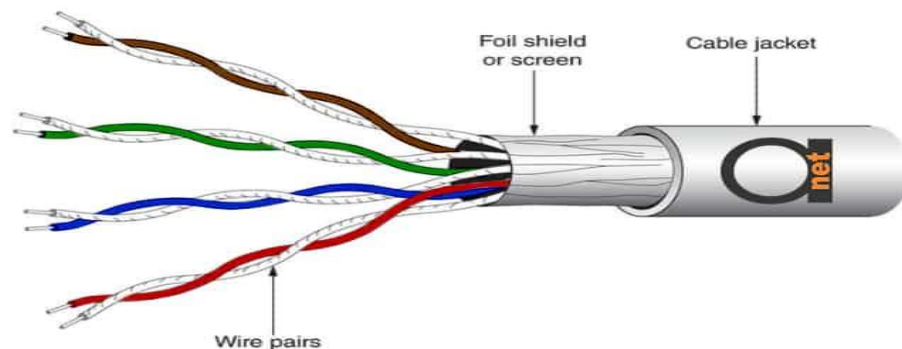
1. List various networks cable and connectors. Also, write short description.

a) Network Cable Name:

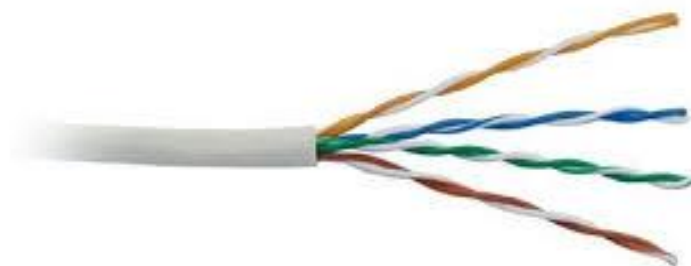
⇒ Twisted Pair Cable:

- **Description:** Twisted pair cable is a type of wiring in which two conductors of a single circuit are twisted together for the purposes of improving electromagnetic compatibility. It is widely used for telephone communications and modern Ethernet networks.
- **Diagram:**

1. Shielded Twisted Pair Cable:



2. Unshielded Twisted Pair Cable:

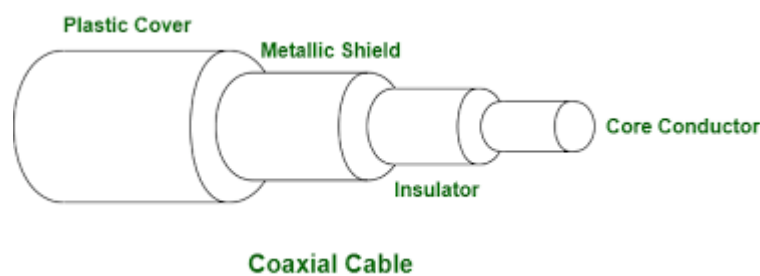


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b) Co-Axial Cable:

- **Description:** Coaxial cable, commonly referred to as coax, is a type of electrical cable consisting of a central conductor, an insulating layer, a metallic shield, and an outer insulating layer. It is primarily used for transmitting high-frequency signals. It is less efficient than optical fiber also it provides moderately high bandwidth in comparison to optical fiber.

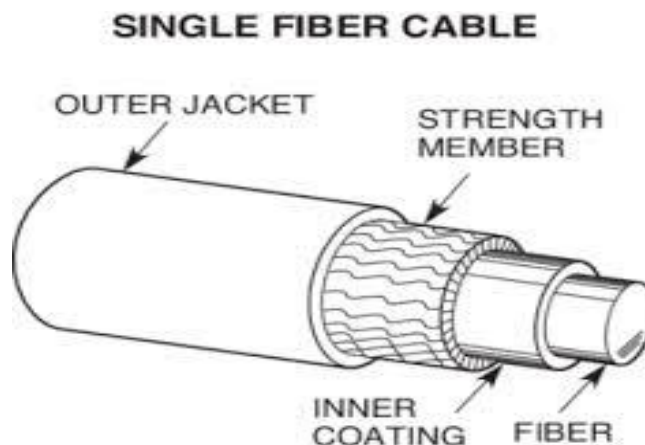
- **Diagram:**



c) Fiber-Optic Cable:

- **Description:** Fiber optic cable is a type of cable that transmits data as light pulses through strands of glass or plastic fibers. It is known for its high bandwidth and long-distance transmission capabilities. They transfer data signals in the form of light and travel hundreds of miles significantly faster than those used in traditional electrical cables.

- **Diagram:**



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d) Network Connectors: RJ-45 Connector

- **Description:** The RJ45 connector is a standardized interface often used for networking applications. It is an 8-position, 8-contact (8P8C) modular plug and jack commonly found in Ethernet networks.
- **Diagram:**



e) USB Connector:

- **Description:** The USB (Universal Serial Bus) connector is a standard interface used for connecting peripherals to computers and other devices. USB connectors come in various types and sizes, each designed for specific applications.
- **Diagram:**



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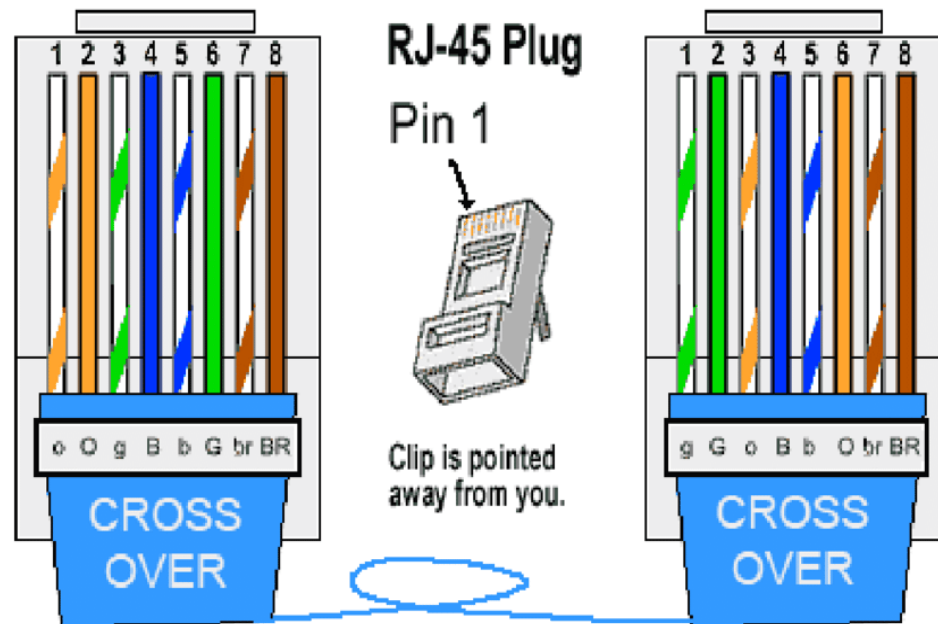
2. Difference between Guided V/S Unguided Media.

Basis	Guided/ Bounded Media	UnGuided/ UnBounded Media
Transmission	Guided is wired transmission, in which data signals are guided along a physical path i.e. within a wire	UnGuided/ Unbounded communication is wireless transmission. To exchange bits of data for laptop, notebook, smart watch, without wires, you need wireless communication.
Also, called?	Guided transmission is also known as Bounded Transmission Media.	UnGuided transmission is also known as UnBounded Transmission Media.
Media Types	Some well-known Guided Transmission media includes Twisted Pair Cable, Coaxial cable, fiber optic cable, etc.	UnGuided Transmission media includes Microwave Transmission, Satellite Communication, etc.
Media	The media can be seen and touched i.e. tangible.	The media is wireless and cannot be seen and touched i.e. intangible.
Distance	Used for shorter distance.	Used for larger distance.
Penetration	Guided Media cannot penetrate through the buildings	UnGuided Media can penetrate through the buildings.

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3. Give Crosswire cable and straight through cable diagram.

a) Cross Wired Cable



b) Straight Through Cable Diagram:

