

Date: 02/08/2025

Lab Practical #03:

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

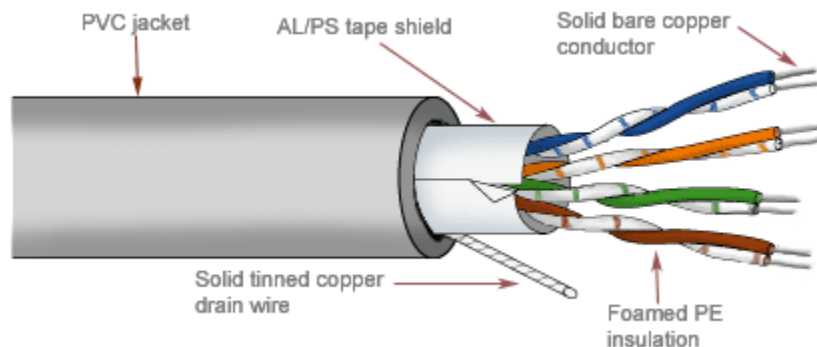
Practical Assignment #03:

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.

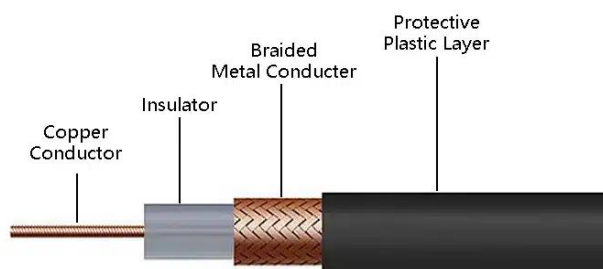
a) Twisted Pair Cable

- **Description:** Twisted pair cables consist of pairs of insulated copper wires twisted together to reduce electromagnetic interference. They are commonly used in Ethernet networks. There are two types:
 - Unshielded Twisted Pair (UTP): Lacks shielding, cheaper, and widely used in home and office networks.
 - Shielded Twisted Pair (STP): Includes shielding to reduce interference, used in environments with high interference.
- **Diagram:**



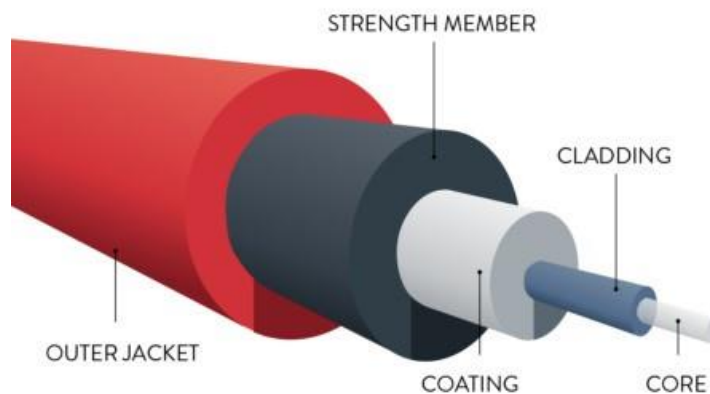
b) Coaxial Cable

- **Description:** Coaxial cables have a central conductor surrounded by insulation, a metallic shield, and an outer cover. They are used for cable TV, internet (DOCSIS), and older Ethernet networks.
- **Diagram:**



c) Fiber Optic Cable

- **Description:** Fiber optic cables use glass or plastic fibres to transmit data as light pulses. They offer high bandwidth, low attenuation, and immunity to electromagnetic interference. Used in high-speed internet and long-distance communication.
- **Diagram:**

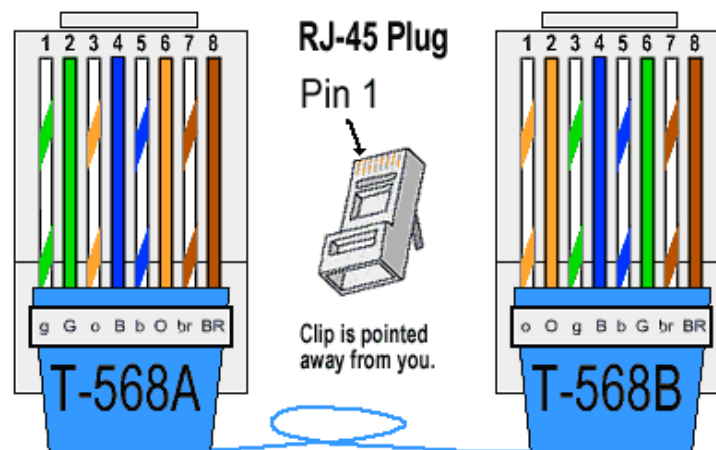


2. Difference between guided and unguided media.

| No. | Guided Media | Unguided Media |
|-----|--|--|
| 1 | Uses physical cables to transmit data | Uses wireless signals (e.g., radio waves). |
| 2 | Examples: Twisted pair, coaxial, fiber | Examples: Wi-Fi, Bluetooth, satellite's |
| 3 | Secure and reliable. | Prone to interference and less secure. |
| 4 | Limited by cable length. | No physical limitations, but range varies. |

3. Give cross-wired cable and straight through cable diagram (Color Code wise).

a) Cross-wired Cable Diagram (Color Code) PC to PC



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b) Straight Through Cable Diagram (Color Code) PC to Switch

