Date: 09/08/2025

Lab Practical #03:

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

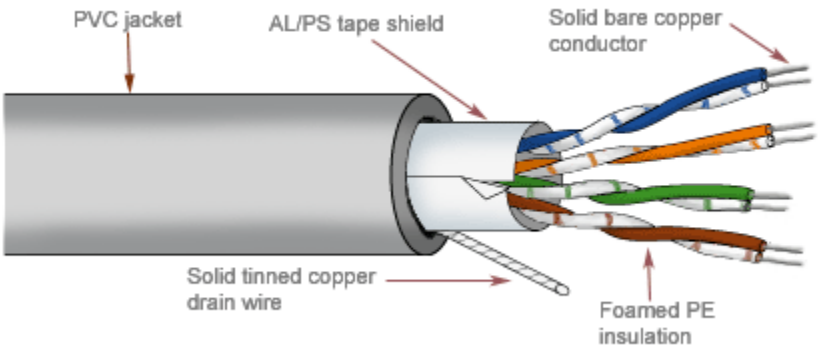
Practical Assignment #03:

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.

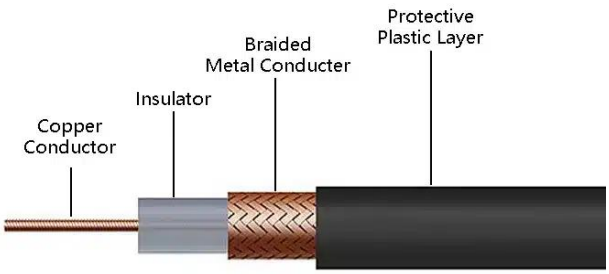
a) **Twisted Pair Cable**

- **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**:



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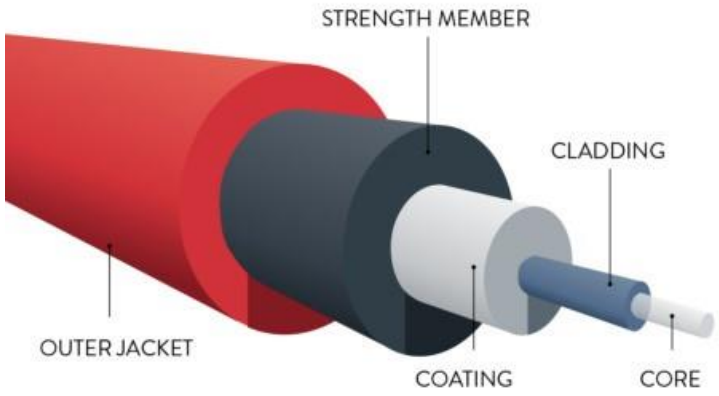
c) **Fiber Optic Cable**

- **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**:

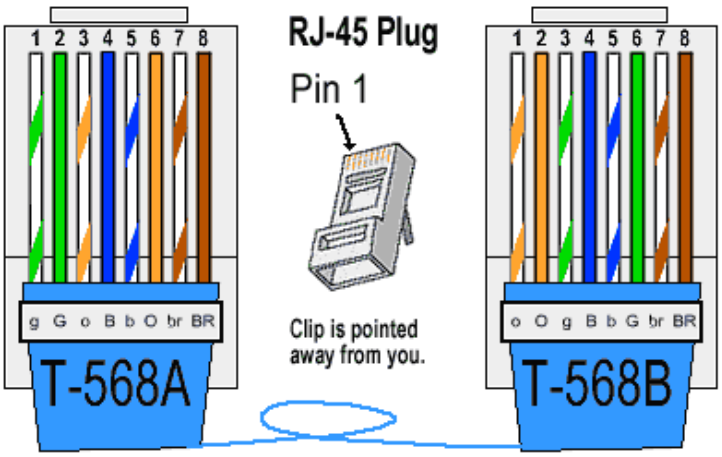


2. Difference between guided and unguided media.

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