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Lab Practical #02:

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

Practical Assignment #02:

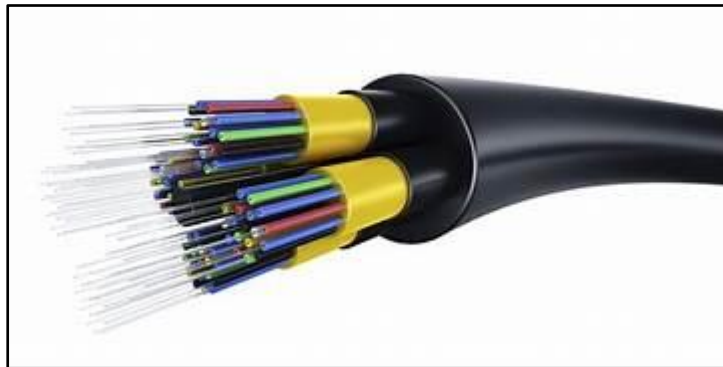
1. List various networks cable. Also, write short description.
2. Difference between guided and unguided media.
3. Give cross-wired cable and straight through cable diagram (Color Code wise).

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

1. Types of Cables :-

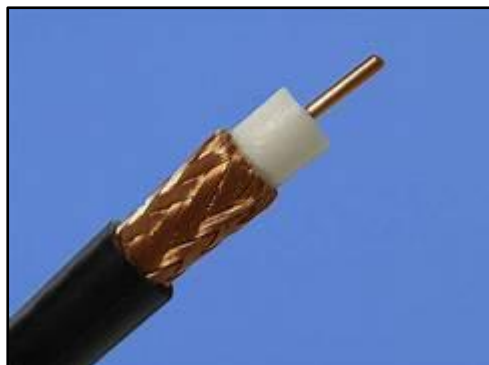
a) Fiber Optic Cable

- **Single-mode:** Long-distance transmission with smaller core, used for telecom and internet.
- **Multi-mode:** Shorter distance, larger core, used in LANs and data centers.



b) Coaxial Cable

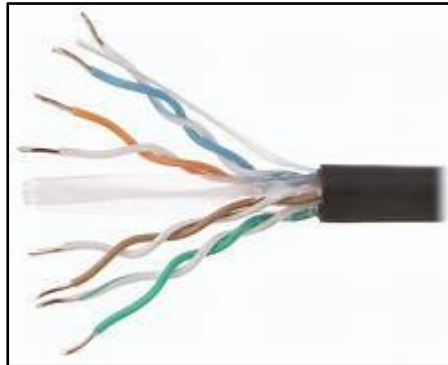
- **RG-6:** Used for cable TV, satellite TV, and internet connections.
- **RG-59:** Older standard, used for analog video and CCTV installations.



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c) Twisted Pair Cable

- **Shielded Twisted Pair (STP):** Includes shielding to reduce electromagnetic interference.
- **Unshielded Twisted Pair (UTP):** Common in Ethernet networks, lacks shielding.



2. Types of Cables :-

a) RJ45

- Standard connector for Ethernet cables, used in Cat5e, Cat6, Cat6a, Cat7, and Cat8 cables.



b) RJ11

- Smaller connector used for telephone lines and sometimes DSL internet connections.



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c) BNC (Bayonet Neill-Concelman)

- Used with coaxial cables, commonly found in older analog video networks and radio frequency applications.



d) LC (Lucent Connector)

- Small form factor fiber optic connector, commonly used in single-mode and multi-mode fiber.



e) SC (Subscriber Connector)

- Larger fiber optic connector, often used in data centers and network applications.



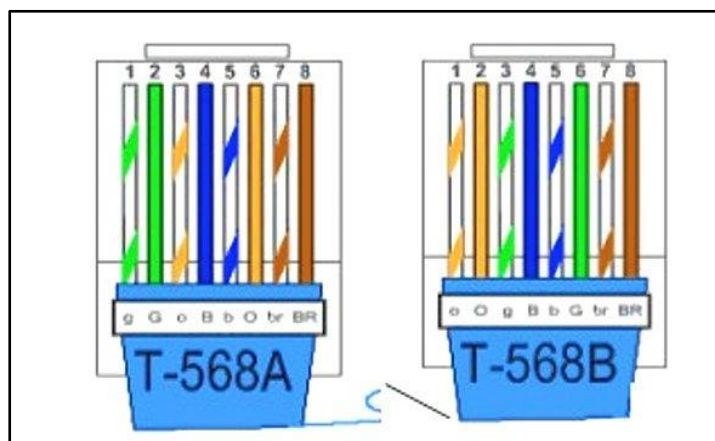
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2. Difference between guided and unguided media.

Guided Media	Unguided Media
It is known as wired media.	It is known as wireless media.
It is 3 types of cables. 1) Twisted pair cable 2) Coaxial cable 3) Fiber optic cable	It is 3 types. 1) Radio wave 2) Microwave 3) Infrared
Signals travel through a physical medium like wires or fibers.	Signals travel through air, vacuum, or water, using electromagnetic waves.
Typically offers higher bandwidth and data rates, especially fiber optics.	Generally offers lower bandwidth and data rates compared to guided media, though advancements in technology are continually improving these metrics.
Used in LANs, WANs, telephone networks, and high-speed internet connections.	Used in wireless communications, satellite communications, and mobile networks.

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

a) Cross-wired Cable Diagram (Color Code)



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b) Straight Through Cable Diagram (Color Code)

