

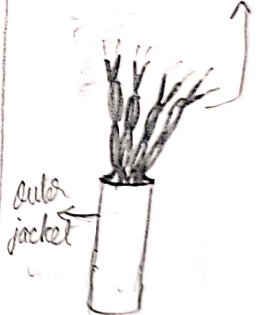
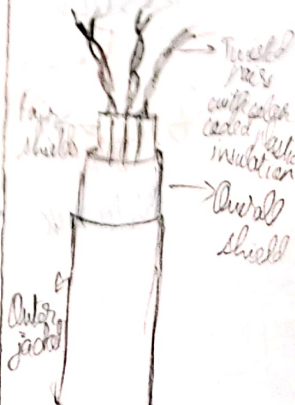
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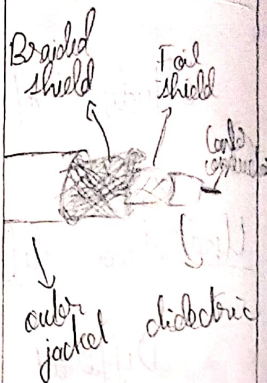

Study of different types of Network cables.

Understand different types of Network cables:

Different type of cables used in networking are:

- 1) Unshielded Twisted Pair (UTP) cable
- 2) Shielded Twisted Pair (STP) cable
- 3) Coaxial cable
- 4) Fibre Optic cable

Cable Type	Category	Maximum Data Transmission	Advantages / Disadvantages	Application / Use	Image
UTP	Category 3	10 bps	Advantage: * Cheaper	10 Base - T Ethernet	
	Category 5	upto 100mbps	* Easy to install as they have smaller diameter	Fast ethernet, Gigabit ethernet	
	Category 5e	1 Gbps	Disadvantage: * More prone to EMI		
STP	Category 6, 6a	10 Gbps	Advantage: * Shielded * Faster than UTP * Less susceptible to noise & interference	Gigabit ethernet (55m) widely used in data center	
SSTP	Category 7	10 Gbps	Disadvantage: * Expensive * Greater installation effort	Gigabit ethernet 10G Ethernet (100m)	

Coaxial cable	RG-6, RG-59, RG-11	10-100 Mbps	<p>Advantage:</p> <ul style="list-style-type: none"> * High bandwidth * Immune to interference * Low loss bandwidth * Versatile <p>Disadvantage:</p> <ul style="list-style-type: none"> * Limited distance * Cost * Size is bulky 	Speed of signal is 500m TV network high speed internet connection	 <p>Labels in diagram: Braided shield, Foil shield, Central conductor, Outer jacket, dielectric.</p>
Fiber optics cable	Single mode multi mode	100 Gbps	<p>Advantage:</p> <ul style="list-style-type: none"> * High speed * High bandwidth * High security * Long-distance <p>Disadvantage:</p> <ul style="list-style-type: none"> * Expensive * Required skilled installers 	Maximum distance of fibre optic cable is around 100 metres.	

RESULT:

On 16/07/24, we studied & worked with different types of Network cables.