

Aim:

study of different types of Network cables

a) Understand different types of network cable

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

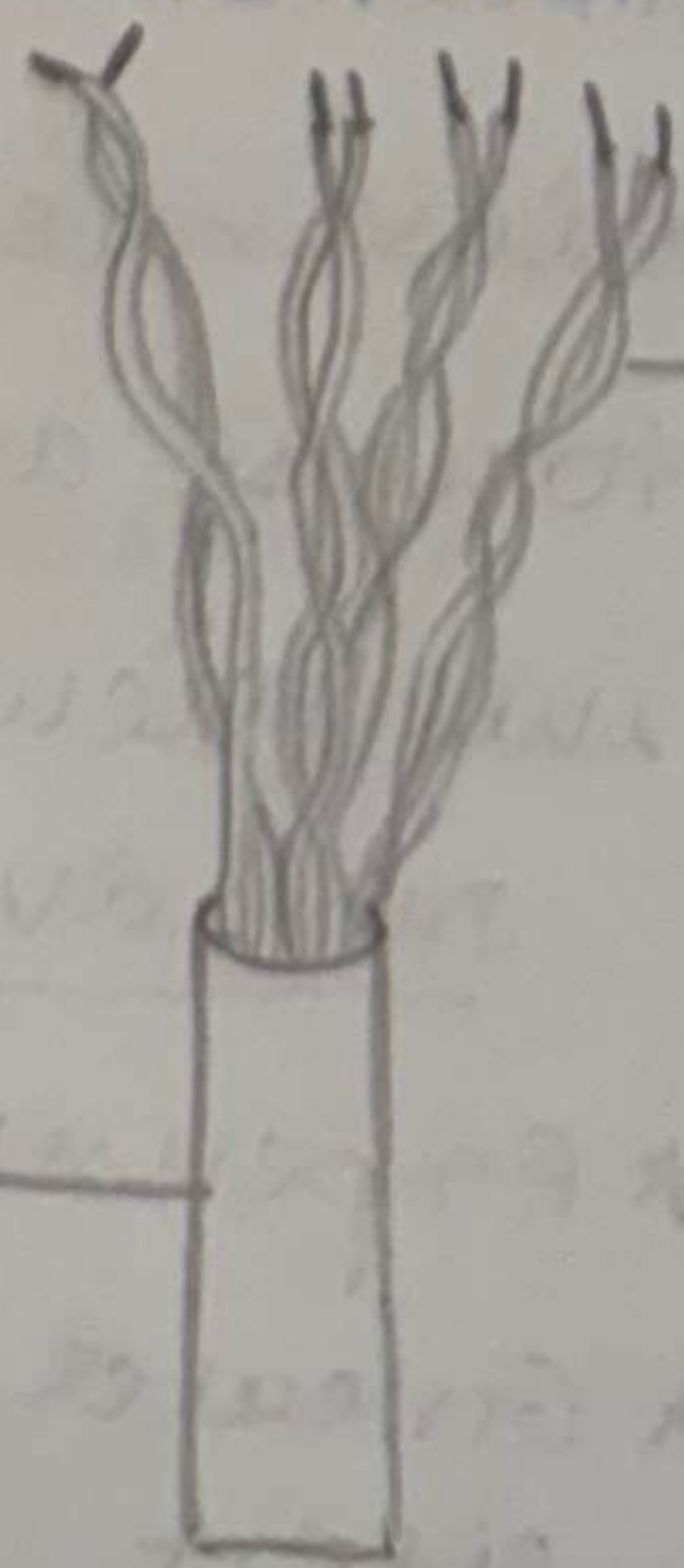
Cable Type	Category	Maximum Data Transmission	Advantages / Disadvantages	Application / Use
UTP	Category 3	10bps	<u>Advantages</u> * cheaper in cost	10-Base-T Ethernet
	category 5	upto 100 Mbps	* Easy to install as they have a smaller overall diameter.	Fast Ethernet, Gigabit Ethernet
	category 5e	1 Gbps	<u>Disadvantages</u> * More prone to (EMI) Electromagnetic interference and noise.	Fast Ethernet, Gigabit Ethernet
STP	category 6, 6a	10Gbps	<u>Advantages</u> * Shielded * Faster than UTP * Less susceptible to noise and interference	Gigabit Ethernet, 10G Ethernet (55m) Widely used in data centres
SSTP	category 7	10Gbps	<u>Disadvantages</u> * Expensive * Greater Installation effort	Gigabit Ethernet, 10G Ethernet (100m)



coaxial cable	RG1-6	10-100Mbps	Advantages	speed of
	RG1-59		* High bandwidth	signal is
	RG1-11		* Immune to interference	500M
			* Low loss bandwidth	Television
			* Versatile	network High speed internet connections
			Disadvantages	
			* Limited distance	
			* Cost	
			* size is bulky	
fibre optics cable	single mode	100Gbps	Advantages	Maximum distance of
	Multi mode		* High speed	distance of fibre optics cable is
			* High Bandwidth	around 100 meters.
			* High security	
			* Long distance	
			Disadvantages	
			* Expensive	
			* Requires skilled installers.	

### IMAGE:

#### ① Unshielded Twisted Pair (UTP) Cable

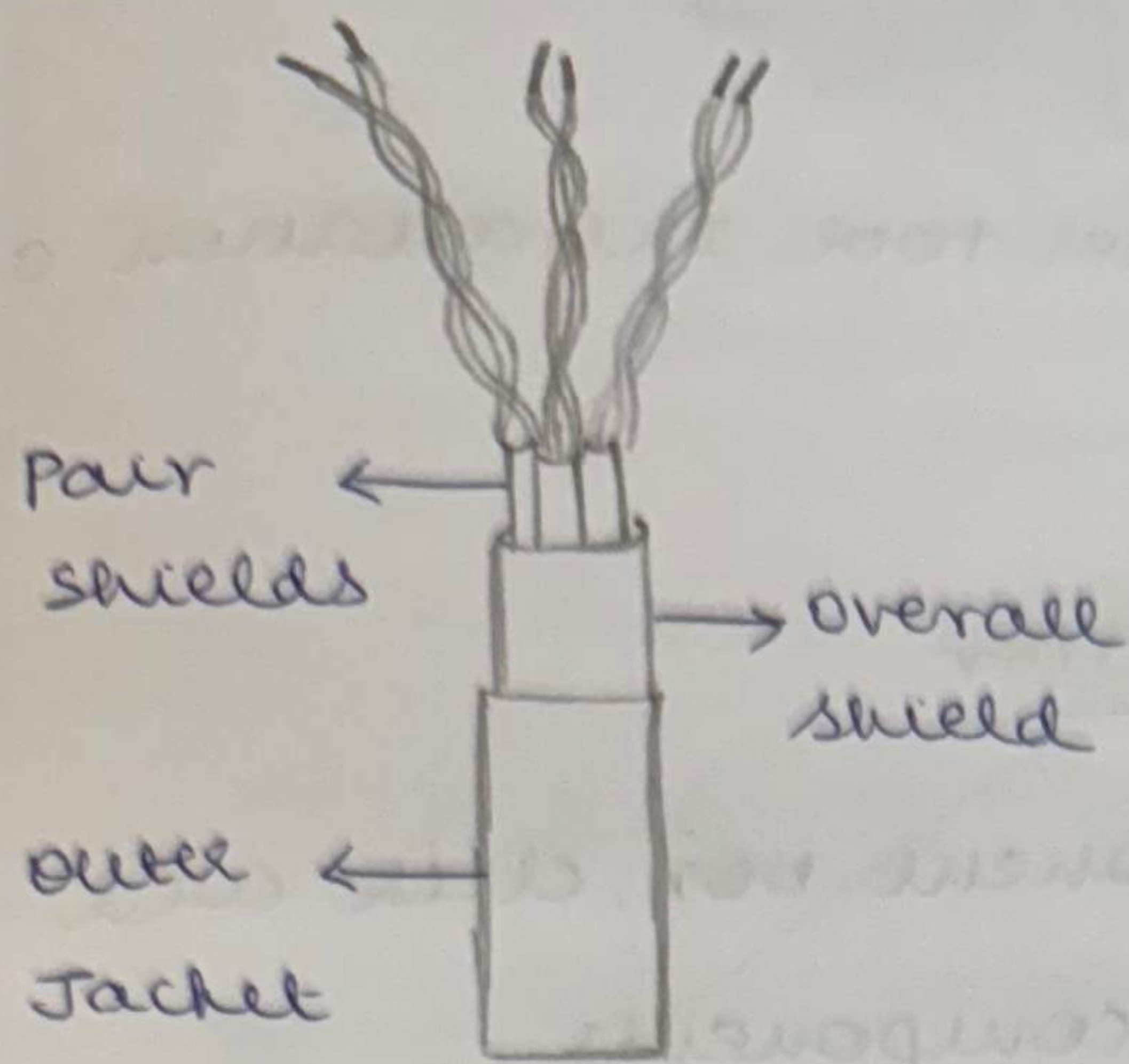


Twisted pairs with color coded plastic insulation

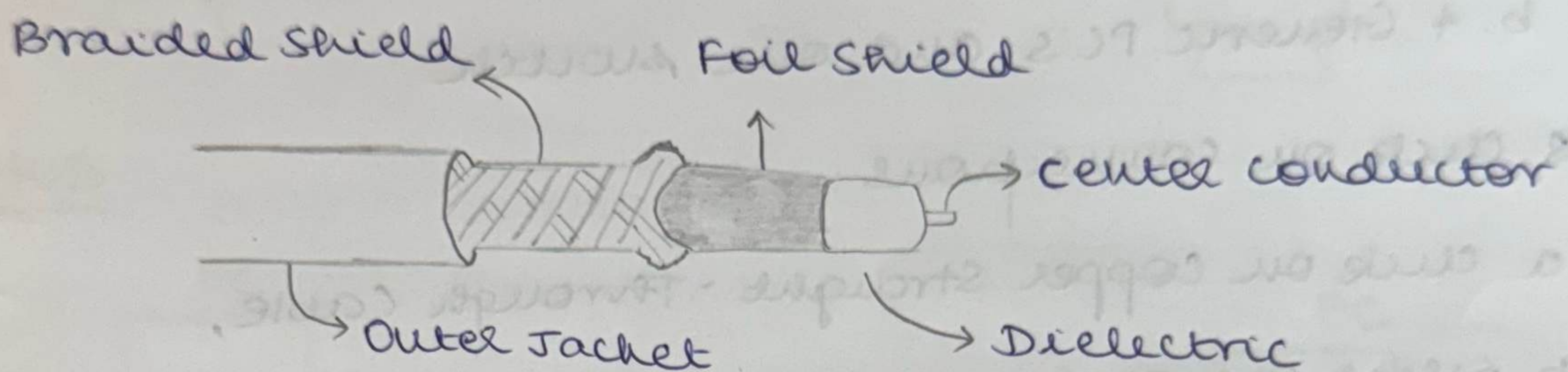
outer Jacket



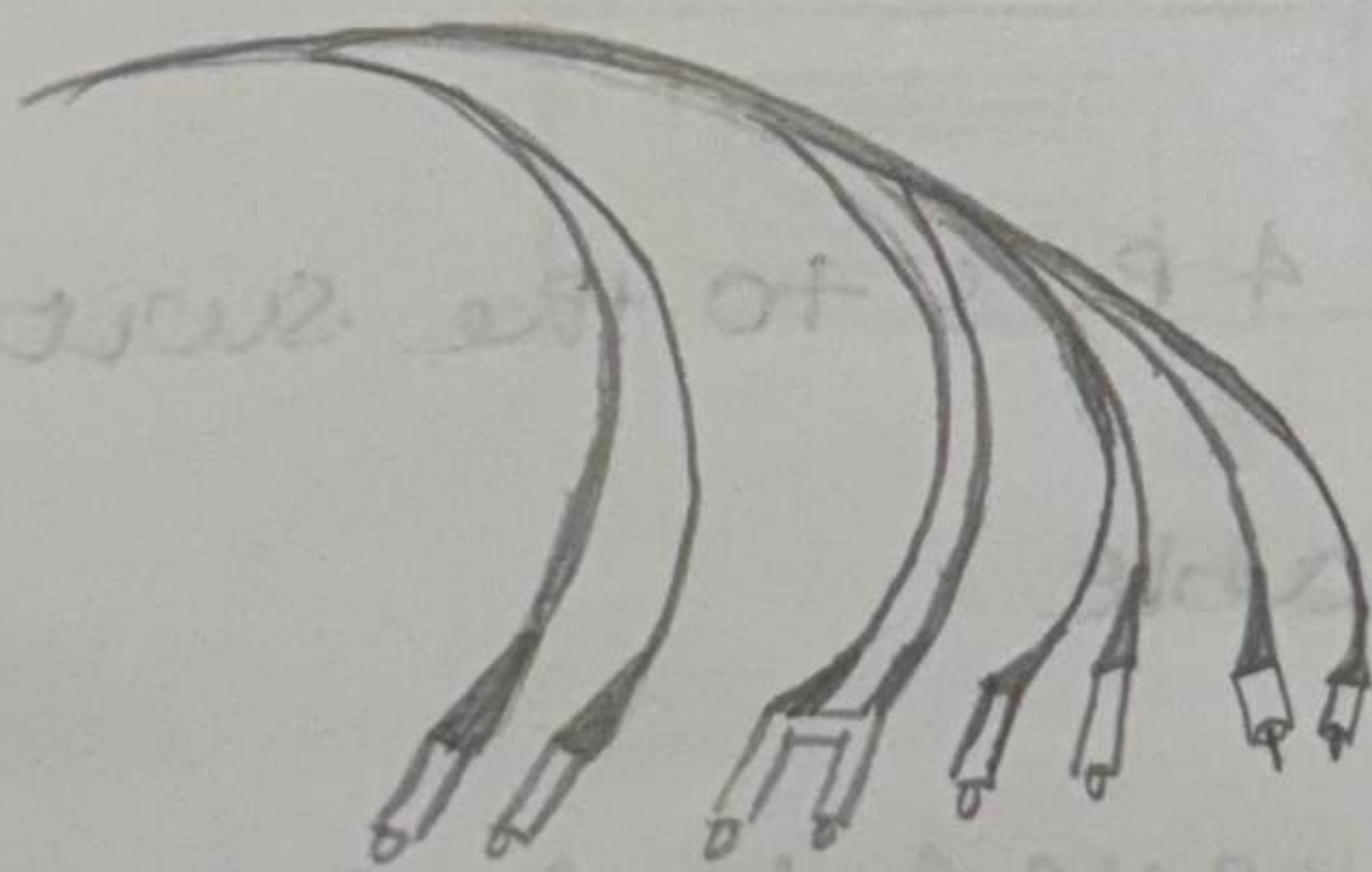
② STP:



③ coaxial cable



④ Fibre optics cable



Result:

Different types of Network cables have been studied.

*[Signature]*  
23/7/24