

23/7/24

Aim:

To 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
UTP	Category 3	10 bps	cheaper cost	10 base T ether
	Category 5	upto 100 Mbps	Easy to install	Fast Ethernet
	Category 5e	1 Gbps	More / more to EM	Fast ethernet
STP	Category 6	10 Gbps	shielded Faster than UTP	Gigabit Ethernet
2 STP	Category 7	10 Gbps	Expensive Greater Installation effort	Gigabit Ethernet



Cable Type	Category	Maximum Data Transmission	Adv/Disadv	Application
Coaxial Cable	RG-6	10-100 Mbps	High bandwidth	Security
	RG-59		Immune to interference	is used in some television networks
	RG-11		Low loss of bandwidth	High speed network
			Disadvantage	Expensive
			Limited distance	
			Cost	
			Bulky size	
Fibre optic cable	Single mode	100 Gbps	High speed	Flammable
	Multi mode		High bandwidth	difficult to install
			High security	of fibre optic cables
			Disadvantages	around 100 meters
			Expensive	
			Requires skills	

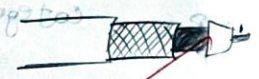
UTP



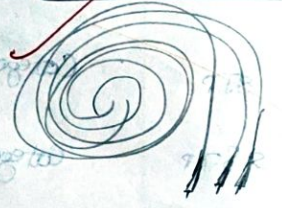
STP



Coaxial cable:



Fibre Optic cable:



Make your own ethernet cross-over cable

Tools and ports needed  
Ethernet cabling

Pairing tool

Make two RJ45 plugs

On each two plug shields

Student observation:

Dstraight cables are used to connect different devices while cross over cables are for connecting similar devices

2) Cross over cable

3) straight

4) cables

5) Identifying the cables, pairing the cables, testing.

Result:

Thus different types of cables and making a own cross over cable is studied