

Ex no: 02
Date: 23/07

STUDY OF DIFFERENT NETWORK CABLES

AIM:

Study of different types of Network cables.

a) Understand different types of network cable:

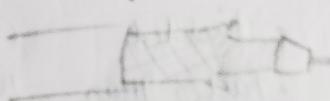
Different type of cables used in networking are:

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

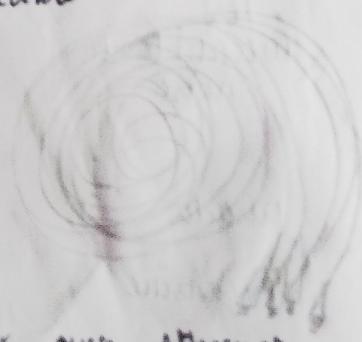
cable Type	category	Maximum data transmission	Advantages	Disadvantages	Application	Image
UTP	category 3	10 bps	Adv: • cheaper cost		10 base-T Ethernet	
	category 5	Up to 100 Mbps	• Easy to install	Disadv: • More prone to EMI	Fast ethernet, gigabit Ethernet	
	category 6	10gbps	• More prone to EMI		Fast ethernet.	
STP	category 6,6a	10Gb/s	Adv: • shielded • Faster than UTP • Less susceptible to noise		gigabit Ethernet, 10Gb Ethernet, widely used in data centres	
SSTP	category 7	10Gb/s	Disadv: • Expensive • Greater Installation effort		gigabit Ethernet, 10Gb Ethernet(100m)	

cable type	category	maximum data transmission	Advantages / Disadvantages	Application / Use
coaxial cable	RG-6 RG-59 RG-11	10-100 Mbps	* High bandwidth * Immune to Interference * Low loss of bandwidth	Speed of signal is 500m Television network, High speed Internet connection
			Disadvantages: * Limited distance * Cost * Bulky size	
fibre optics cable	single mode multi mode	100 Gbps	Advantages: * High speed * High bandwidth * High security	Maximum distance of fibre optic cable is around 100 metres
			Disadvantages: * Expensive * Requires skills	

coaxial cable: Image :



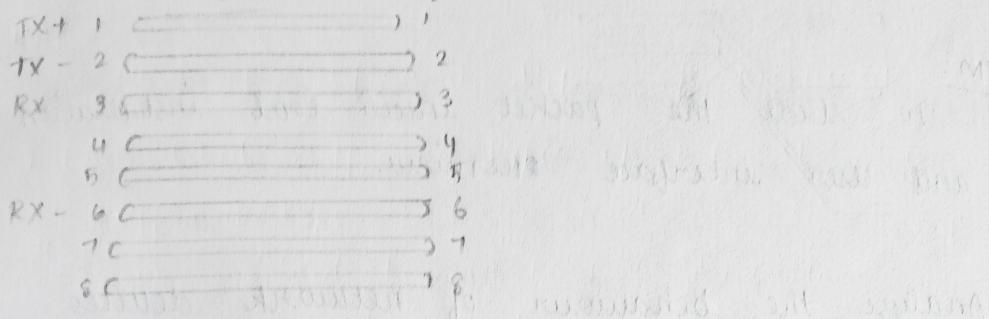
fibre optics cable:



b) Make your own Ethernet cross-over cable:
Tools and parts needed:

- Ethernet cabling.
- A crimping tool

b) make two RJ45 plugs
Optional two plug shields
straight them cable



student observation:

- 1) straight cables are used for connecting different devices while crossover cables are for connecting similar devices
- 2) crossover cable
- 3) straight
- 4) cat5e, cat6, cat6A
- 5) Identifying the cables, crimping the cables, testing.

RESULT:

~~Thus different types of cables and making a own crossover cable is studied.~~