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Palaniappa

EXP.NO: 02

Date : 24/07/24

Aim : Study of different types of Network cables.

a) Understand different types of network cable.

Cable type	Category	Maximum Data Transmission	Advantages / Disadvantages	Application / Use
UTP	category 3	10 bps	Advantages: * cheaper in cost * Easy to install as they have a smaller overall diameter Disadvantages: * More prone to (EMI) Electromagnetic interference and noise	10 Base-T Ethernet Fast Ethernet, Gigabit Ethernet. Fast Ethernet, Gigabit Ethernet.
	Category 5,	upto 100 Mbps		
	category 5e	1 Gbps		
STP	Category 6, 6a	10 Gbps	Advantages: * Shielded * Faster than UTP * Less susceptible to noise and interference Disadvantages: * Expensive * Greater installation effort	Gigabit, Ethernet 10 G Ethernet (55 m) widely used in data centres.
SSTP	Category 7	10 Gbps		Gigabit Ethernet, 10G Ethernet (100 m)
Coaxial cable	RG-6 RG-59 RG-11	10-100 Mbps	Advantages: * High bandwidth * Immune to interference * Low loss Bandwidth	Speed of signal is room, Television network, High speed internet connections

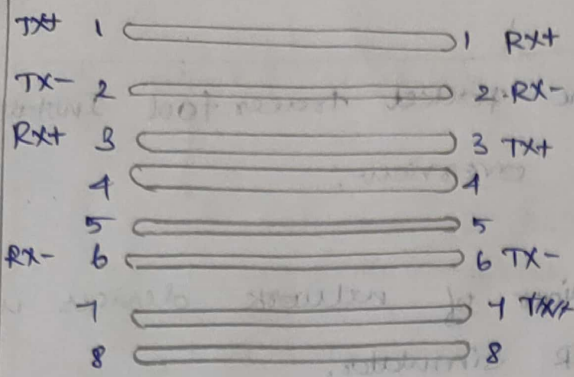
			Disadvantages: * Limited distance * cost * Size is bulky	
fibre optics cable	Single mode multi mode	100 Gbps	Advantages: * High speed * High bandwidth * High security * Long Distance Disadvantages: * Expensive * Requires skilled installers	* maximum distance of fibre optic cable is ar 100 metres.

b) Make your own Ethernet cross-over cable | straight cable.

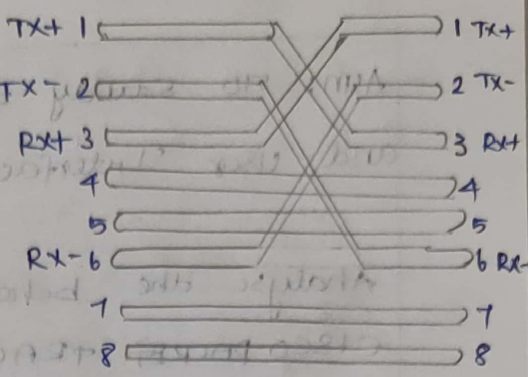
* Tools and parts needed:

- Ethernet cabling: CAT5e is certified for gigabit support, but CAT5 cabling works as well, just over shorter distances.
- A crimping tool. This is an all-in-one networking tool shaped to push down the pins in the plug and strip and cut the shielding off the cables.
- Two RJ45 plugs.
- Optional two plug shields

Straight thru cable



X-over cable



Difference between crossover & Straight cable.

Student observation:

1) * Straight cable has same wiring on the both ends and connect different types of devices, whereas Cross cable has different wiring on both ends and connect similar devices.
2) Cross cable
3) Straight cable
4) Unshielded twisted pair
5) Creating network cables involves arranging the wire in a specific order and their transmission between different connected devices.

RESULT :

Thus the connection of wires and network cables are observed and studies.

3/10/24