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AIM: STUDY OF DIFFERENT TYPES OF NETWORK CABLES

(a) Understand different types of network Cable

Cable type	Category	Max Data Transmission	Advantages/ Disadvantages	Application/ uses.
UTP	Category 3	10 bps	Adv: - Cheaper in cost	- 10 Base - T Ethernet
	Category 5	upto 100 Mbps	- Easy to install as they have a smaller overall diameter Disadv: - More prone to electromagnetic interference and noise	- Fast ethernet, Gigabit ethernet
	Category 5e	1 Gbps		- Fast ethernet, gigabit ethernet
STP	Category 6&6a	10Gbps	Adv: - Shielded - Faster than UTP - Less susceptible to noise and interference Disadv: - Expensive - Greater installation effort	- Gigabit ethernet, 10G Ethernet widely used in data centres
SSTP	Category 7	10Gbps		- Gigabit ethernet 10G Ethernet (100m)
Coaxial Cable	RG-6 RG-59 RG-11	10-100 Mbps	Adv: - High bandwidth - Immune to interface - versatile Disadv: - limited distance - cost, size is bulky	- speed of signal is 500m television network High speed internet Connections
Fibre optic Cable	Single? multimode	100 Gbps	Adv: - High speed, bandwidth, security - long distance Disadv: - Expensive	- Maximum distance of fibre optics cable is around 100 meters.

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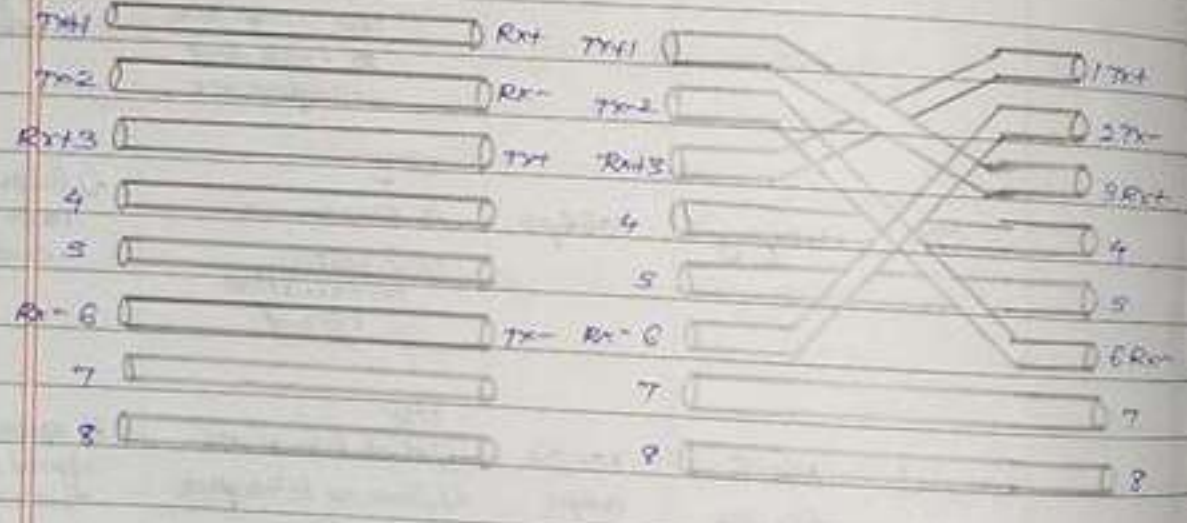
Q6) Make your own Ethernet Cross-over Cable / Straight Cable

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 shell shielding off the cables.
- Two RJ45 plugs
- optional two plug shields



Straight thru cable

X-over cable

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Student observation:

3] 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
5] Straight cable
4] Unshielded twisted pair
2] Creating network cables involves arranging the wins in a specific order and their transmission between different connected devices.

Result:

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

10/8/24