practical - 2

AIM: Study of Different types of Network cables.

a) understand different types of network cables.

cable type	category	Maximum. Data transm.	Avd / Dis avd.	Application
UTP	category 3	10 bps	**Avd:** → cheaper. → Easy to install as they have smaller diameter **Dis:** → More prone to EMI	→ 10 Base - T ethernet
	categ. 5	upto 100 Mbps		→ Fast Ethernet Gb ethernet
	category 5e	1 Gbps		→ Fast ethernet
STP	cat: 6, 6a	~~10Gbps~~ 100Gbps	**Avd:** → Shielded → Faster than UTP **Dis:** → Expensive → Greater installation effort	→ Gigabit ethernet, widely used in data centers.
SSTP	cat: 7	10Gbps		→ Gb Ethernet 10G Ethernet

Co-axial cable	RG-6 RG-5T RG-11	10-100 Mbps	Adv: → Higher bw. → Immune to interference. → low loss bw Dis-adv: → Limited distance → cost	Speed of signal is room Television network high speed internet.
fibre optic	single mode Multi mode	100 Gbps	Adv: → High speed → High bw → High security	Maximum distance of fibre optic cable is around 100 metres.

5) Make your own ethernet cross-over cable / straight cable.

=> TOOLS and parts needed:

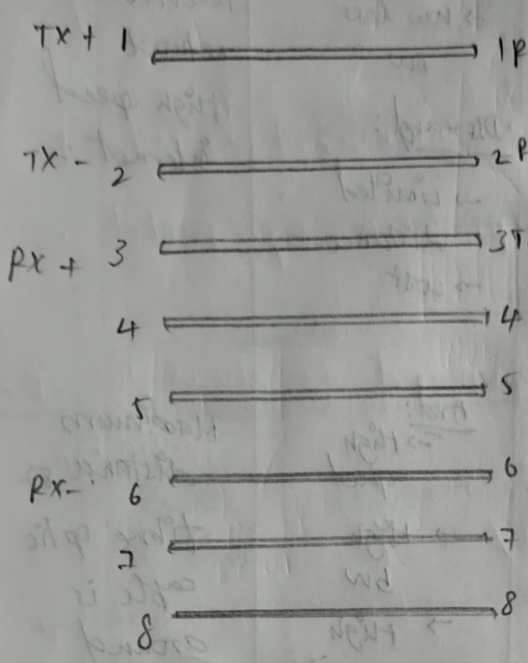
↳ ethernet cabling. CAT 5e is certified for gb support, but cat 5 cabling works as well.

↳ Two RJ 45 cabling.

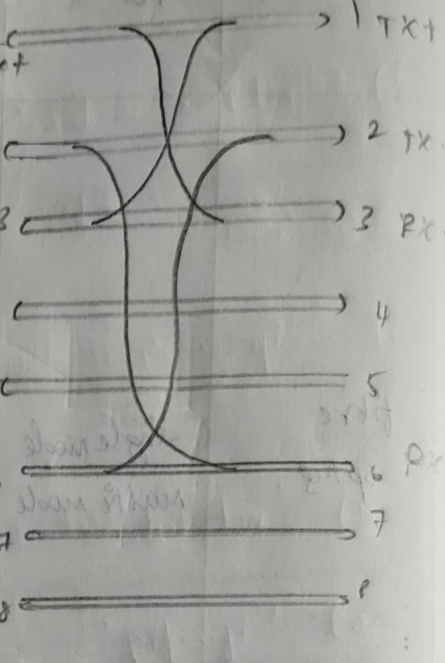
→ optimal two plug shields.

→

Straight thru cable



X-over cable.



Student observation:

1) straight-through cables are used to conn. devices that operate at diff. layers of the network model where as cross-over cables are utilised to conn devices operating and same layers.

2) Ethernet crossover cable.

3) Straight-through cable.

4) RJ-45 (UTP).

5) The crimping machine should be perfect to cut the cable.