Exercise: 2

Date: 24/07/24

Aim:

Study of different types of network cables.

a) Understand different types of network cables.

Cable Type	Category	Maximum data transmission	Advantages / Disadvantages	Application/use
UTP	Category 3	10 bps	Advantages: • Cheaper • Easy to install Disadvantages • More prone to EMI and noice	10 Base-T Ethernet
	Category 5	Upto 100 Mbps		Fast Ethernet Gigabit Ethernet
	Category 5E	1 Gbps		Fast Ethernet, Gigabit Ethernet
STP	Category 6, 6a	10 Gbps	Adv: • Sheilded • Faster than UTP • Less Succeptible to noise and interfer	Gigabit Ethernet 10 G Ethernet (55 m) Widely used in data centres
SSTP	Category 7	10 Gbps	Disadv: • Expensive • Greater installation effort	Gigabit Ethernet 10 G Ethernet (100 m)
Coaxial Cable	RG-6 RG-59 RG-11	10-100 Mbps	Adv: • High bandwidth • Immune to interfere • Low loss bandwidth • Versatile Disadv: • Limited distance • Cost • Size	Speed of Signal 500 m Television Network High speed internet connection
Fibre Optic Cable	Single mode multi mode	100 Gbps	Adv: • High speed • High bandwidth • High security • Long distance Disadv: • Expensive • Require skilled installer	• Maximum distance of fibre optics cable is around 100 meters

Student observation:

1) crossover cable: transmit and receive wires are crossed: used to connect two similar services

Straight cable: Same wiring standard on both ends: used to connect different devices like PC to ~~Hub~~ switch or router.

2) Crossover cable

3) Straight cable

4) understanding: Involves arranging wires

Challenges: correct wire arrangements

Shipping without damage

Output: Successfully cables enable network connections

Result:

Thus the different network cables have been studied.

7/8/24