

STUDY OF NETWORK CABLES

QUESTION

ANSWER

To sum up

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AIM:

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To study different types of network cable.

a) Understand different types of cables

1) Unshielded Twisted Pair (UTP)

2) Shielded Twisted Pair (STP)

3) Coaxial Cable

4) Fibre optic cable

CABLE TYPE	CATEGORY	MAXIMUM DATA TRANSMISSION	ADVANTAGES AND DISADVANTAGES	APPLICATIONS
UTP	CATEGORY 3	10 bps	ADVANTAGES: ⇒ cheaper in cost ⇒ easy to install	* 10 Base-T Ethernet
	CATEGORY 5	UP TO 100 Mbps	as they have smaller diameter	* Fast Ethernet
	CATEGORY 5e	1 Gbps	DISADVANTAGES: ⇒ more prone to EMI	* Gigabit Ethernet
STP	CATEGORY 6, 6a	10 Gbps	ADVANTAGES: ⇒ shielded ⇒ Faster than UTP	* Gigabit Ether - net 10G (55 m) Ethernet, widely used in data centre.
SSTP	CATEGORY 7	10 Gbps	DISADVANTAGES: ⇒ Expensive ⇒ Greater installation effort	
UTP	CATEGORY 3	10 bps	ADVANTAGES: ⇒ cheaper in cost ⇒ Easy to install	* Gigabit Ethernet 10 G Ethernet (55m/100m)
	CATEGORY 5	UP TO 100 mb	DISADVANTAGES: ⇒ more prone to EMI	
COAXIAL CABLE	CATEGORY 5e RG1-6	1 Gbps 10 - 100mbp		

FIBRE OPTIC CABLE	SINGLE MODE MULTI MODE	100 Gbps	ADVANTAGES: → high speed → high bandwidth → high security DISADVANTAGES: → expensive → Requires installers	* maximum distance of fibre optics cable is around 100 meters.
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b) Student observation :

- What is the difference between cross cable & straight cable?

Cross cables connect similar devices while straight cables connect different devices

- Which type of cable is used to connect two PC's?

Cross cables are used to connect two PC's

- Which type of cable is used to connect switch to PC?

Straight cable is used for connection

- Find the category of twisted pair cables used in your PC to connect the network socket?

Most lans use Cat5e or Cat6 twisted pair cables.

- Write down: understanding, challenges, output while making twisted pair cables (cross/straight)

It involved matching wire colors, crimping properly & testing; challenges: wire alignment.

RESULT:

Therefore, the different types of network cables were studied successfully.

