

Ex: 10:2

Study of Network

Date: 24.9.24

Cables:

Aim:

Study of different types of Network cables

1) Understand different types of network cable.

different type of cables used in networking are:

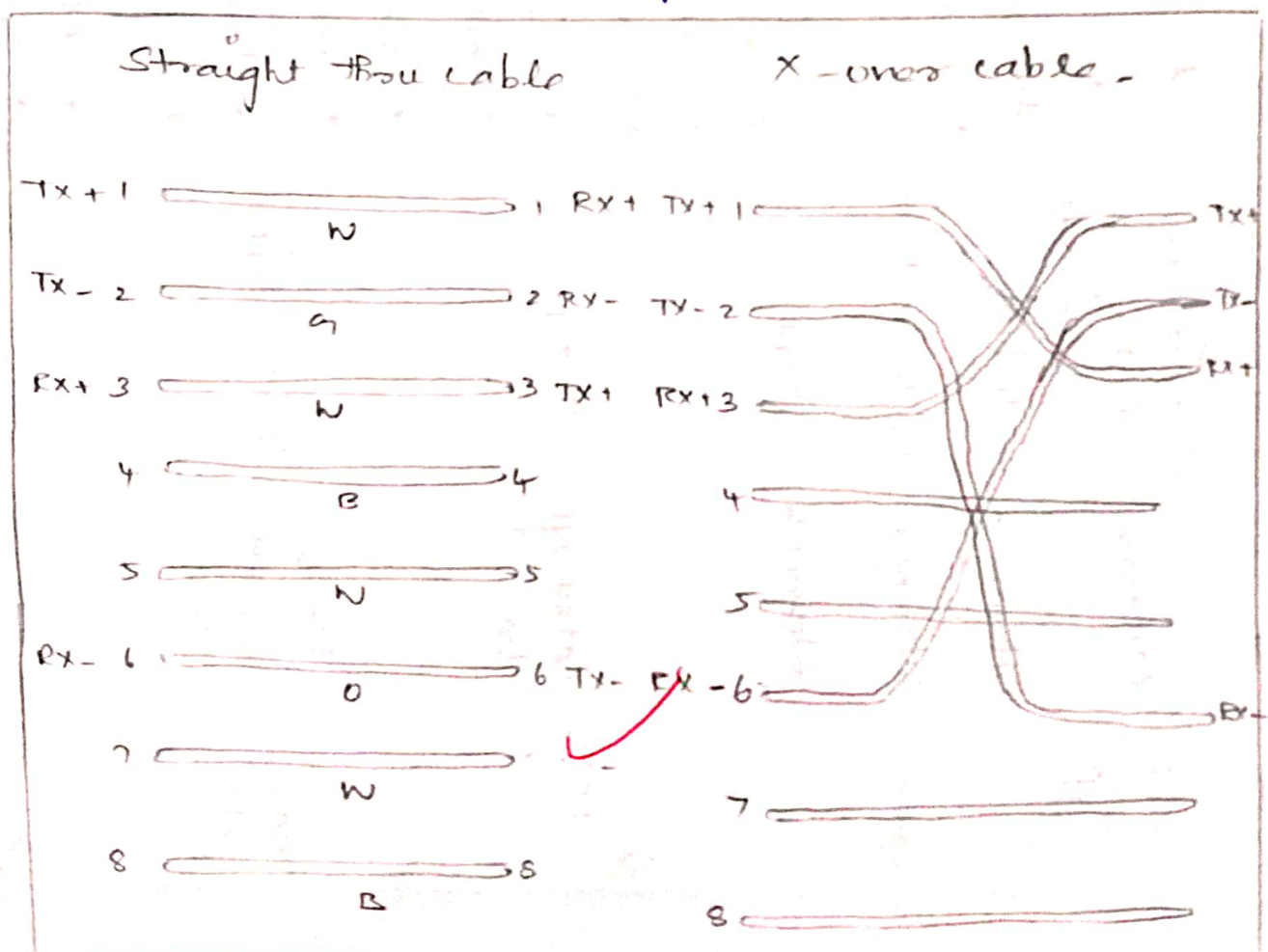
1. Unshielded Twisted Pair (UTP) cable
2. Shielded Twisted Pair (STP) cable
3. Coaxial cable
4. Fibre Optic cable.

Cable Type	Category	Maximum data transmission	Advantages / disadvantages	Application / Use	Image.
UTP	category 3	10 bps	Advantages * cheaper in cost * Easy to install as they have a smaller overall diameter.	10 Base-T Ethernet	
	category 5	Up to 100 Mbps		Fast Ethernet	
	category 5e	1 Gbps	disadvantage * More prone to EMI	Gigabit Ethernet	
STP	category 6, 6a	10 Gbps	* Shielded * Faster than UTP	10 G Ethernet (SSN)	
coaxial cable	RG-6	10-100 Mbps	* expensive * Greater installation	Gigabit Ethernet	
	RG-59 RG-11		* Higher bandwidth * Low loss bandwidth	10 G Ethernet	
Fibre optics	single mode	100 Gbps	* cost * size is bulky * Higher speed	Speed of signal is 500M Television network	
				Maximum distance of fibre optic cable is around 100M	

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 all in one network 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.



Difference between cross over cable and straight cable.

Student Observation:.

1. What is the difference between cross cable and straight cable?

cross cables - device-to-device connections

Straight cables - used to connect devices to network hubs, switches or routers.

2. Which type of cable used to connect two PC?
cross cable

3. Which type of cable used to connect a router switcher to your PC?
straight cable.

4. Find out the category of twisted pair cable used in your lab?

Typically cat5e or cat6

Result:

The experiment was successfully executed and the O/P is verified.

3/12/20