EXP. NO: 02

DATE: 28.08.2023

AIM: Study of different types of Network cables

a) Understand different types of network cable

Different types of cables used in networking are:

1) Unshielded twisted Pair Cable.
2) Shielded twisted pair cable.
3) Coaxial cable.
4) fibre Optic cable.

Cable type	Category	Maximum data transmission	Advantages / Disadvantages	Application / Use
UTP	Category 3	10 bps	Advantages: 1) Cheaper in cost. 2) Easy to install as they have a smaller overall diameter. disadvantages: 1) More prone to EMI & noise.	10 Base-T ethernet fast ethernet gigabit ethernet fast ethernet gigabit ethernet
	Category 5	Up to 100 Mbps		
	Category 5e	1 Gbps		
STP	Category 6, 6a	10 Gbps	Advantages: 1) shielded 2) faster than UTP 3) less susceptible to noise disadvantages: 1) Expensive 2) Greater installation effort	gigabit ethernet, 10G ethernet (55m)
SSTP	Category 7	10 Gbps		gigabit ethernet, 10G ethernet (100m)

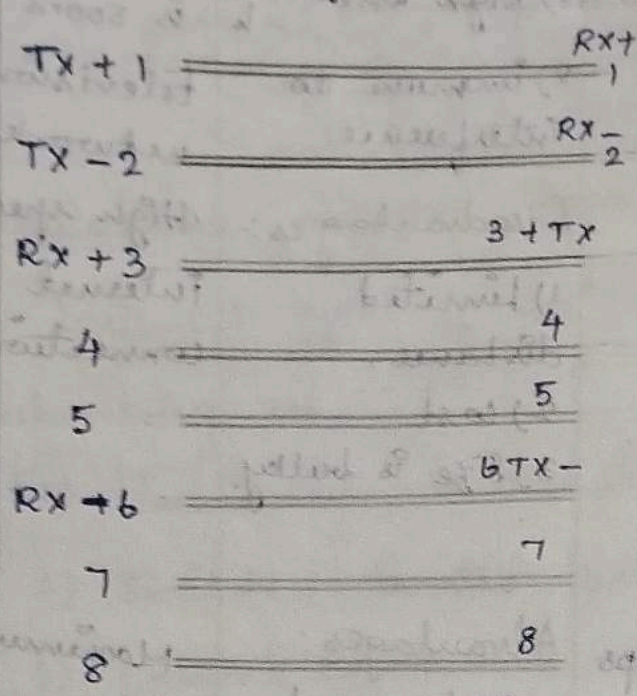
Coaxial cable	RG-6 RG-59 RG-11	10 - 100 Mbps	Advantages: 1) High bandwidth - k 2) immune to interference Disadvantages:- 1) Limited distance. 2) cost 3) Size is bulky.	Speed of signal is 500m television network High speed internet connections.
fibre optics cable	Single mode multi mode	100 Gbps	Advantages: 1) High speed 2) High security 3) Long distance. Disadvantages: 1) expensive 2) Requires	Maximum distance of fibre optics cable is around 100 meters.

b) Make your own ethernet cross over cable

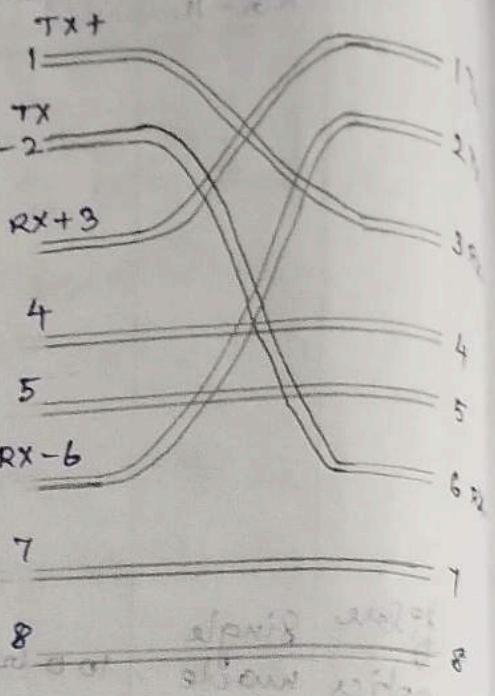
Tools & part needed:

ethernet cabling, CAT 5e is certified for gigabit support, but CAT 5 cabling works as well just over.

straight thru cable



X-over cable



Student Observation :-

1) Cross cable : connects diff types of devices (PC to switch, router)
straight cable : connects similar device (PC to PC, switch to S).

2) Cross cable.

3) Straight cable.

RESULT:

Thus, the program is executed successfully and the output is verified.

11/9/24