EX:02
Date: 28/1/25

STUDY OF DIFFERENT TYPES OF NETWORK CABLES.

AIM:-

Study of different types of network cables.

(a) Understand different types of network cabel.

Different type of cables used in networking are:-

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

CABLE TYPE	CATEGORY	MAX DATA TRANSMISSION	ADV / DISAD	APP/USE
UTP	Category 3	10 bps	Advat :- • Cheaper in cost. • Easy to install as they have a small er dia	10Base-T Ethernet.
	Category 5	Up to 100 Mbps		Fast Ethernet, Gigabit Ethernet.
	Category 5e	1Gbps.	Disadvat: • More prone to EMI. and noise	Fast Ethernet Gigabit Ethernet.
STP	Category 6, 6a	10Gbps	Adv • shielded • Fast or than UTP	Gigabit Ethernet, 10G Ethernet Widely used in data centres
SSTP	Category 7.		Disad :- • Expensive • Greater installation effort.	Gigabit Ethernet, 10G Ethernet. (100m)

			Adv:-	
COAXIAL CABLE	RG-6 RG-59 RG-11	10-100Mbps	• High bandwidth • Immune to Interference • Low loss bandwidth • Versalite. Disadvantages: • Limited distance • Cost • Size is bulky.	Speed of signal is 500 m. Television network. H High speed internet connection
FIBRE OPTICS CABLE.	Single mode Multi mode.	100 Gbps.	Advantages:- • High speed. • High band width • High security • Long distance Disadvantages:- • Expensive • Requies skilled installers.	• Maximum distance of fibre optics cable is around 100metex

RESULT:-

Hence the studying of different types of network cables is studied successfully.

STUDENT OBSERVATION :-

1) What is the diff btw cross cable and straight cable ?

Cross cable connects similar devices while straight cable connects diff devices.

2) Which type of cable is used to connect two PC ?

Cross cable is used to connect 2 PCs directly.

3) Which type cable is used to connect a route / switch to your PC ?

Straight cable is used to connect a router or switch to a PC

4) Find out the category of twisted pair cable used in your lab to connect the PC to the network socket.

The commonly used category is cat5e or cat 6 twisted pair cable.

5) Write down your understanding, challenges faced and output received while making a twisted pair cable (cross / straight).

Straight cables link different devices, while cross cables connect similar ones.

challenges:- Proper wire alignment and crimping were tricky.

Output:- Successfully made a functional cable after testing.