

Experiment: 2

Date: 25/1/24

Aim:

Study diff types of network cables.

(a) Understand diff types of Network Cables:

1. UTP [Unshielded Twisted Pair] cable

2. STP [Shielded Twisted Pair] cable.

3. Coaxial Cable.

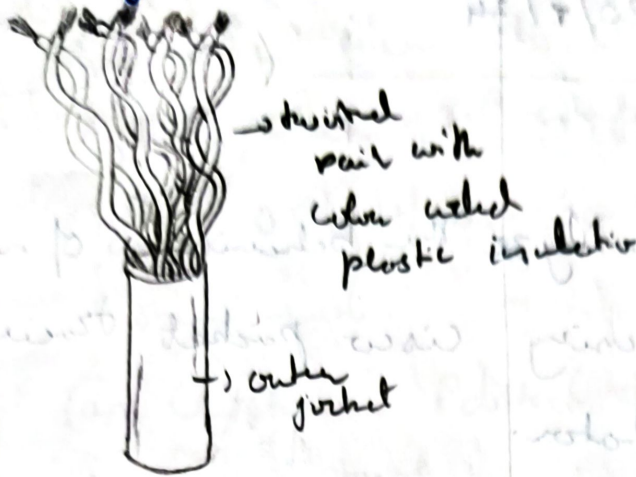
4. Fiber Optic Cable.

Cable Type	Category	Maximum Data Transmission - bps	Advantages/Disadvantages	Application/Use
UTP	Category 3	10 bps	<u>Advantages:</u> => Cheaper => Easy to install since smaller dia. <u>Dis:</u> => More prone to EMI.	10 Base-T Ethernet
	Category 5	Upto 100mbps		Fast ethernet Gigabit ethernet
	Category 5e	1 Gbps		Fast ethernet Gigabit ethernet
<del>STP</del>	<del>Category 6, 6a</del>	<del>10 Gbps</del>	<del>Advantages: =&gt; Shielded =&gt; Faster than UTP. =&gt; Less susceptible to noise</del>	<del>Gigabit ethernet, 10G ethernet (55m) widely used in data centres</del>

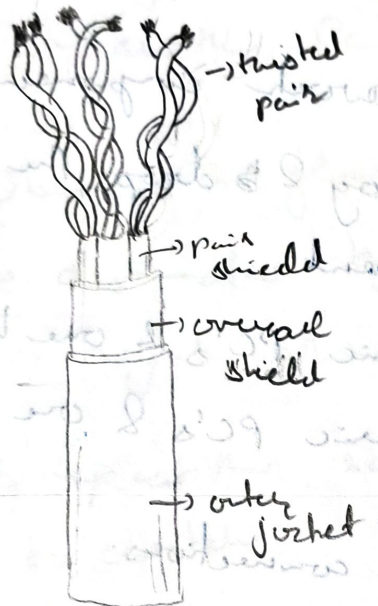


SSTP	Category 7	Dis: <del>Expensive</del> => greater installation effort 10Gbps	Gigabit ethernet, 10G ethernet Dis: = => Expensive (+) greater installation effort	Gigabit ethernet 10G ethernet (100m)
Copper Cable	R4-6 R4-54 R4-11	10-100 mbps.	Advantages (+) High bandwidth (+) Immune to interference (+) Low loss bandwidth (+) Versatile Dis: = (+) Limited distance (+) Cost (+) Size is bulky.	Speed = 500m TV network High speed net connection
Fibre optics Cable	Single mode multi mode	100 Gbps	Advantages: (+) High speed (+) High bandwidth (+) High security Dis: (+) Expensive (+) Requires skilled installation	More distance of fibre optics cable is around 100m.

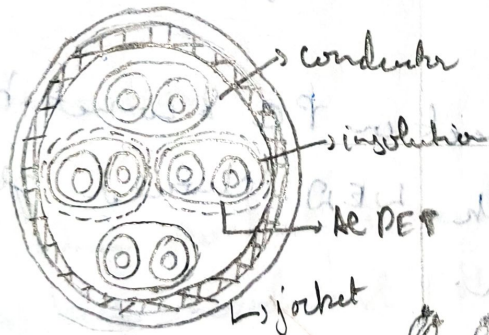
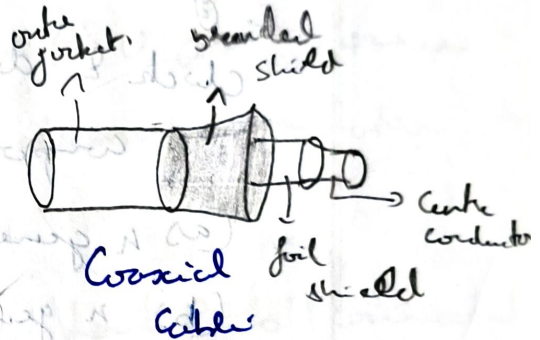
## Images.



UTP



STP



SSTP



Q. No.

23/7/24

Result:

Thus different type of network cable has been studied.