Ex no: 02
Date: 23/07

STUDY OF DIFFERENT NETWORK CABLES

AIM:

Study of different types of Network cables.

a) 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	Image
UTP	category 3	10 bps	**Adv:** • cheaper cost	10 base-T Ethernet	
	category 5	Up to 100 Mbps	• Easy to install	Fast ethernet, Gigabit Ethernet	
	category 6e	1Gbps	**Disadv:** • More prone to EMI	Fast ethernet.	
STP	category 6.6a	10Gbps	**Adv:** • shielded • Faster than UTP • Less susceptible to noise	Gigabit Ethernet, 10G Ethernet. widely used in data centres	
SSTP	category 7	10Gbps	**Disadv:** • Expensive • Greater Installation effort	Gigabit Ethernet, 10G Ethernet (100m)	

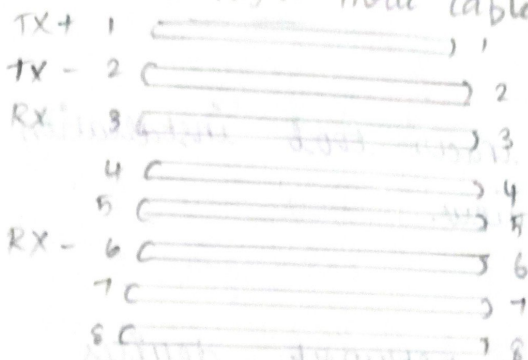| Cable Type	Category	Maximum Data Transmission	Advantages/ Disadvantages	Application/ Use
Coaxial cable	RG-6 RG-59 RG-11	10-100 Mbps	* High bandwidth * Immune to Interference * Low loss of bandwidth Disadvantages: * limited distance * cost * bulky inze	Speed of signal is Television network. Highspeed Internet conne
fibre optics cable	Single mode Multi mode	100 Gbps	Advantages: * High speed * High bandwidth * High security Disadvantages: * Expensive * Requires skills	Maximum distance fibre op cable is around 100 met

coaxial cable: Image:

fibre optics cable:

b) Make your own ethernet cross-over cable:
   Tools and parts needed.

b) Make Two RJ45 plugs
   Optional two plug shields
   Straight Thru Cable

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TX +  1  ——————————————  1
TX -  2  ——————————————  2
RX    3  ——————————————  3
      4  ——————————————  4
      5  ——————————————  5
RX -  6  ——————————————  6
      7  ——————————————  7
      8  ——————————————  8
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Student Observation:

1) Straight cables are used for connecting different devices while crossover cables are for connecting similar devices

2) Crossover cable

3) straight

4) cat5e, cat6, cat6A

5) Identifying the cables, crimping the cables, testing.

23/2/24

RESULT:
Three different types of cables and making