



# **SNS COLLEGE OF ENGINEERING**

Kurumbapalayam (Po), Coimbatore – 641 107

**An Autonomous Institution**

Accredited by NBA – AICTE and Accredited by NAAC – UGC with ‘A’ Grade  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

## **DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING-IOT Including CS&BCT**

**COURSE NAME : 19SB402- NETWORKING AND CYBERSECURITY**

**II YEAR / III SEMESTER**

**Unit I- NETWORK AND OSI LAYER**

**Topic : Guided Media**



# Guided Media



- Link created using wires (or) cables between two or more Computers.
- Link Created using wireless between two or more Computers.

E.g. Microwave, Radio wave, Infrared.

1. Twisted Pair.
2. Unshielded Twisted Pair.
3. Shielded Twisted pair.
4. Coaxial cable.
5. Optical fiber.
6. Unguided media.

## Twisted Pair:

- Copper wires.
- Mostly used wires for Signal Short distances transmitting.
- It is used in telephone line.
- Two or more lying together.
- Up to 25 twisted pair.





# Guided Media Cont..



## Shielded Twisted pair:

- wires are shielded.
- Each twisted pair is Shielded.
- Types:
  1. STP
  2. UTP (un Shielded) up to 100 mts.

## Coaxial cable:

- Copper wires better into shielding than twisted pair cables.
- Longer distances.
- Higher Speeds.

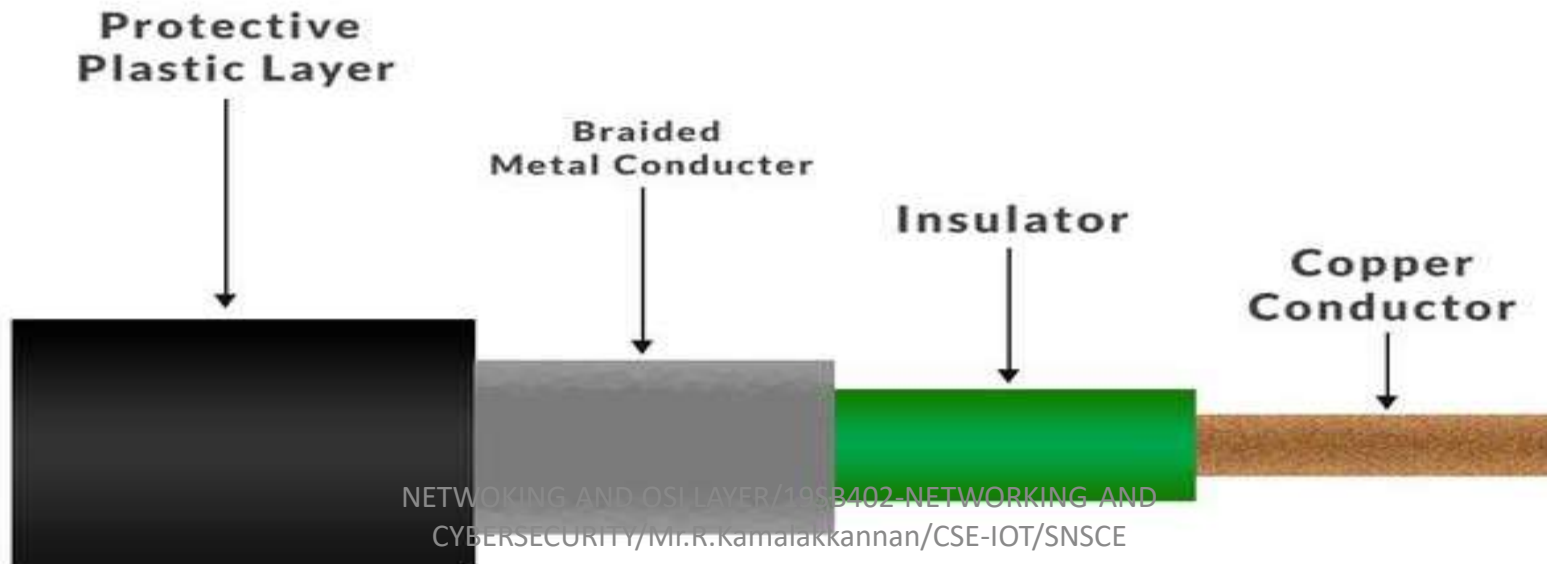


# Guided Media Cont..



## Coaxial cable:

- It consists of 4 layer.
  1. Still copper wire as core.
  2. Insulating material.
  3. Conducting material.
  4. Plastic new sheath.





# Guided Media Cont..



## Advantage of Coaxial cable:

- noise immunity.
- Longer distance.
- Both analog & digital signals (transmitter)
- Easy to install & maintain.

## Disadvantage of Coaxial cable:

- Cost high.
- Not Compatible.



# Guided Media Cont..



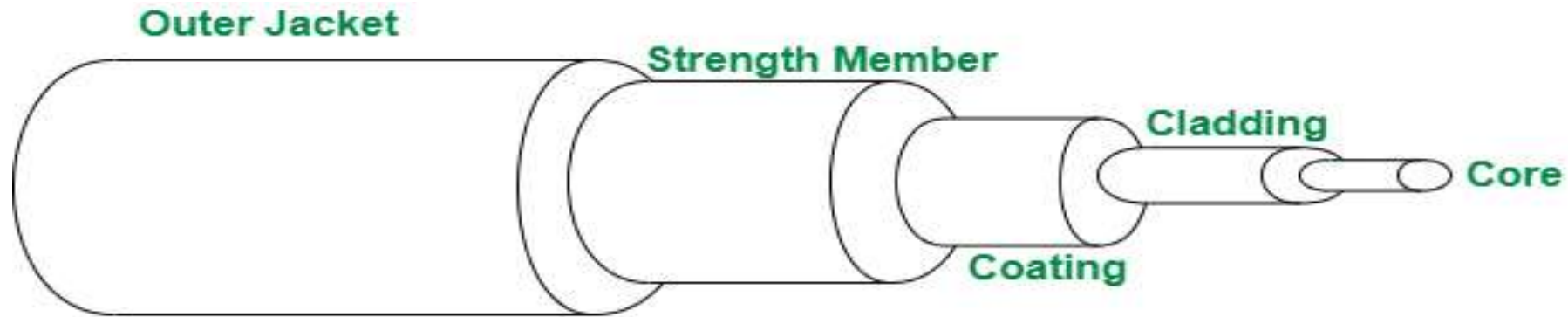
## Optical fibber:

- Thin glass (or) Plastic threads used to transmit data using light waves.
- Light waves.
- LED's emit light waves at Source.
- Detector read by other end.

## Advantage of Optical fibber:

- Infrared: Very short distance communication like TV, Remote, wireless speakers, automatic doors.
- Radio wave: IM's

## Optical fiber:



## OPTICAL FIBER CABLE

Single node Bandwidth -> 2km | 100mbps.

Multi node Bandwidth -> 100km | 2Gbps.





**Any Queries**



**Thank You!**