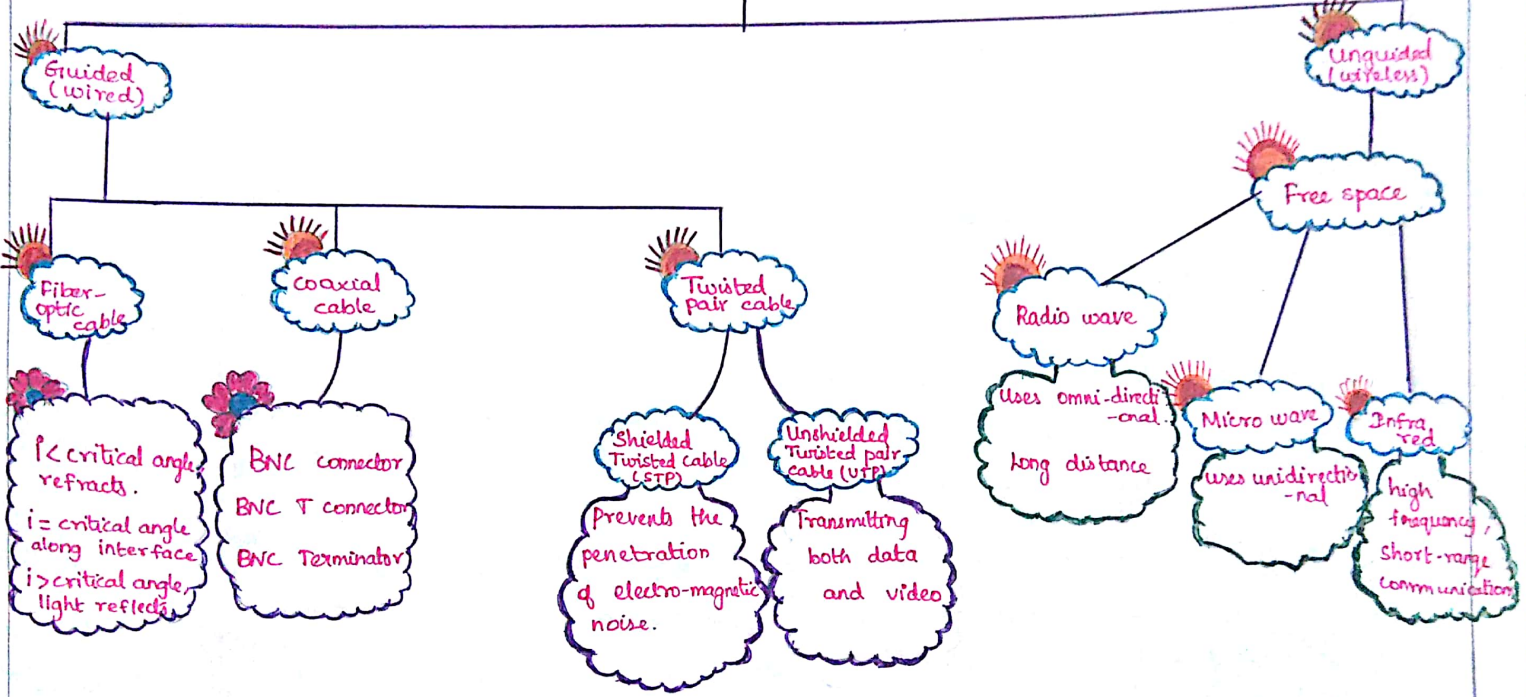


T. Gayathri Devi

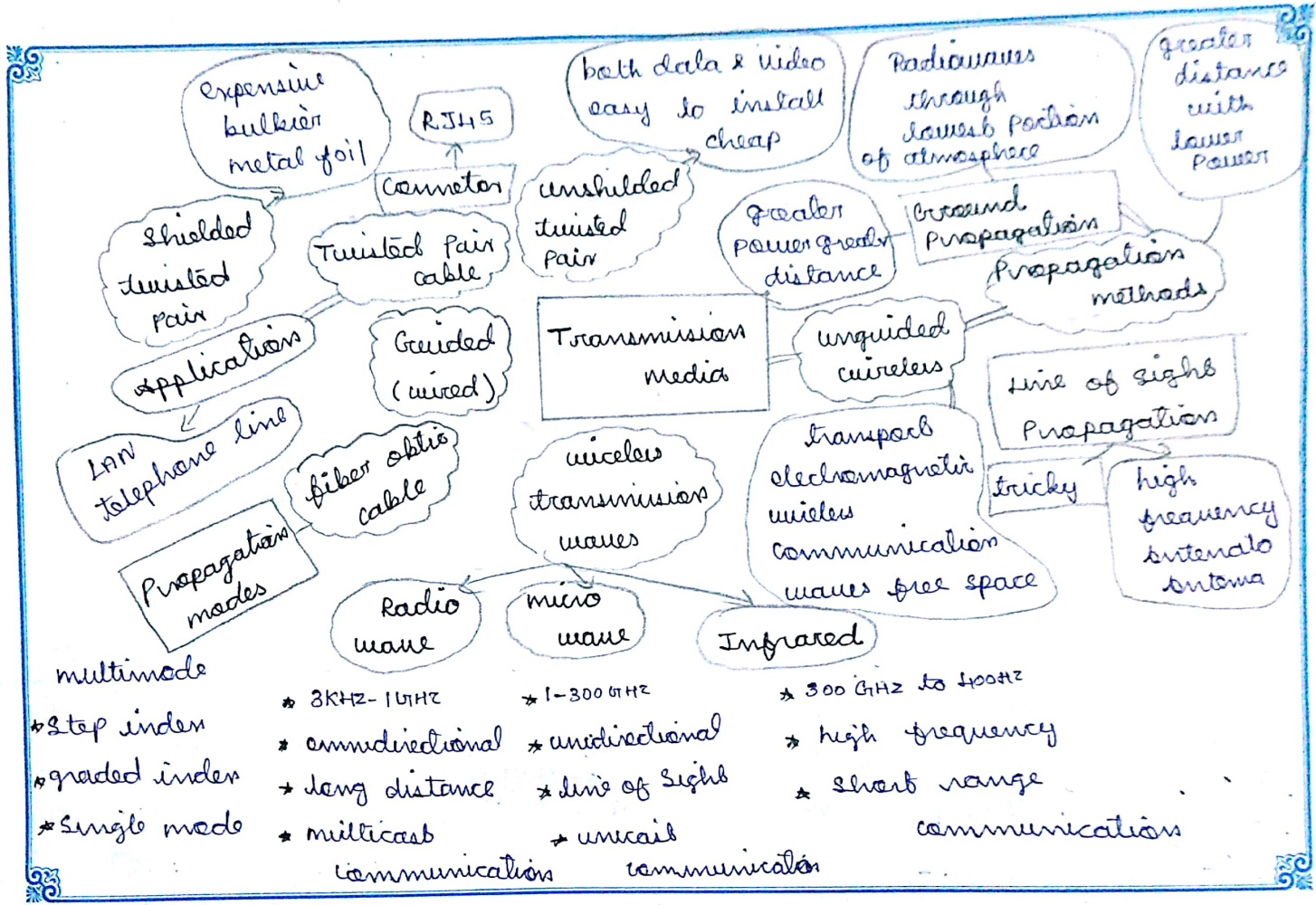
953617104011

# Transmission Media



- A. Aishwarya  
III yr - CSE  
953617104001





- Propagations modes
- \* multimode
  - \* step index
  - \* graded index
  - \* single mode

- Radio wave communication
- \* 3KHZ - 107HZ
  - \* omnidirectional
  - \* long distance
  - \* multicast

- micro wave communication
- \* 1 - 300 GHz
  - \* unidirectional
  - \* line of sight
  - \* unicast

- Infrared communication
- \* 300 GHz to 400THZ
  - \* high frequency
  - \* short range

A. Rathika  
 K. Priyadharsini.  
 III<sup>rd</sup> yr., CSE.  
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Carry information from a source to a destination.

Guided (wired)

Unguided (wireless)

Consists of two conductors  
 higher frequency ranges  
 Made of glass  
 Single uniform substance

Twisted Pair Cable

Coaxial Cable

Fiber optic cable

Connectors

Can be inserted only one way.

Shielded

unshielded

BNC Connector

BNC Connector

BNC Terminator

Prevents the Penetration of electromagnetic noise.

-transmitting both audio & video.  
 - fixed range of frequencies.

Free Space

Wireless Transmission

Transport electromagnetic waves without using a physical conductor.

Radio wave

Microwave

Infrared

- uses omnidirectional  
 - sending & receiving antennas not have to be aligned.

- unidirectional.  
 - antenna transmits microwaves.

- having high frequencies.

# COMPUTER NETWORKS

Transmission Media

Guided

Wired

Conduit from one device to another

Twisted pair cable

- 2 conductors and plastic insulation

Shielded & Unshielded

Coaxial cable

- higher frequency range  
- central core conductor of solid

Fiber-Optic cable

- travels in straight line  
- moving through single uniform substance

Unguided

Wireless

transport electromagnetic waves without using physical conduct

Radio Wave

- omnidirectional  
- travel long distance  
- antennas do not have to be aligned:

Micro wave

- unidirectional  
- 1 and 300 GHz frequency  
- antennas need to be aligned

Infrared

- 300 GHz to 400 THz frequency  
- high frequency but do not penetrate wall.

Sujitha. S

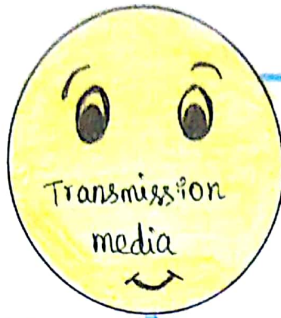
CSE III<sup>rd</sup> yr

953617104047....



K.M. Divya Pandian  
 CSE - III year  
 953617104009

S. Muthu Lakshmi  
95361104025



It carry information from a source to a destination

It is located below the physical layer.



conduit from one device to another device [it use metallic conductors]



It is made of glass or plastic  
 ⇒ signals in the forms of light  
 ⇒ light travels in a straightline  
 ⇒ critical angle reflection ⇒   
 ⇒ i = critical angle reflection ⇒   
 ⇒ > critical angle reflection ⇒



STP ⇒ cable has a metal foil.  
 ⇒ improve the quality  
 ⇒ bulkier and more expensive  
 UTP ⇒ It is used in telecommunication  
 ⇒ Transmitting both data & video

It have higher frequency range  
 ⇒ connectors ⇒ BNC, BNC T, BNC terminator -  
 ⇒ BNC ⇒ It is used in TV  
 ⇒ BNC T ⇒ Ethernet connection  
 ⇒ BNC terminator ⇒ reflection of the signal

# Transmission Media

- carry information from a source to a destination

## Guided (Wired)

- consists of two conductors

Twisted pair

Coaxial cable

Fiber optic cable

- high frequency ranges  
- made of glass  
- single uniform substance

Shielded

Unshielded

### Connectors

- can be inserted in only one way

- metal foil covering that encases each pair of insulated conductors

BNC connector

BNC T connector

BNC terminator

## unguided (wireless)

Free space

### Wireless Transmission

- having high frequencies

Radio wave

- uses omnidirectional  
- sending and receiving antennas do not have to be aligned

Microwave

- unidirectional  
- antenna transmits microwaves

Infrared

S. Mahalakshmi  
953617104022  
III - CSE

J. Ajitha.  
953617104003.

Transmission media.

It carry information from a source to a destination.  
It is located below the Physical layer.

Guided (wired).  
(metallic)

Conduct from one device to another device  
It use metallic conductor

unguided  
(wireless) (air)

Free space

Radio waves

Micro Wave

Infrared.

Twisted pair cable

Coaxial cable

fiber optic cable.

1) It is made of glass or plastic  
2) signals in the form of light  
3) light travels in a straight line  
4) include angle reflection  $\rightarrow \nearrow$   
 $\swarrow \rightarrow$

Shielded pair cable.

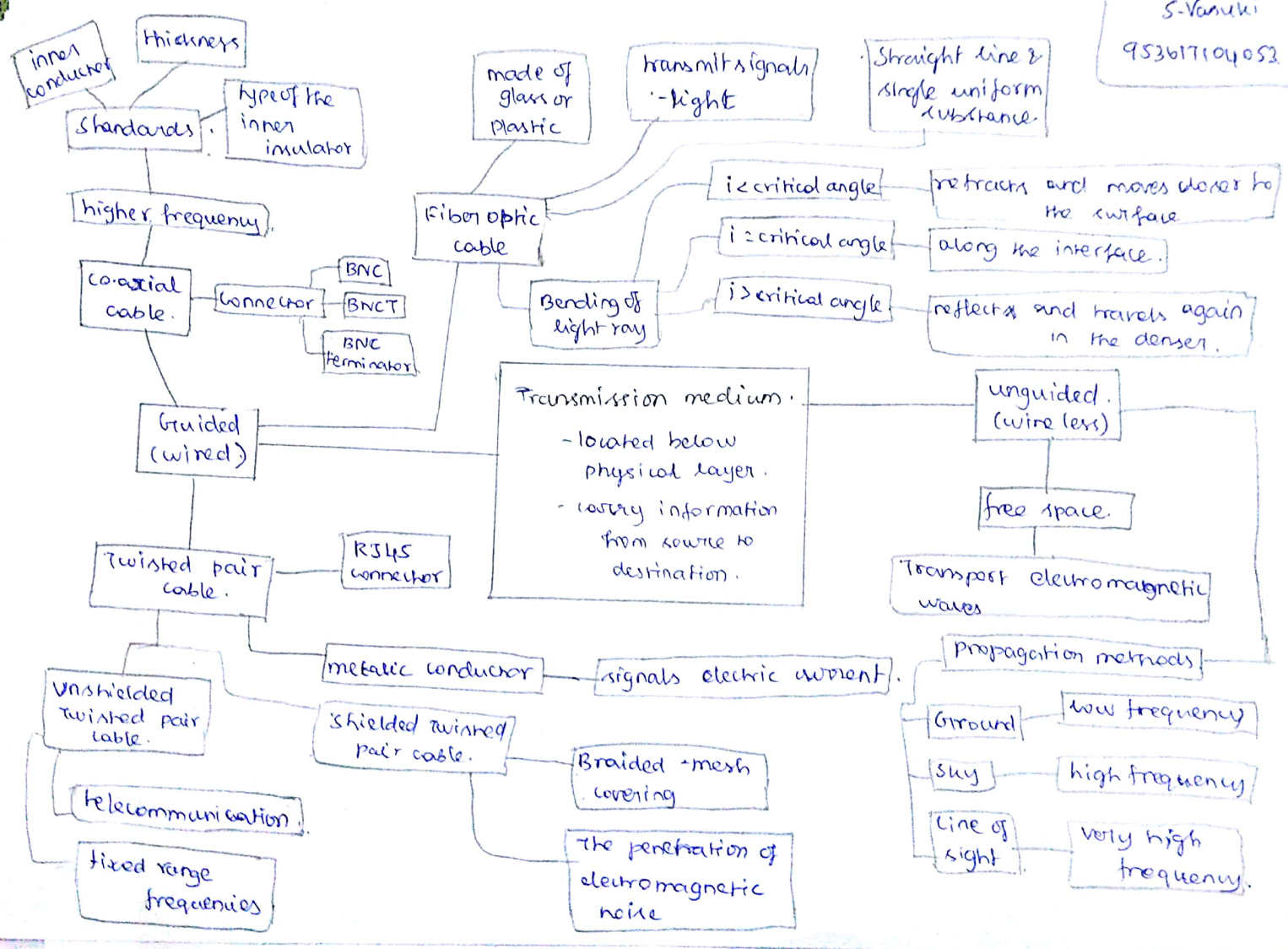
unshielded pair cable.

\* It have higher frequency range.  
\* Connectors  $\Rightarrow$  BNC, BNC to BNC, Terminator.  
\* BNC is used in TV.

STP  
Cable has a metal foil.  
improve quality

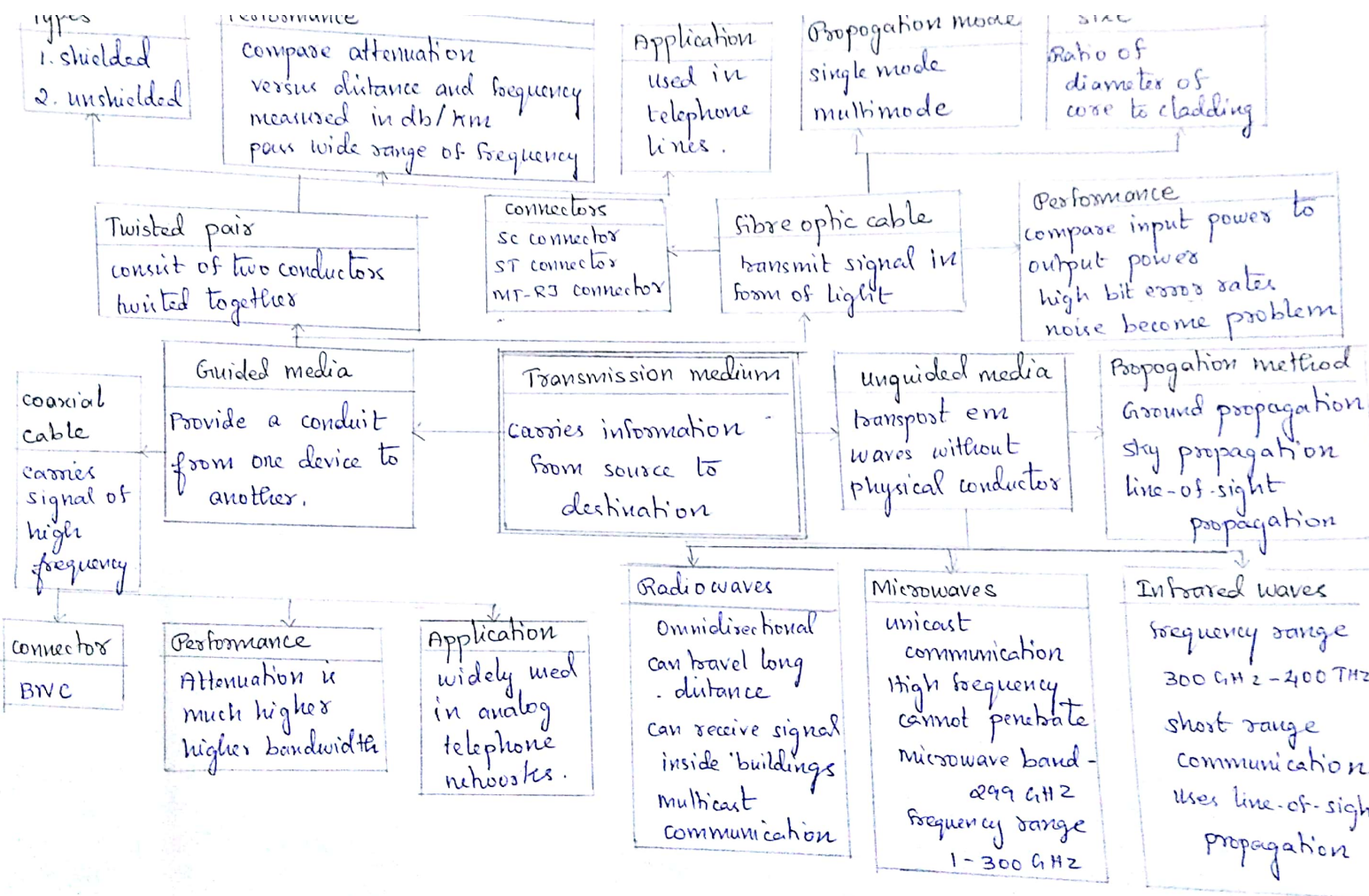
It is used in telecommunication.  
transmitting data & video

S-Vanuki  
953617104052



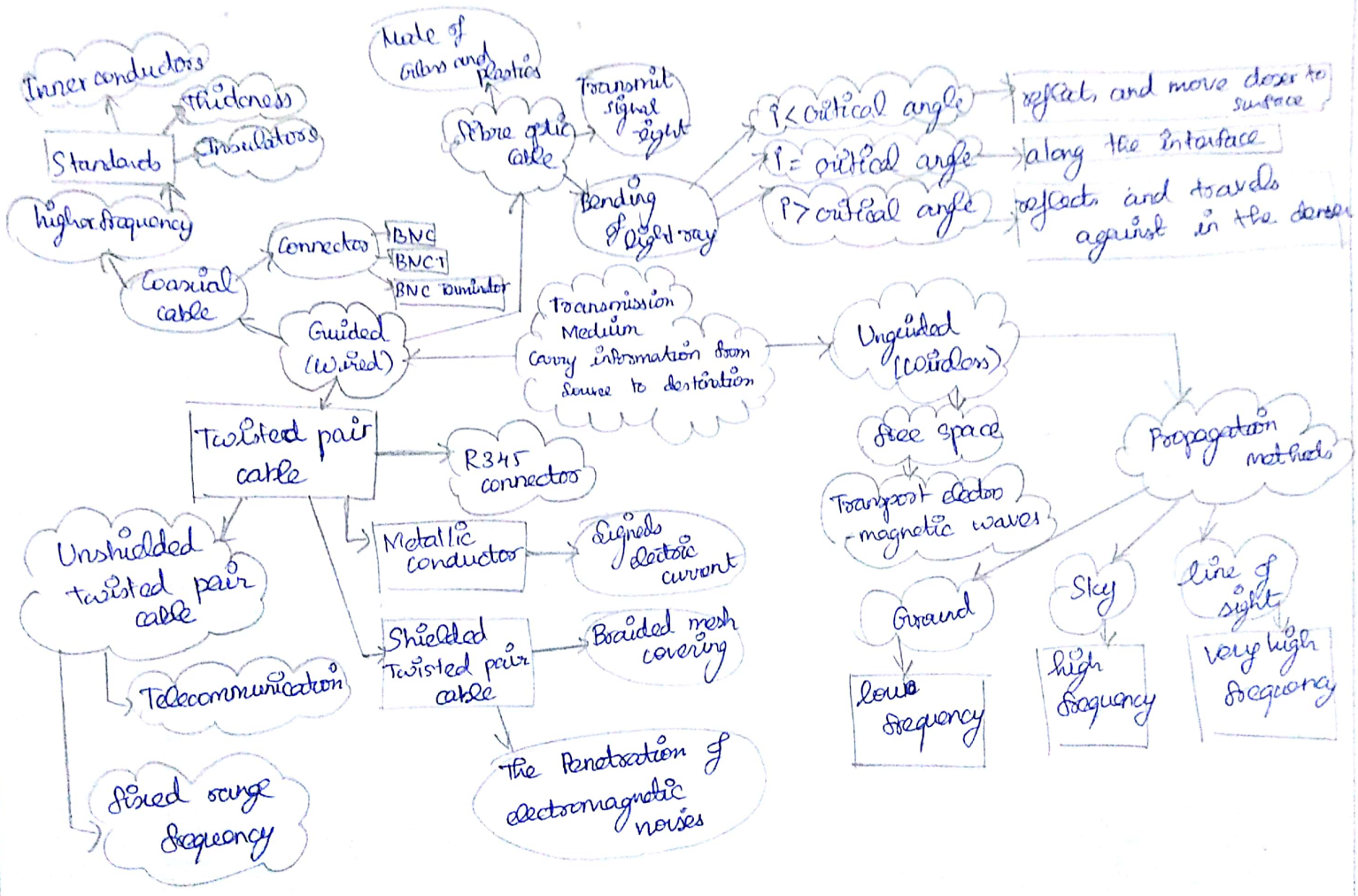


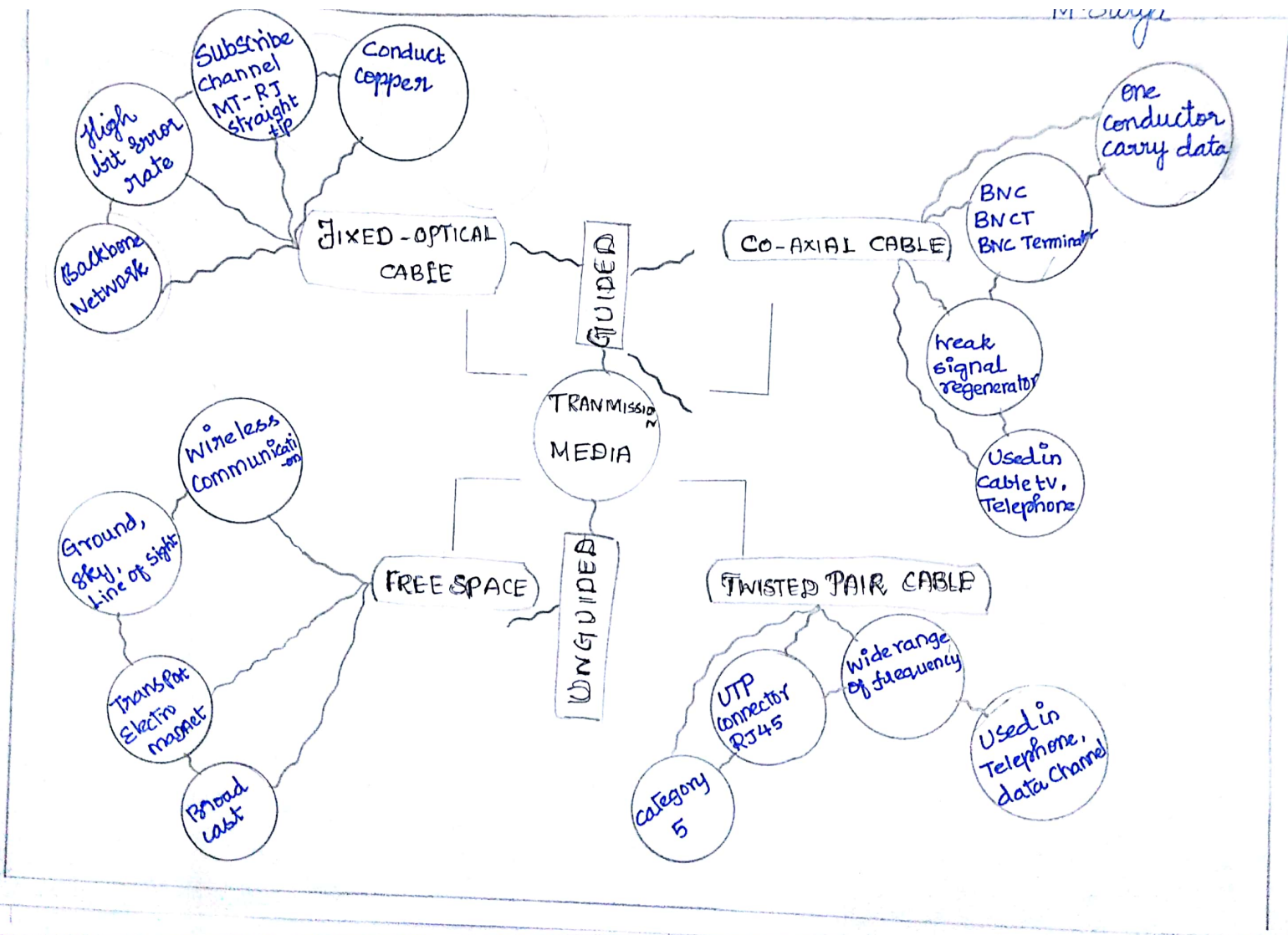


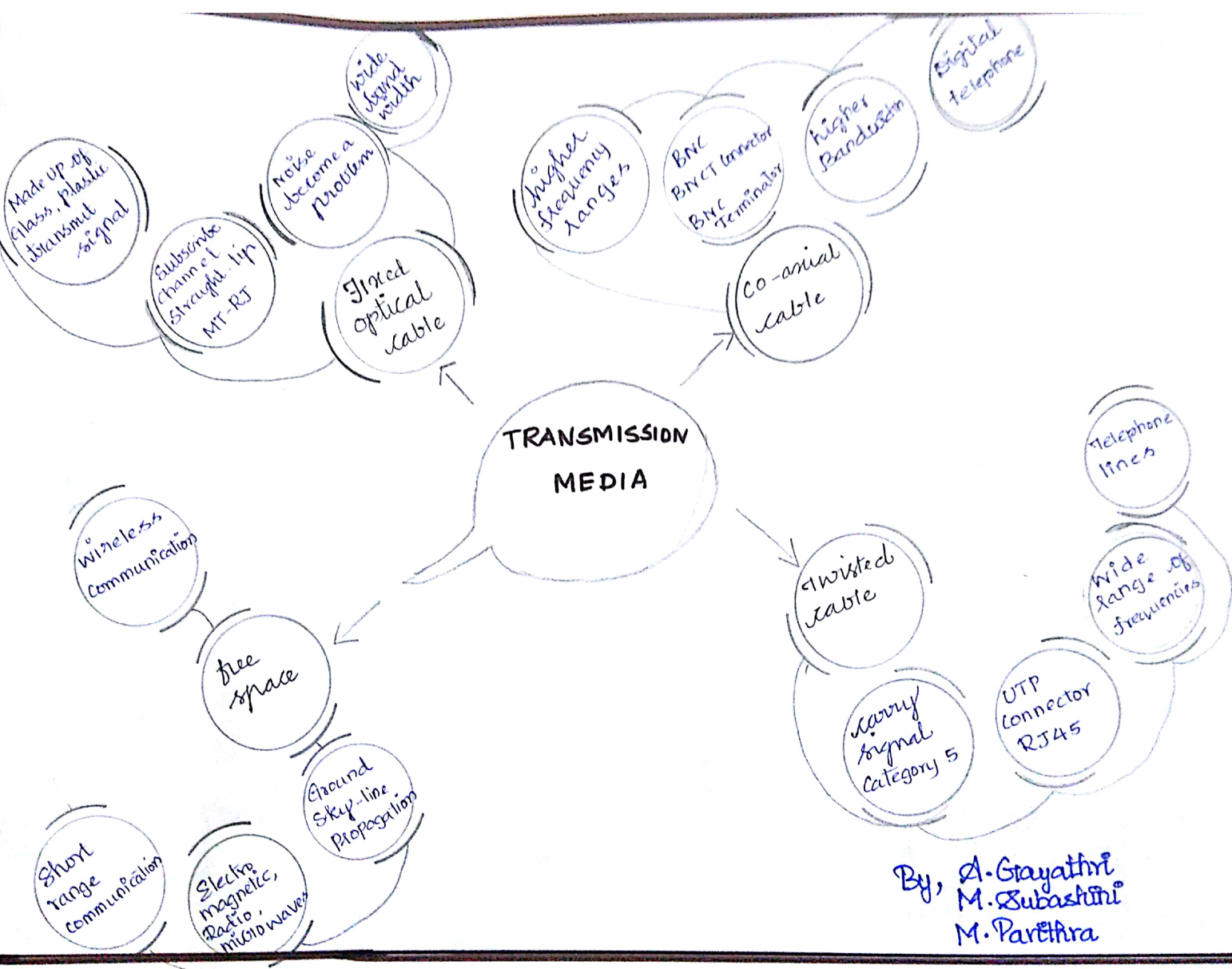


V. Deepthi's  
953619104008

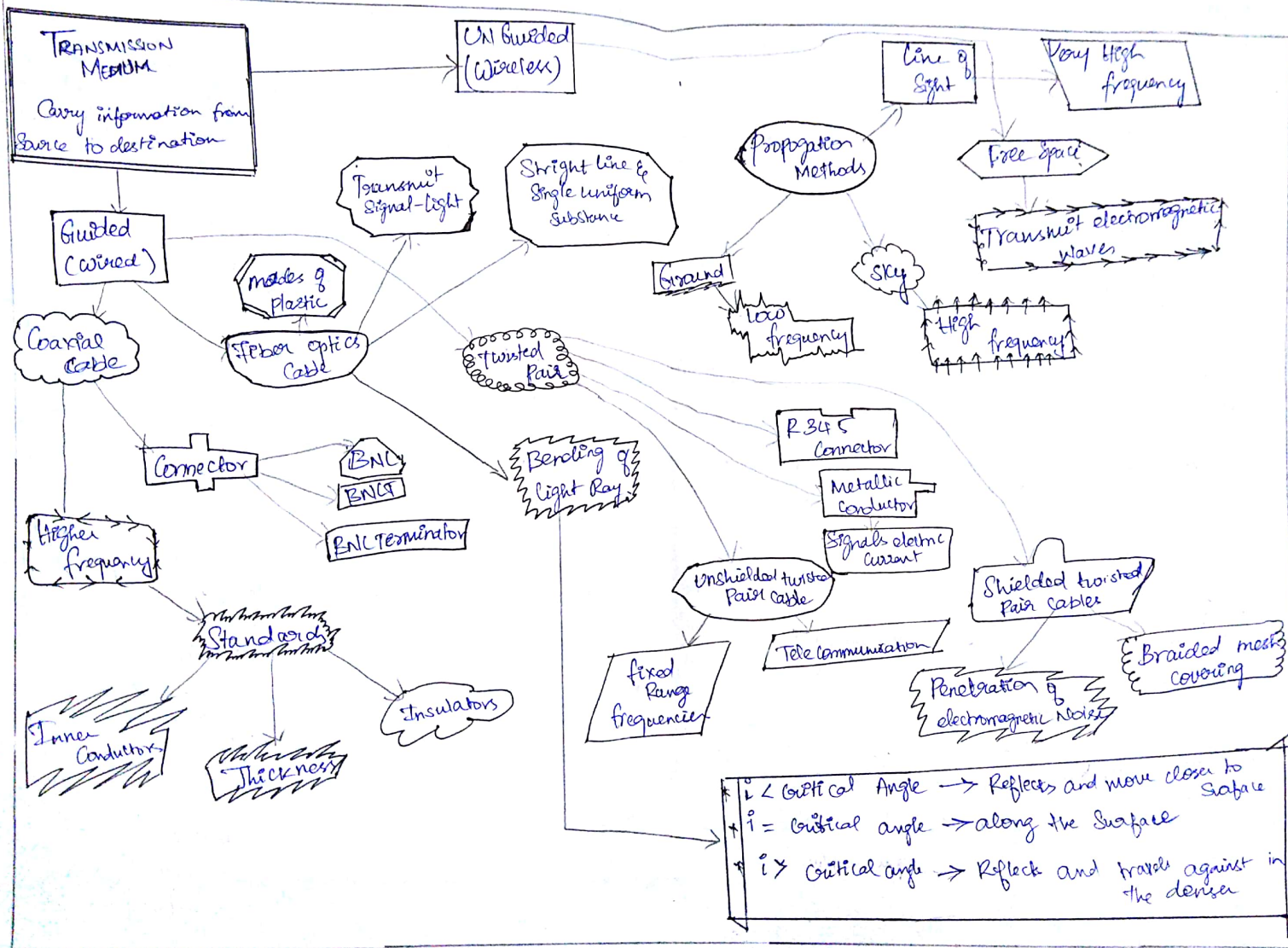








By, A. Grayathri  
 M. Subashini  
 M. Parithira



J. Mohan Rishwan

