GOVERNMENT POLYTECHNIC KARAD.

A MICRO-PROJECT REPORT

ON

GUIDED TRANSMISSION MEDIA

UNDER THE SUBJECT

WORKSHOP

(22057)

ACADEMIC YEAR- 2021-22

SUBMITTED BY-

260-Akshata Subhash Bachche

263-Riya Sunil Kharade

264-Sanika Vilas Powar

267-Purva Murlidhar Jadhav

268-Purva Satish Kamble

269-Shweta Vasant Gawade

219-Priyanka Sanjay Shinde

216-Vaishnavi Jayvant Kawale

240-Sanika Kantilal Patil

Under The Guidence Of-

Proof.S.B.Patil

ACKNOWLEDGEMENT

We take it is an opportunity to thank you all those who have directly and indirectly inspired, directed and assisted us towards successful completion of this project report.

We express our sincere thanks to the Principal, **Dr. Prof. R. K. Patil** & the Head of Department, **Prof. H.D. Jadhav** for having us allowed to submit this report as part of our academics learning

We express our sincere thanks to **Miss. S.B Patil** Lecturer in Fundamentals of ICT, Department of Computer Engineering, Govt. Palytechnic Karad for encouragement throughout the project report und guideline in designing & working out this project.

Place: Govt. Polytechme, Karad

Date:31/12/2021

Yours Sincerely,

●260-Akshataa Subhash Bachche

●263-Riya Sunil Kharade

●264-Sanika Vilas Powar

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CERTIFICATE

This is to certify that, as part of the partial fulfillment of the Three Years Diploma Course for the Semester First, the benefited students studying in First Year Diploma.

(Computer Engineering) (1-Scheme)

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Have Completed The Guided Transmission Media

From the Subject: Workshop

Under the guidance of proof.Miss S B Patil , Submitted it to Government Polytechnic Karad. The information in this project Report has been submitted earlier.

Under The Guidance-

Proof.S.B.Patil

Head of the Department-

Prof.Mr H .D Jadhav

❖ Rationale:

Guided transmission Media is the physical medium that is used to transfer information bits from one computer to the other.The physical medium directs the other.The physical medium directs the path that information bits have to follow to reach the desired.

The signal energy preferred through wires in guided media.The signal energy propagates through air in unguided media.Guided transmission Media is used for point to point communication.

❖ Aim of Micro-Project:

1. To learn about Guided Transmission Media in details.

2. To understand detail structure of Twisted pair cable, Coaxial cable, Fibre optic cable.

❖ Benefits Of Micro-Project:

1)The data can be transmitted at high speed.It has better shielding as compared to twisted pair cable.It provides higher band- width.

2)The cost of guided media is very Low (inexpensive)and easily available.This is very flexible and lightweight.Very easy to set up.

❖ Literature Review:

Guided media, which are those that provide a conduit from one device to another, include Twisted Pair Cable, Coaxial Cable, and Fibre-Optic Cable.A signal travelling along any of these media is directed and contained by the physical limits of the medium. Twisted-pair and coaxial cable use metallic (copper) conductors that accept and transport signals in the form of electric current. Optical fibre cable that accepts and transports signals in the form of light.

❖ Proposed methodology:

1)First we create the Group for the Micro-Project

2)Then,We created Whatsapp group for discussion.

3)We arranged Goggle Meet.

4)Then,We Select the Topic & Title of our Micro-Project .

5)We Collect information regarding guided Transmission Media.

6)Then, we discussed about How to make output of OurMicro-Project

7)We created the Proposal of our Micro-Project.

8)We created the Model of Guided Transmission Media and then pasted it on Plywood.

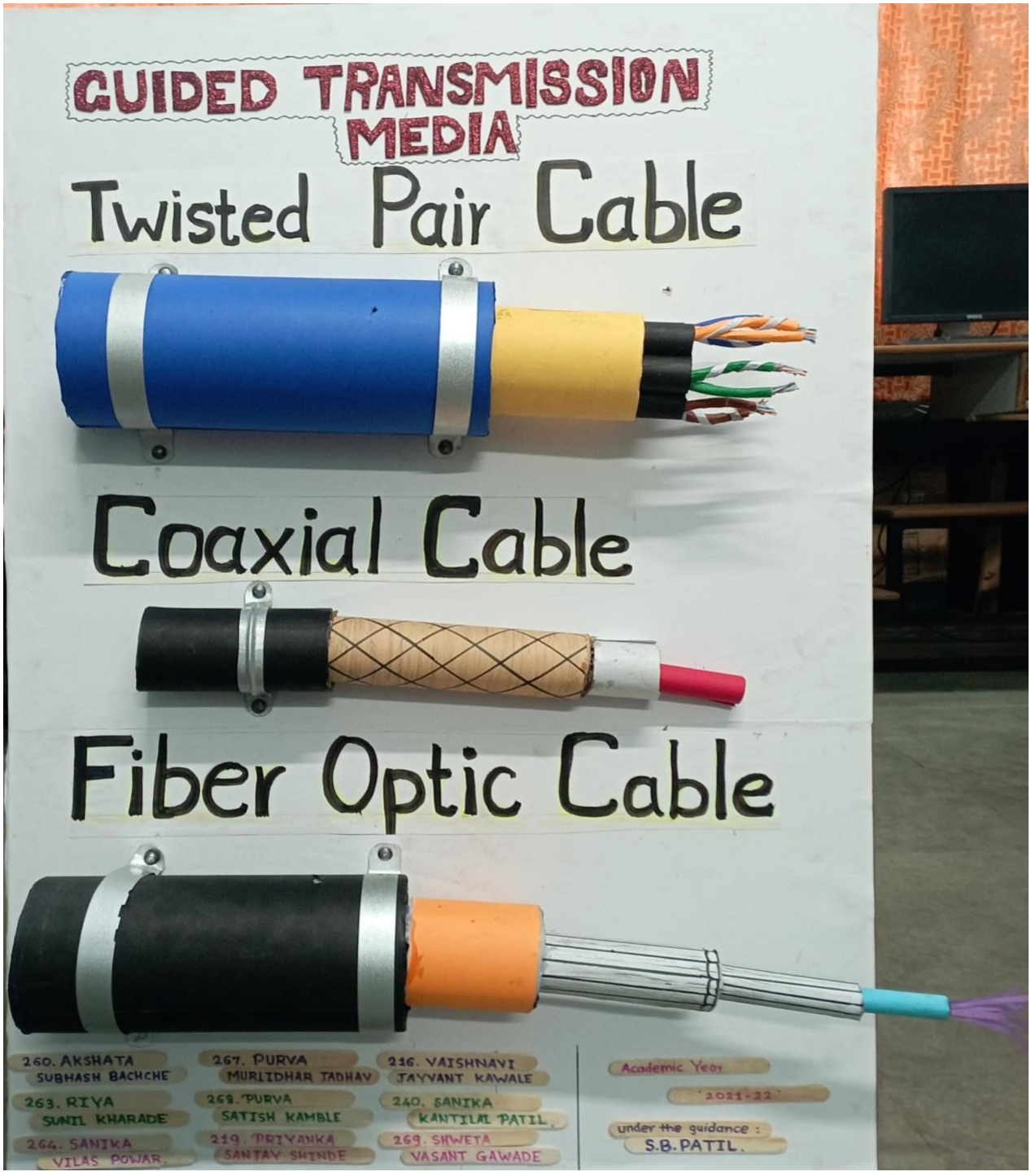
9) Then, We Made Report On Our Micro-Project.

10)We Completed Our Micro-Project And Submitted Assigned task.

❖ Actual Resources Used:

Sr.No	Resources Required	Specification	Quantity	Remarks
1.	Computer System	Any desktop or laptop	As per requirement	
2.	Pipes	Different Sizes	14	
3.	Plywood	$4^{ft}*3^{ft}$	1	
4.	Tinted Paper and Card-sheet	Different Colours	As Per requirement	
5.	Hexa Blade	-	1	
6.	Sketch Pen & Markers	Different Colours	As per requirement	
7.	Fevicol &Fevistick	-	7	
8.	Cardboard	-	As per requirement	
9.	Scissor	-	1	
10.	Pencil and scale	-	2	
11.	Nails	-	As per requirement	

❖ Output of the Micro-Project



❖ Skill Developed:

1)By doing this Micro-Project we developed our communication Skill.

2)We learn about different cables and their uses.

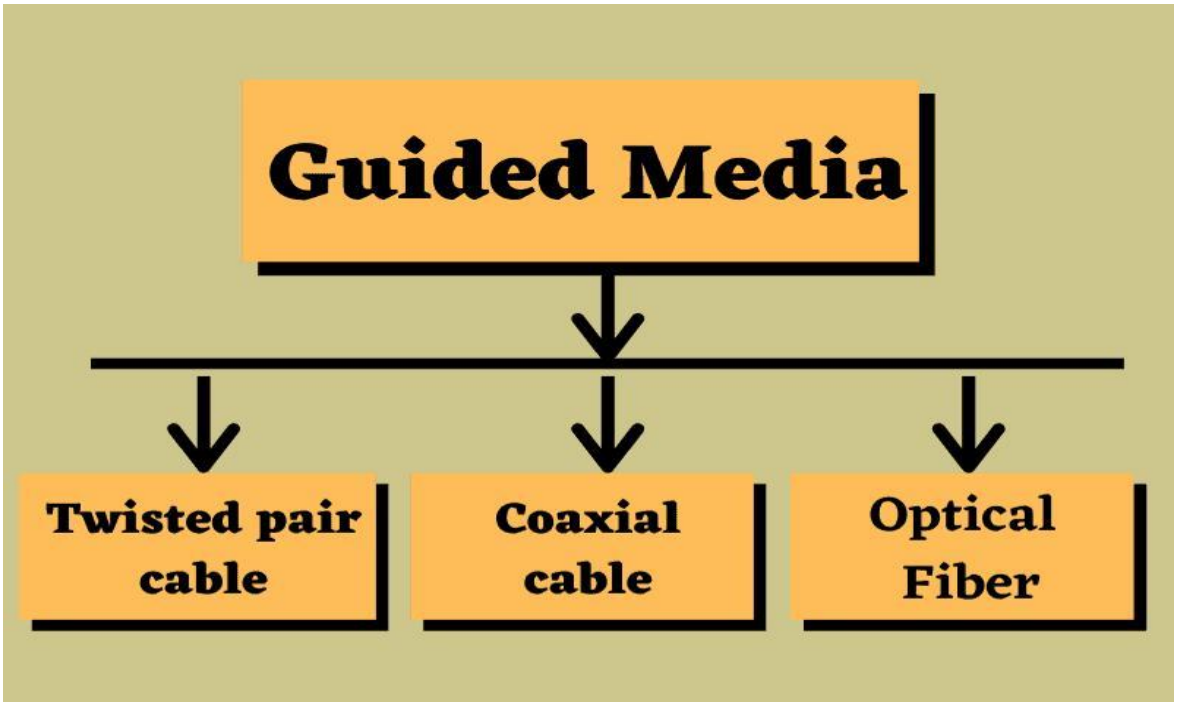
3)We Improved Collaboration and Self-Confidence.

4)We increased our team bonding by our team work.

❖ Application Of this Micro-Project:

• Guided Transmission Media:

It is defined as the physical medium through which the signals are transmitted. It is also known as Bounded media.

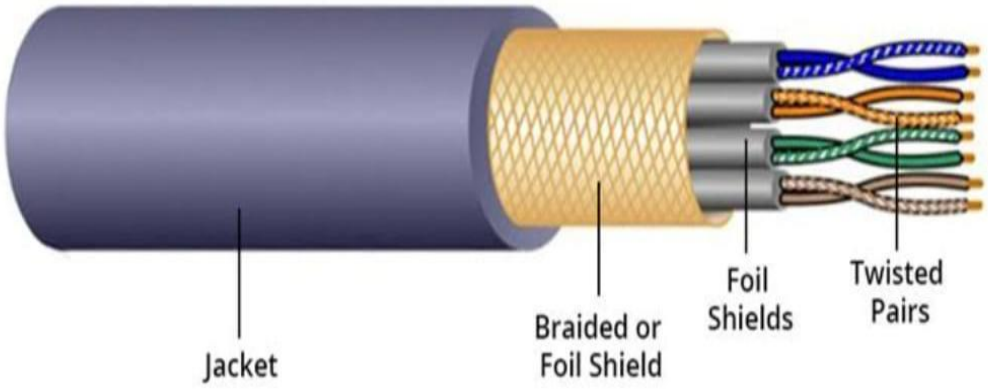


1)Twisted pair:

Twisted pair is a physical media made up of a pair of cables twisted with each other. A twisted pair cable is cheap as compared to other transmission media. Installation of the twisted pair cable is easy, and it is a lightweight cable. The frequency range for twisted pair cable is from 0 to 3.5KHz.

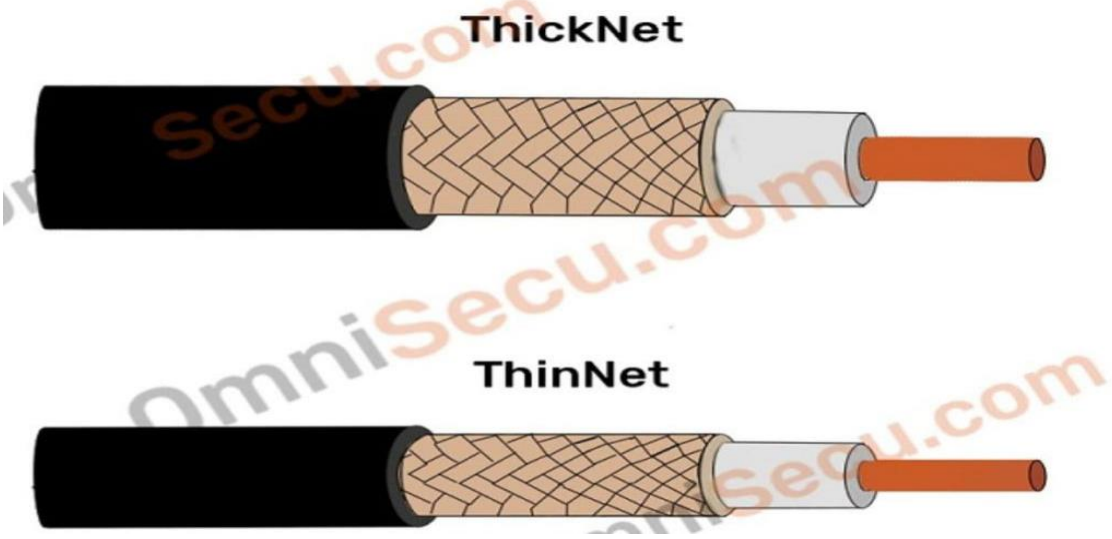
A twisted pair consists of two insulated copper wires arranged in a regular spiral pattern.

The degree of reduction in noise interference is determined by the number of turns per foot. Increasing the number of turns per foot decreases noise interference.



2)Coaxial Cable:

Coaxial cable is very commonly used transmission media, for example, TV wire is usually a coaxial cable.
The name of the cable is coaxial as it contains two conductors parallel to each other.
It has a higher frequency as compared to Twisted pair cable.
The inner conductor of the coaxial cable is made up of copper, and the outer conductor is made up of copper mesh. The middle core is made up of non-conductive cover that separates the inner conductor from the outer conductor.
The middle core is responsible for the data transferring whereas the copper mesh prevents from the EMI(Electromagnetic interference).



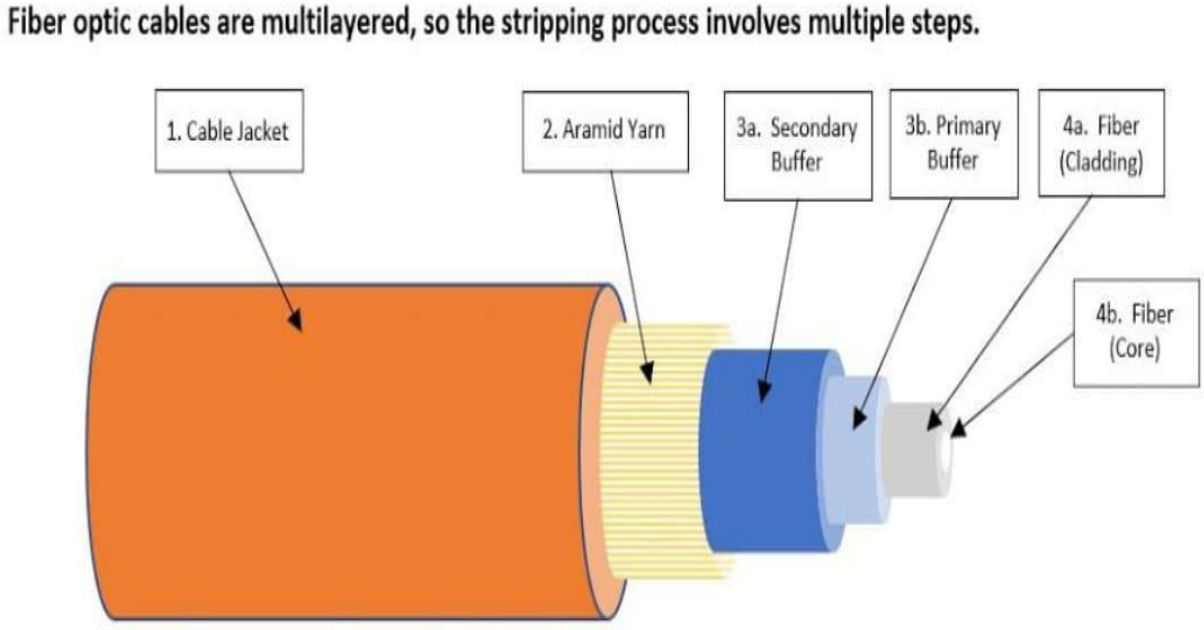
3)Fibre Optic:

Fibre optic cable is a cable that uses electrical signals for communication.

Fibre optic is a cable that holds the optical fibres coated in plastic that are used to send the data by pulses of light.

The plastic coating protects the optical fibres from heat, cold, electromagnetic interference from other types of wiring.

Fibre optics provide faster data transmission than copper wires.



GUIDED TRANSMISSION MEDIA- ADVANTAGES AND DISADVANTAGES

MEDIA	ADVANTAGES	DISADVANTAGES
COAXIAL CABLE	• Inexpensive • Easy to expand • Widely used	• Single cable failure can take down an entire network • Limited in distance
TWISTED PAIR	• Easy installation • Capable of high speed for LAN • Low cost	• More difficult installation
FIBER OPTICS	• Fast speed • Can go long distance	• Very costly • Hard to install • Bending is not easy

THANK-YOU !