

# INDUSTRIAL VISIT

BSNL TELEPHONE EXCHANGE.

DATE :30/11/2023

**The industrial visit to BSNL Telephone Exchange aimed to provide students from our college with practical insights into the functioning of a telecommunications facility and an understanding of the technology behind it.**



## Introduction to BSNL

**The visit began with an informative session conducted by Rahul sir. Rahul sir introduced the students to the history, scope, and services offered by Bharat Sanchar Nigam Limited (BSNL).**

## Infrastructure Overview

**The students were given a tour of the telephone exchange facility, providing a firsthand look at the extensive infrastructure, including servers, routers, and communication equipment.**

# Networking Systems

The first session conducted by Rahul sir.sir explained the intricacies of networking systems, emphasizing the role of technology in establishing and maintaining communication networks.sir teach us about the 4 types of network ,NIXI,IGW,3A's,BNG and the 4 major global established services also

## **\*The 4 types of network**

**1:PAN-Personal area network (Example: Bluetooth)**

**2:LAN-Local area network (Example:Wifi)**

**3:MAN-Metropolitan area network (Example:radio)**

**4:WAN-Wide area network (Example: Internet)**

**\*NIXI :-National Internet Exchange in Kerala , NIXI is in Ernakulam**

**IGW**:-International Gate way ,An IGW is a logical connection between an AWS VPC and the Internet  
Wired connectivity user cable to connect device  
Example: Laptop, Computer etc...

**ONT** :Optic network terminal , It convert the optical signal comming through the fiber into separate signal for T.V, Voice and Data

## 3A's

**The 3A's are Authentication, Authorization, Accounting**

**1: Authentication: Accessing username and password**

**2: Authorization: Provide the bill**

**3: Accounting:IP details are feeding service**

**BNG:-Board Band Network Gateway**

**Kollam BSNL LIMIT =>Ernakulam TVM**

## **BSNL Transmission Room**

**The next session was transmitting data and voice session conducted by Bindu mam .Bindu mam tell us about the different equipment used for transmission equipment like MAD,CPAN, Analog switching , Least circuit**

## MAD :- Multi Add Drop Multiplexer

MAD has the capacity to add one or more lower-band width signal to an high-band width data stream

## Analog switching

## CPAN :- Converged packet access network

## POI:-Point interconnection equipment

## FDF:- Fiber distribution frame (6,12,24,48,96)

## Least Circuit :-

**Circuit used by government office, post office, core banking, SBI, Defence. They do not share network**

### **1. MLLA:- Managed least line network**

**Copper – 2mb**

**Above 2mb — optical fiber are used**

### **2. DDF:- Digital distribution frame**

### **3. ADF:- Analogue distribution frame**

# **Switch Room**

**In this session conducted by Rahul sir.  
Rahul sir tells about the Broad Band Network Gateway  
(BNG)**

**BNG :- Broad band network gateway**

**Is the network edge aggregation point used by  
subscribers access the internet service provides (ISP) network**

**10 Gbps supports BNG**

**100Gbps support by nokiya BNG**

# Basic electrical Insulation

In the afternoon session we go to the power session . Which supply power to all the equipment in the BSNL telephone exchange. This session was conducted by Vineeth sir

2 wires :1 phase 1 neutral

3wires : RYB 3 phase 1 neutral

## **Busbar complex**

**Conduction in the form of bar contains metering panels. voltage, current, frequency,**

**Float voltage – fully charge battery 2.25v/cell**

**300st voltage–Deeply discharged battery 2.5 v/cell , the electrode is ground because the corrosion rate is slow than a -ve electrode**

LPT:-

**Low tension distribution panel first  
terminal point of a power distribution system**

ISOLATOR :-

**- For a n-wire system a switch with n pole  
Is termed as a isolator**

**SSB:sub Switching block**

**VRLA :- Value regulated lead acid battery 10 years  
guarente 50 to 80 years lifespan**

# MDF and TD room

This session was conducted by shiju sir

J TO NGN :- Digital subscriber line access multiplexes wireless

IMS :-Multimedia subsystem wired

NDN:-Next generation network

EMS:-Elementary management system

NMS :- network management system

**Network core :-** All the address information and saved and updated

**VOIP:-**Voice over ip (eg :- WhatsApp call , Google meet)

**ADSL:-**Assymmetric digital subscr line , ASL support  
By ADSL

**Conclusion :-** The industry visit to BSNL telephone exchange was an enlightening experience. Exploring the various facts of telecommunications infrastructure, from networking equipment to communication protocols, provided a comprehensive understanding of the industry's operations. Witnessing the day-to-day activities of skilled professionals underscored the importance of efficiency and technical expertise in maintaining a reliable communication network. This visit not only broadened our knowledge but also emphasized the critical role that BSNL plays in ensuring seamless connectivity for individuals and businesses.

# At BSNL TELEPHONE EXCHANGE



