

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 coming 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 nokia 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 for 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 lifespam**

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 subscrib line , DSL 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



