
	JSPM's Bhivarabai Sawant Institute of Technology and Research Wagholi, Pune-412207 Department of Electronics and Telecommunication Engineering	
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Report of Industrial Visit at BSNL, Chinchwad, Pune

Objective	To create awareness among the students regarding practical experiences about Mobile Communication and establishment of a call during conversation through mobile.
Date of Conduction	27th Feb 2019
Timing	11 am to 2 pm
Coordinator	Prof. P. R. Shah
Students & Faculties Participated	40 students & 03 faculties

Overview of Visit –

JSPM's Bhivarabai Sawant Institute of Technology and Research, Wagholi (E&TC Dept) had organized an Industrial Visit on 27th February 2019 to BSNL located in industrial sector of Chinchwad for the students of BE(E&TC). Prof. P. R. Shah, Prof. V. G. Puranik and Ms. Nikita Pawar (Technical Assistant) were present for this Industrial Visit.

Details of Our Journey-

We started travelling from the college campus at 9:30am by our college bus on 27th february 2019 along with our staff coordinators. We reached to the BSNL Chinchwad premises at 11:00am, at the very beginning of our visit we met Mr. S. D. Borole, Subdivision Engineer, BSNL Pune, he had given brief introduction of visit and Ms. Pallavi Pallewar, Junior Telecom Engineer explained the services and different schemes of BSNL.

At the beginning Mr. U. B. Kakad, division engineer explained the students about GSM architecture by showing the Mobile Tower and the various Antennas mounted on it. He showed many antennas like the Microwave Antenna, 2G GSM Antenna, 3G GSM Antenna & 4G GSM Antenna etc. We have also seen the Waveguides or Radio cables which were connected from antenna to the BTS. There were various antennas like Pannel Antenna, Microwave Links. Earthing was provided by lightning spike. Aviation Lamps were provided for indication of height.

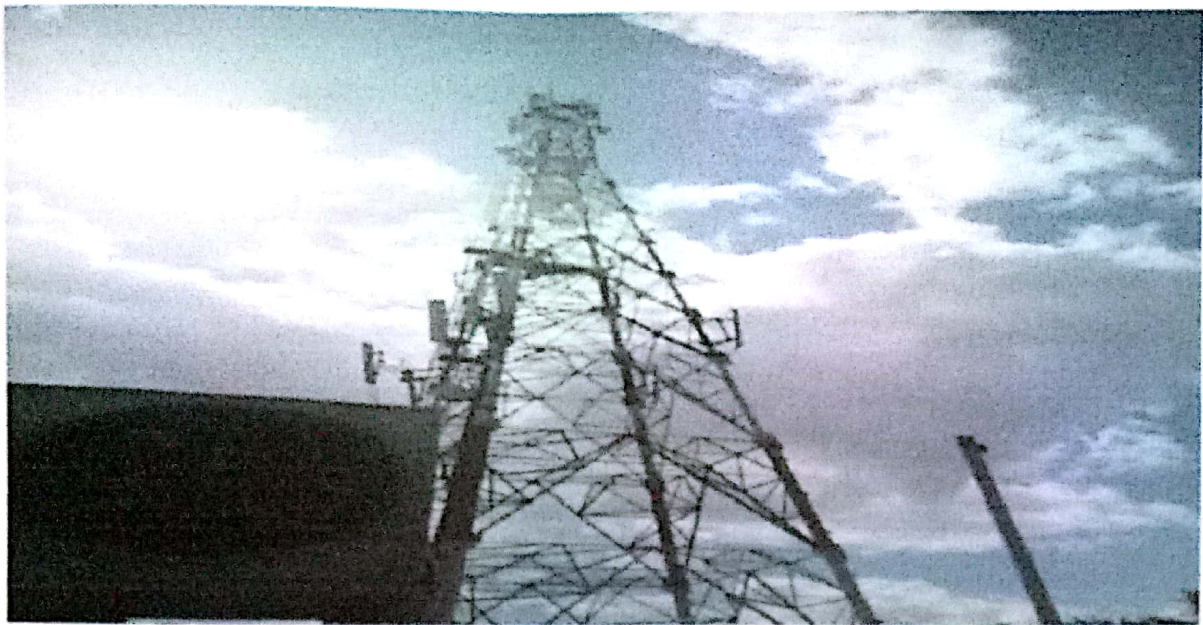


Photo1: Mr. S. D. Borole, Subdivision Engineer had explained about BSNL Antenna



Photo2: Ms. Pallavi Pallewar, Junior Telecom Engineer explained the services and different schemes of BSNL.

All the students are gathered at Gateway OCB-283 Lab to get the information from Mr. U. B. Kakad, division engineer. He had given us information about the following topics.

1. Evolution of Mobile Communication Network from 1G to 4G.
2. GSM Architecture
3. CDMA Technology
4. Time Switching, Space Switching
5. Frequency Bands of GSM-900, GSM-1800, GSM-1900.



Photo3: Mr. U. B. Kakad, division engineer, explained different mobile generations and GSM architecture.

After that they divide us in three groups. One group is sent to BTS section, another two group sent to MSC& BSC.

BTS section was explained by Mr. N. R. Bamne, Junior Engineer:

1. Functions of BTS – Handoff and Radio channel management
2. Various Cards used such as
 - a) Station Unit Module Type A (Suma) Card used for design, configuration and performance checking.
 - b) TRE (Transmit and Receive) Card which has one port for transmission and 2 ports for reception to overcome multipath propagation of radio waves.
 - c) Card Combiner (Antenna Network Combiner /Coupler) used for combining of 4 frequencies which uses 4 transmission ports and 8 reception ports.
3. Various cables used in BTS like
 - a) Abis link used between BTS and BSC.
 - b) Optical Fibres or Microwave Links (Waveguides) used between BTS and BSC.
 - c) Feeder cable for panel antenna carrier.

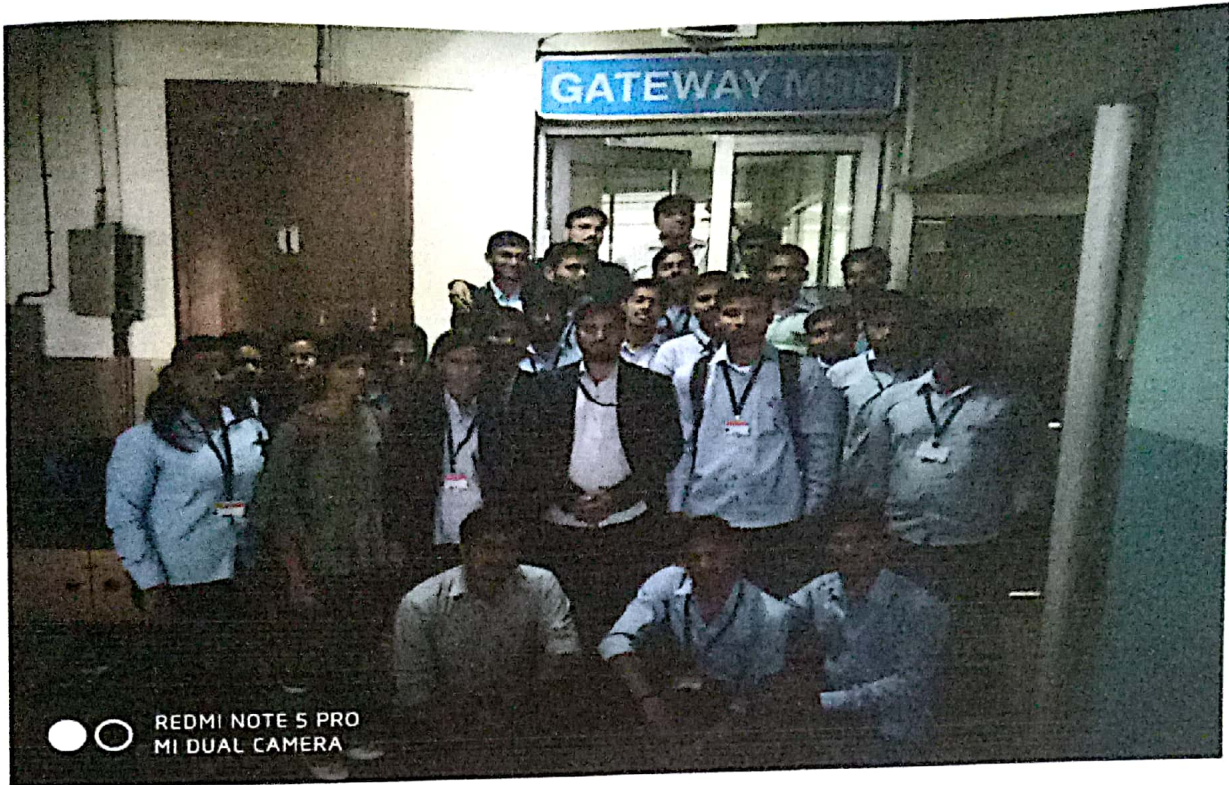


Photo4: Mr. Ajay Roy, Junior engineer explained about BSC & MSC

Mr. Ajay Roy, Junior engineer & Mr. Kakad U. B., Division engineer, explained about BSC & MSC:

- 1) Function of BSC is controlling transmitting and receiving frequency of BTS and mobile network.
- 2) The BSC consists of 14 groups of card arranged in stack format in shelf. Various types of cards are BTS interface unit card (BIUC), control cards, power cards, TCUC
- 3) The BSC can control 40,000 customers.
- 4) The cards indicate the links from BSC to MSC and from BSC to BTS.
- 5) Architecture of G-MSC and MSC are same i.e. same hardware and same software used.
- 6) GMSC provides all landline connections, private connections



Photo5: Group photo of Students and Faculties with BSNL Officers.


Key points which we gain from visit-

Communication between GMSC to MSC


Communication between MSC to BTS

Communication between BTS to BSC


Thus the beautiful journey of our industrial tour reached to a happy and beautiful conclusion wherein each and every one gain lots of knowledge based on networking & mobile communication on making this event a memorable event in our entire college life.


Prof.P.R.Shah
 Subject Teacher

 
Prof.P.R.Shah & Prof. D. D. Khairnar
 Industrial Visit Co-ordinators


Dr. Y.S. Angal
 H.O.D. (E&TC)

H. O. D.
Electronics & Telecommunication Dept
 Bhivarabai Sawant Institute of
 Technology & Research
 Pune-412207


Dr. T.K.Nagaraj
 Principal
PRINCIPAL
 S.P.M'S Bhivarabai Sawant Institute of
 Technology & Research
 Wagholi, Pune- 412207