



The Berar General Education Society's  
**Shri R. L. T. College of Science, Akola**

**DEPARTMENT OF CHEMISTRY**

Report on Educational Tour of  
B. Sc. I (Chemistry)

To

National Environmental Engineering Research Institute  
(CSIR-NEERI), Nagpur

22<sup>nd</sup> February, 2024

## INTRODUCTION

National Environmental Engineering Research Institute or NEERI is the branch of CSIR under the Ministry of Science and Technology Government of India. CSIR-NEERI would continue to strive for providing innovative and effective solution for environmentally sustainable development and to help government, industry and society. NEERI is devoted to research and innovations in environmental science and engineering besides solving a range of problems posed by industry, government and public. NEERI, Nagpur was established in 1958 as Central Public Health Engineering Research Institute (CPHERI), when environmental concerns were limited to human health with a focus on water supply/sewage disposal/communicable diseases and to some extent on industrial pollution and occupational diseases. The chemical and biological solutions to address these problems were simple, though challenging. However, slowly worldwide public awareness on the contamination of environment on regional to global scale started getting attention in 1970's.



### Purpose of Visit

- To study research and development process going on in NEERI-CSIR laboratory.
- To study technology developed by scientist.
- To study the different work culture between college and NEERI laboratory.
- To see and take information about Analytical facility available in NEERI.
- To interact with Scientist and Research Students.
- Looking for job opportunities for bright future.

## CSIR-NEERI Audio Visual

The visit was started with the introduction of CSIR-NEERI at the Auditorium at 11.00 am by audio visual presentation. In that audio visual section, establishment of CSIR-NEERI, past and present technology developed by CSIR-NEERI were explained. CSIR-NEERI working on sewage water treatment, NEERDHUR, Green Crackers, WAYU, NEERI-ZAR'. CSIR-NEERI also helps to Government dream project such as Namami Gange, Swachh Bharat etc.

**Green Crackers**-CSIR-NEERI has been working since January 2018 for developing new and improved formulations for reducing emissions from fireworks. CSIR-NEERI developed new formulations for reduced emission light and sound emitting crackers (SWAS, SAFAL, STAR) with 30% reduction in particulate matter using Potassium Nitrate ( $KNO_3$ ) as oxidant.



## Visit to Harit Sangrahalaya

After informative presentation, we move to Harit Sangrahalaya at 11.30 pm. In Harit sangrahalaya models, charts and demonstration of various projects were seen and explained by Mr. Mohtaseen Ahmad (Researcher Scholar). Model, Charts, Demonstration of experiment and instruments present in Harit Sangrahalaya are

- Common effluent treatment plant
- Municipal solid waste plant
- Low cost automatic mechanical flusher
- Phytoid technology for sewage treatment
- Single pass photo catalytic reactor for de-colorization of textile effluents
- Solar electrode flouridation plant
- Iron removal plant
- Hydroplume–high rate secondary clarifier.
- NEERDHUR
- Green Crackers
- NEERJAR



Harit Sangrahalaya

### **Air Pollution Control Division (APCD)**

Then the students move towards Air Pollution Control Division (APCD). It is one of the major R & D division of CSIR-NEERI. Research in air quality management by inventory, monitoring, prediction, simulation, data analysis and control is within the domain. Emission inventory followed by dispersion modelling using state-of-the-art models like AERMOD and CALPUFF for impact identification.

Monitoring of pollutant is aimed towards regulatory compliance and receptor modelling objectives. This laboratory is well equipped with analysers for chemical speciation of particulate matter. Source apportionment studies using CMB of ambient air PM has helped reveal several challenging tasks particularly for coal mine area and industrial sectors. Here a research scholar demonstrated the air sampler with its working, principle and application.

### **Technology Park (SHWMD)**

In Technology Park, we seen solid waste i.e. garden waste converted into powdered form, process of shrinking of waste thermocol, energy from red mud waste. Various research scholars explained the demo experiment about waste management i.e. converts various waste into energy and useful products. This section of waste management motivates our students to think about conversion of various waste into useful products.





### **After Lunch Interaction with Scientist**

After having a hearty and delicious meal in NEERI at 01.30 pm students interacted with Senior Scientist Dr. Yogesh Pakade, he informed about research work is going on in NEERI. He also guided students about the bright future in research and development sector and in NEERI also.



## Visit to Gorewada Zoological Park

Gorewada Zoological park is a zoo in the Nagpur district of Maharashtra state. Upon completion, this is likely to be one of the largest captive zoo safaris in India, covering over 1914 hectares of land adjoining Gorewada Lake.

Here students observed wild animals in their natural habitat by Jungle Drive from close distance where human in cage (secured bus with guide) and animals roaming freely. Students observed number of wild animals, mainly two tigers, two leopards, two bears, herbivorous sloth bear, deer, some endangered species of deer and other animals also. Students achieved amazing experience here.



In this educational tour, total 30 students of B. Sc. I were participated. This tour was undertaken by the inspiration of Dr. V. D. Nanoty, Principal, Shri R. L. T. College of Science, Akola and under the guidance of Dr. P. T. Agrawal, Head, Department of Chemistry, Dr. Ashish G. Sarap, Assistant Professor and organized by Dr. Vinod D. Deotale Assistant Professor, with Mrs. Payal Mahalle, Shradhha Hatgaonkar as ladies faculty members. Mr. Vilas Ramteke and various teaching, non-teaching staff took efforts for the success of this visit.

The students and faculties are thankful to the Dr. V. D. Nanoty Sir, Principal and Management of the B.G.E. Society Akola for giving permission to conduct educational tour 2024

**Dr. V. D. Deotale**  
Tour Co-ordinator

**Dr. A. G. Sarap**  
Tour Co-ordinator

**Dr. P. T. Agrawal**  
Head,  
Department of Chemistry



**Shri R. L. T. College of Science, Akola**  
**Department of Chemistry**  
**Educational Tour to NEERI, Nagpur**  
**List of Students and Staff**

**Shri R.L.T. College of Science Akola**  
**Chemistry Department**

Students List of Short Tour – NEERI, Nagpur

Date: 22.02.2024

Time: 06.00 AM to 09.00 PM

Sr. No.	Name of Student	Gender	Class	Contact Number
1.	Dhanashri Sheshrao Kale	Female	B. SC. I - B1	8956189413
2.	Bhumika Dharmaraj Nandagawali	Female	B. SC. I - B1	8767793436
3.	Nikita Purushottam Dhait	Female	B. SC. I - B1	7666647197
4.	Mrunali Ramesh Jadhao	Female	B. SC. I - B1	7620963077
5.	Shrutika Vinod Bhingare	Female	B. SC. I - B1	9673692468
6.	Sanika Gopal Khaperkar	Female	B. SC. I - B2	8600606481
7.	Snehal Ganesh Shegokar	Female	B. SC. I - B2	7756996163
8.	Gauri Sahdeo Donge	Female	B. SC. I - B2	8767950677
9.	Vaibhavi Gopal Sonone	Female	B. SC. I - B2	7709169712
10.	Anjali Narendra Jungade	Female	B. SC. I - B2	7387033713
11.	Vaishnavi Haridas Bawaskar	Female	B. SC. I - B2	9359072443
12.	Roshani Nitin Pendharkar	Female	B. SC. I - B2	8390502337
13.	Pooja Uddhav Chavhan	Female	B. SC. I - B2	8767814793
14.	Neha Haridas Wanare	Female	B. SC. I - B5	7083684300
15.	Chanchal Pravin Bhatkhede	Female	B. SC. I - B5	7020808405
16.	Nandini Gajanan Khandarkar	Female	B. SC. I - B5	9356364664
17.	Mahera Pramod Patil	Female	B. SC. I - B5	9022069269
18.	Prarthna Dinesh Jamnik	Female	B. SC. I - B5	9657894427
19.	Tanushri Gajendra Tayade	Female	B. SC. I - B5	9404260157
20.	Sneha Ritesh Ganorkar	Female	B. SC. I - B5	9322987182
21.	Vibha Rajesh Ambalwar	Female	B. SC. I - B5	7843098622
22.	Shrushti Vilas Paradhi	Female	B. SC. I - B5	9226962614
23.	Shravani Narendra Bhaltilak	Female	B. SC. I - B5	9689010381
24.	Diksha Sudam Wankhade	Female	B. SC. I - B5	9579682990
25.	Dipika Pramod Bansod	Female	B. SC. I - B5	9975623648
26.	Sejal Vishwanath Sonagre	Female	B. SC. I - B5	8767669562
27.	Divya Anil Ghatale	Female	B. SC. I - B5	8767811917
28.	Bhumika Sanjay Agarkar	Female	B. SC. I - B5	8329837233
29.	Pooja Vijay Korde	Female	B. SC. I - B7	8010110046
30.	Ram Rajendra Moraskar	Male	B. SC. I - B7	9359899834
31.				

**Teaching and Non-Teaching Staff**

1.	Dr. Ashish G. Sarap	Male	7972116864
2.	Dr. Vinod D. Deotale	Male	8826759525
3.	Ku. Payal Dilip Mahalle	Female	9763797051
4.	Ku. Rashmi Baldev Ingle	Female	9561296818
5.	Mr. Vilas Ramteke	Male	9970518711

Teacher

HOD

Principal

Shri R.L.T. College of Science  
Civil Lines, AKOLA (M.S.)