ANNUAL REPORT 2023-24

BUREAU OF INDIAN STANDARDS
Eastern Regional Laboratory


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BUREAU OF INDIAN STANDARDS
MEETING ON

ANNUAL REPORT

2023-24

DIRECTOR'S MESSAGE

Director's Message

Dear Colleagues, Partners and Stakeholders,

As I reflect on the accomplishments of the past year, I am proud of the remarkable progress our laboratory has made. In a rapidly changing scientific landscape, our team has remained dedicated to innovation, upholding the highest standards of quality, and delivering results that were practically undisputable.

This year has seen us reach several important milestones like breaking the barrier of 1100 TRs in a month, achieving 11,000+ Trs in a financial year and many more. Our testing capabilities have expanded, incorporating advanced technologies and methodologies to improve both the precision and efficiency of our work. We completed key projects, such as modernisation of PDW test facilities which not only showcased our technical capabilities but also reinforced our commitment to advancing.

We have also placed a strong emphasis on growth and development. New investments in state-of-the-art equipment and comprehensive training programs have enabled our team to meet increasing demands with greater agility. These advancements have further solidified our position as leaders in the PDW, Fotwear & Container testing.

Another major focus this year was the incorporation of automation into our laboratory operations. By investing in automated equipment, we have significantly enhanced the precision, speed, and efficiency of our workflows. Automation has allowed us to reduce human error, improve data accuracy, and increase throughput, enabling our team to focus on complex products being brought under the QCOs. This transition is a key step toward modernizing our lab and ensuring we remain at the forefront of scientific innovation. As we continue to automate processes, we are not only increasing productivity but also improving the overall quality of our results.

One of the highlights this year has been the expansion of our internship programs. We welcomed a group of talented interns who brought fresh perspectives and energy to our lab. Through hands-on training and mentorship, we provided them with valuable experience in cutting-edge research and laboratory techniques. These internships not only help shape the next generation of scientific professionals but also strengthen our lab by infusing new ideas and approaches. Our internship program ensures that students will contribute to scientific progress while upholding our responsibility to the quality ecosystem of this society.

Looking ahead, we are eager to seize the opportunities that lie before us. Our focus remains on upholding the highest levels of scientific rigor and innovation, while also advancing our sustainability efforts to ensure that our work not only contributes to scientific progress but also to a more responsible future.

I want to take this opportunity to extend my deepest thanks to Sh Praod Kumar Tiwari, DG-BIS, Smt. Nishat S Haque, DDGL; our dedicated BIS team whose passion and hard work drive our success. Together, we are building a future of discovery that will benefit generations to come.

Subhadip Basu
Senior Director & Head
Eastern Regional Laboratory

CONTENTS

SECTION

01

FRAMEWORK

CONSTITUTIONAL FRAME WORK

(AS ON 31.03.2024)

Sh Pramod Kumar Tiwari
Director General

Smt. Nishat Haque Sultana
Deputy Director General (Lab)

Sh Subhadip Basu
Senior Director & Head

Sh K.S. Rao
Deputy Director

Sh Shantanaba Majumder
Deputy Director

Sh Abhijit Singh
Asstt. Director

Sh Tarique Sajjad
Asstt. Director

Sh Abinav Kumar Singh
Asstt. Director

Sh Ankit Bumla
Asstt. Director

Smt. Jayashree Phase
Section Officer

OUR TEAM

Manojit Mandol

Scientist-D/Joint Director

Mr. Manojit Mondal earned his B. Tech in Metallurgy from Indian Institute of Engineering Science and Technology (IIEST), Shibpur in 2011. Prior to joining BIS, he worked as an engineer in the Blast Furnace division at Tata Metaliks. With over 11 years of diverse experience in Conformity Assessment (Product Certification), Management System Certification, and BIS laboratory operations, Mr. Mondal is currently heading the Sample Cell at the Eastern Regional Laboratory. He plays a key role in ensuring efficient sample management and optimizing the output of ERL.

K.S. Rao

Scientist-C/Deputy Director

Mr. K. S. Rao completed his B. Tech in 1993 from Jawaharlal Nehru Technological University and has contributed over 33 years of service to BIS. Before joining BIS, he worked in the fields of printing technology, oil extraction mills, and other sectors. At BIS, he has held key roles in both laboratory and certification departments, playing a pivotal role in doubling the output of the Electrical Section. Known for his excellent organizational skills and extensive technical knowledge, he has led the Electrical Section to achieve new milestones in report generation, modernization, and automation. He is also an IS/ISO/IEC 17025:2017 and AHC auditor.

Shantanaba Majumder

Scientist-C/Deputy Director

Mr. Shantanaba Majumder holds a B. Tech in Civil Engineering from West Bengal University of Technology and an M. Tech from IIT Guwahati, specializing in Hydraulics, Water Resources, and Environmental Engineering. With 7 years of experience in Conformity Assessment Schemes and BIS laboratory operations, he has been instrumental in establishing the LPG Cylinder testing facility at ERL. Currently, he oversees the Quality Assurance section and building renovation projects. Additionally, he is a certified auditor for IS/ISO/IEC 17025:2017 and AHC.

Abhijit Singh

Scientist-B/Assistant Director

Mr. Abhijit Singh holds a B.E. degree in Food Technology and Biochemical Engineering from Jadavpur University. He played a key role in establishing a state-of-the-art instrumentation lab for testing Packaged Drinking Water (PDW). Under his leadership, the Referral Assay Lab and Microbiology sections have achieved significant growth in output. He is also an IS/ISO/IEC 17025:2017 and AHC auditor.

Tarique Sajjad
Scientist-B/Assistant Director

Mr. Tarique Sajjad, a Mechanical Engineer from the 2018 batch of B.I.T Sindri, serves as Officer-in-Charge of the Mechanical Section at the Eastern Regional Laboratory, BIS. Since joining BIS in 2020, he has been with ERL and has played a key role in significantly increasing the Mechanical Section's output. He has also led various projects to modernize and automate the Mechanical Lab. Additionally, he is an auditor for LRS as per IS/ISO/IEC 17025:2017 and for Assaying and Hallmarking Centres.

Abhinav Kumar Singh
Scientist-B/Assistant Director

Mr. Abhinav Kumar Singh, a Mechanical Engineer from the 2017 batch of IIT Kanpur, joined BIS in September 2020. Prior to joining BIS, he worked as Mechanical Maintenance Manager in the Hot rolling mill at Tata Steel, Jamshedpur. Additionally, he is an auditor for "Laboratory Quality Management System & Internal Audit as per IS/ISO/IEC 17025:2017"

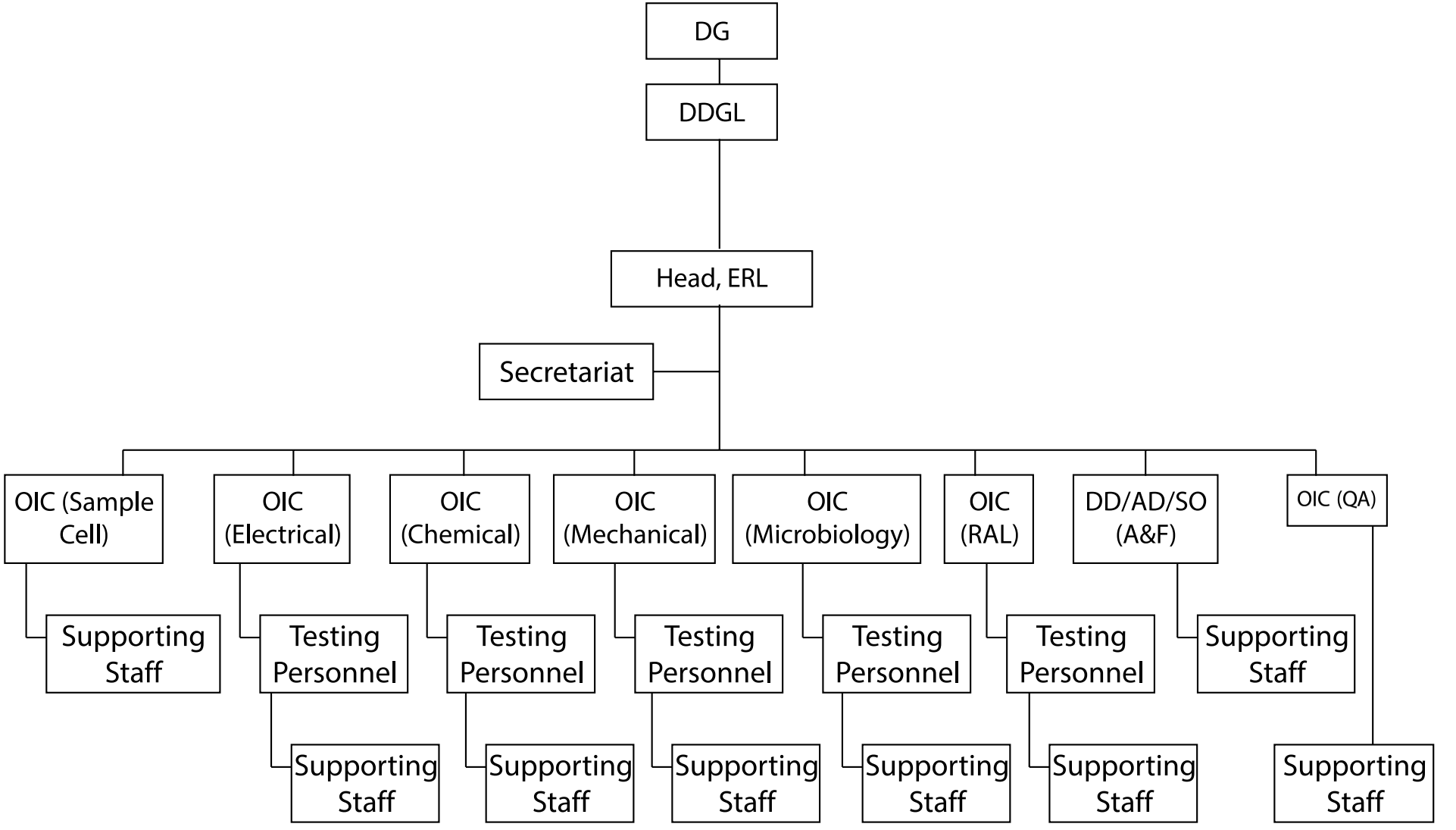
Ankit Bhumla
Scientist-B/Assistant Director

Mr. Ankit Bhumla, a postgraduate in Chemistry from the Tata Institute of Fundamental Research, Mumbai, joined BIS in September 2021. He currently oversees the activities of the Chemical Section and has played a key role in driving significant transformation within the department. His vision extends beyond routine testing, aiming to position the lab as a leader in other areas by promoting standards awareness and enhancing testing knowledge. Additionally, he serves as an auditor for LRS as per IS/ISO/IEC 17025:2017.

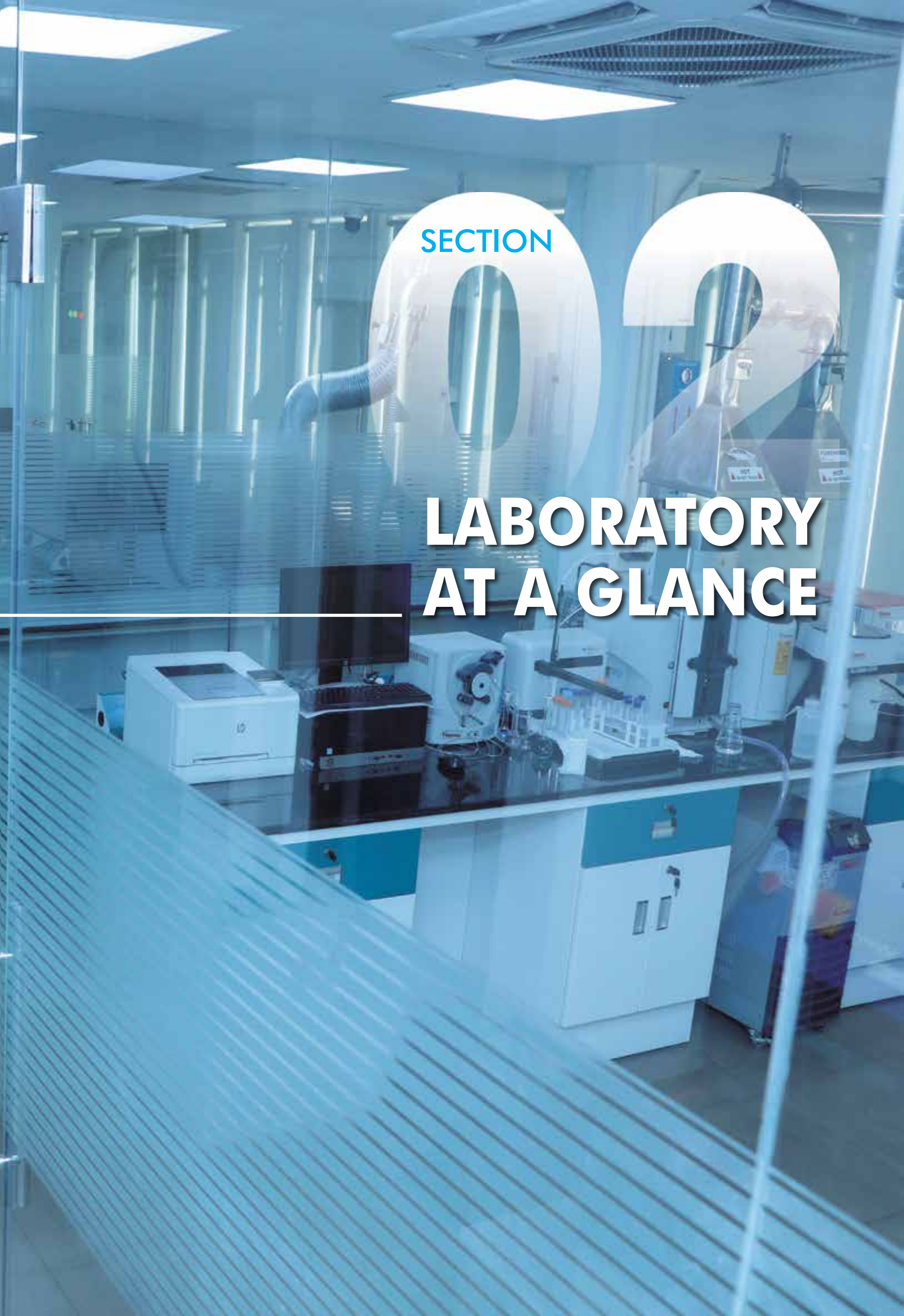
Jayashree Phase
Section Officer

Smt Jayashree R. Phase holds B.Com. degree from Mumbai University and has put in 36 years of dedicated service in various departments of BIS. During her service, she worked in Admin, Accounts , Certification , WRL & ERL. She has played an important role in managing the A&F functions of ERL.

ORGANISATIONAL STRUCTURE



SL No.	Employee No.	Name of the Employee	Designation
1	062294	Subhadip Basu	Scientist-F & Head
2	065065	Manojit Mondal	Scientist-D
3	056030	K. S Rao	Scientist-C
4	067491	Shantanaba Majumder	Scientist-C
5	0569850	Abhinav Kumar Singh	Scientist-B
6	069680	Abhijit Singh	Scientist-B
7	070386	Tarique Sajjad	Scientist-B
8	071074	Ankit Bhumla	Scientist-B
9	061190	Shyamal Iswar	Personal Secretary
10	058483	Sudhanshu Kr. Dey	Laboratory Officer
11	066711	Bhabotosh Biswas	Laboratory Officer
12	066583	T. K. Kundu	Laboratory Officer
13	066737	S. S. Ghosal	Laboratory Officer
14	066753	Avijit Paul	Laboratory Officer
15	066788	Ranjan Das	Laboratory Officer
16	066745	Shampa Ghosh	Laboratory Officer
17	066800	Ranita Mukherjee	Laboratory Officer
18	066818	Ankhi Chakraborty	Laboratory Officer
19	067300	Devendra Prasad	Laboratory Officer
20	056189	Jayashree Phase	Section Officer
21	066761	Ramesh Naidu Poluparthi	Technical Assistant
22	067326	Shalinee	Technical Assistant
23	068730	Biswajit Gope	Technical Assistant
24	068501	Bigya Ranjan Pradhan	Technical Assistant
25	068560	Ayub Alam	Technical Assistant
26	068543	Binit Vinayak	Technical Assistant
27	067261	Nirbhay Ranjan	Technical Assistant
28	071722	Sanjeev Marandi	Technical Assistant
29	068535	Rupesh Kumar Verma	Technical Assistant
30	06859	Sonali Goswami	Technical Assistant
31	072061	Soumilee Nandy	Technical Assistant
32	072099	Mampee Mukherjee	Technical Assistant
33	072214	Pronoy Biswas	Technical Assistant
34	071994	Pritam Ghosh	Technical Assistant
35	068641	Sweeti kumari	Technical Assistant
35	068446	Aloka Kumar Sahoo	Master Technician
36	068411	Bishnujyoti Mishra	Master Technician
37	071820	Sourabh Patel	Senior Technician
38	030473	Sumati Biswas	MTS
39	031135	Subrata Majumder	MTS



SECTION

02

LABORATORY AT A GLANCE

Overview of Lab

For more than seven decades now, Eastern Regional Laboratory (ERL) has stood at the forefront of testing of Metals, Jute Bags & Building Materials, consistently pushing the limits of knowledge and making pivotal contributions to the operation of Conformity Assessment Scheme of BIS. Since its establishment in 1968, the lab has transformed from a small team into a renowned testing lab, known for its state-of-the-art technologies, collaborative culture, and meaningful contribution towards Standardization of Testing methodologies. Over the years, it has played a key role in influencing industry practices and shaping public policy.

Major Milestones :

Over the past 50 years, ERL has achieved numerous milestones, including :

- **1968** Established at Chowringhee Approach to support the region's tea-packaging and steel industries
- **1971** As the lab expanded rapidly, it was relocated to Lower Rowdon street
- **1981** With growing demand for testing a wider variety of products, both ERL and ERO moved to the present Main building at Kankurgachi and was the only BIS lab for testing of Jute bags
- **1992** To accommodate its continued success and the need for additional facilities, ERL was given its own dedicated space, at the present Annex building
- **2018** To assist the Conformity Assessment Scheme specially for PDW Manufacturers, ERL started testing of packaged waters as per IS 14543 & IS 13428.
- **2019** In response to increasing demand from the Packaged Drinking Water (PDW) industry and Jewellers, a Microbiology section and Referral Assay Laboratory (RAL) were made functional. ERL became the third Referral Assay Lab in the country.
- **2021** Laboratory started operating from two locations: the former ERO, now known as the Main building, and the ERL, now referred to as the Annex building.
- **2022** The advanced instrumentation Laboratory housing equipment like ICP-MS, IC, FTIR, LCMSMS & GCMSMS was made operational.
- **2023** The footwar testing was made operational for 5 IS as givenin various Footwear related QCOs.

These milestones reflect the laboratory's ongoing commitment to tackling the country's most pressing challenges towards implementing the quality eco-system.

Pursuing Excellence and Growth

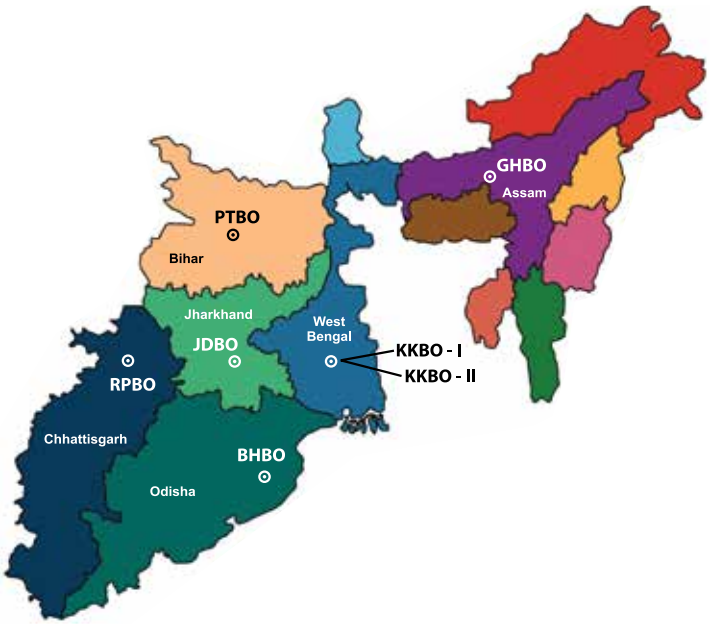
At the core of ERL's enduring success is its commitment to excellence. Over the decades, the lab has adapted to the evolving landscape of quality control & testing by investing in cutting-edge equipment, embracing emerging technologies, and attracting top scientific talent. Recent advancements include the introduction of automation, which has streamlined workflows, increased accuracy, and enhanced the overall quality of testing infrastructure of BIS.

The lab has also placed a strong emphasis on training the future generation in the field of standardisation & testing. Through its well-established internship programs and collaborations with academic institutions, ERL has helped to cultivate future leaders in science.

Collaborations & Growth

Geographical presence & Mapped BOs :

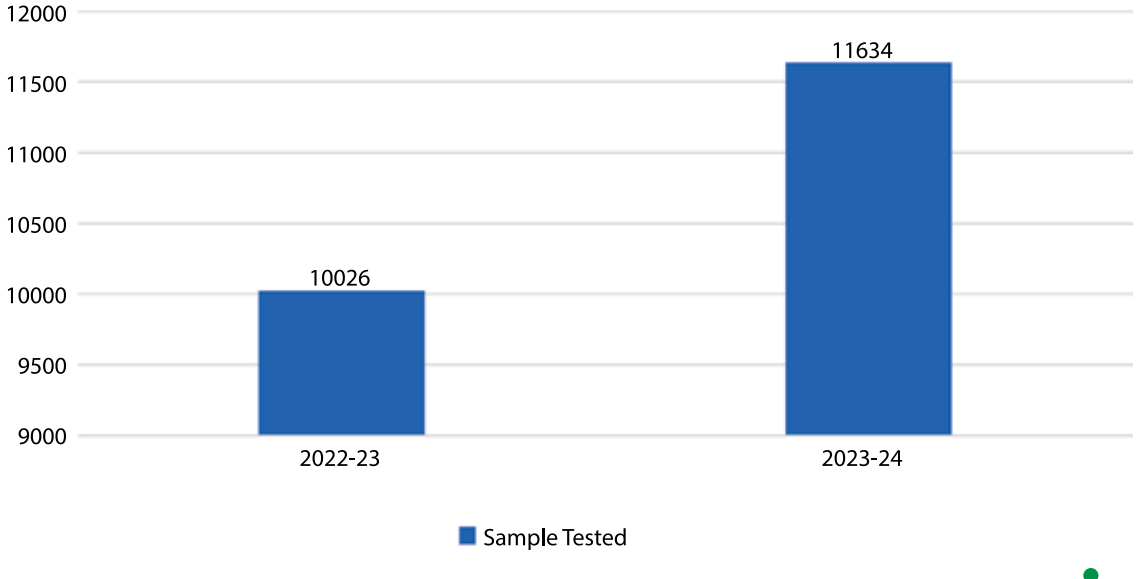
ERL is strategically located in Kolkata, serving as a key hub for testing and certification in the eastern region of India. Its geographical presence enables it to effectively cater to a diverse range of industries, including Steel, Cement, and Packaged Drinking Water, among others. This strategic location enhances BIS's ability to promote safety and quality across various sectors in the country with emphasis to Eastern and North-Eastern India.

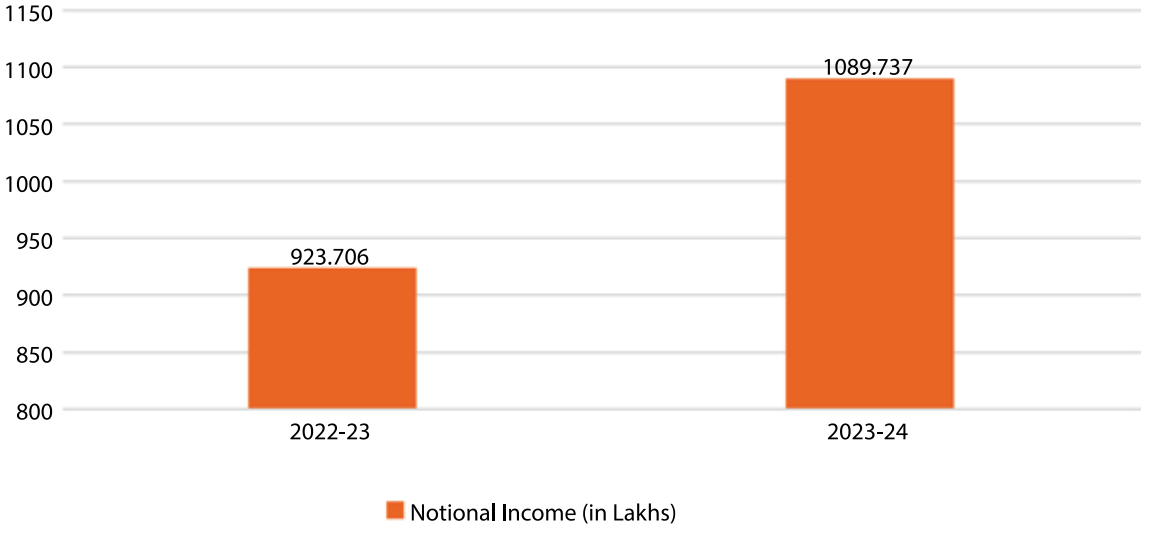


ERL serves as a regional hub for conducting essential tests required under BIS's conformity assessment schemes, thereby facilitating timely and efficient monitoring of for local manufacturers. This collaborative framework between ERL and the Branch offices strengthens the overall quality assurance process, ensuring that products meet the necessary safety and quality standards across the region.

Growth Story

In the fiscal year 2023-24, ERL achieved significant operational and financial milestones, reflecting impressive growth compared to the previous years. The number of test reports issued increased from **10,026 in 2022-23** to **11,634 in 2023-24,** an **11.5%** rise in productivity. Correspondingly, the Notional Income surged from **₹923.706 lakhs** to **₹1,089.737 lakhs (9.89%** increase**),** underscoring a strong financial performance.





ERL has experienced this enviable growth due to its strong association with the branch offices especially those in the region, 55-60% samples being received by ERL pertain to those drawn by the seven BOs in the region. The creation of new facilities and augmentation of the existing capabilities coupled with modernisation of facilities has been a major reason for this growth.

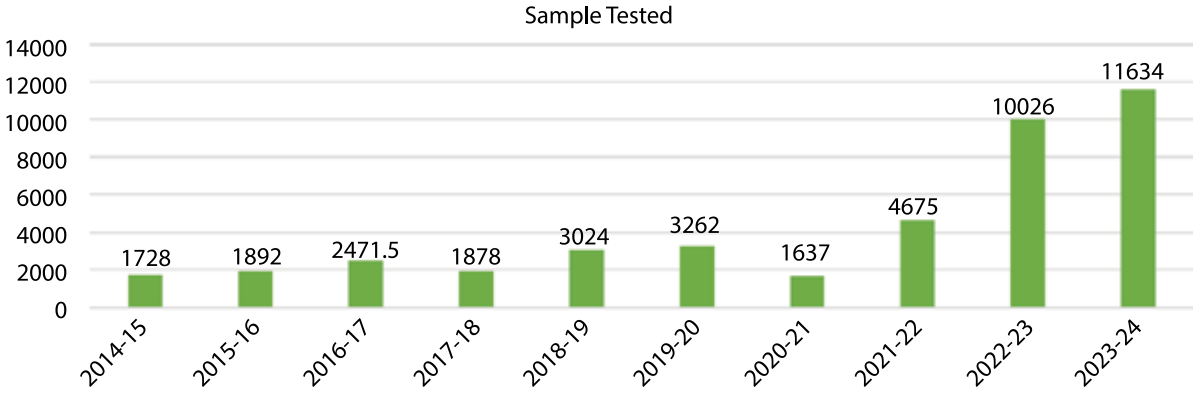
SECTION

03

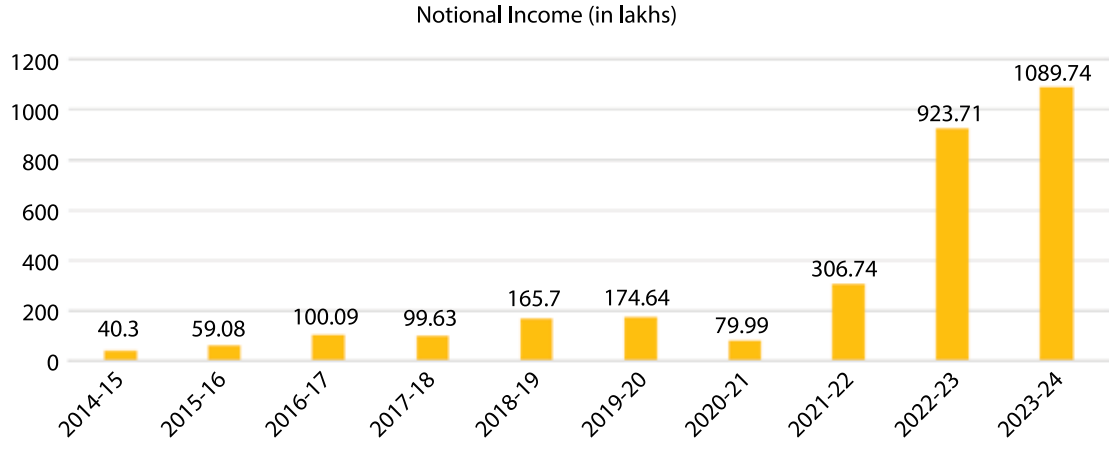
OPERATIONAL & FINANCIAL HIGHLIGHTS

Decade's Journey

ERL has experienced a remarkable transformation over the past decade, reflecting its commitment to enhancing testing capacity and service delivery. In the fiscal year 2014-15, the lab issued just 1728 test reports, whereas in 2023-24, this figure soared to an impressive 11,634 reports (a significant 6.7 fold increase). This manifold increase in testing capacity highlights ERL's continuous efforts to improve its facilities, streamline operations, and respond to the growing demands of various industries supported by funds from Headquarters for effective modernisation of its testing capabilities. Similarly, the output of the Referral Assay Lab has surged more than 17-fold, rising from mere 410 reports in 2019-20 (the year of its establishment) to 7,358 in 2023-24.

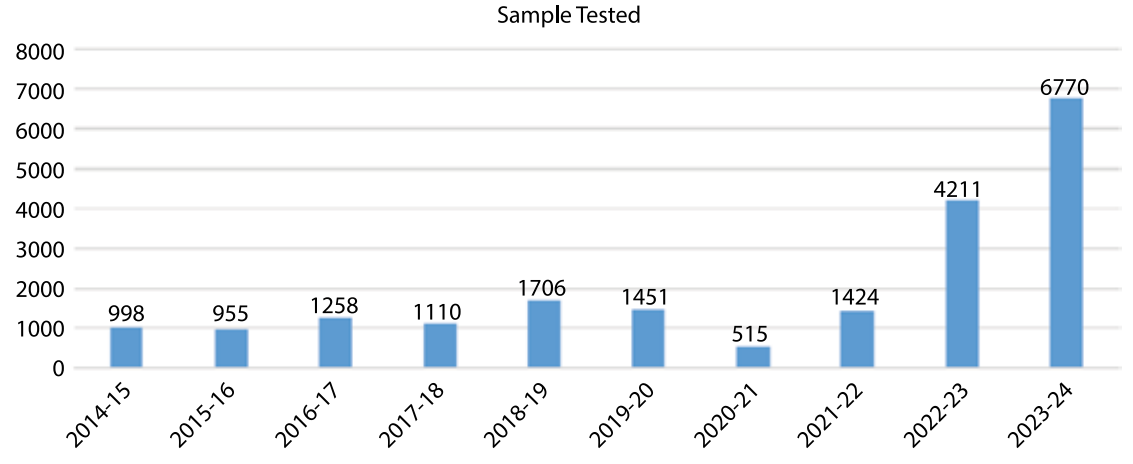


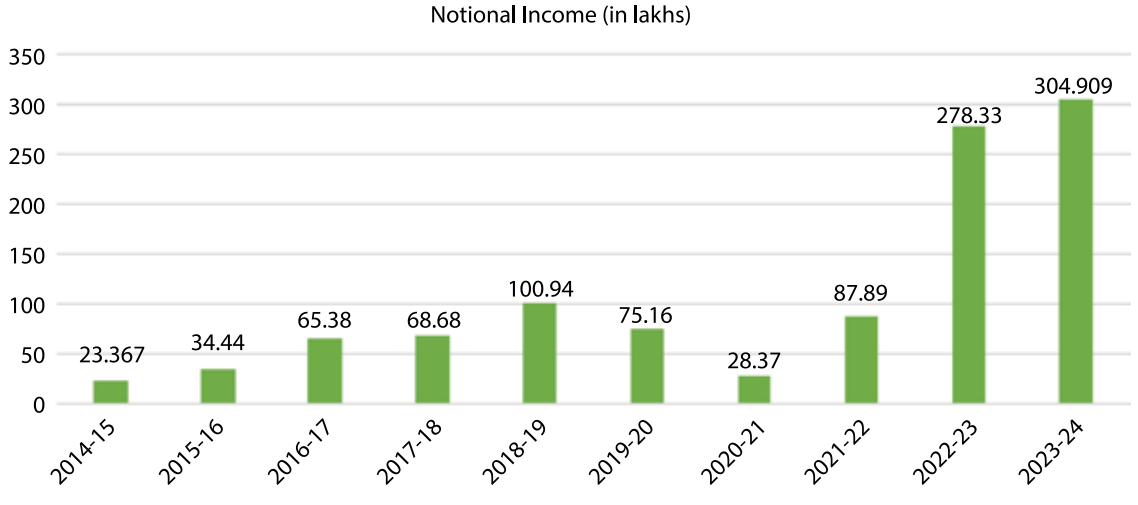
Over the past decade, ERL has witnessed a remarkable journey in terms of Notional Income generated from testing charges. In the fiscal year 2014-15, the lab reported a modest notional income of ₹40.30 lakhs. By 2023-24, this figure skyrocketed to an impressive ₹1,089.74 lakhs (a 27 fold increase), reflecting a huge increase in saving of outflow of revenue from BIS. This manyfold growth not only underscores ERL's expanding role in the testing landscape but also highlights its successful initiatives in enhancing service offerings and operational efficiency.



Mechanical Section

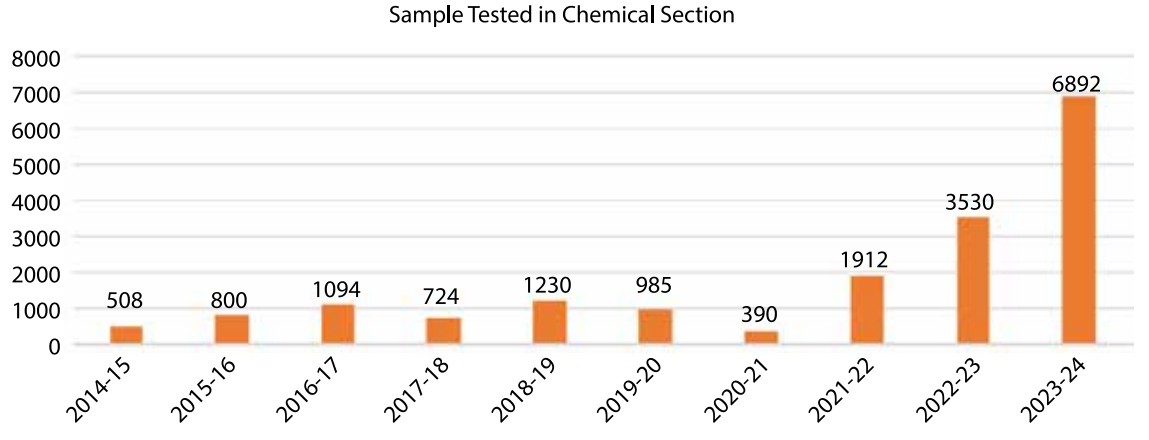
The Mechanical Section of ERL has significantly advanced its testing capabilities over the past decade, offering a wide array of testing facilities for materials such as steel, cement, plastics, toys, plywood, and LPG cylinders. In the fiscal year 2023-24, the section achieved a total output of 6,770 test reports from a modest 998 test reports in 2014-15 (a 6.8 fold increase) and generating a notional income of ₹304.909 lakhs from a figure of ₹23.367 lakhs in 2014-15 (a 13 fold increase).

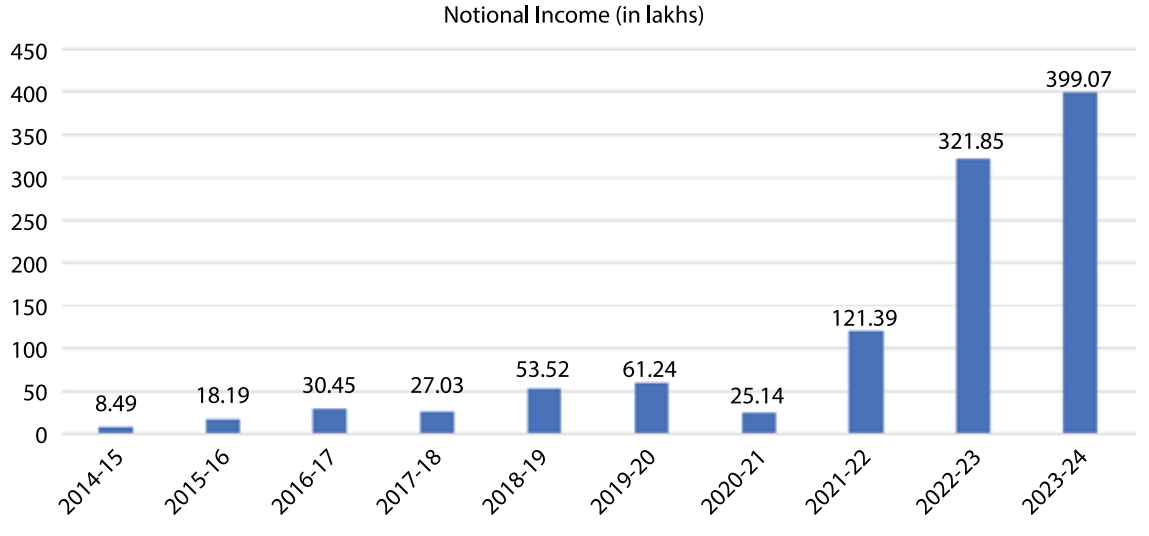




Chemical Section

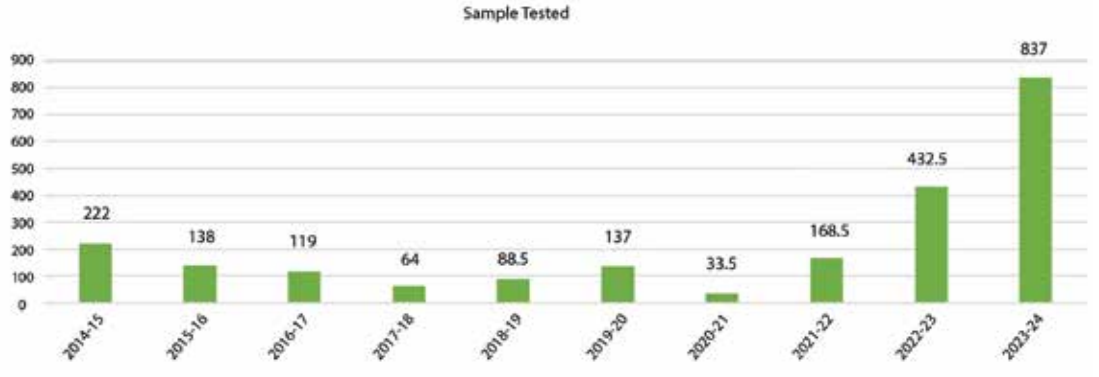
The Chemical Section has made remarkable strides in its testing capabilities over the past decade, particularly in the areas of testing of Packaged Drinking Water (PDW), Steel, Cement, Plastics, and Toys. In the fiscal year 2023-24, the section achieved a total output of 6,892 test reoprts, generating a notional income of ₹399.07 lakhs, a significant increase from just 588 test reports (a 13 fold increase) and a notional income of ₹8.49 lakhs in 2014-15 (a 47 fold increase). This impressive growth can be attributed to the transition from conventional testing methods to advanced instrumentation techniques, which have enhanced efficiency and accuracy.

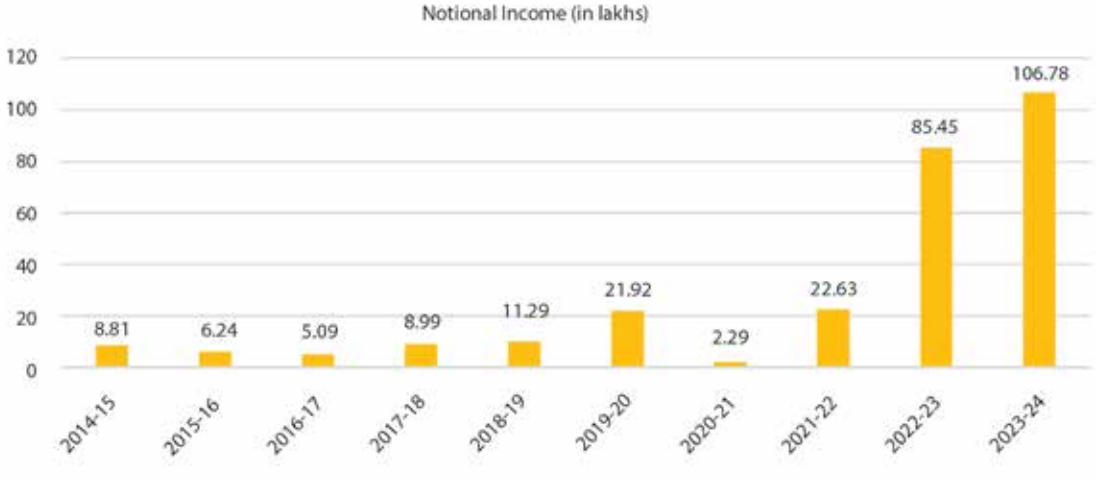




Electrical Section

The Electrical Section has demonstrated significant growth in its testing capabilities over the past decade, focusing on essential products such as Cables, Sockets, and Electrical Toys. In the fiscal year 2014-15, the section reported a total output of 222 test reports and a notional income of ₹8.81 lakhs. By 2023-24, these figures surged to 837 test eports (a 3.7 fold increase) and a notional income of ₹106.78 lakhs (a staggering 12 fold increase). This impressive increase underscores the vital role being played by Electrical Section in meeting the demands of the electrical sector.

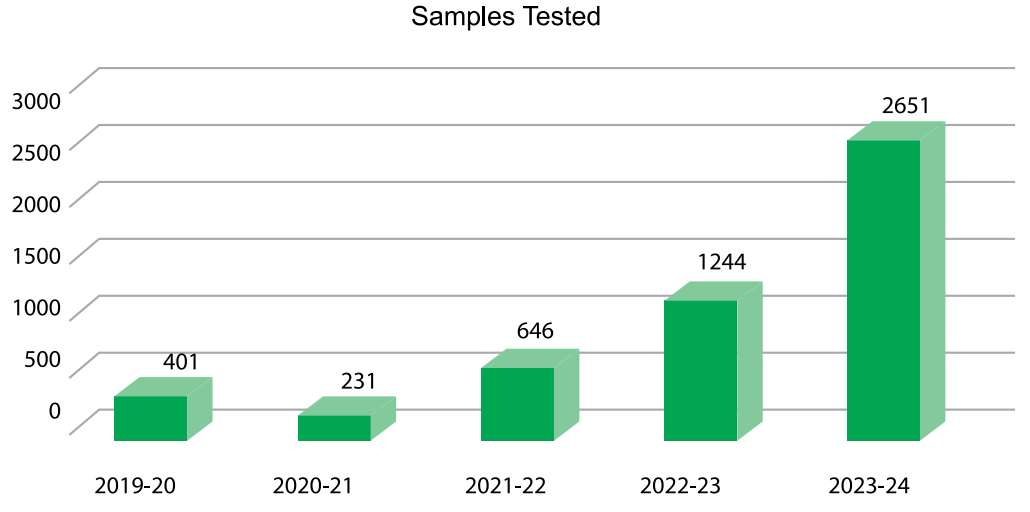


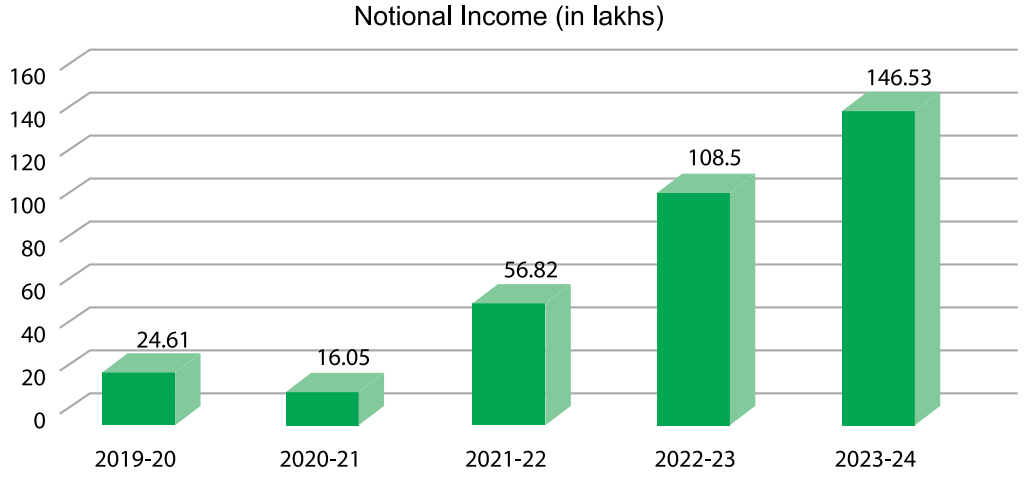


Microbiology Section

The Microbiology Section was established in 2019. The section originally focused on testing microbiological parameters in Packaged Drinking Water (IS 14543) samples. In response to rising public health concerns regarding food safety, the lab has expanded its testing capabilities to include products like Dairy products and Disinfectant fluids, catering to the emerging needs of various BOs.

Since its inception, the section has seen a remarkable increase in testing output, rising from 401 samples in 2019-20 to 2,651 samples in 2023-24 (a 6 fold increase). This significant growth is paralleled by an increase in notional income, which soared from ₹24.61 lakhs in 2019-20 to ₹146.53 lakhs in 2023-24 (a 6 fold increase).





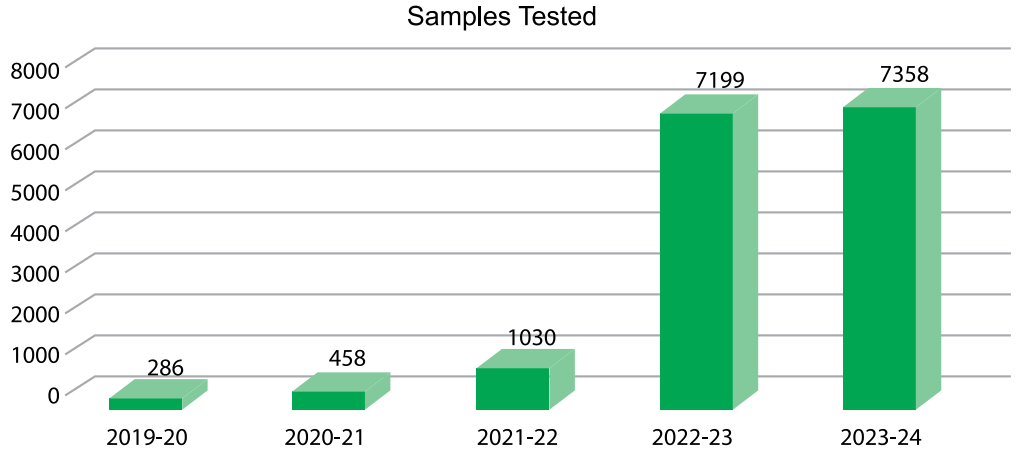
MICROBIOLOGY SECTION

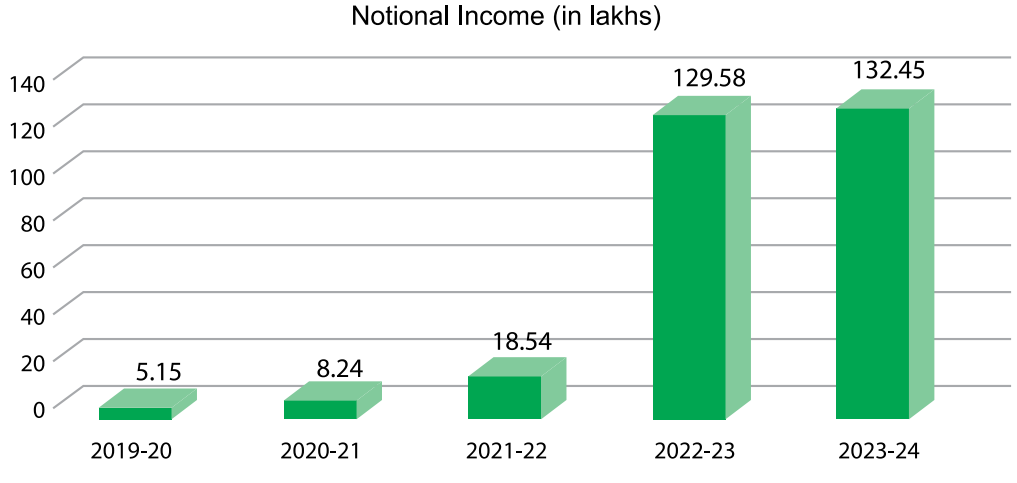
RAL Section

The Referral Assay Laboratory (RAL) was established to support the Hallmarking scheme and has since developed significant expertise in testing of yellow gold jewellery drawn by Branch Offices as part of their market surveillance initiative.

Since its inception in 2019, the lab's testing output has seen remarkable growth, rising from 286 samples in 2019-20 to an impressive 7,358 samples in 2023-24 (a 25 fold increase). This surge in activity corresponds with a substantial increase in notional income, which has climbed from ₹5.15 lakhs in 2019-20 to ₹132.45 lakhs in 2023-24 (a 25 fold increase).

This impressive performance has enabled ERL to recover the costs associated with establishing the lab within just 5 years of operation. The increase in output highlights ERL's critical role in the hallmarking scheme and its importance in enhancing consumer trust in the Eastern region.





SECTION

04

BREAKTHROUGHS & BENCHMARKS

1. Creation of Test Facilities :

As a part of continued support to the Conformity Assessment Scheme, ERL has been creating new test facilities for various Indian Standards (ISs) that are being brought under certification, especially or those being brought under the ambit of mandatory certification through various Quality Control Orders (QCOs). In total, ERL has created complete testing facilities for 9 ISs and partial testing facilities for 37 ISs as detailed below:

A. Complete Test facilities created in 2023-24

Sl. No.	IS No.	Product Name	Testing Facility (Complete / Partial)
1	5676:1995	Moulded Solid Rubber Soles and Heels	Complete
2	13893:1994	Polyurethane Soles-Semi Rigid	Complete
3	7129: 2021	Potassium Carbonate, Anhydrous	Complete
4	11652: 2017	Textiles — High Density Polyethylene (HDPE)/ Polypropylene (PP) Woven Sacks for Packaging of 50 kg Cement	Complete
5	18161:2013	Textiles Light weight jute sacking bags for packing 50 kg mustard seed niger seed and ragi Specification	Complete
6	18162:2013	Textiles Light weight jute sacking bags for packing 50 kg pulses and soyabean Specification	Complete
7	18163:2013	Textiles Light weight jute sacking bags for packing 35 kg groundnut with shell Specification	Complete
8	18267:2013	Food Serving Utensils Made From Agri By-Products-Specifications	Complete
9	12679:2021	Gypsum	Complete

B. Partial Test facilities created in 2023-24

Sl. No.	IS No.	Product Name	Testing Facility (Complete / Partial)
1	3735:1996	Canvas Shoes, Rubber Sole	Partial
2	3736: 1995	Canvas boots, rubber sole	Partial
3	11226:1993	Leather safety footwear having direct moulded rubber sole	Partial
4	14544: 1998	leather safety and protective footwear with direct moulded polyvinyl chloride PVC sole	Partial
5	17012:2018	High ankle tactical boots with pu - Rubber sole	Partial
6	17037:2018	Anti riot shoes	Partial
7	17043:2018	Derby shoes	Partial
8	5557 Part- 2: 2018	All rubber gum boots and ankle boots: Part 2 occupational purposes	Partial
9	6664: 1992	Rubber microcellular sheets for soles and heels	Partial
10	6719:1972	Solid PVC Soles And Heel	Partial
11	12254: 2021	Polyvinylchloride PVC Industrial Boots	Partial
12	13995: 1995	Unlined moulded rubber boots	Partial
13	16645:2018	Moulded Plastics Footwear - Lined or Unlined Polyurethane Boots for General Industrial use	Partial
14	16994:2018	Footwear for Men and Women for Municipal Scavenging Work	Partial

Sl. No.	IS No.	Product Name	Testing Facility (Complete / Partial)
15	14625:2015	Plastic feeding bottles	Partial
16	12089:1987	Ganulated Slag for the manufacture of Portland Slag Cement	Partial
17	9755: 2021	Textiles — High Density Polyethylene (HDPE) / Polypropylene (PP) Woven Sacks for Packaging Fertilizers	Partial
18	16709: 2017	Textiles — Polypropylene (PP) Woven, Laminated, Block Bottom Valve Sacks for Packaging of 50 kg Cement	Partial
19	16703: 2017	Textiles — High Density Polyethylene (HDPE) Polypropylene (PP) Woven Sacks for Packaging of 25 kg Polymer Materials	Partial
20	17399: 2020	Textiles — Polypropylene (PP)/ High Density Polyethylene (HDPE) Laminated Woven Sacks for Mail Sorting, Storage, Transport and Distribution	Partial
21	3564:1995	Hydraulically Regulated Door Closers	Partial
22	4992:1975	Door handles for mortice lock (vertical type)	Partial
23	6343:1982	Door closers (pneumatically regulated) for light doors weighing up to 40 kg	Partial
24	1019:1974	Rim Latches	Partial
25	14912:2001	Door closers, concealed type (hydraulically regulated)	Partial
26	11890: 1987	High purity primary aluminum ingot for remelting for special applications	Partial
27	6754:1972	Specification for aluminium alloy ingots for bearing	Partial
28	2590: 1987	Primary aluminium ingots for remelting for general engineering purpose	Partial
29	1989(Pt-1):1986	Specification for leather safety boots and shoes: Part 1 for miners	Partial
30	1989(Pt-2):1986	Specification for leather safety boots and shoes: Part 2 for heavy metal industries	Partial
31	3976: 2018	Safety Rubber Canvas Boots for Miners	Partial
32	15298(Pt -2):2016	Personal protective equipment: Part 2 safety footwear	Partial
33	15298(Pt -3):2019	Personal protective equipment: Part 3 protective footwear	Partial
34	15298(Pt -4):2017	Personal protective equipment: Part 4 occupational footwear	Partial
35	18482:2023	Textiles - Sandwich extrusion laminated polypropylene PP woven sacks for packaging bulk commodities - Specification	Partial
36	18531:2023	Textiles Jute and polypropylene blended bags for packing 50 kg food grains Specification	Partial
37	10116:2015	Boric Acid	Partial

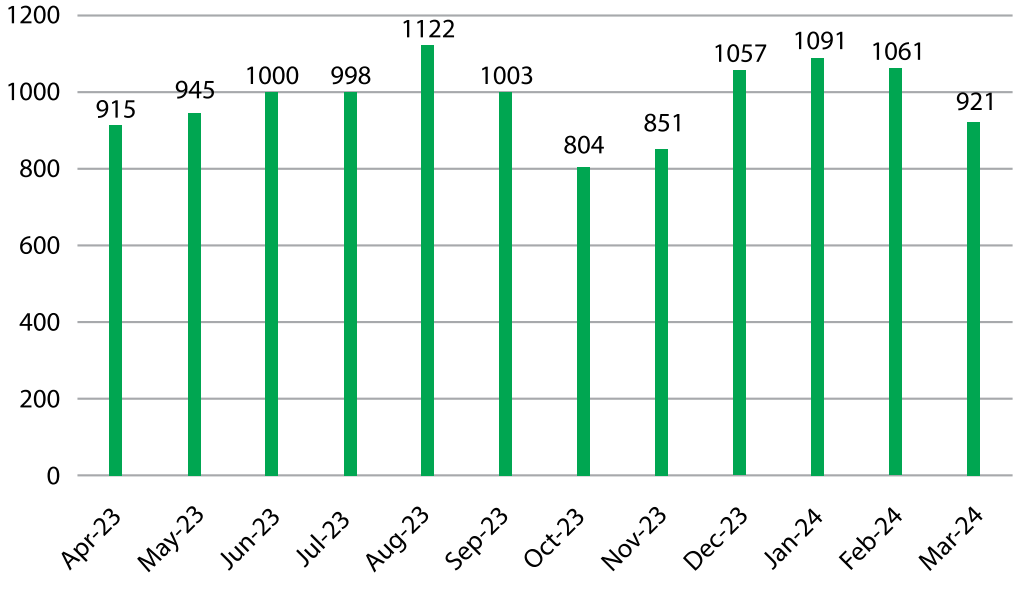
Sl. No.	IS No.	Product Name	Testing Facility (Complete / Partial)
38	6623 : 2004	High Strength Structural Nuts	Partial C/S
39	10238 : 2001	Fasteners - Threaded steel fasteners - Step bolts for steel structures - Specification (First Revision)	
40	1363 (Part 2) : 2023	Hexagon head bolts, screws and nuts of product grade C Part 2 Hexagon head screws (Size range M5 to M64) (sixth revision)	
41	1363 (Part 3) : 2018	Hexagon Head Bolts, Screws and Nuts of Product Grade Part 3 (Style 1) Hexagon Nuts (Size Range M 5 to M 64) (Fifth Revision)	
42	1363 (Part 1) : 2023	Hexagon head bolts, screws and nuts of product grade C Part 1 Hexagon head bolts (Size range M5 to M64) (sixth revision)	
43	5557:2004	Industrial and Protective rubber knee and ankle boots	Partial
44	5676:1995	Moulded solid rubber soles and heels	
45	13893:1994	Polyurethane soles, semirigid	

With the issuance of new Quality Control Orders (QCOs) by various Line Ministries and the subsequent surge in testing requirements under the BIS Conformity Assessment Scheme, ERL has emerged as a critical facility providing specialized testing infrastructure, especially for Building Materials, Metals and Footwear products. As a designated Centre of Excellence for steel, cement, and allied materials, and Nodal Laboratory for Footwear, ERL has expanded its technical capabilities by establishing sophisticated testing setups for products such as nuts, bolts, fasteners.

These facilities enable ERL to meet the stringent testing protocols mandated by QCOs, ensuring a robust framework for assessing and certifying product quality and regulatory compliance.

2. Breaking The Barriers :

ERL achieved significant milestone in August 2023, generating over 1,100+ test reports—the highest ever by any Regional or Branch lab. This accomplishment was made possible through the extensive modernization and automation of testing processes. The adoption of automated methods has significantly reduced testing time, allowing for increased output without requiring additional manpower.



ERL could also achieve the feat of issuing 11000+ test reports in a financial year, the first in its history. This was possible with all individual sections recording their highest figures of their existence. The test reports

issued by each section are as folows:

Sl. No.	Section	Test Report
1	Chemical	5573
2	Mechanical	6298
3	Electrical	837
4	Microbiological	2692

Even RAL achieved its best figure surpassing the previous highest of 7199 achieved in 2022-23 to a record its highest figure till date of 7358 in 2023-24.

ERL has also contributed valuable inputs to the standards department, advocating for the inclusion of instrumental test methods alongside conventional testing. ERL has provided a large number of comments on various Indian Standards which have been sent to the Technical departments for the consideration of Technical Committees. the comments sent in 2023-24 was 13 and the breakup is as detailed below:

Sl. No.	Section	Test Report
1	Chemical	5
2	Mechanical	4
3	Microbiological	4

3. Dissemination of Knowledge:

ERL has been the epicentre of support to Industries and Labs by raising awareness through targeted workshops. ERL has ben instrumental in adoption of innovative techniques aimed at improving testing efficiency, accuracy, and automation. As part dissemination of such information, a one-day Workshop on "IS 3025: Part 75- Methods of Sampling and Test for Water & Wastewater" was organised, which covered the testing of Anions using Ion Chromatography. The primary goal of this workshop held on 20th July 2023, was to familiarize personnel from BIS laboratories with cutting-edge testing methods that reduce human involvement, shorten testing times, and incorporate automation for superior accuracy and output.

Workshop on Methods of Sampling and Test for Water & Wastewater

Practical demonstration of Footwear testing

Workshop on Toy Testing

Further, ERL has been designated as nodal lab for creation of Footwear test facility along with CL. In order to provide a holistic idea on Footwear Standards, testing methodlogy and SIT, ERL organized a one-day "Workshop on Footwear testing" for the Industry & BIS officials on 14th July 2023. ERL also organized a one-day workshop on Toy testing for officers working in certification and laboratories under the Eastern Region. The workshop aimed to enhance the understanding of toy testing requirements and foster knowledge sharing between officers from Branch Offices (BOs) and laboratories.

The program provided participants with a holistic perspective on the product, focusing on modern test facilities and methodologies available in the labs. By facilitating interaction between BO and lab officers, the workshop promoted collaboration and improved the overall effectiveness of toy testing and certification processes. The initiative was beneficial in equipping officers with practical insights and encouraging more such programs in the future.

4. Modernization of Infrastructure :

In addition to the advancements in testing capabilities, the Building Maintenance Section has embarked on an extensive renovation project to upgrade ERL's infrastructure. The ongoing renovation of both the Main and Annex Buildings are set to transform the physical environment of the laboratory, creating a more efficient and modern workspace for its staff. Among the completed projects, the renovation of the conference room stands out as a major milestone. The renovated conference room is equipped with acoustic panelling and an advanced digital conferencing system, the new conference room is now suited for high-level discussions, training sessions, and technical meetings, providing a professional and high-tech setting for internal and external engagements. In 2023-24, 39 programs have been organised in the Conference Room.

Old Annex Building

New Annex building

5. Ensuring Quality :

Inter Laboratory Comparisons (ILC) and Proficiency Testing (PT) programs are crucial for ensuring the accuracy and reliability of results of any laboratory and a means to evaluate their performance, helping to identify any discrepancies or inconsistencies in testing methods and results. ERL has participated in 18 Inter Laboratory Comparison (ILC) and 6 no of Proficiency Testing (PT) programs in 2023-24 covering more than 50 parameters. The details are as follows :

ILC DETAILS						
S. No	**Nodal Lab**	**Discipline**	**Product Name**	**IS No/Test Method**	**Parameter**	**Performance**
1.	Eastern Regional Laboratory	Electrical	Aluminium Conductors	IS 7098 Pt 1: 1988	Average Thickness of outer sheath	1.32
2.	Bombay Assay Company	RAL	Gold Jewellery / artefacts	IS 1418:2009	Fineness of Gold (916 ppt)	1.0021
3.	Bombay Assay Company	RAL	Gold Jewellery / artefacts	IS 1418:2009	Fineness of Gold (750 ppt)	0.4036

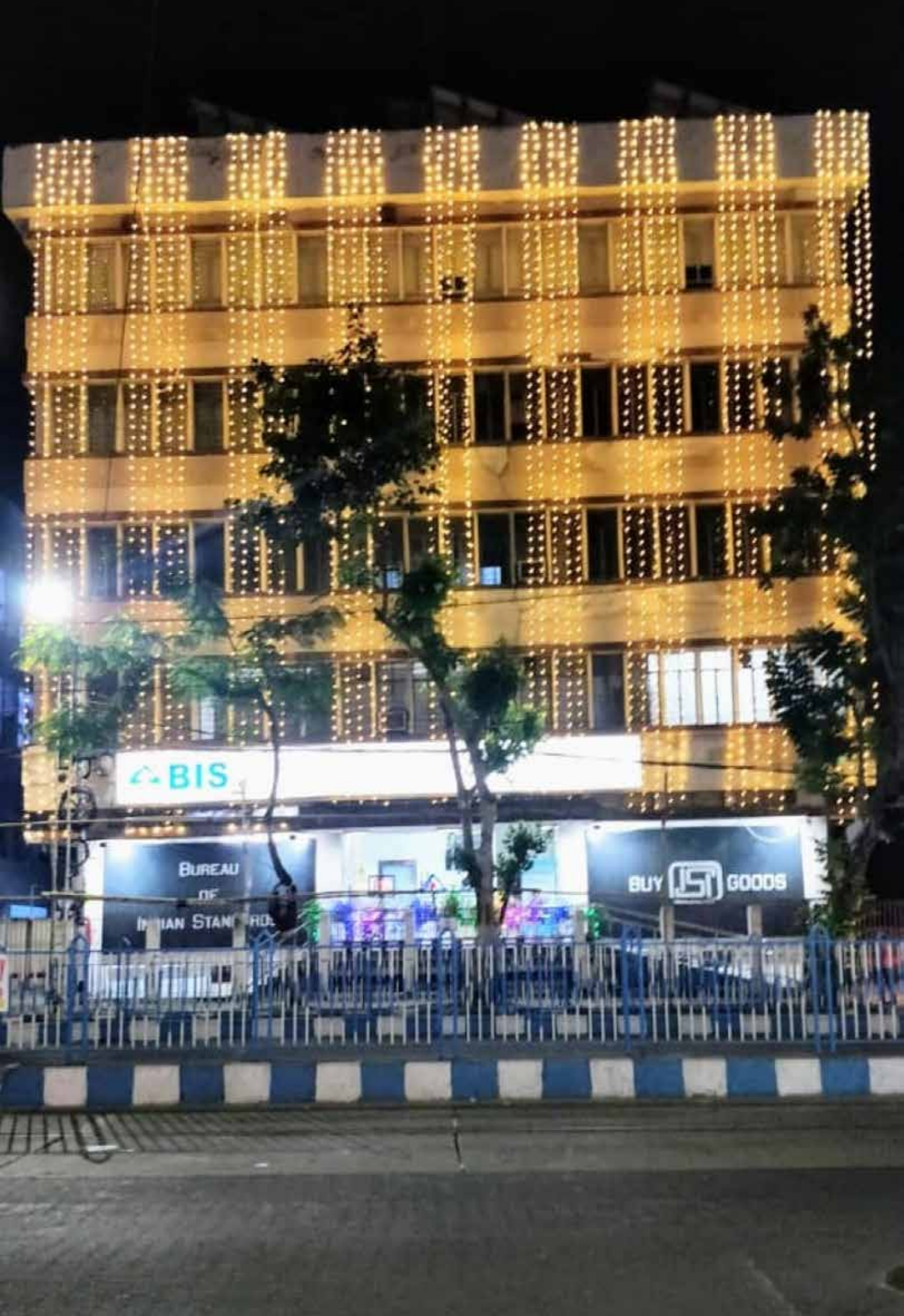
ILC DETAILS						
S. No	Nodal Lab	Discipline	Product Name	IS No/Test Method	Parameter	Performance
4.	Central Laboratory	Mechanical	Steel	IS 1586:Pt 1:2018	Hardness (HRC)	-0.44
5.	Guwahati Branch Laboratory (GBL)	Mechanical	Steel	IS 1786:2008	i) Nominal Mass ii) Mean Area of rib/unit length	i) 0.37523 ii) 0.28242
6.	Eastern Regional Laboratory	Electrical	Polyvinyl chloride insulated unsheathed and sheathed cables/cords	IS 694:2010	HVAC and HVDC	Result awaited
7.	Eastern Regional Laboratory (ERL)	Electrical	Electrical TOY	IS 15644:2006	Clearence and Creepage Distance	Result awaited
8.	Eastern Regional Laboratory (ERL)	Mechanical	Pressure Cooker	IS 2347:2023	Capacity	Result awaited
9.	Eastern Regional Laboratory (ERL)	Mechanical	Mechanical TOY	IS 9873 (Pt 1):2019	Kinetic Energy	Result awaited
10.	NTH, Ghaziabad	Mechanical & Chemical	HDPE Pipe	IS 2530, IS 4984, IS 7328	i) CBC ii) Melt flow index iii) Thickness iv) Elongation	i) 1.43 ii) -0.71 iii) Min/Max – 1.54/1.47 iv)0.33
11.	NTH, Ghaziabad	Mechanical & Chemical	PVC Pipe	IS 12235:2004 & IS 4985:2021	i) Density ii) Vicat Softening iv) Ash Content	i) -0.17 ii) -1.00 iii) 0.45
12.	Northern Regional Laboratory (NRL)	Chemical	Biscuit	IS 1011:2002	i) Moisture ii)Acid Insoluble Ash iii) Acidity of Extracted Fat	i)1.64 ii) 0.22 iii) 1.76
13.	Western Regional Laboratory (WRL)	Electrical	Al Conductor	IS 398 Pt 2:1996	i) Dia of Aluminium Wire ii) Dia of Steel Wire	i) 0.71 ii) -1.69
14.	Western Regional Laboratory (WRL)	Electrical	Armour	IS 3975:1999	Resistivity of Armour wire as per Cl. 8.4.1	0.21
15.	Western Regional Laboratory (WRL)	Electrical	XLPE insulated cable	IS 1554 Pt 1:1988, IS 8130:1984 & IS 7098 (P-1):1988	i) Insulation thickness ii) Conductor resistance iii) Tensile Test of insulation	i) Max/Min-0.53/-1.21 ii) -0.29 iii) -0.44

ILC DETAILS						
S. No	Nodal Lab	Discipline	Product Name	IS No/Test Method	Parameter	Performance
16.	Western Regional Laboratory (WRL)	Electrical	Switch	IS 3854:1997	Conductor space as per Cl. 12.2.1	1.07
17.	Western Regional Laboratory (WRL)	Electrical	Winding wires	IS 7098 Pt 1 & IS 8783 Pt 4	i) Annealing test ii)Conductor resistance test	i) 1.98 ii) 1.98
18.	Central Laboratory (CL)	Mechanical	Hardness test pieces	IS 1500 Pt 1:2019	Brinnel Hardness (HBW)	-1.45

ERL participated successfully in a number of PT programs organised by various PT providers, the details of which are given below :

PT DETAILS						
S. No	PT Provider	Discipline	Product Name	IS No/Test Method	Parameter	Performance (Z- Score)
1	GLOBAL PT PROVIDER	Chemical	Ordinary Portland Cement	IS 4032:1985	i) Al2O3, % ii) CaO, % iii) Fe2O3, % iv) Cl, % v) LOI, % vi) MgO, % vii) SiO2, viii) SO3, ix) IR	i) 4.73 ii) -1.42 iii) 0.24 iv) 0.83 v) 0.11 vi) -4.12 vii) -1.37 viii) 1.56 ix) -0.34
2	AASHVI PT	Chemical	PDW	IS 14543:2016	i) Alkalinity, ii) Nitrate, iii) Chloride, iv) Sulphate, v) Sodium, vi) Calcium, vii) Fluoride,	1. -0.1 2. 0.0 3. -1.2 4. 0.0 5. 0.9 6. -0.4 7. -1.1
3	GLOBAL PT PROVIDER	Mechanical	Steel	IS 1501 (Pt-1)	Vickers Hardness	-0.77
4	Envirocare Labs	Microbiology	Milk Powder	IS 5887 (Part 3), IS 5887 (Part 1), IS 14988 (Part 1)	i) Salmonella, ii) E. Coil iii) L. monocytogenes	Satisfactory
5	Envirocare Labs	Microbiology	PDW	IS 5887 Part 2, IS 15186	i) S. aureus ii) Faecal streptococci	i) Unsatisfactory ii) Satisfactory
6	Aashvi PT	RAL	Gold Jewellery / artefacts	IS 1418:2009	Fineness of Gold	1.00

The achievements underscore ERL's excellence in its testing capabilities. For alumina and S. aureus, ERL is in the process of participation in additional ILC & PT programs.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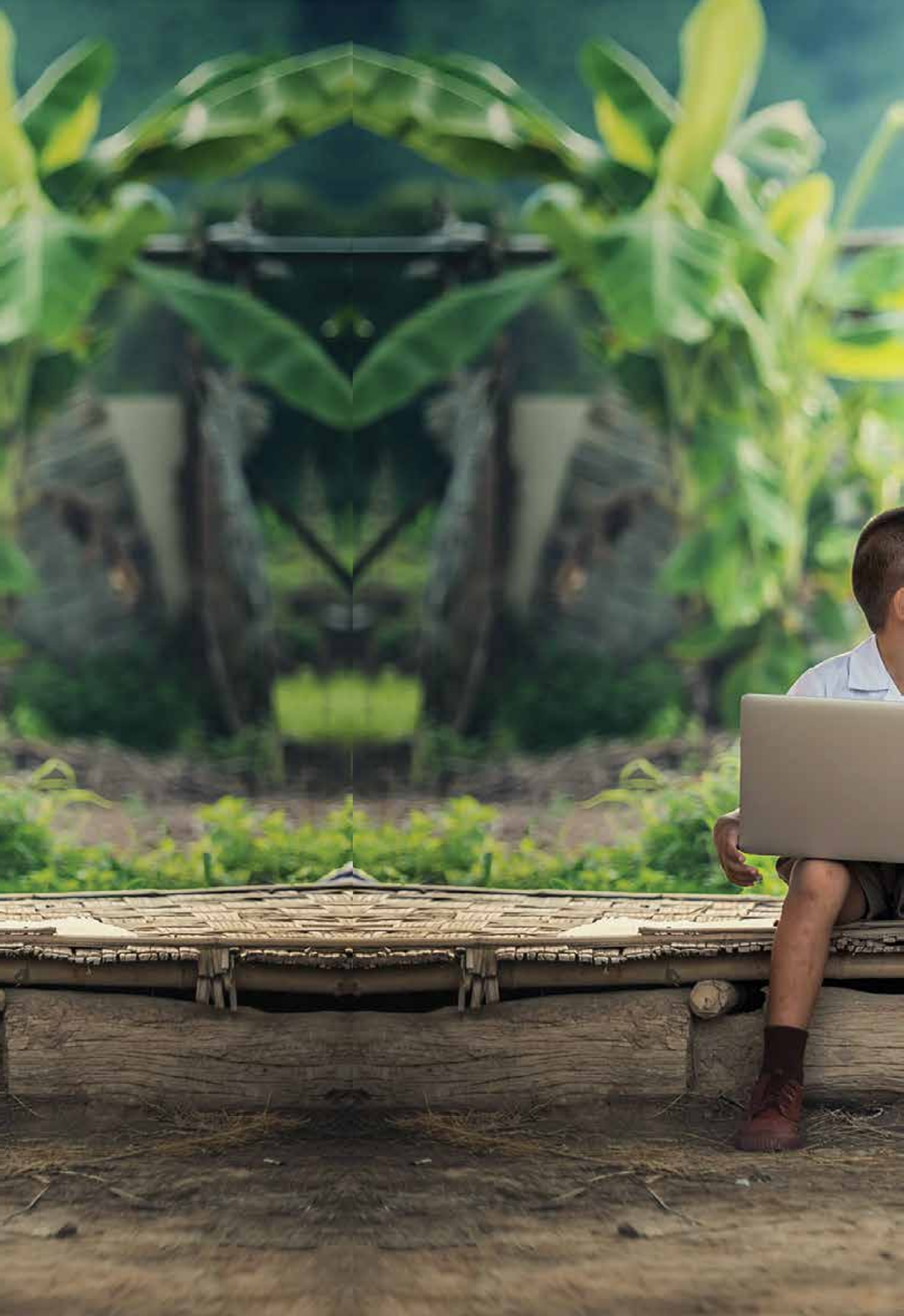


SECTION

05

TECHNOLOGICAL MILESTONES

Technological Breakthroughs

Advancement in Testing :

MECHANICAL

ERL is in the process of establishing a dedicated Footwear Testing lab, aimed at enhancing its testing capabilities for upcoming Quality Control Orders (QCOs) related to footwears. To support this initiative, state-of-the-art equipment are being procured, which will enable comprehensive testing of footwear materials for compliance with Indian standards notified through the QCOs. This expansion aligns with ERL's commitment to strengthening quality assurance and ensuring that products meet the highest safety and quality benchmarks. The new lab will play a crucial role in supporting the growing footwear industry in the country, especially eastern India.

Color Fastness due to Persipiration

Test Parameter : Resistance of fabric to fading or staining [IS: 15844 (Part 1 & 2), 3735, 3736]

Tensile Testing Machine

Test Parameter : Tensile strength, Splitting strength, sole adhesion test, etc.: IS 15298 (Part 2, 3 & 4), IS 3976, IS 5657, IS 10702, IS 6721, etc.

Lace Abrasion Tester

Test Parameter : Resistance of shoe lace to abrasion: IS 15844 (Part 1 & 2), IS 14544, IS 3976

Color Fastness to Washing

Test Parameter : Resistance of fabric to fading or staining: IS 15844 (Part 1 & 2), IS 3735, IS 3736

ELECTRICAL

The Electrical Section of the ERL has undergone significant modernization with the procurement of advanced equipment, aimed at improving its testing capabilities. This upgrade includes state-of-the-art instruments for testing cables, sockets, and other electrical products, ensuring greater precision, efficiency, and compliance with evolving BIS standards. The modernization not only boosts the lab's capacity to handle increased testing demands but also supports automation efforts.

Automatic Cable Dimension machine

Test Parameter : Thickness of cables: IS 694, IS 14255, IS 7098 (Part 1 & 2), etc.

08 chamber Ageing Oven

Test Parameter : Ageing for tensile test for insulation of cables: IS 694, IS 14255, IS 7098 (Part 1 & 2), etc.

Thermal Stability Apparatus

Test Parameter : Thermal stability of cables: IS 694, IS 1554 (Part 1 & 2), etc.

Temperature Rise Apparatus

Test Parameter : Temperature rise test for switch, socket and plugs. IS 1293 and IS 3854

CHEMICAL

The Chemical Section of Eastern Regional Laboratory (ERL) has significantly enhanced its testing capabilities through the acquisition of advanced equipment tailored to meet automation in testing. Key upgrades include Digital Electrolysis Apparatus equipped with data storage/logging functionality. This equipment is required for Copper (Cu) and Lead (Pb) estimation in copper alloy products. Additionally, Muffle Furnace with data logger for real-time temperature ramping and monitoring has been procured, enabling accurate ignition processes through more accurately controlled heating.

Muffle Furnace equipped with Data logging facility

Digital Electrolysis Apparatus

Apart from automation, the Chemical Section has expanded its testing capabilities to address new critical test parameters in variety of product categories. For example, testing for Bisphenol-A (BPA) in plastic feeding bottles, as per IS 14625:2015, is carried out using LC-MS/MS. Similarly, specific migration (of Toxic elements) in plastic containers (as per IS 15410:2003) being used for packaged drinking water, is performed with high accuracy using ICP-MS for precise contaminant analysis.

ICPMS

LCMSMS

The section has also set up dedicated footwear testing facility for **Innocuousness test** as IS 17011:2018. This facility supports the analysis of key parameters such as Phthalates, Dimethylfumarate (DMFU), and Formaldehyde using advanced instruments like LC-MS/MS, GC-MS/MS, and ICP-MS, ensuring compliance to the requirements of QCOs.

Sustainable Approaches

1. Environmental Responsibility :

ERL has integrated a range of sustainable practices into its operations, reflecting its commitment to environmental responsibility and resource efficiency. One of the key initiatives involves the use of cement particle boards that are certified as per IS 14276:2016 and meet fire rating criteria as per IS 3809:1979. These boards are manufactured using recycled wood and cement mixture, which significantly reduces the environmental impact compared to conventional materials. Furthermore, the cement particle boards emit low levels of formaldehyde as compared to wooden partitions, contributing to better indoor air quality, a critical aspect of creating a healthy and safe workspace for employees. Moreover, these boards provide excellent thermal mass properties, which help in maintaining energy efficiency and regulating temperature within the building, further advancing ERL's sustainability goals.


Internal partitions using Cement Particle Boards

2. Conservation of Water Resources :

In addition to sustainable building materials, ERL has implemented water conservation measures in its facilities. Notably, sensor-operated taps have been installed in the Annex building, a forward-thinking solution that has significantly reduced water wastage.


Sensor-operated taps

3. Conservation of Energy :

ERL has also invested in energy-efficient technologies, such as the installation of a **VRF** (Variable Refrigerant Flow) air conditioning system in the Annex building. The VRF system offers precise control over the cooling process, allowing different areas of the building to be cooled independently, based on need. This energy-efficient solution significantly reduces electricity consumption by optimizing the cooling load, further contributing to the goal of reducing its carbon footprint and promoting energy conservation in its operations.

VRF Out-door unit

VRF In-door unit

4. Zero ODP Fire Suppression System :

lean agent-based modular fire suppression systems have been installed in ERL, are a crucial part of the laboratory's safety and sustainability strategy. These systems use eco-friendly fire suppression agents that leave no residue and have minimal environmental impact, unlike traditional water or chemical-based systems. The Clean agent-based fire extinguishers contain HFC-236fa clean agent (low pressure) as a fire extinguishing agent, which is an HFC (Hydro Fluorocarbon). HFC-236fa is a colorless, odorless, electrically non-conductive 'clean agent' which has zero ODP (Ozone depletion potential) and low GWP (Global Warming Potential).

Zero ODP Modular Fire Suppression System

5. Sustainable Practices in Testing Activities

ERL's commitment to sustainability extends to its testing activities, where advanced methodologies are employed to reduce environmental impact. The laboratory utilizes Ion Exchange Chromatography (IC) for testing anions (Cl^-, SO_4^{2-}, NO_3^-, BrO_3^-, NO_2^-) in packaged drinking water. This automated method has significantly minimizes the use of harmful chemicals, requiring only two chemicals compared to the 19 diferent chemicals typically needed in conventional methods. Similar break through has been done for estimation of elements in Metals (like Ni, Cu, Zn, Pb, etc). ERL has started analysing them by Atomic Absorption Spectometer (AAS) methods reducing the consumption of chemicals to a great extent.

In the analysis of trace metals in food products (Milk), ERL has transitioned from traditional wet digestion methods, which involve strong acids like H_2SO_4 and generate hazardous acid fumes. Instead, the laboratory now uses microwave digestion, which drastically reduces the release of acid fumes and lowers environmental impact, contributing to the laboratory's sustainable development goals.

Ion Exchange Chromatography

Microwave Digestor

Exposure Visits

Academic Institutions

As a part of youth sensitization progammes, ERL in collaboration with Kolkata Branch Office I & II, has organized 19 exposure visits for students of schools and colleges. The primary objective of these visits are to instil a sense of adoption for Standards in every sphere of life by the youth of our country. During the exposure visit, students were explained about various theoretical principals applied for the formulation of standards. They were also given practical demonstration of different tests as per the methods specified in the Indian Standards. The visits generated a large amount of interes amongst the students and especially because of the automated testings being done using the state of the art equipment.

Details of Exposure Visits for Academic Institutions

Sl No	Date	Number of Participants	School / College
1	22-05-2023	22	Rahara Bhabanath Instituition for Girls
2	19.06.2023	22	B.E College model School, Howrah
3	21-06-2023	25	Surah Kanya Vidyalaya Phool Bhagan
4	22-06-2023	24	Laban Hrad Vidyapith
5	10-07-2023	25	Beleghata Deshbandhu Girls High School
6	13-07-2023	25	Kanchrapara Hernett High School
7	17-07-2023	26	Maharaja Cassim Bagan polytechnic School
8	22-08-2023	25	Sodepur Chandrachur High School
9	25-08-2023	26	Nohapara Brahammayee Vidyalaya
10	30-08-2023	27	Bhagabati Devi Balika Vidyalaya
11	17-10-2023	28	Jonepur High School
12	30-10-2023	26	Sri Ramkrishna Sikshalaya, Howrah
13	10-11-2023	24	Kendriya Vidyalaya Fort William

Sl No	Date	Number of Participants	School / College
14	14-11-2023	22	Kendriya Vidyalaya Alipore Commando Hospital
15	28-11-2023	22	Sonarpur Vidyapith
16	08-12-2023	35	Ichapur Northland High School
17	16-12-2023	22	Dumdum Govt. high School
18	15.01.2024	25	Laketown Govt. Sponsored Girls High School
19	08.02.2024	25	Neemta High School

Expoure Visits by Schools

Ichapur Northland High School (18-12-2023)

Demonstration of tests as per Indian Standards

Visit by Industry

It is of utmost importance to educate the Industry, the major stakeholder for BIS Conformity Assessment Schemes. Focus of such programmes is to update the industry on various developments in the fields of Standardization and testing. Industries that were covered through these exposure visits and short term courses include manufacturers of Packaged Drinking Water, Jute, Toy, Cement, Pressure Cooker, Plastic pipes, Steel products, Cables and conductors. During these visits, manufacturers were sensitized about the recent changes in Indian Standards, amendments, validation of new test methods, etc. Practical demonstration of different tests are also given as doubt clearing sessions regarding Standard test practices.

Details of Exposure Visit by Industry

Date	Programme Details	Partnering Branch
10/05/2023	Capsule Course on PDW	KKBO-II
20/06/2023	Capsule Course on aluminium Conductors	KKBO-I
14/07/2023	Workshop on Footwear Testing	ERL
20/07/2023	Workshop on Anion using Ion Chromatography	ERL
21/07/2023	Conclave on Automation Chemicals & Microbiology Testing	ERL
21/08/2023	Manak Manthan on Hallmarking	KKBO-II
01/09/2023	TXD-3, Jute & Jute products, 39th Meeting	TXD
02/09/2023	Capsule Course on Plywood & Plywood related	KKBO-I
20/09/2023	Capsule Course on UPVC	KKBO-II
23/11/2023	Capsule Course for Plywood for General Purpose	KKBO-II
24/11/2023	Capsule Course on Valves	KKBO-I
30/01/2024	Capsule Course on Jute Geotextiles	TXD
28/02/2024	Capsule Course for Quality Control Personal from Steel Tube & Steel pipes Industry	KKBO-II
20/03/2024	Manak Manthan on Footwear Stand	ERL

Workshop on Footwear Testing

Workshop on Methods of Sampling and Test for Wastewater

ERL as well as the participants have benefitted immensely from these programmes. The participants were also enriched by learning new test methods and better understanding of the Indian Standards.

Manak Manthan

Manak Manthan is a series of discussion programs organized by the Bureau of Indian Standards (BIS) for the benefit of the industry. These programs are held regularly and focus on various topics related to standardization, including:

- **Launching new standards :** BIS uses Manak Manthan to introduce new standards to the industry.
- **Sharing revisions and amendments :** The platform is used to inform stakeholders about changes to existing standards.
- **Discussing wide circulation drafts :** BIS seeks feedback from industry experts on draft standards before they are finalized.

ERL, Kolkata hosted a Manak Manthan event on Footwear Standards on March 20th, 2024, focusing on IS 10702:2023 (including Amendment 1), IS 5676:1995 & IS 13893:1994. Smt Nishat Haque, DDGL addressed all attendees, stressing the following key points :

i. The necessity for a Quality Control Order.
ii. Establishment of cluster-based laboratories for footwear testing.
iii. Acknowledgment of well-performing manufacturer labs under BIS's new scheme.

The event witnessed participants from various Footwear Industries such as Ajanta, Khadims, labs like NTH Kolkata, SGS Kolkata etc.

Manak Manthan on Footwear

Details of Workshop

Sl No	Date	Number of Participants	Industry Type
1	23.06.2023	25	Toy Manufacturing
2	14.07.2023	24	Footwear Manufacturing
3	20.07.2023	22	Food Testing Labs

Conclave on Automation of Tesing Instruments

Automation of testing instruments has revolutionized the way we conduct quality control and assurance processes. By automating repetitive tasks, increasing accuracy, and reducing human error, it has significantly improved efficiency and productivity in our day-to-day testing aspects.

A one-day conclave on automation in chemical and microbiological testing was organized at ERL on 21st July 2023. The event was attended by Scientific Officers, Laboratory Officers (LOs), and Technical Assistants (TAs) from NRL, CL, SRL, PBL, GBL, and BNBL. The program aimed to discuss advancements in laboratory automation and foster collaboration between BIS laboratories and leading equipment manufacturers.

The conclave featured equipment demonstrations by renowned manufacturers. Interscience Labs, France, showcased an Automatic Plate Reader, while M/s Horiba demonstrated their GD-OES technology. M/s Hi-Media presented the application of RT-PCR for pathogen detection in alignment with recently revised IS standards. Additionally, M/s Mettler Toledo demonstrated Software based Weighing system using Auto-Samplers for dispensing powder and liquid samples and Automated system for estimation of moisture of Food products, textile products.

The event generated significant interest amongst the participants.

Automation in the field of Chemical & Microbiological Testing

SECTION

06

INTERNSHIP

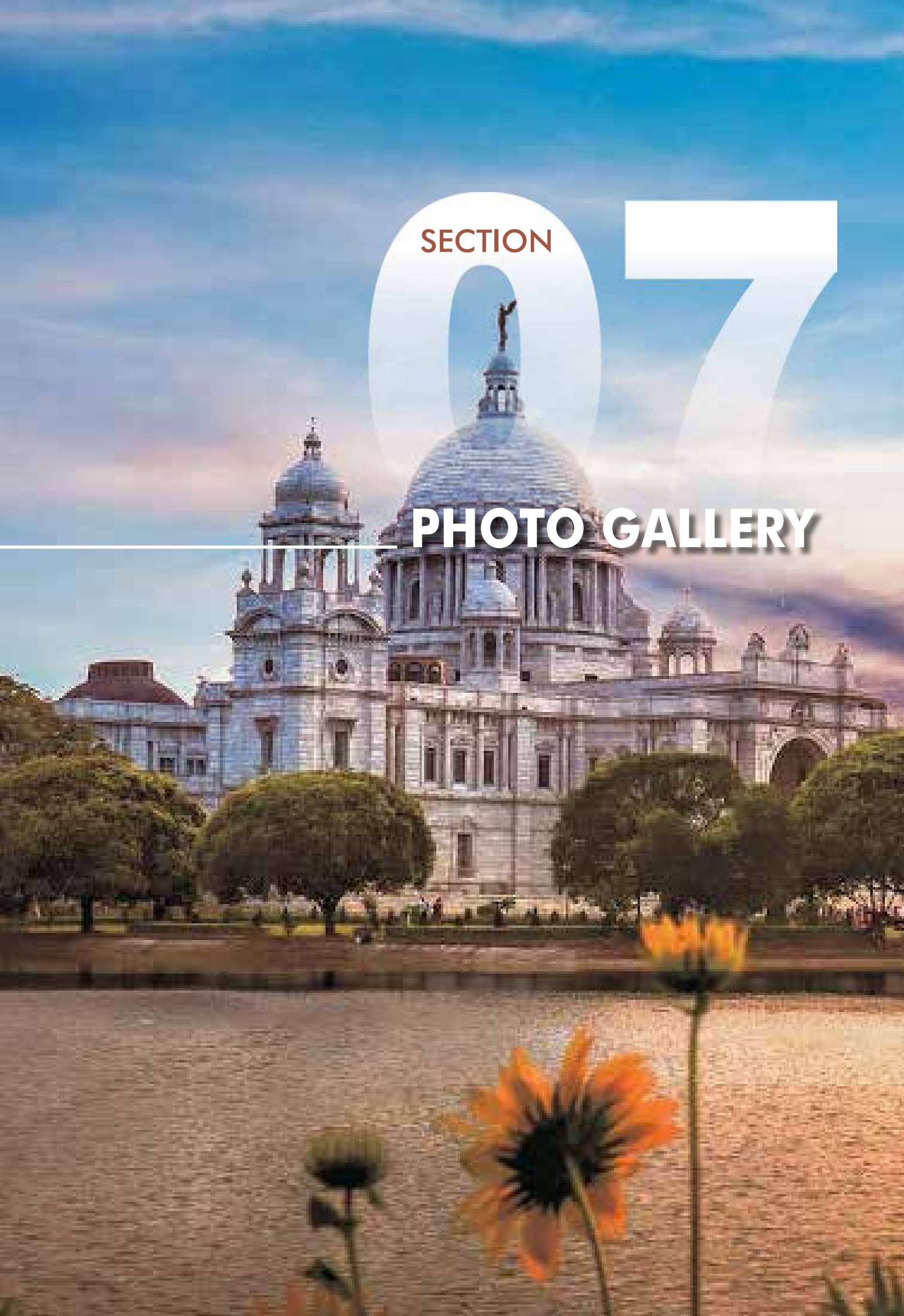
INTERNSHIP PROGRAMS

This year, our internship program saw the active participation of **14 interns,** each bringing a unique set of skills and perspectives to our lab. These talented individuals worked on diverse projects spanning various sections, with **2 interns in Microbiology, 1 in Electrical, 4 in Mechanical, and 7 in the Chemical section.** Their projects ranged from evaluating microbiological test methods as per IS 17383:2020 to exploring the relationship between physical parameters (tensile strength) and chemical composition of structural steel, and advanced studies like the determination of Bisphenol-A in plastics.

With internships lasting between two to six months, participants received hands-on experience with high-end equipment, rigorous methodologies, and quality systems aligned with national and international standards. This program served as a platform for mutual growth—while interns gained invaluable exposure, their innovative ideas and enthusiasm added value to our laboratory processes, reinforcing our commitment to nurturing future leaders in science and quality assurance.

Sl No	Name	Project Title	Section
1	AYANTIKA PAUL	GROWTH PROMOTION TEST (IS 17383:2020/ISO 11133:2014; Microbiology of food, animal feed and water- Preparation, Production, Storage, and Performance Testing of culture media	Micro
2	SUKANYA DE	Test methods verification of IS 14543:2016 and IS 13428:2005 as per IS 16410(Part 3):2021	Micro
3	ARITRA SAHA	Evaluation of Measurement of Uncertainty of parameters - Dimensions (Thickness and OD) as per IS 694:2010 and Insulation Resistance and Conductor Resistance as per IS 1554:P1:1984	Electrical
4	RITAM MUKHARJEE	Relationship Between Tensile Strength and Chemical Composition of of steel HSDS Bar as per IS 1786:2008	Mechanical
5	ASWINI KUMAR	Relationship Between Tensile Strength and Chemical Composition of Structural Steel as per IS 2062:2011	Mechanical
6	BHUMIKA SINGH	Relationship Between Fineness and Compressive Strength of Portland Pozzolana Cement (as per IS 1489:Part 1:2015)	Mechanical
7	HRITHIK RAJ	Relationship between fineness and compressive Strength of portland slag cement as per is 455:2015	Mechanical
8	SATWIK MAITY	Comparative study of Gravimetric & Electrical conductivity method for determination of TDS in PDW	Chemical
9	RITAM SAHA	Comparative study of determination of chloride in packaged drinking water using conventional method (titrimetric method) and instrumental method (Ion exchange chromatography method)	Chemical
10	SUBHANGI ROY	Determination of Bisphenol-A in plastic feeding bottle using Liquid Chromatography Mass Spectroetry Mass Spectrometry (LC-MSMS) as per IS 14625:2015	Chemical
11	DEBASHISH	Determination of Niobium in Steel Using ICP-MS	Chemical

Sl No	Name	Project Title	Section
12	ANKIT SINGH	Comparative analysis of lead estimation in pvc soles & heels: colorimetric (is 6719) 1972 and instrumental method (is 12074) 1987	Chemical
13	ABHISHEK KUMAR	Analysis of arsenic and Lead in whole milk powder using Inductively coupled plasma -Mass Spectrometry (ICP-MS)	Chemical
14	ARGHYA CHAKRABORTY	Comparative studyof dertermination of sodium in PDW using 3 different methods	Chemical



SECTION 07

PHOTO GALLERY

Photo Gallery :

MECHANICAL SECTION

Toy Testing Lab

Footwear Lab

LPG Section

LPG Cylinder which have undergone Burst Test

Mechanical Section

CHEMICAL SECTION

UV Visible Spectrophotometer

HPLC

Ion Exchange Chromatography

Wet Analysis Lab

Chemical Section

PHOTO GALLERY

ELECTRICAL SECTION

Cable Dimension Testing

Sample Preparation Area (Cables)

Switch & Socket Testing Lab

Toy Testing Lab

Electrical Section

MICROBIOLOGY SECTION

Laminar Air Flow & Biosafety Cabinet

Microbiology Lab

Microbiology Section

Swachhta Campaign

REFERRAL ASSAY LAB

Fume Hood

XRF Room

Referral Assay Lab

PHOTO GALLERY


Foundation Day Celebration (6th January 2024)


International Yoga Day


Hindi Diwas Celebration


Women's Day Celebration

Workshop on Anion using Ion Chromatography

Workshop on Footwear Testing

Workshop on Toy Testing

Swachhta Campaign

Manak Manthan on Footwear Standards

Meeting on Quality Future Trends in Testing

Meeting on Quality Future Trends in Testing

PHOTO GALLERY

PHOTO GALLERY

Inauguration of Calibration Lab at ERL by DG BIS

Inauguration of Calibration Lab at ERL by DG BIS

Old Chemical Section

Old Mechanical Section

Rashtriya Ekta Diwas Celebration

Rashtriya Ekta Diwas Celebration

Meeting on Quality – Future Trends in Testing

Exposure Visit

BIS CARE APP

A tool for Consumer Empowerment

Main features of the App

- Check the authenticity of the product with ISI mark by using 'Verify Licence Details'.
- Check the authenticity of Hallmarked Jewellery items with HUID number by using 'verify HUID'.
- Select 'Know your Standards' for information on any Indian Standard, licenses against it and laboratories for this product.
- You can also access products under compulsory certification of BIS & products under simplified procedure of licensing.
- Check the authenticity of electronic products with R-number by using 'Verify R-number under CRS'.
- Register complaints regarding quality of product or misuse of ISI mark by using 'Complaint'.

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Eastern Regional Laboratory

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