GREEN & WATER AUDIT REPORT

FEB-2025

B.S. Abdur Rahman Crescent Institute of Science & Technology
Deemed to be University u/s 3 of the UGC Act, 1956
GST Road, Vandalur, Chennai 600 048

BSA Crescent Institute of Science & Technology,

GST Road, Vandalur, Chennai,

Tamil Nādu – 600 048.

CONDUCTED BY

SLR INDUSTRIAL SOLUTIONS
(BEE Approved Energy Audit Firm)
No.15, 4th Street, VIP Nagar,
Thirukachur Post, Singaperumal Koil,
Chengalpattu District, Tamil Nadu – 603 204
(Mob: 9600500542, Email: slrischennai@gmail.com)

ACKNOWLEDGEMENT

SLR Industrial Solutions (SLRIS) conveys their gratitude and thanks to the management of **BSA Crescent Institute of Science & Technology – Chennai,** for providing an opportunity to conduct a detailed Green and Water Audit process in the college premises, which was conducted in **Feb - 2025**

We render our sincere thanks to **Mr. Mohamed Faleel, Director (ECD)** for his keen interest, proactive support for providing whole hearted support, helps and guidance during the course of study of the campus.

We are indeed touched by the helpful attitude and co-operation **Mr. Ramkumar, AP/EEE & Executive Engineer (Electrical) and Mr. E. Manivannan, Junior Engineer** & all technical staff, who rendered their valuable assistance and co-operation during the course of study.

The Audit and report making team constituted of the following Auditors from SLRIS.

Name of SLRIS Team Members

1. Mr. M. Srinivasan, BEE Accredited Energy Auditor & GHG Accounting Lead Verifier,
2. Mrs. S. Hemavathi, Energy Analyst.

M. Srinivasan
BEE Accredited Energy Auditor,
AEA 0324

SLR INDUSTRIAL SOLUTIONS
No.15, Phase-I, 4th Street,
VIP Nagar, Thirukatchur Post,
Singaperumal Koil - 603 204.
Chenglapattu Dist, Tamil Nadu

Table of Contents

EXECUTIVE SUMMARY

A detailed Green and Water Audit were conducted at *BSA Crescent Institute of Science & Technology (BSACIST)* located at Vandalur, Chennai by SLR Industrial Solutions (SLRIS). The main intent of the exercise was to study the existing green & water management practices and identify scope for improvements on the sustainability front.

The following tables provide the balance sheet indicating various energy carriers associated with the regular activities and their CO_2 mapping

No.	Annual CO_2 Emission			Annual CO_2 Neutralization		
	Description	**Parameters**	**Emission (Tons)**	**Description**	**Parameters**	**Neutralized (Tons)**
1	Electricity-kWh	42,73,653	3106.946	Solar PV- kWh	4,87,177	354.178
2	Diesel-Liters	3,31,671	875.610	Mature Tree- Nos	3,294	69.174
3	Petrol-Liters	8,699	19.973	Green area-m^2	75,235	112.853
	Total Emission		**4002.529**	Total-Neutralized		**536.204**
	Balance CO_2 to be Neutralized		**3466.324**	Tons/Annum	*7000 person	
	Per capita Consumption		**0.572**	Tons/Person*		

Note:

All types of energy carriers (like Electricity, Diesel & Solar PV) used for regular applications are considered for this audit process.

1. INTRODUCTION

1.1 Facility Description

Since 1984, B.S. Abdur Rahman Crescent Institute of Science and Technology (BSACIST) is a renowned Quality Leadership Institution located at the greenest spot of Chennai near Tambaram.

- Through BSACIST long history of 38 years of excellence, the Institution has offered access to a wide range of academic opportunities. With 55 programmes, grouped under 12 different Schools, 30 Undergraduate programmes, 25 Postgraduate programmes, and Ph.D. (in all the departments), this institution is a rising stalwart in higher education with promising Quality, Security and Placement.
- BSACIST welcome students from all countries and BSACIST educational programmes are designed to equip the learners with virtual knowledge that helps them to achieve what they want to be and go where they want to go in the ladder of success.
- This institution is an intellectual destination that challenges conventional thinking and stimulates passion to redefine learning. The distinctive teaching at this institution makes the students and scholars to compete with themselves and each other.
- Apart from providing top-notch education, BSACIST green campus and well-planned student life are solely dedicated to making students utilize the ambiance to the fullest.
- Through BSACIST wide array of educational programmes and unique clubs to foster student development activities, BSACIST provide opportunities and experiences that build community, help you grow personally and professionally, and create a place that you can call home now and throughout your life.

1.2: Vision:

- B.S. Abdur Rahman Crescent Institute of Science and Technology aspires to be a leader in Education, Training and Research in multidisciplinary areas of importance and to play a vital role in the Socio-Economic progress of the country in a sustainable manner.

1.3: Mission:

- To blossom into an internationally renowned Institute.
- To empower the youth through quality and value-based education.

- To promote professional leadership and entrepreneurship.
- To achieve excellence in all its endeavors to face global challenges.
- To provide excellent teaching and research ambience.
- To network with global Institutions of Excellence, Business, Industry and Research Organizations.

1.4 Objective

Green Audit: Analysis of present waste management system - including listing the inventory of the present waste generation, segregation, processing and disposal of waste. Also to identify an analysis of the facility's waste generation areas; specific improvement recommendations for the effective utilization of waste.

Water Audit: Analysis of present water management system - including listing the inventory of the present waste generation, recycling and disposal of waste. Also to identify an analysis of the facility's waste generation areas; specific improvement recommendations for the effective utilization of water.

1.5 Scope of Work

Green and Water Audit Report broadly will cover the following:

- Highlights of BSACIST present scenario on sustainability.
- Recommendations for further improvements at BSACIST.

1.6 Methodology

SLRIS deputed a team of experts for conducting the study and they worked in close association with the staff and officers of BSACIST.

The audit was started with an orientation meeting with Management / Engineering / Maintenance personals.

SLRIS team had taken all necessary data for analysis.

2. ASSESSMENT DATA

2.1 Energy

Energy (1 year data) details of BSACIST – Chennai is given below:

1. Name of Electricity office : TANGEDCO
2. Tariff : HT IIB
3. Annual Energy Consumption

   Total EB Power : 42, 73,653 kWh

   Total Solar Power : 4, 87,177 kWh

4. Annual Fuel Consumption

   Diesel Generator : 50, 715 Liters

   Diesel for Vehicles : 2, 80, 956 Liters

   Petrol for Vehicles : 8,699 Liters

2.2 Energy Consumption Month wise

ENERGY USAGE FOR THE YEAR 2024						
No	**Months**	**EB units**	**Solar units**	**DG Units**	**Total Energy Consumption, kWh**	**Diesel liters**
1	Jan-24	2,43,326	4,87,177	3,821	7,34,324	1,380
2	Feb-24	3,32,958		18,992	3,51,950	5,550
3	Mar-24	3,84,000		15,832	3,99,832	4,750
4	Apr-24	3,53,880		12,065	3,65,945	2,050
5	May-24	4,76,490		20,858	4,97,348	5,990
6	Jun-24	2,84,850		14,202	2,99,052	3,920
7	Jul-24	3,33,216		15,332	3,48,548	4,745
8	Aug-24	4,28,360		21,809	4,50,169	6,280
9	Sep-24	3,97,622		26,098	4,23,720	7,620
10	Oct-24	3,79,838		13,546	3,93,384	3,740
11	Nov-24	3,60,368		4,516	3,64,884	1,320
12	Dec-24	2,98,745		9,921	3,08,666	3,370
	Avg/Total	**42,73,653**	**4,87,177**	**1,76,992**	**49,37,822**	**50,715**

2.3 Assessment of Annual Energy Usage

Table-2 shows the types of energy carriers used for their regular operation in the college campus along with application area and their source.

No	Description	Application	Scope	Source
1	Diesel	DG	1	Diesel Bunk
2	Diesel	Buses	1	Diesel Bunk
3	Petrol	Cars	1	Petrol Bunk
4	Electricity	All Equipment's	2	TNEB

Table-2: Energy Carriers, Application area and their sources used for College Operation

2.4 CO_2 Balance Sheet:

CO_2 Balance sheet is the indicator on the carbon emission and their neutralization in a year

- As per the Campus Management, only Scope-1 & Scope-2 based energy consumption is accounted.
- The following tables provide the balance sheet indicating various energy carriers associated with the regular activities and their CO_2 mapping.

No.	Annual CO_2 Emission			Annual CO_2 Neutralization		
	Description	Parameters	Emission (Tons)	Description	Parameters	Neutralized (Tons)
1	Electricity kWh	42,73,653	3106.946	Solar PV kWh	4,87,177	354.178
2	Diesel-Liters	331671	875.610	Mature Tree Nos	3,294	69.174
3	Petrol-Liters	8699	19.973	Green area	75,235	112.853
	Total Emission		4002.529	Total-Neutralized		536.204
	Balance CO2 to be Neutralized		3466.324	Tons/Annum	*7000 persons	
	Per capita Consumption		0.572	Tons/Person*		

Table-3: Environmental System: CO_2 Balance Sheet (Jan-2024 to Dec-2024)

Recommendations:

From the above discussion points; it is evident that activities taken forward to neutralize the CO_2 is predominant and to become a Net-Zero Carbon Emission buildings. The management has to plan several activities achieve the target.

- Increase the foot print of trees planted inside the college campus.
- Encourage the students to plant more trees and account them all.
- It is a right time to install considerable amount of roof top solar PV plant and generate the electricity. This must reduce the utility supply and hence reduce the direct CO_2 reduction.
- As per the Solar Policy-2019 from Government of Tamil Nadu for any educational institutions have to implement substantiate a minimum of 6 % of its energy generation from renewable energy source.
- Convert existing convention street lightings into solar based battery-operated lightings.
- Identify higher fuel consuming vehicle and either rework or replace it.
- Conduct training programmes for the transport staffs at regular interval and encourage them to maintain the vehicles at good condition throughout the year.
- Refer SLRIS Energy Audit report for Energy Savings Measures.

CO_2 Emission:	Planned CO_2 Reduction	CO_2 to be neutralized
4,002.5 Tons/Annum	536.2 Tons/Annum	3,466.3 Tons/Annum

3. CAMPUS SUSTAINABILITY PRACTICES

3.1 Greenery campus

BSACIST has been practicing sustainability since inception. For instance, almost one-third of the total area of the facility is allocated for green cover for plants, trees, creepers, bushes and lawns.
The Campus is well laid out with greenery. The Institution's green atmosphere is partly attributable to tree planting, which helps to keep the Ecosystem in good shape. Tree-planting activities implemented to improve the amount of green space in the campus. Students are encouraged to plant the trees to promote environmental awareness.

3.2 Present Waste Generation Scenario

Following are the various types of waste generated at BSACIST:

a. **Solid Waste-Vegetable, Food, Plastic waste**
b. **Liquid waste-RO reject Water and Sewage**
c. **E-waste-Electrical and Electronics items**

a. **Solid Waste-Vegetable and Food waste**

250Kg Kankyo Eco bin installed in BSACIST campus for Food Waste collected from mess & kitchen. 31,484Kg Compost manure collected till December 2024 and used for landscaping.

Garden Waste

Garbage incinerator machine with 50kg/hr. capacity installed in solid waste management yard for reducing waste product to inert ash. Daily generation 500kg/day and generated fly ash being used as manure around 30,900 kg generated till December 2024.

It is recommended not to use this since it creates air pollution.

Paper Waste

Solid Waste Management program is implemented – to segregate and recycle organic waste, paper, cartons, paper cups, soft drink tins, plastic, pet bottles, e-waste, bio-waste, etc. Presently paper waste generated by BSACIST from their office, student's hostels, class rooms are being sold to ITC

b. Liquid Waste

Sewage

Sewage Treatment Plant (STP) – 600KLD of water is treated and utilized for Landscaping and flushing purpose in the University and Hostels. One plant of 350KLD capacity for Men's Hostel and another 250KLD capacity plant for University are in operation.

RO Reject

RO reject water is used by mixing with well for Toilet usage.

c. E-Waste

BSACIST disposes the E-Waste to authorized agencies who specialize in recycling and safe disposal

Air Quality in the Campus

All buildings in the campus are well designed providing ample ventilation, maintaining freshness all along. Suitable exhaust fans are provided appropriately in the built spaces. The entire campus is designated as non-smoking space thereby ensuring health and safety to all the occupants. DG set of 750 kVA, 500 kVA & 320 kVA capacities are available. Once a quarter, it is recommended to conduct DG stack measurement to check the SOx and NOx level.

Solid Waste Management

- BSACIST is committed to ensure that the built infrastructure of the institute has sustainability as a core principle in maintenance management of the campus.
- Estate office aspires to follow a range of sustainable design features and practices implemented to build and maintain the institute as a complete green and sustainable campus continuously.
- The solid waste management is practiced to safely dispose the waste generated at the campus by way of segregating the waste as organic waste, recyclable waste and inert waste and processing the waste thus segregated.
- Implementation of solid waste management inside the campus is maintained by in-house team of Rs. 9.0 lakhs per annum is spend towards salary for the staffs.
- Every year BSACIST contributes waste papers towards national recycling initiative organized by ITC Ltd (paper boards & specialty paper division) which is equivalent to saving 750 trees on an average.

WASTE QUANTIFICATION DATA – FROM 2016 TO DECEMBER 2024:

- Total Waste Collected: 47, 21,132 Kgs.
- Total Organic waste: 17, 51,857 Kgs.
- Total Recyclable waste: 3, 07,219 Kgs.
- Total Inert waste: 24, 62,056 Kgs.

ACTIVITIES CARRIED OUT

- Two bins system is followed for waste collection one for organic and one for recyclables.
- Collection of waste from the campus is done through a tractor and with the support of six-man power.
- The collected segregated waste will be unloaded at the waste processing yard and processed through 15 staff called as ‘Green friends’.
- The waste generated at the campus will be processing as per SWM Rules 2016
- Bio-degradable waste is composted under windrow composing method.
- Recyclable waste is further segregated and disposed through vendors on need basis.
- Sanitary napkins waste is safely disposed using an incinerator fitted with wet scrubber for pollution control
- Food waste is fed in the bio gas plant and the gas is utilized for cooking purpose in the canteen
- E-waste and hazardous waste is handed over to the authorized processors

- 2 Supervisory staff also been engaged for coordination and awareness creation activity at the campus and 10 green friends are engaged for waste collection and maintenance of bio gas plant.
- Different types of Solid waste management Training and Awareness program conducted to college students, staff, Housekeeping workers, security and green friends.
- The harvested bio compost will be given to the estate office every month, nearly 2000kgs, for garden use
- Every month around 4000kg of recyclable waste is removed from waste yard for process.

LIQUID WASTE MANAGEMENT

- The University takes sufficient measures to treat the wastewater generated within the premises and it ensures that the treated water is reused within the campus. Estate office has established suitable and sustainable sewage treatment plants with the design features to completely treat the wastewater generated in the university.
- 2 nos. of Sewage treatment plants of 250KLD capacity are available, one for Men's Hostel and one for Institute campus.
- The sewage generated in the University is generally characterized by the presence of organic, inorganic and suspended solids.
- The treatment system consists of preliminary treatment system followed by the primary and secondary treatment process.
- The preliminary treatment system aims the removal of floating bodies and grits from the waste water. Bar Screens are used in the treatment plant to remove materials like plastics and other floating objects.
- The grit chambers are used to remove sand and silts from the wastewater.
- The primary sedimentation tank helps in the removal of the suspended solids.
- The biological treatment system is the secondary treatment process used in the removal of organics from the wastewater
- The suspended solids are removed using the primary sedimentation tank and after this the wastewater is subjected to biological treatment to remove the organic content from the waste.
- The secondary treatment process is incorporated with ECO-BIO BLOCK so as to increase the efficiency of the treatment system.
- The Eco-Bio Bricks helps in the attachment of bacteria in the treatment system and helps in the better removal of organic content from the waste water.

- This attached system will also help the treatment system to handle shock loadings if there is an increase in the organic loading rate in the biological treatment system.
- The sewage treatment plant is working on the principle of attached growth aerobic system (Eco-Bio Block) followed by sand filter and carbon filter.
- The carbon and sand filter ensures that any amount of organics that is left in the wastewater is suitably adsorbed from the wastewater and it is stored in the collection tank.
- The entire Sewage Treatment Plant is periodically subjected to maintenance regularly.
- The working of all the pumps and valves are checked periodically to ensure the smooth functioning of the sewage treatment plant.
- The treated water is used for landscaping and toilet flushing purpose.
- This helps the university to reduce its dependency of fresh water from wells for gardening.
- The physical, chemical and biological characteristics of the treated water are tested to ensure the efficiency of the treatment systems.
- Some of the important parameters checked include pH, solids, Chemical oxygen demand, Biochemical oxygen demand, Nitrates, chlorides etc.
- The treated wastewater is checked periodically to ensure its quality so that it can be effectively reused for gardening and as well for the toilet flushing.

E-WASTE MANAGEMENT

- The institute takes sufficient measures to dispose the e-waste generated inside the campus properly.
- The Institute also takes initiatives to reduce the generation of e-waste in the campus
- All obsolete electrical and electronic waste is disposed as e-waste to vendors for proper destruction without damaging the environment and certificate for such destruction and disposal are obtained.
- Electronic waste that are disposed includes
- Old TVs, computer monitors, printers, scanners, keyboards, mouse, Radio, Phones, Fax, Photocopy machines, cables from computer laboratories of various departments
- Flip flops, memory chips, motherboard, compact discs, cartridges
- Kitchen equipment from staff quarters and hostels like toasters, coffee makers, microwave ovens etc.
- Laboratory equipment’s from various departments.
- Totally 2330kg E –waste generated is destructed every year.

- The condemned electronic equipment's are handed over to the estate office on a regular basis by the departments after checking or inspection by a committee consisting of Senior Professors. Once the equipment's are certified as obsolete or non-working it is condemned and handed to estate office.
- This E waste which is collected is then disposed to vendors.
- It is also ensured that the generated E wastes are not disposed along with the other solid waste generated in the campus.
- Collection of e waste separately is a sustainable approach to prevent such waste reaching the landfills and also provides an opportunity to recycle such waste.
- The e waste collected separately is handed over to the vendors for recycling or disposal.
- The company GEMS recycling PVT Limited, Neervallur Village, Kanchipuram district, Tamilnadu collects all the waste.
- The institute has received certificate for destruction and disposal of waste from the company for reprocessing/recycling the waste without harming the environment in an ecofriendly manner.
- A Standard Operating Procedure has been evolved for handling the waste disposal system.
- Awareness is also created among faculty, students and also office bearers on the usage of electronic goods, its usage and also on the ways that it has to be collected and disposed
- Electronic goods are put to optimum use; the minor repairs are set right by the supporting staff and the Laboratory non-teaching faculty and the major repairs, by the professional technicians, and are reused.
- The damaged computers are used by the instructors in the practical sessions. Finally, they are exchanged with the local dealers.
- UPS Batteries are recharged / repaired / exchanged by the suppliers.
- The waste compact discs are reused by civil engineering/architecture students for decoration/participation in competitions.
- Steel, Iron, Aluminum, and Wood from construction site will be sent to scrap shop and further to recycling plants.
- Steel, Iron, Aluminum, from laboratories will be sent to scrap shop and further to recycling plants.
- All the communication of the institute is through Internet within the teaching and nonteaching faculty members.
- There are hardly any floppies or CDs used for day to day operations.

2.5 Existing Practices of Solid Waste Management

BSACIST adopts the following solid waste management practice:

- **Reduce** - Minimize the amount of waste
- **Reuse** - Use items as many times as possible
- **Recycling** -Recycle what one can and
- **Disposal** - Dispose of what is left in a responsible way

DOCUMENTAL EVIDENCES FOR SOLID WASTE MANAGEMENT

The solid waste management project is intended to safely dispose the waste generated at the campus by way of segregating the waste as organic waste, recyclable waste and inert waste and processing the waste thus segregated.

WASTE COLLECTION DATA 2024

S.No	Year	Organic waste in Kg	Recycle waste Kg	Inert waste Kg	Total Waste in Kg
1	2024	3,81,000	27,760	3,51,900	7,60,660

CRESCENT INSTITUTE OF SCIENCE & TECHNOLOGY – REPORT

BSACIST endeavor at the college involved multifaceted initiatives aimed at fostering awareness, Responsibility and sustainability within the campus community. Through a series of meticulously orchestrated awareness sessions, BSACIST engaged various stakeholders including students, faculty, residential community members, hostellers, cooking teams and the housekeeping team. These sessions not only disseminated crucial information but also cultivated a culture of conscientiousness and accountability.

Moreover, BSACIST bolstered BSACIST commitment by deploying a dedicated supervisor, ensuring continuous monitoring and support for the implemented strategies. This proactive measure served to reinforce the importance of BSACIST efforts and provided a tangible presence to address any emerging

challenges promptly. Central to BSACIST mission was the cloth waste collection drive, which served as a poignant reminder of the significance of environmental stewardship. By collecting discarded clothing items, BSACIST not only diverted waste from landfills but also contributed to social welfare through donations of wearable garments and environmentally responsible recycling practices.

In summary, BSACIST comprehensive approach underscores the vital role of BSACIST service in fostering a Sustainable and inclusive environment within the college community. By empowering individuals with knowledge, resources, and opportunities for positive action, BSACIST strive to inspire lasting change and leave a meaningful impact on both the campus and beyond.

SOLID WASTE MANAGEMENT - BIO-GAS PLANT

A Biogas plant of 50 m^3 capacity for Ladies Hostel was commissioned in June 2017. The gas generated from the plant is utilized for cooking in Ladies Hostel Mess Kitchen.

BIO GAS GENERATION FOR THE PERIOD OF DEC 2024			
Year	**Total Gas consumed (cum)**	**Equivalent to LPG (KG)**	**Cost Saved**
2024	163.2	73.87	5919

CSIR - CLRI SPONSORED PROJECT – BIOGAS PLANT 500 KGS/DAY (ON GOING)

Establishment of new Biogas plant 500kg/day at Men’s Hostel

- Biogas Plant 500 kgs/day from CSIR-CLRI, Govt. of India, Chennai funded by DST New Delhi in collaboration with KANKYO Technologies.
- To handle the food waste generated from hostel kitchens and canteens
- It will generate 15-20 m3/day gas from the plant and the same will be utilized for BSACIST cooking needs at Hostel kitchens and Canteens.
- The total cost of project is 35 lakhs. (Crescent Contributed 10 lakh).

NEW 500KG BIO GAS GENERATION FOR THE PERIOD 2024 IN MEN'S HOSTEL			
Month	**Total Gas consumed (cum)**	**Equivalent to LPG (KG)**	**Cost Saved**
Jan-24	12	5.4	546
Feb-24	14	6.7	683
Mar-24	22	9.9	1021
Apr-24	18	8.1	466
May-24	5	2.7	155
Jun-24	5	2.25	129
Jul-24	5	2.7	174
Aug-24	5	2.25	147
Sep-24	5	2.25	147
Oct-24	2	0.9	59
Nov-24- Dec 24	-	-	Not working
Total	**3576.25**	**1,492.39**	**2,39,785**

Food waste Segregation

LIQUID WASTE MANAGEMENT - SEWAGE TREATMENT PLANT – 500KLD

❖ The sewage treatment plant is working on the principle of attached growth aerobic system (Eco-Bio bricks) followed by sand filter and carbon filter. The treated water is having a COD about 100 mg/L and BOD about 16 mg/L.

DETAILS OF SEWAGE TREATMENT PLANTS

Location	Capacity	Remarks
College campus	250KLD	Commissioned in 2003 as a 150KLd plant. Revamped and capacity increased to 250KLD in 2015
Men's Hostel	350KLD	250KLDCommissioned in 2014.100KLD additional added in 2023

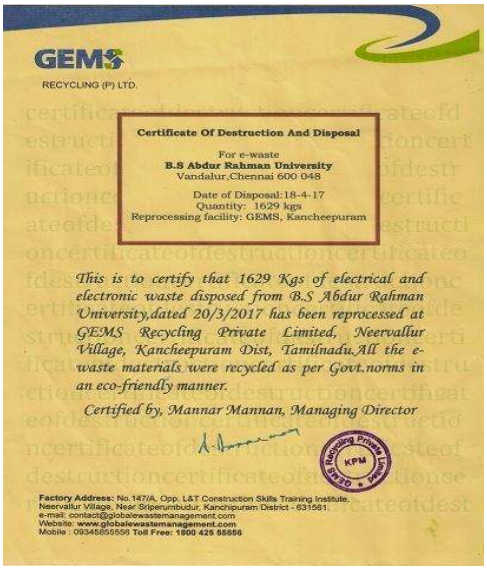
DETAILS OF WASTE WATER GENERATION

Sewage Treatment Plant Recycled Water Detail for the period 2024

Sl.No.	Year	No. of Loads	Total Qty. in (Litres.)	Qty. of treated water in litres.
1	2024	17,795	17,79,50,000	17,23,14,000

E-WASTE MANAGEMENT

All obsolete electrical and electronic waste is disposed as e-waste to vendors for proper destruction without damaging the environment and certificate for such destruction and disposal are obtained.



GEMS
RECYCLING (P) LTD.

Certificate Of Destruction And Disposal

For e-waste
B.S Abdur Rahman University
Vandalur,Chennai 600 048

Date of Disposal:18-4-17
Quantity: 1629 kgs
Reprocessing facility: GEMS, Kancheepuram

This is to certify that 1629 Kgs of electrical and electronic waste disposed from B.S Abdur Rahman University,dated 20/3/2017 has been reprocessed at GEMS Recycling Private Limited, Neervallur Village, Kancheepuram Dist, Tamilnadu.All the e-waste materials were recycled as per Govt.norms in an eco-friendly manner.

Certified by, Mannar Mannan, Managing Director

Factory Address: No.147/A, Opp. L&T Construction Skills Training Institute, Neervallur Village, Near Sriperumbudur, Kanchipuram District - 631561.
e-mail: contact@globalewastemanagement.com
Website: www.globalewastemanagement.com
Mobile : 09345855556 **Toll Free: 1800 425 55556**

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www.virogreen.in

Certificate of Destruction

COD No: VGIN170336
CPCB REG No: B-29016(1881)/1(Reg) 10/HWMD

Company Name: M/s. BS Abdur Rahman Crescent Institute Of Science & Technology,
Company Address: Seethakathi Estate, Vandalur, Chennai.
Company Ref: GP No: 6493
Date Collected: 14/12/2017
Date Received: 14/12/2017
GRN No: VGIN-0555
Date of Destruction: 28/12/2017

This document certifies that all the below mentioned items were received and processed in an environmentally responsible manner by **Virogreen India Private Limited ., Chennai**

This further certified that the items identified below had been properly disposed in an environmentally responsible manner, utilizing the process and equipment available in accordance with the Company procedures or written instructions where applicable. This "Certificate Of Destruction" is issued based on a series of specific activities; including collection, identification, separation and treatment by mechanical process or manual means, whereby material elements are destructed from the "ITEMS" for use in the form of raw materials and is deemed no longer fit for original intended purpose, and recycled wherever possible.

Index	Description	Qty Kgs
1	E-Waste Scrap	701

Person Incharge: A. Mariaponraj
Designation: Warehouse Manager
Date: 28/12/2017

Factory : S/No.297/1B-2, No.49, Pappankuppam Village, S.R.Kandigai Road, Gummidipoondi - 601 201 Thiruvallur Dist, Tamil Nadu, India. (CIN No: U52392TN2002PTC049211) Phone: +91 - 44-65485915.
Fax: +91-44-2651 2449. Mob: +91 99408 31313.
Email: reachus@virogreen.in

CERTIFICATE FOR DESTRUCTION OF E WASTE

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Certificate of Destruction

COD No: VGIN170336
CPCB REG No: B-29016(1881)/1(Reg) 10/HWMD

Company Name: M/s. BS Abdur Rahman Crescent Institution Of Science Technology,
Company Address: Vandalur, Chennai.
Company Ref: GP No: 6493 from Seethakathi Estate office
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Person Incharge: A. Mariaponraj
Designation: Warehouse Manager
Date: 28/12/2017

VIROGREEN
Recycle Today, For a Sustainable Tomorrow.
www.virogreen.in

Certificate of Destruction

COD No : VGIN200483

CPCB REG No: B-29016(1881)/1(Reg) 10/HWMD

Company Name: M/s. B.S. Abdur Rahman Crescent Institute of Science and Technology
Company Address: Seethakathi Estate G.S.T Main Road , Vandalur, Chennai - 600048
Company Ref : GP No: 4270
Date Collected : 08/10/2021
Date Received : 08/10/2021
GRN No : VGIN-2758
Date of Destruction : 21/10/2021

This document certifies that all the below mentioned items were received and processed in an environmentally responsible manner by **Virogreen India Private Limited ., Chennai**

This further certified that the items identified below had been properly disposed in an environmentally responsible manner, utilizing the process and equipment available in accordance with the Company procedures or written instructions where applicable. This "Certificate Of Destruction" is issued based on a series of specific activities; including collection, identification, separation and treatment by mechanical process or manual means, whereby material elements are destructed from the "ITEMS" for use in the form of raw materials and is deemed no longer fit for original intended purpose, and recycled wherever possible.

Further Virogreen India Private Limited, Chennai Acknowledges that the data has been destroyed **as per NIST 800-88 standards** and all electronic data on the functional storage device have been overwritten by means of a destruction write, all storage devices deemed to be non- functional have been shredded or otherwise destroyed.

Index	Description	Qty Nos	Qty Kgs
1	E Waste - System full set- 302 nos, Printer- 29 nos, Scanner- 02 nos)	-	4270

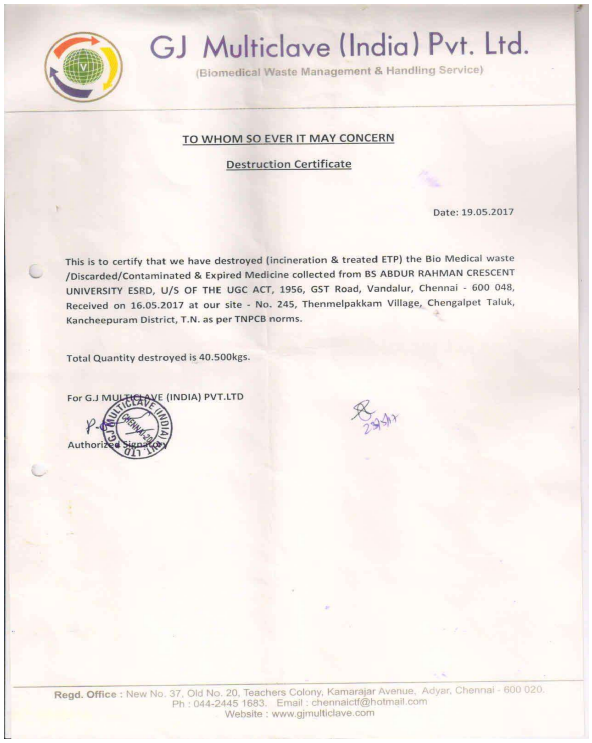
Person Incharge : Mr. Mariaponraj
Designation : Warehouse Manager
Date : 21/10/2021

Factory : S/No.297/1B-2, No.49, Pappankuppam Village, S.R.Kandigai Road, Gummidipoondi - 601 201 Thiruvallur Dist, Tamil Nadu, India.
(CIN No: U52392TN2002PTC049211)
Ph : +91-44-2651 2449. Mob: +91 99408 31313. Email: reachus@virogreen.in

CERTIFICATE FOR DESTRUCTION OF E WASTE

BIO-WASTE MANAGEMENT

All biological waste generated from Life Science Department and Medical Centre is disposed as bio-waste to vendors for proper destruction without damaging the environment and certificate for such destruction and disposal are obtained.



GJ Multiclave (India) Pvt. Ltd.
(Biomedical Waste Management & Handling Service)

TO WHOM SO EVER IT MAY CONCERN

Destruction Certificate

Date: 19.05.2017

This is to certify that we have destroyed (incineration & treated ETP) the Bio Medical waste /Discarded/Contaminated & Expired Medicine collected from BS ABDUR RAHMAN CRESCENT UNIVERSITY ESRD, U/S OF THE UGC ACT, 1956, GST Road, Vandalur, Chennai - 600 048, Received on 16.05.2017 at our site - No. 245, Thenmelpakkam Village, Chengalpet Taluk, Kancheepuram District, T.N. as per TNPCB norms.

Total Quantity destroyed is 40.500kgs.

For G.J MULTICLAVE (INDIA) PVT.LTD

Authorized Signatory

Regd. Office : New No. 37, Old No. 20, Teachers Colony, Kamarajar Avenue, Adyar, Chennai - 600 020.
Ph : 044-2445 1683. Email : chennaictf@hotmail.com
Website : www.gjmulticlave.com

CERTIFICATE FOR DESTRUCTION OF BIO MEDICAL WASTE

POTABLE WATER SUPPLY

BSA Crescent Institute of Science and Technology has Reverse Osmosis (RO) Plant to provide drinking water to the college and hostel. The entire college campus is facilitated with pure Reverse Osmosis (RO) drinking water with water coolers in every block to cater to the need of pure and safe drinking water to all. BSACIST have 44,500 liters / day RO systems installed in the campus and water dispensers are available in each floor in every building. BSACIST water treatment plants provide safe drinking water at every tap on the campus. A high level of maintenance attention and regular testing ensure the quality of the water. Water treatment plant with reverse osmosis technology is available to provide quality drinking water.

RO DRINKING WATER PLANTS

S.No	Location	Capacity Liters/Hr.	Working Hours Per day	Qty. of Treated Water in liters
1	University Main Plant-Near to Main block	1500	6	9000
2	Science Block Terrace	2000	5	10000
3	Ladies Hostel New block Terrace	2000	4	8000
4	Men's Hostel Dining Hall	2000	4	8000
5	Men's Hostel Service block	2000	5	10000
6	Aeronautical Block terrace	500	2	1000
7	Life Sciences block terrace	500	2	1000
8	New architecture terrace	2000	4	8000
Total treated Water		**12500**		**55000**

KBA MEN'S HOSTEL RO PLANT

WATER DISPENSER / COOLER

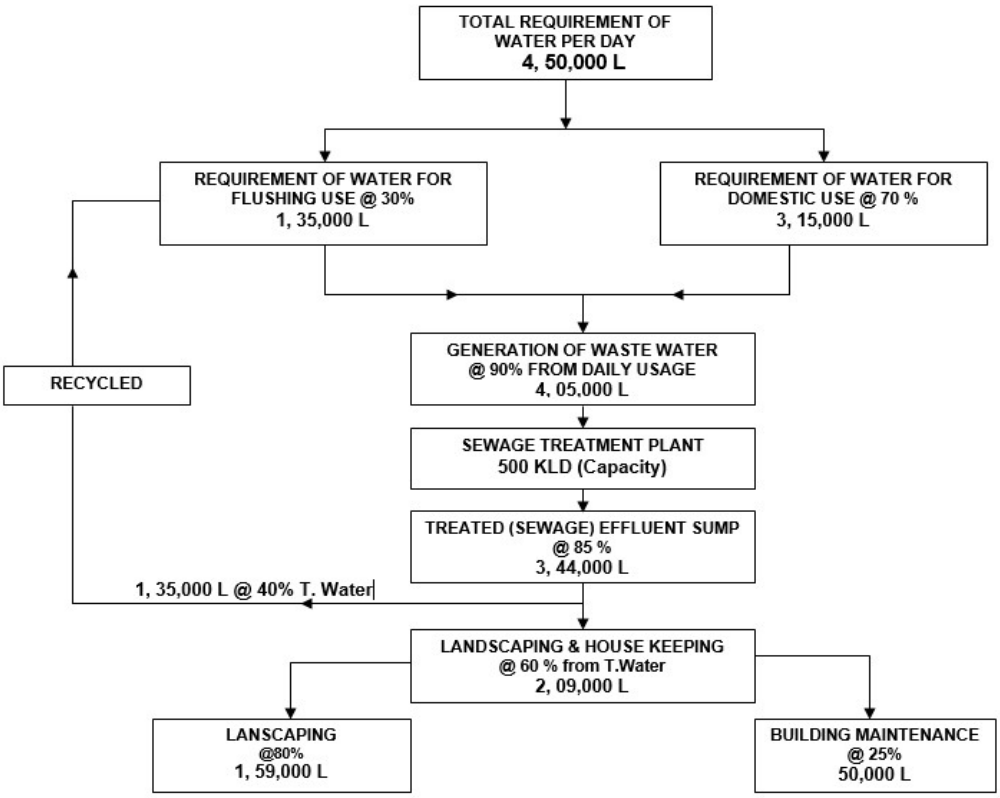
WATER TREATMENT PLANT

PROTECTED WATER SUPPLY

Water Treatment plants are provided -5 Nos. at various places in the campus to treat the water before use in toilets, quarters, Men's Hostel & Ladies hostel. The capacity and quantity of water treated by each plant is tabled below.

S.NO	LOCATION	CAPACITY	WORKING HOURS	REMARKS
1	New staff Quarters	$5m^3$/hr.	10	Commissioned in Apr -2016
2	New ladies hostel	$5m^3$/hr.	12	Commissioned in Aug -2016
3	Men's hostel service block	$10m^3$/hr.	18	Commissioned in Aug -2016
4	VC Villa	$1m^3$/hr.	4	Commissioned in Jan -2017
5	Life Science block	$5m^3$/hr.	8	Commissioned in Aug -2017
Total Treated Water		**3,35,000Liters per day**		

Water Balance Chart



SL. No	Water Consumption / Day Occupants	Occupancy in Nos	consumption/day in liters
1	College Student day scholars 45 lit/day @ 70% usage	3700	116550
2	Ladies Hostel 125 lit/day	470	58750
3	Men's Hostel 125 lit/day	1400	175000
4	Miscellaneous (1)College/ staff 45 lit/day	400	18000
	(2)Estate office staff 30lit/day	350	10500
	(3) General workers	280	8400
	(4) Kitchen and canteen	50	10000
5	Quarters 125lit/day	400	50000

		7050	447200
6	Floating @ 5%	**7403**	10575
	Total water consumption/day in liters		**4,57,775**
	Avg water consumption per capita/day		**62**

RAINWATER HARVESTING

- B.S Abdur Rahman Crescent Institute of science and technology is one of the pioneers in implementing solutions to save water.
- The institute has implemented rain water harvesting system in the campus with a strong desire to utilize the rain water at maximum extent.
- The Institute has taken tremendous efforts to reduce the water consumption and also to treat the wastewater generated within the campus so that it can be effectively reused for gardening and toilet flushing.
- In the forefront to save water, BSACIST institute of science and technology has initiated and executed the rainwater harvesting in the campus.
- Rainwater harvesting facility is done in all blocks to collect rainwater from the roof of all buildings.
- The harvested water is diverted to open wells in institute campus, Men's Hostel and ladies hostel.
- The placement of rainwater facility within the campus is decided upon by considering the profile of the land so as to drain the maximum amount of water collected with ease.
- In the buildings, sufficient plumbing connections are provided to trap the rain water from the roof tops.
- Underground connections are ensured to connect the collected water from the roof top to the rainwater recharge pit.
- It was also ensured that the rainwater harvesting structures are constructed as per the norms. The recharge pit provided to collect the rain water is series of filter bed. This initiative took shape when the institute faced shortage of water during summer. Cost of buying water was becoming a financial burden. The only alternative to the water crisis was to use the available water more effectively.

- The features of the recharge pit are described below.
- A mesh is provided at the inlets of rain water pipes so that solid waste/debris is prevented B.S.Abdur Rahman Crescent Institute of Science and Technology has taken initiatives to install rain water harvesting pits in the campus from entering the pit system.
- The recharge pits are of size 2m x 2m x 2m is excavated
- The recharge pit comprises different set of filter media. The filter media comprises of thick layers of boulders at the bottom followed by layers of gravels and coarse sand.
- This enables the filtration of water and also prevents the deposition of silt on the recharge pit.
- Access Manhole frames and covers are provided.
- The rain water is also stored in Underground sumps of Life Science block, Mechanical Science Block and New Staff Quarters.

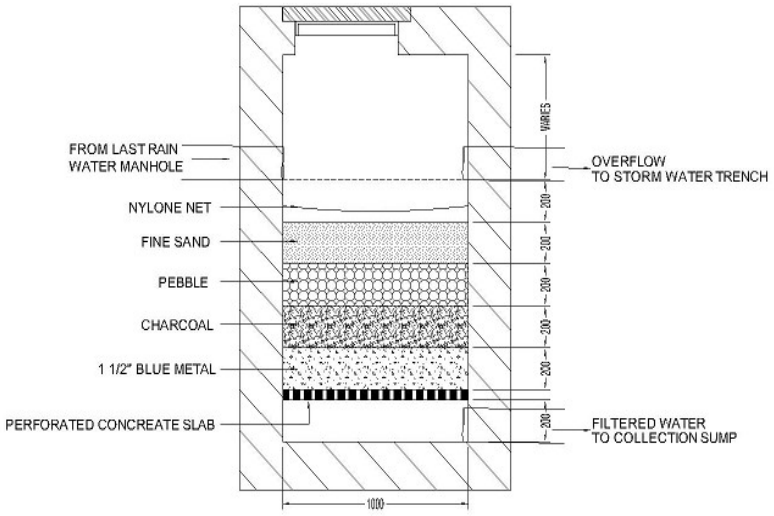
RAIN WATER HARVESTING STRUCTURES AND UTILIZATION IN THE CAMPUS

B.S.Abdur Rahman Crescent Institute of Science and Technology has taken initiatives to install rain water harvesting pits in the campus.

Rain Water Harvesting

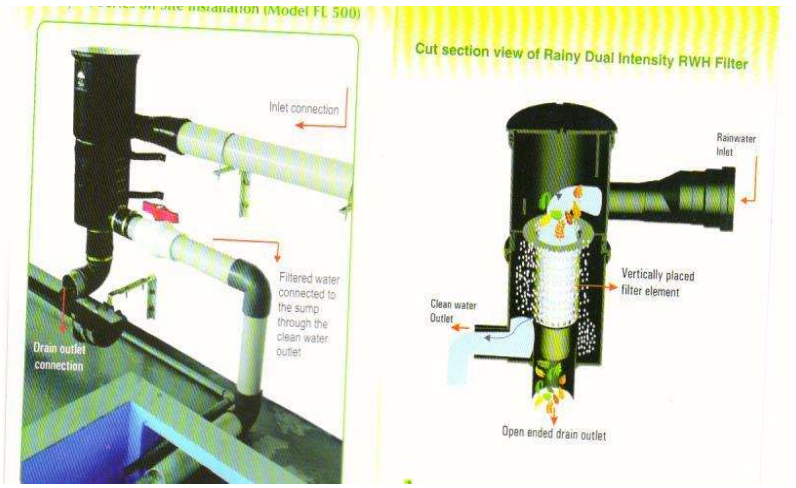
Rainwater harvesting facility is done in all blocks to collect rain water from the terrace. The harvested water is diverted to open wells in institute campus, Men's Hostel and ladies hostel. The rain water is also stored in Underground sumps of Life Science block, Mechanical Science Block and New Staff Quarters. The rain water is stored after passing through the pre-filter as shown in Figure below.

S.No	CAMPUS/BLOCKS	Number of Rain Water Harvesting	Quantity of Water Collected(L)
1	College/Life Sciences Block	1	10000(Approx.)
2	New Architecture Block	1	10000(Approx.)
3	Computer Science block	1	10000(Approx.)
4	Pharmacy Block	1	10000(Approx.)



RAIN WATER FILTER DETAIL

The special features of the filtration unit connected with the rain water harvesting system is given as follow



Special Features:

- Dual Intensity Filter works on the principle of cohesive & centrifugal force.
- Works on Gravitational force (No external energy required)
- Compact in size and wall mounted
- Automatic flush out of dirt particles
- Flexibility in pipe connection to any angle and degree
- Provision of bypass valve

In BSACIST Rainy filter –FL 500 is used as part of the rainwater harvesting system. The technical specifications of Model FL 500 is given below

Rainy Filter –FL 500

Technical Specifications & Parameters of Model FL 500

Suitable up to area:	500 SQMTRS
Max: Intensity of Rainfall:	75 mm/hr.
Working Principle :	Cohesive Force & Centrifugal force
Operating Pressure:	Less than 2 feet of head (0.060kg/cm^2)
Capacity:	480 LPM
Filter Element:	SS-304 Screen
Mesh Size:	250 Microns
Inlet:	110 MM
Clean Water Outlet:	90 MM
Drain Outlet:	110 MM
Housing:	High Density Polyethylene
Efficiency of Filter:	Above 90%
Source of Power:	Gravity

The characteristic features of FL Series Dual Intensity RWH Filter are its capacity to take up the load up to 10 to 500 square meters of Roof area with variable intensity of rainfall of 5 to 75 mm/ hour with a discharge capacity of 10 To 480 Liters per minute.

RAIN WATER HARVESTING STRUCTURES IN CAMPUS

RAINWATER COLLECTION WELL

Rainwater harvesting facility is done in all blocks to collect rain water from the terrace. The details are listed below.

Rain Water Harvesting Details				
S.No	**Inlet Pit Detail**	**Area (sq. m)**	**Rain water filter capacity (Litres)**	**Location**
1	Inlet pit-1	156	200	Mechanical Science Block
	Inlet pit-2	122	200	
	Inlet pit-3	296	300	
	Inlet pit-4	175	200	
	Inlet pit-5	243	300	
2	Inlet pit-1	191	200	Ladies Hostel-New Block
	Inlet pit-2	188	200	
	Inlet pit-3	132	200	
3	Inlet pit-1	68	100	New Staff quarters
	Inlet pit-2	65	100	
	Inlet pit-3	81	100	
	Inlet pit-4	66	100	
	Inlet pit-5	81	100	
	Inlet pit-6	66	100	
4	Inlet pit-1	61	100	Men’s Hostel-A&B BLOCK
	Inlet pit-2	71	100	
	Inlet pit-3	43	100	
	Inlet pit-4	132	200	
	Inlet pit-5	132	200	
	Inlet pit-6	43	100	
	Inlet pit-7	71	100	
	Inlet pit-8	61	100	
5	Inlet pit-1	297	300	Men’s Hostel -C& D BLOCK
	Inlet pit-2	297	300	
6	Inlet pit-1	71	100	Men’s Hostel -PG BLOCK
	Inlet pit-2	71	100	
	Inlet pit-3	71	100	
	Inlet pit-4	71	100	
	Inlet pit-5	71	100	
	Inlet pit-6	71	100	

	Inlet pit-7	71	100	
	Inlet pit-8	71	100	
7	Inlet pit-1	275	300	Pharmacy Block
8	Inlet pit-1	340	300	Library Block

Rain water harvesting well detail under process:

Proposed well - 82nos **Project Cost: 1.61Crores excluding GST**

Stage 1 -35 Nos

Till 23.11.2024, 14 Nos completed balance will be completed on 31.12.2025

Stage-2-47 no's

Will be start and complete on May 2025.

1. Well capacity 4'x15' = 5200 liters – 9 no's = 46,800litrs
2. Well capacity 5'x15' = 8200 liters – 26 no's = 2,13,200litrs
3. Well capacity 3'x10' = 3000 liters – 47nos = 1,41,000litrs
4. Well capacity 30'x25' = 5,00,000 liters – 1no = 5,00,000litrs

---

Total ground recharge rain water 9, 01,000 liters

OWN TRANSPORT

- Total 54 vehicles which were been used for students & staff trips.

Sl.No	Vehicle type	Nos
1	Swaraj Mazda -Non AC	2
2	Tempo Traveler – Non AC	2
3	Eicher – Non AC	2
4	Tempo Traveler AC	1
5	Bharat Benz - AC Bus	16
6	Eicher – AC Bus	1
7	Ashok Leyland AC Bus	5
8	Ashok Leyland Non AC Bus	1
9	TATA AC Bus	3
10	Cars	13
11	Ambulance	2
12	Water Tankers	6
	Total	**54**

Buses

BICYCLES: BICYCLES FOR POLLUTION–FREE ENVIRONMENT

- As a step towards complete pollution-free environment in campus, 50 numbers of bicycles are provided for use by Men's Hostel students to commute from Main gate to Hostel and to avoid two-wheelers movement inside campus.
- Bicycles are also provided for lady's hostel inmates.
- The provisions for parking the cycles are provided both in the Main gate and also in the front gates for the benefit of the students.
- More than 95% of the day scholars walk from the gate to their blocks
- Only 10% of faculty members use motored vehicles.

PUBLIC TRANSPORT:

- BSACIST Institute is located in the arterial GST Road and is well connected from all areas of Chennai city and suburbs by public transport facilities like Suburban Train and Bus terminus. Nearest Train station is Vandalur at 1 km distance and Vandalur ZOO Bus terminus is situated at the Institute gate.
- Most of the day scholars and faculty members use public transport only – either bus or train- for daily commuting.

GREEN LANDSCAPING WITH TREES AND PLANTS

- Organic Vegetable garden is formed in open land space in Men's Hostel area. The entire campus is dotted with trees, plants and lawns which are kept well maintained. Green cover is around 30 %.
- Total campus built up area:17,04,024 sq.ft
- Total landscape :656876 sq.ft

The other green practices include

- Solar Power plant
- Biogas plant
- Sewage Treatment plant
- Bicycle
- E- waste Disposal through Authorized person
- Bio waste Disposal through Authorized person
- Green Building Certificate
- LED Fixtures
- Air-conditioning split units of 5-star BEE rating
- BS-IV compliant vehicles for transportation

GREEN LANDSCAPING WITH TREES AND PLANTS

The campus had 909 trees before the Vardha cyclone in December 2016. A total of 341 trees were uprooted in the cyclone. 451 trees are newly planted in the last 3 years and are being well maintained. Beema Bamboo Plants 2275 numbers has been planted in whole campus to reduce CO_2.Now the total number of trees in campus is 3294 Nos. List of trees are available now in BSACIST campus and tabulated below.

List of Trees in Campus

TREE NAME	TOTAL Nos
NEEM TREE	272
PORTIA	51
TAMARIND	22
MANGO TREE	33
BRACKEN TREE	253
COCONUT TREE	48
SPIKELET	145
ASH	40
ARECA	49
CASUARINA	36
SPASMA	6
ALMONDS	18
KING TREE	3
BANYAN TREE	4
PALMYRA	4
TEAK TREE	35
BEEMA BAMBOO PLANTS	2275
TOTAL	**3294**

OXYZONE CAMPUS – BEEMA BAMBOO PLANTATION

Planted bamboo saplings for 5000 run area throughout BSACIST compound to absorb dust, CO_2 and to release more oxygen and to create pollution free environment. In future, Central bus stand will produce lot of pollution inside BSACIST campus, by planting bamboo, BSACIST campus become dust free zone with good oxygen supply. BSACIST Institute is provided first OXYZONE inside campus. Beema Bamboo Plants 2000 Nos Planted in whole campus for CO_2 reduction.

BEST PRACTICES

- Roof top solar power plant's capacity is 50% of the sanctioned demand
- Green campus
- Rainwater Harvesting
- Biogas plant
- Solar water heaters
- Sewage treatment plant
- Green Building Certification
- Recycling of papers through ITC
- Zero discharge of waste

Sustainability Campaign at BSACIST

Several awareness programs for environment have been organized namely **PLANT SAPLING**

4. RECOMMENDATION

4.1 9Rs

BSACIST presently employs **3Rs** namely **Reduce, Recycle, and Reuse** policy as part of their sustainability management and this has been amply demonstrated in the campus with several schemes implemented in the site. As a further fillip to the sustainability movement, it is recommended that BSACIST enhances its activities with **6 more Rs** making it a total of **9Rs** as indicated in **Figure 3.1** for exploiting further benefits some of which are elaborated in the following paragraphs.

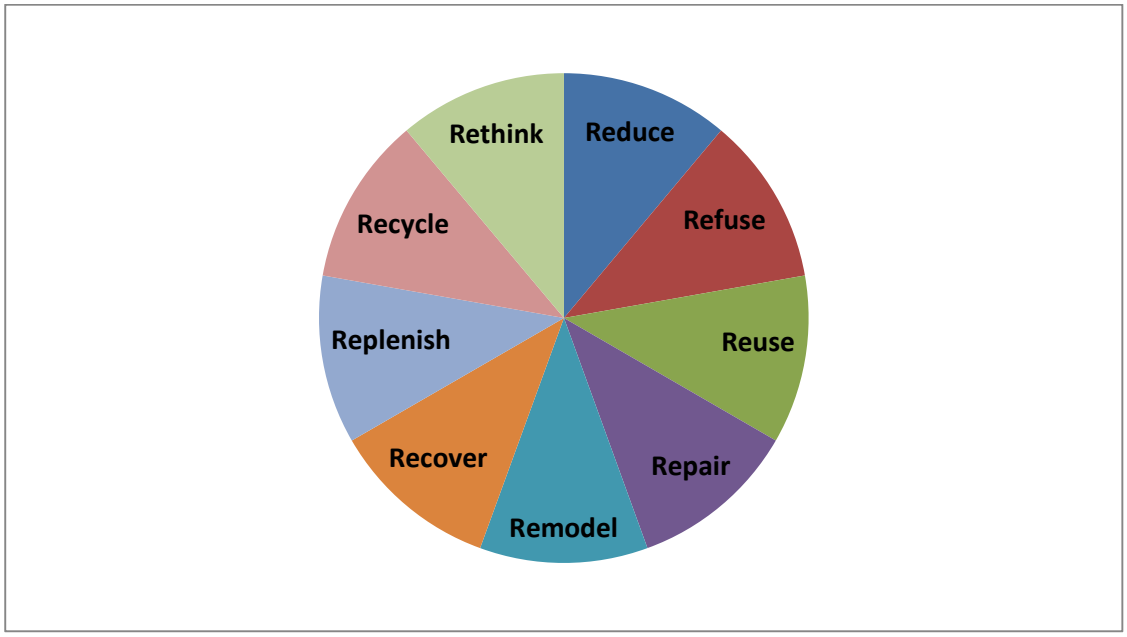


Figure 3.1 9Rs for Sustainability Measures

BSACIST ranks amongst the top line organizations who have taken concerted efforts in sustainability and it is a continuous process. Over and above the excellent, and in some areas pioneering performance, BSACIST can make further strides. Following are certain recommendations which deserve serious consideration of BSACIST.

3.1 Color Coding System has to be introduced for dust bins in Class Room blocks, Canteens, pathways, hostels, quarters, etc.

No color coding for bins

3.2 Consider To formulate a Green Policy / Environment Policy for the campus that will guide all activities of the Institute to align with the sustainability initiatives.

3.3 **Transport**: Lot of bikes is parked in the campus. It is suggested to use public transport for staffs or Car Pooling to be followed.

3.4 **E-Vehicles:** Diesel/Petrol operated bus/car/bikes can be changed slowly with E-vehicles.

E-Auto

3.5 **Maintenance of Buses/Tankers**: Proper maintenance of Buses/Water Tankers will reduce fuel consumption. Also Periodical training to be given to Drivers on Bus maintenance and operation.

Waste Transport

3.6 Plant additional Tree in empty areas to increase Garden

3.7 Provide proper irrigation system to Garden

3.8 Don't use Garbage Incinerator and Provide Vermi compositing pits for garden waste decomposing

3.9 Select registered recycling vendor and sell the plastics scraps for reuse. Staff and Students are to be educated about the Importance of reducing their use of Plastic. In the Canteen, Plastic Glasses has to be replaced with paper cups. Sign boards have to be placed in conspicuous locations around campus to make Plastic free Campus.

Plastics Scraps

3.10 Don't use Sanitary Incinerator and it will create air pollution and select proper disposal

3.11 Avoid water over flow

Water over Flow

3.12 Provide Aerator to water taps

• Replace varying flow water aerators in wash basin taps of all area visitor rest rooms, staff rest rooms, Canteen & Food court with efficient constant flow aerators-cum-restrictors with internationally recommended standard flow of 7.6 lpm (2GPM). Select a model that is a "self-cleaning" tap aerator. This reduces water consumption by a minimum of 50%.

• Recommended constant-flow aerators are designed and engineered to allow reduced water flow without affecting user requirement. In fact, the foaming effect is enhanced with efficient aeration and thus improves the user comfort substantially

• Water splashing out of basin is avoided with the proposed constant flow aerator, immaterial of inlet water pressure. That is, the proposed aerators deliver same flow even at varying water inlet pressure.

Aerator not available in Taps

3.13 Improve men's hostel RO plant outlet water quantity. Presently the output reduced to 50% of its design capacity. It is suggested to replace the membrane to reduce RO reject water

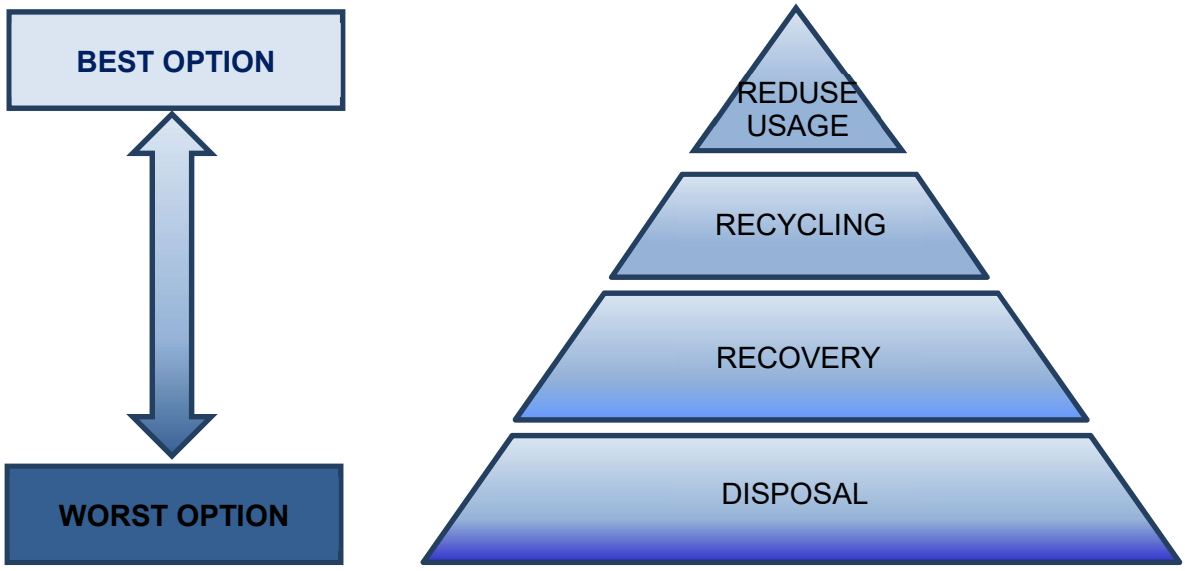
RO Plant

3.14 Collect the bus cleaning water and Reuse the water for gardening

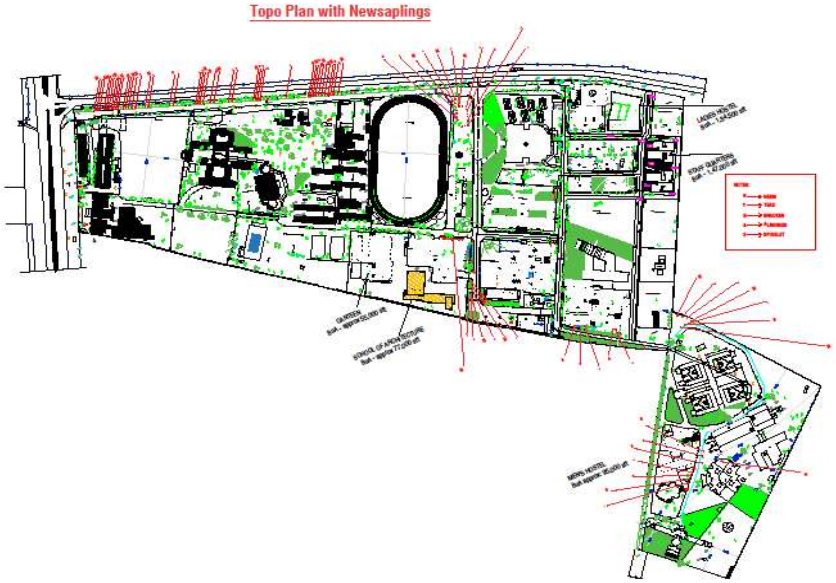
Water wasted in ground

Water Management Hierarchy

By adopting the Water Management Hierarchy, the conservation of Water in huge amount can be ensured. Though the policy of reduced usage cannot be adopted everywhere and every time, but always there is a scope for Recycling and Recovery processes. And by the hierarchy “Reduced Usage” would be the best option of Water Savings.



Annex1: Layout of BSACIST campus



End of the Report

Mobile No. : 99622 30642
94440 07584

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Bureau of Quality Standard

REF: BGLS/AUG-785/EC/25-26 AUGUST 13, 2025

ANALYSIS REPORT

Client Name	**M/S.B.S.Abdur Rahman Cresent Institute of Science & Technology.**
Client Address	Chennai.
Sample Mark	**Ladies Hostel**
Sources Of Water	RO Water
Date of Sample Received	12.08.2025
Date of Sample Commenced	13.08.2025
Date of Sample Completed	13.08.2025

S.No	Parameters	Unit	Results	Test Method (APHA 23rd Edition 2017)	Limits as per IS:10500 -2012 Standards	
					Acceptable Limit	Permissible Limit in the absence of alternate source
01	Physical Appearance	-	Clear	-	-	-
02	Color	Hazen	1.0	2120 B	5	15
03	Odour	-	Agreeable	2150 B	Agreeable	Agreeable
04	pH at 25°C	-	6.84	4500 H^+ B	6.5 – 8.5	6.5 – 8.5
05	Turbidity	NTU	BDL	2130 B	1	5
06	Electrical Conductivity at 25°C	Micromhos/ cm	70	2510 B	-	-
07	Total Suspended Solids(TSS)	mg/l	BDL	2540 D	-	-
08	Total Dissolved Solids(TDS)	mg/l	102	2540 C	500	2000
09	Total Alkalinity(as $CaCO_3$)	mg/l	40	2320 B	200	600
10	P-Alkalinity (as $CaCO_3$)	mg/l	Nil	2320 B	-	-
11	Total Hardness (as $CaCO_3$)	mg/l	36	2340 C	200	600
12	Calcium Hardness (as $CaCO_3$)	mg/l	19	3500 - Ca B	-	-
13	Magnesium Hardness (as $CaCO_3$)	mg/l	18	3500 - Mg B	-	-
14	Calcium (as Ca)	mg/l	7.7	3500 B	75	200
15	Magnesium (as Mg)	mg/l	4.3	2340 C	30	100
16	Total Iron (as Fe)	mg/l	BDL	3500 Fe-B	1.0	1.0

BIO GREEN LAB SERVICES Chennai-17

No.130, Roja Street, Sathianarayanapuram,
Moulivakkam, Porur, Chennai - 600 116.
Mobile No. : 99622 30642, E-mail : biogreen17@yahoo.com

Mobile No. : 99622 30642
94440 07584

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An ISO 9001 : 2015 Certified Laboratory

Bureau of Quality Standard

REF: BGLS/AUG-785/EC /25-26 AUGUST 13, 2025

S.NO	Parameters	Unit	Results	Test Method (APHA 23rd Edition)	Limits as per IS : 10500 - 2012 Standards	
					Acceptable Limit	Permissible Limit in the absence of alternate source
17	Chloride (as Cl^-)	mg/l	29	4500 Cl B	250	1000
18	Sulphate (as SO_4^{-})	mg/l	11	4500 SO_4^{2-}E	200	400
19	Carbonate Hardness (as $CaCO_3$)	mg/l	36	2340 A	-	-
20	Non Carbonate Hardness (as CaCO3)	mg/l	Nil	2340 A	-	-
21	Silica Reactive (as SiO_2)	mg/l	1.2	4500 SiO_2 C	-	-
22	Free Residual Chlorine	mg/l	Nil	4500 Cl B	0.2	**1

BDL: Below Detection Limit

Remarks:
The above submitted water sample **Comply** with drinking water specification as per **IS: 10500: 2012** respects to the above test conducted.

End of Test Report

BIO GREEN LAB SERVICES Chennai-87

Authorized Signatory

Note:

1. Reports shall not be reproduced, except in full, without the written approval of the laboratory
2. Details as furnished by the client and Samples as supplied by the client.
3. Any clarifications / complaints of the report should be made in writing within 2 days from the date of test report.
4. Unless informed by the client the samples will not be retained for more than 7 days from the date of issue of this report.

No.130, Roja Street, Sathianarayanapuram,
Moulivakkam, Porur, Chennai - 600 116.
Mobile No. : 99622 30642, E-mail : biogreen17@yahoo.com

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Bureau of Quality Standard

REF: BGLS/AUG-785/EC/25-26 AUGUST 19, 2025

MICROBIOLOGY EXAMINATION

Client Name	**M/S.B.S.Abdur Rahman Cresent Institute Of Science & Technology.**
Client Address	Chennai.
Sample Mark	**Ladies Hostel**
Sources Of Water	RO Water
Date of Sample Received	12.08.2025
Date of Sample Commenced	12.08.2025
Date of Sample Completed	19.08.2025

S.No	Parameters	Unit	Results	Requirement as per IS 10500 : 2012 second revision (Acceptable Limit)	Procedure ; APHA 22nd Edition 2012
01	Total Coli Forms	MPN/100 ml	**Absent**	Shall not be detectable in any 100 ml	IS :1622-1981 Amd.4 RA 2012
02	E- Coli	MPN/100 ml	**Absent**	Shall not be detectable in any 100 ml	IS :1622-1981 Amd.4 RA 2012

MPN: Most Probable Number

Remarks:
The above submitted water sample **Comply** with drinking water specification as per **IS: 10500 : 2012** respect to the above test conducted.

*****End of Test Report*****

BIO GREEN LAB SERVICES Chennai-87

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REF: BGLS/AUG-782/EC/25-26 AUGUST 13, 2025

ANALYSIS REPORT

Client Name	**M/S.B.S.Abdur Rahman Cresent Institute of Science & Technology.**
Client Address	Chennai.
Sample Mark	**Ladies Well Water**
Sources Of Water	Well Water
Date of Sample Received	12.08.2025
Date of Sample Commenced	13.08.2025
Date of Sample Completed	13.08.2025

S.No	Parameters	Unit	Results	Test Method (APHA 23rd Edition 2017)	Limits as per IS:10500 -2012 Standards	
					Acceptable Limit	Permissible Limit in the absence of alternate source
01	Physical Appearance	-	Turbid	-	-	-
02	Color	Hazen	1.0	2120 B	5	15
03	Odour	-	Agreeable	2150 B	Agreeable	Agreeable
04	pH at 25°C	-	7.0	4500 H^+ B	6.5 – 8.5	6.5 – 8.5
05	Turbidity	NTU	0.3	2130 B	1	5
06	Electrical Conductivity at 25°C	Micromhos/ cm	1458	2510 B	-	-
07	Total Suspended Solids(TSS)	mg/l	BDL	2540 D	-	-
08	Total Dissolved Solids(TDS)	mg/l	948	2540 C	500	2000
09	Total Alkalinity(as $CaCO_3$)	mg/l	280	2320 B	200	600
10	P-Alkalinity (as $CaCO_3$)	mg/l	Nil	2320 B	-	-
11	Total Hardness (as $CaCO_3$)	mg/l	420	2340 C	200	600
12	Calcium Hardness (as $CaCO_3$)	mg/l	280	3500 - Ca B	-	-
13	Magnesium Hardness (as $CaCO_3$)	mg/l	140	3500 - Mg B	-	-
14	Calcium (as Ca)	mg/l	114.2	3500 B	75	200
15	Magnesium (as Mg)	mg/l	34.02	2340 C	30	100
16	Total Iron (as Fe)	mg/l	BDL	3500 Fe-B	1.0	1.0

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S.NO	Parameters	Unit	Results	Test Method (APHA 23rd Edition)	Limits as per IS: 10500 - 2012 Standards	
					Acceptable Limit	Permissible Limit in the absence of alternate source
17	Chloride (as Cl^-)	mg/l	213	4500 Cl B	250	1000
18	Sulphate (as SO_4^-)	mg/l	98.5	4500 SO_4^{2-}E	200	400
19	Carbonate Hardness (as $CaCO_3$)	mg/l	280	2340 A	-	-
20	Non Carbonate Hardness (as CaCO3)	mg/l	140	2340 A	-	-
21	Silica Reactive (as SiO_2)	mg/l	17.6	4500 SiO_2 C	-	-
22	Free Residual Chlorine	mg/l	Nil	4500 Cl B	0.2	**1

BDL: Below Detection Limit

Remarks:
The above submitted water sample **Does Not Comply** with drinking water specification as per **IS: 10500: 2012** respects to the above test conducted.

End of Test Report

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REF: BGLS/AUG-793/EC/25-26 AUGUST 13, 2025

ANALYSIS REPORT

Client Name	**M/S.B.S.Abdur Rahman Cresent Institute of Science & Technology.**
Client Address	Chennai.
Sample Mark	**Life Sciences Block**
Sources Of Water	**RO Water**
Date of Sample Received	12.08.2025
Date of Sample Commenced	13.08.2025
Date of Sample Completed	13.08.2025

S.No	Parameters	Unit	Results	Test Method (APHA 23rd Edition 2017)	Limits as per IS:10500 -2012 Standards	
					Acceptable Limit	Permissible Limit in the absence of alternate source
01	Physical Appearance	-	Clear	-	-	-
02	Color	Hazen	1.0	2120 B	5	15
03	Odour	-	Agreeable	2150 B	Agreeable	Agreeable
04	pH at 25°C	-	6.61	4500 H^+ B	6.5 – 8.5	6.5 – 8.5
05	Turbidity	NTU	BDL	2130 B	1	5
06	Electrical Conductivity at 25°C	Micromhos/ cm	76.9	2510 B	-	-
07	Total Suspended Solids(TSS)	mg/l	BDL	2540 D	-	-
08	Total Dissolved Solids(TDS)	mg/l	50	2540 C	500	2000
09	Total Alkalinity(as $CaCO_3$)	mg/l	12	2320 B	200	600
10	P-Alkalinity (as $CaCO_3$)	mg/l	Nil	2320 B	-	-
11	Total Hardness (as $CaCO_3$)	mg/l	14	2340 C	200	600
12	Calcium Hardness (as $CaCO_3$)	mg/l	8.0	3500 - Ca B	-	-
13	Magnesium Hardness (as $CaCO_3$)	mg/l	6.0	3500 - Mg B	-	-
14	Calcium (as Ca)	mg/l	3.2	3500 B	75	200
15	Magnesium (as Mg)	mg/l	1.4	2340 C	30	100
16	Total Iron (as Fe)	mg/l	BDL	3500 Fe-B	1.0	1.0

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S.NO	Parameters	Unit	Results	Test Method (APHA 23rd Edition)	Limits as per IS : 10500 - 2012 Standards	
					Acceptable Limit	Permissible Limit in the absence of alternate source
17	Chloride (as Cl^-)	mg/l	16	4500 Cl B	250	1000
18	Sulphate (as SO_4^-)	mg/l	7.3	4500 SO_4^{2-}E	200	400
19	Carbonate Hardness (as $CaCO_3$)	mg/l	12	2340 A	-	-
20	Non Carbonate Hardness (as CaCO3)	mg/l	2.0	2340 A	-	-
21	Silica Reactive (as SiO_2)	mg/l	1.0	4500 SiO_2 C	-	-
22	Free Residual Chlorine	mg/l	Nil	4500 Cl B	0.2	**1

BDL: Below Detection Limit

Remarks:
The above submitted water sample **Comply** with drinking water specification as per **IS: 10500: 2012** respects to the above test conducted.

End of Test Report

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AUGUST 19, 2025

MICROBIOLOGY EXAMINATION

Client Name	**M/S.B.S.Abdur Rahman Cresent Institute Of Science & Technology.**
Client Address	Chennai.
Sample Mark	**Life Sciences Block**
Sources Of Water	RO Water
Date of Sample Received	12.08.2025
Date of Sample Commenced	12.08.2025
Date of Sample Completed	19.08.2025

S.No	Parameters	Unit	Results	Requirement as per IS 10500 : 2012 second revision (Acceptable Limit)	Procedure ; APHA 22nd Edition 2012
01	Total Coli Forms	MPN/100 ml		Shall not be detectable in any 100 ml	IS :1622-1981 Amd.4 RA 2012
02	E- Coli	MPN/100 ml		Shall not be detectable in any 100 ml	IS :1622-1981 Amd.4 RA 2012

MPN: Most Probable Number

Remarks:
The above submitted water sample **Does Not Comply** with drinking water specification as per **IS: 10500 : 2012** respect to the above test conducted.

*****End of Test Report*****

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ANALYSIS REPORT

Client Name	**M/S.B.S.Abdur Rahman Cresent Institute of Science & Technology.**
Client Address	Chennai.
Sample Mark	**LS Block**
Sources Of Water	**RO Water**
Date of Sample Received	12.08.2025
Date of Sample Commenced	13.08.2025
Date of Sample Completed	13.08.2025

S.No	Parameters	Unit	Results	Test Method (APHA 23rd Edition 2017)	Limits as per IS:10500 -2012 Standards	
					Acceptable Limit	Permissible Limit in the absence of alternate source
01	Physical Appearance	-	Clear	-	-	-
02	Color	Hazen	1.0	2120 B	5	15
03	Odour	-	Agreeable	2150 B	Agreeable	Agreeable
04	pH at 25°C	-	6.52	4500 H^+ B	6.5 – 8.5	6.5 – 8.5
05	Turbidity	NTU	BDL	2130 B	1	5
06	Electrical Conductivity at 25°C	Micromhos/ cm	70	2510 B	-	-
07	Total Suspended Solids(TSS)	mg/l	BDL	2540 D	-	-
08	Total Dissolved Solids(TDS)	mg/l	46	2540 C	500	2000
09	Total Alkalinity(as $CaCO_3$)	mg/l	12	2320 B	200	600
10	P-Alkalinity (as $CaCO_3$)	mg/l	Nil	2320 B	-	-
11	Total Hardness (as $CaCO_3$)	mg/l	1.0	2340 C	200	600
12	Calcium Hardness (as $CaCO_3$)	mg/l	1.0	3500 - Ca B	-	-
13	Magnesium Hardness (as $CaCO_3$)	mg/l	BDL	3500 - Mg B	-	-
14	Calcium (as Ca)	mg/l	0.4	3500 B	75	200
15	Magnesium (as Mg)	mg/l	BDL	2340 C	30	100
16	Total Iron (as Fe)	mg/l	BDL	3500 Fe-B	1.0	1.0

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S.NO	Parameters	Unit	Results	Test Method (APHA 23rd Edition)	Limits as per IS : 10500 - 2012 Standards	
					Acceptable Limit	Permissible Limit in the absence of alternate source
17	Chloride (as Cl^-)	mg/l	18	4500 Cl B	250	1000
18	Sulphate (as SO_4^-)	mg/l	4.6	4500 SO_4^{2-}E	200	400
19	Carbonate Hardness (as $CaCO_3$)	mg/l	1.0	2340 A	-	-
20	Non Carbonate Hardness (as CaCO3)	mg/l	Nil	2340 A	-	-
21	Silica Reactive (as SiO_2)	mg/l	BDL	4500 SiO_2 C	-	-
22	Free Residual Chlorine	mg/l	Nil	4500 Cl B	0.2	**1

BDL: Below Detection Limit

Remarks:
The above submitted water sample **Comply** with drinking water specification as per **IS: 10500: 2012** respects to the above test conducted.

End of Test Report

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AUGUST 19, 2025

MICROBIOLOGY EXAMINATION

Client Name	**M/S.B.S.Abdur Rahman Cresent Institute Of Science & Technology.**
Client Address	Chennai.
Sample Mark	**LS Block**
Sources Of Water	RO Water
Date of Sample Received	12.08.2025
Date of Sample Commenced	12.08.2025
Date of Sample Completed	19.08.2025

S.No	Parameters	Unit	Results	Requirement as per IS 10500: 2012 second revision (Acceptable Limit)	Procedure; APHA 22nd Edition 2012
01	Total Coli Forms	MPN/100 ml	**Absent**	Shall not be detectable in any 100 ml	IS :1622-1981 Amd.4 RA 2012
02	E- Coli	MPN/100 ml	**Absent**	Shall not be detectable in any 100 ml	IS :1622-1981 Amd.4 RA 2012

MPN: Most Probable Number

Remarks:
The above submitted water sample **Comply** with drinking water specification as per **IS: 10500 : 2012** respect to the above test conducted.

*****End of Test Report*****

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ANALYSIS REPORT

Client Name	**M/S.B.S.Abdur Rahman Cresent Institute of Science & Technology.**
Client Address	Chennai.
Sample Mark	**Men's Hostel**
Sources Of Water	**RO Plant Water -2**
Date of Sample Received	12.08.2025
Date of Sample Commenced	13.08.2025
Date of Sample Completed	13.08.2025

S.No	Parameters	Unit	Results	Test Method (APHA 23rd Edition 2017)	Limits as per IS:10500 -2012 Standards	
					Acceptable Limit	Permissible Limit in the absence of alternate source
01	Physical Appearance	-	Clear	-	-	-
02	Color	Hazen	1.0	2120 B	5	15
03	Odour	-	Agreeable	2150 B	Agreeable	Agreeable
04	pH at 25°C	-	6.53	4500 H^+ B	6.5 – 8.5	6.5 – 8.5
05	Turbidity	NTU	BDL	2130 B	1	5
06	Electrical Conductivity at 25°C	Micromhos/ cm	11.7	2510 B	-	-
07	Total Suspended Solids(TSS)	mg/l	BDL	2540 D	-	-
08	Total Dissolved Solids(TDS)	mg/l	48	2540 C	500	2000
09	Total Alkalinity(as $CaCO_3$)	mg/l	10	2320 B	200	600
10	P-Alkalinity (as $CaCO_3$)	mg/l	Nil	2320 B	-	-
11	Total Hardness (as $CaCO_3$)	mg/l	7.0	2340 C	200	600
12	Calcium Hardness (as $CaCO_3$)	mg/l	4.0	3500 - Ca B	-	-
13	Magnesium Hardness (as $CaCO_3$)	mg/l	3.0	3500 - Mg B	-	-
14	Calcium (as Ca)	mg/l	1.6	3500 B	75	200
15	Magnesium (as Mg)	mg/l	0.7	2340 C	30	100
16	Total Iron (as Fe)	mg/l	BDL	3500 Fe-B	1.0	1.0

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S.NO	Parameters	Unit	Results	Test Method (APHA 23rd Edition)	Limits as per IS : 10500 - 2012 Standards	
					Acceptable Limit	Permissible Limit in the absence of alternate source
17	Chloride (as Cl^-)	mg/l	13	4500 Cl B	250	1000
18	Sulphate (as SO_4^-)	mg/l	4.5	4500 SO_4^{2-}E	200	400
19	Carbonate Hardness (as $CaCO_3$)	mg/l	7.0	2340 A	-	-
20	Non Carbonate Hardness (as CaCO3)	mg/l	Nil	2340 A	-	-
21	Silica Reactive (as SiO_2)	mg/l	BDL	4500 SiO_2 C	-	-
22	Free Residual Chlorine	mg/l	Nil	4500 Cl B	0.2	**1

BDL: Below Detection Limit

Remarks:
The above submitted water sample **Comply** with drinking water specification as per **IS: 10500: 2012** respects to the above test conducted.

End of Test Report

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AUGUST 19, 2025

MICROBIOLOGY EXAMINATION

Client Name	**M/S.B.S.Abdur Rahman Cresent Institute Of Science & Technology.**
Client Address	Chennai.
Sample Mark	**Men's Hostel**
Sources Of Water	**RO Plant Water -2**
Date of Sample Received	12.08.2025
Date of Sample Commenced	12.08.2025
Date of Sample Completed	19.08.2025

S.No	Parameters	Unit	Results	Requirement as per IS 10500 : 2012 second revision (Acceptable Limit)	Procedure ; APHA 22nd Edition 2012
01	Total Coli Forms	MPN/100 ml	**Absent**	Shall not be detectable in any 100 ml	IS :1622-1981 Amd.4 RA 2012
02	E- Coli	MPN/100 ml	**Absent**	Shall not be detectable in any 100 ml	IS :1622-1981 Amd.4 RA 2012

MPN: Most Probable Number

Remarks:
The above submitted water sample **Comply** with drinking water specification as per **IS: 10500 : 2012** respect to the above test conducted.

*****End of Test Report*****

BIO GREEN LAB SERVICES Chennai-116

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REF: BGLS/AUG-788/EC/25-26

AUGUST 13, 2025

ANALYSIS REPORT

Client Name	**M/S.B.S.Abdur Rahman Cresent Institute of Science & Technology.**
Client Address	Chennai.
Sample Mark	**Men's Hostel**
Sources Of Water	**RO Plant Water -1**
Date of Sample Received	12.08.2025
Date of Sample Commenced	13.08.2025
Date of Sample Completed	13.08.2025

S.No	Parameters	Unit	Results	Test Method (APHA 23rd Edition 2017)	Limits as per IS:10500 -2012 Standards	
					Acceptable Limit	Permissible Limit in the absence of alternate source
01	Physical Appearance	-	Clear	-	-	-
02	Color	Hazen	1.0	2120 B	5	15
03	Odour	-	Agreeable	2150 B	Agreeable	Agreeable
04	pH at 25°C	-	6.59	4500 H^+ B	6.5 – 8.5	6.5 – 8.5
05	Turbidity	NTU	BDL	2130 B	1	5
06	Electrical Conductivity at 25°C	Micromhos/ cm	70	2510 B	-	-
07	Total Suspended Solids(TSS)	mg/l	BDL	2540 D	-	-
08	Total Dissolved Solids(TDS)	mg/l	49	2540 C	500	2000
09	Total Alkalinity(as $CaCO_3$)	mg/l	15	2320 B	200	600
10	P-Alkalinity (as $CaCO_3$)	mg/l	Nil	2320 B	-	-
11	Total Hardness (as $CaCO_3$)	mg/l	6.0	2340 C	200	600
12	Calcium Hardness (as $CaCO_3$)	mg/l	4.0	3500 - Ca B	-	-
13	Magnesium Hardness (as $CaCO_3$)	mg/l	2.0	3500 - Mg B	-	-
14	Calcium (as Ca)	mg/l	1.6	3500 B	75	200
15	Magnesium (as Mg)	mg/l	0.4	2340 C	30	100
16	Total Iron (as Fe)	mg/l	BDL	3500 Fe-B	1.0	1.0

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AUGUST 13, 2025

S.NO	Parameters	Unit	Results	Test Method (APHA 23rd Edition)	Limits as per IS : 10500 - 2012 Standards	
					Acceptable Limit	Permissible Limit in the absence of alternate source
17	Chloride (as Cl^-)	mg/l	18	4500 Cl B	250	1000
18	Sulphate (as SO_4^-)	mg/l	7.5	4500 SO_4^{2-} E	200	400
19	Carbonate Hardness (as $CaCO_3$)	mg/l	6.0	2340 A	-	-
20	Non Carbonate Hardness (as CaCO3)	mg/l	Nil	2340 A	-	-
21	Silica Reactive (as SiO_2)	mg/l	BDL	4500 SiO_2 C	-	-
22	Free Residual Chlorine	mg/l	Nil	4500 Cl B	0.2	**1

BDL: Below Detection Limit

Remarks:
The above submitted water sample **Comply** with drinking water specification as per **IS: 10500: 2012** respects to the above test conducted.

End of Test Report

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REF: BGLS/AUG-788/EC/25-26 AUGUST 19, 2025

MICROBIOLOGY EXAMINATION

Client Name	**M/S.B.S.Abdur Rahman Cresent Institute Of Science & Technology.**
Client Address	Chennai.
Sample Mark	**Men's Hostel**
Sources Of Water	**RO Plant Water -1**
Date of Sample Received	12.08.2025
Date of Sample Commenced	12.08.2025
Date of Sample Completed	19.08.2025

S.No	Parameters	Unit	Results	Requirement as per IS 10500 : 2012 second revision (Acceptable Limit)	Procedure ; APHA 22nd Edition 2012
01	Total Coli Forms	MPN/100 ml	**Absent**	Shall not be detectable in any 100 ml	IS :1622-1981 Amd.4 RA 2012
02	E- Coli	MPN/100 ml	**Absent**	Shall not be detectable in any 100 ml	IS :1622-1981 Amd.4 RA 2012

MPN: Most Probable Number

Remarks:
The above submitted water sample **Comply** with drinking water specification as per **IS: 10500 : 2012** respect to the above test conducted.

End of Test Report

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ANALYSIS REPORT

Client Name	**M/S.B.S.Abdur Rahman Cresent Institute of Science & Technology.**
Client Address	Chennai.
Sample Mark	**Men's Hostel Well Water**
Sources Of Water	Well Water
Date of Sample Received	12.08.2025
Date of Sample Commenced	13.08.2025
Date of Sample Completed	13.08.2025

S.No	Parameters	Unit	Results	Test Method (APHA 23rd Edition 2017)	Limits as per IS:10500 -2012 Standards	
					Acceptable Limit	Permissible Limit in the absence of alternate source
01	Physical Appearance	-	Pale Yellow	-	-	-
02	Color	Hazen	5.0	2120 B	5	15
03	Odour	-	Agreeable	2150 B	Agreeable	Agreeable
04	pH at 25°C	-	7.0	4500 H^+ B	6.5 – 8.5	6.5 – 8.5
05	Turbidity	NTU	12.2	2130 B	1	5
06	Electrical Conductivity at 25°C	Micromhos/ cm	1058	2510 B	-	-
07	Total Suspended Solids(TSS)	mg/l	18	2540 D	-	-
08	Total Dissolved Solids(TDS)	mg/l	687	2540 C	500	2000
09	Total Alkalinity(as $CaCO_3$)	mg/l	200	2320 B	200	600
10	P-Alkalinity (as $CaCO_3$)	mg/l	Nil	2320 B	-	-
11	Total Hardness (as $CaCO_3$)	mg/l	360	2340 C	200	600
12	Calcium Hardness (as $CaCO_3$)	mg/l	180	3500 - Ca B	-	-
13	Magnesium Hardness (as $CaCO_3$)	mg/l	180	3500 - Mg B	-	-
14	Calcium (as Ca)	mg/l	73.4	3500 B	75	200
15	Magnesium (as Mg)	mg/l	43.7	2340 C	30	100
16	Total Iron (as Fe)	mg/l	1.89	3500 Fe-B	1.0	1.0

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S.NO	Parameters	Unit	Results	Test Method (APHA 23rd Edition)	Limits as per IS: 10500 - 2012 Standards	
					Acceptable Limit	Permissible Limit in the absence of alternate source
17	Chloride (as Cl^-)	mg/l	121	4500 Cl B	250	1000
18	Sulphate (as SO_4^-)	mg/l	73	4500 SO_4^{2-}E	200	400
19	Carbonate Hardness (as $CaCO_3$)	mg/l	200	2340 A	-	-
20	Non Carbonate Hardness (as CaCO3)	mg/l	160	2340 A	-	-
21	Silica Reactive (as SiO_2)	mg/l	17.4	4500 SiO_2 C	-	-
22	Free Residual Chlorine	mg/l	Nil	4500 Cl B	0.2	**1

BDL: Below Detection Limit

Remarks:
The above submitted water sample **Does Not Comply** with drinking water specification as per **IS: 10500: 2012** respects to the above test conducted.

*****End of Test Report*****

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REF: BGLS/AUG-784/EC/25-26 AUGUST 13, 2025

ANALYSIS REPORT

Client Name	**M/S.B.S.Abdur Rahman Cresent Institute of Science & Technology.**
Client Address	Chennai.
Sample Mark	**MS Block**
Sources Of Water	**RO Water**
Date of Sample Received	12.08.2025
Date of Sample Commenced	13.08.2025
Date of Sample Completed	13.08.2025

S.No	Parameters	Unit	Results	Test Method (APHA 23rd Edition 2017)	Limits as per IS:10500 -2012 Standards	
					Acceptable Limit	Permissible Limit in the absence of alternate source
01	Physical Appearance	-	Clear	-	-	-
02	Color	Hazen	1.0	2120 B	5	15
03	Odour	-	Agreeable	2150 B	Agreeable	Agreeable
04	pH at 25°C	-	7.12	4500 H^+ B	6.5 – 8.5	6.5 – 8.5
05	Turbidity	NTU	BDL	2130 B	1	5
06	Electrical Conductivity at 25°C	Micromhos/ cm	59	2510 B	-	-
07	Total Suspended Solids(TSS)	mg/l	BDL	2540 D	-	-
08	Total Dissolved Solids(TDS)	mg/l	38	2540 C	500	2000
09	Total Alkalinity(as $CaCO_3$)	mg/l	14	2320 B	200	600
10	P-Alkalinity (as $CaCO_3$)	mg/l	Nil	2320 B	-	-
11	Total Hardness (as $CaCO_3$)	mg/l	6.0	2340 C	200	600
12	Calcium Hardness (as $CaCO_3$)	mg/l	4.0	3500 - Ca B	-	-
13	Magnesium Hardness (as $CaCO_3$)	mg/l	2.0	3500 - Mg B	-	-
14	Calcium (as Ca)	mg/l	1.6	3500 B	75	200
15	Magnesium (as Mg)	mg/l	0.4	2340 C	30	100
16	Total Iron (as Fe)	mg/l	BDL	3500 Fe-B	1.0	1.0

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S.NO	Parameters	Unit	Results	Test Method (APHA 23rd Edition)	Limits as per IS : 10500 - 2012 Standards	
					Acceptable Limit	Permissible Limit in the absence of alternate source
17	Chloride (as Cl^-)	mg/l	17	4500 Cl B	250	1000
18	Sulphate (as SO_4^-)	mg/l	4.5	4500 SO_4^{2-}E	200	400
19	Carbonate Hardness (as $CaCO_3$)	mg/l	6.0	2340 A	-	-
20	Non Carbonate Hardness (as CaCO3)	mg/l	Nil	2340 A	-	-
21	Silica Reactive (as SiO_2)	mg/l	BDL	4500 SiO_2 C	-	-
22	Free Residual Chlorine	mg/l	Nil	4500 Cl B	0.2	**1

BDL: Below Detection Limit

Remarks:
The above submitted water sample **Comply** with drinking water specification as per **IS: 10500: 2012** respects to the above test conducted.

End of Test Report

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AUGUST 19, 2025

MICROBIOLOGY EXAMINATION

Client Name	**M/S.B.S.Abdur Rahman Cresent Institute Of Science & Technology.**
Client Address	Chennai.
Sample Mark	**MS Block**
Sources Of Water	RO Water
Date of Sample Received	12.08.2025
Date of Sample Commenced	12.08.2025
Date of Sample Completed	19.08.2025

S.No	Parameters	Unit	Results	Requirement as per IS 10500 : 2012 second revision (Acceptable Limit)	Procedure ; APHA 22nd Edition 2012
01	Total Coli Forms	MPN/100 ml	**Absent**	Shall not be detectable in any 100 ml	IS :1622-1981 Amd.4 RA 2012
02	E- Coli	MPN/100 ml	**Absent**	Shall not be detectable in any 100 ml	IS :1622-1981 Amd.4 RA 2012

MPN: Most Probable Number

Remarks:
The above submitted water sample **Comply** with drinking water specification as per **IS: 10500 : 2012** respect to the above test conducted.

*****End of Test Report*****

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ANALYSIS REPORT

Client Name	**M/S.B.S.Abdur Rahman Cresent Institute of Science & Technology.**
Client Address	Chennai.
Sample Mark	**College Plant**
Source of Water	**STP Treated Water**
Date of Sample Received	12.08.2025
Date of Sample Commenced	12.08.2025
Date of Sample Completed	16.08.2025

S.No	Parameters	Unit	Results	Tolerance Limits for Treated Outlet as per TNPCB	Test Method (APHA 23rd Edition 2017)
01	pH at 25°C	-	7.71	5.5 to 9.0	4500 H^+ B
02	Total Dissolved Solids	mg/l	1128	2100	2540 C
03	Total Suspended Solids	mg/l	BDL	20	2540 D
04	Biological Oxygen Demand (BOD) at 27°C for 3days	mg/l	3.5	10	5210 C
05	Chemical Oxygen Demand (COD)	mg/l	19	50	5220 B
06	Oil & Grease	mg/l	BDL	10	5520 B

BDL: Below Detection Limit.

*****End of Test Report*****

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ANALYSIS REPORT

Client Name	**M/S.B.S.Abdur Rahman Cresent Institute of Science & Technology.**
Client Address	Chennai.
Sample Mark	Men's Hostel
Source of Water	**STP Treated Water**
Date of Sample Received	12.08.2025
Date of Sample Commenced	12.08.2025
Date of Sample Completed	16.08.2025

S.No	Parameters	Unit	Results	Tolerance Limits for Treated Outlet as per TNPCB	Test Method (APHA 23rd Edition 2017)
01	pH at 25°C	-	7.63	5.5 to 9.0	4500 H^+ B
02	Total Dissolved Solids	mg/l	1028	2100	2540 C
03	Total Suspended Solids	mg/l	BDL	20	2540 D
04	Biological Oxygen Demand (BOD) at 27 °C for 3days	mg/l	3.0	10	5210 C
05	Chemical Oxygen Demand (COD)	mg/l	17	50	5220 B
06	Oil & Grease	mg/l	BDL	10	5520 B

BDL: Below Detection Limit.

*****End of Test Report*****

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ANALYSIS REPORT

Client Name	**M/S.B.S.Abdur Rahman Cresent Institute of Science & Technology.**
Client Address	Chennai.
Sample Mark	**Campus Canteen**
Sources Of Water	**Well Water**
Date of Sample Received	12.08.2025
Date of Sample Commenced	13.08.2025
Date of Sample Completed	13.08.2025

S.No	Parameters	Unit	Results	Test Method (APHA 23rd Edition 2017)	Limits as per IS:10500 -2012 Standards	
					Acceptable Limit	Permissible Limit in the absence of alternate source
01	Physical Appearance	-	Turbid	-	-	-
02	Color	Hazen	1.0	2120 B	5	15
03	Odour	-	Agreeable	2150 B	Agreeable	Agreeable
04	pH at 25°C	-	7.44	4500 H + B	6.5 – 8.5	6.5 – 8.5
05	Turbidity	NTU	1.2	2130 B	1	5
06	Electrical Conductivity at 25°C	Micromhos/ cm	1382	2510 B	-	-
07	Total Suspended Solids(TSS)	mg/l	2.0	2540 D	-	-
08	Total Dissolved Solids(TDS)	mg/l	898	2540 C	500	2000
09	Total Alkalinity(as $CaCO_3$)	mg/l	160	2320 B	200	600
10	P-Alkalinity (as $CaCO_3$)	mg/l	Nil	2320 B	-	-
11	Total Hardness (as $CaCO_3$)	mg/l	340	2340 C	200	600
12	Calcium Hardness (as $CaCO_3$)	mg/l	190	3500 - Ca B	-	-
13	Magnesium Hardness (as $CaCO_3$)	mg/l	150	3500 - Mg B	-	-
14	Calcium (as Ca)	mg/l	77.5	3500 B	75	200
15	Magnesium (as Mg)	mg/l	36.5	2340 C	30	100
16	Total Iron (as Fe)	mg/l	0.1	3500 Fe-B	1.0	1.0

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S.NO	Parameters	Unit	Results	Test Method (APHA 23rd Edition)	Limits as per IS: 10500 - 2012 Standards	
					Acceptable Limit	Permissible Limit in the absence of alternate source
17	Chloride (as Cl^-)	mg/l	241	4500 Cl B	250	1000
18	Sulphate (as SO_4^-)	mg/l	153	4500 SO_4^{2-}E	200	400
19	Carbonate Hardness (as $CaCO_3$)	mg/l	160	2340 A	-	-
20	Non Carbonate Hardness (as CaCO3)	mg/l	180	2340 A	-	-
21	Silica Reactive (as SiO_2)	mg/l	15.9	4500 SiO_2 C	-	-
22	Free Residual Chlorine	mg/l	Nil	4500 Cl B	0.2	**1

BDL: Below Detection Limit

Remarks:
The above submitted water sample **Does Not Comply** with drinking water specification as per **IS: 10500: 2012** respects to the above test conducted.

End of Test Report

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