ENVIRONMENT AUDIT REPORT

Of

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY AND SCIENCES

Sangivalasa, Visakhapatnam

By

TÜV INDIA PRIVATE LIMITED
TÜV NORD GROUP

3RD FLOOR, 304 AND 304/A, ASHOKA BHOOPAL CHAMBERS,
SP ROAD, SECUNDERABAD, Hyderabad, Telangana - 500003

June 2022

SYED AHAMED MOHIUDDIN
ASSESSOR - SUSTAINABILITY

HEAD - CERTIFICATIONS

ACKNOWLEDGEMENT

TUV India wishes to thank all the staff and Management of ***Anil Neerukonda Institute of Technology & Science*** management, teaching & non-teaching for the kind cooperation and assistance extended to our Auditors during the course of the Environment Audit.

TUV Audit Team

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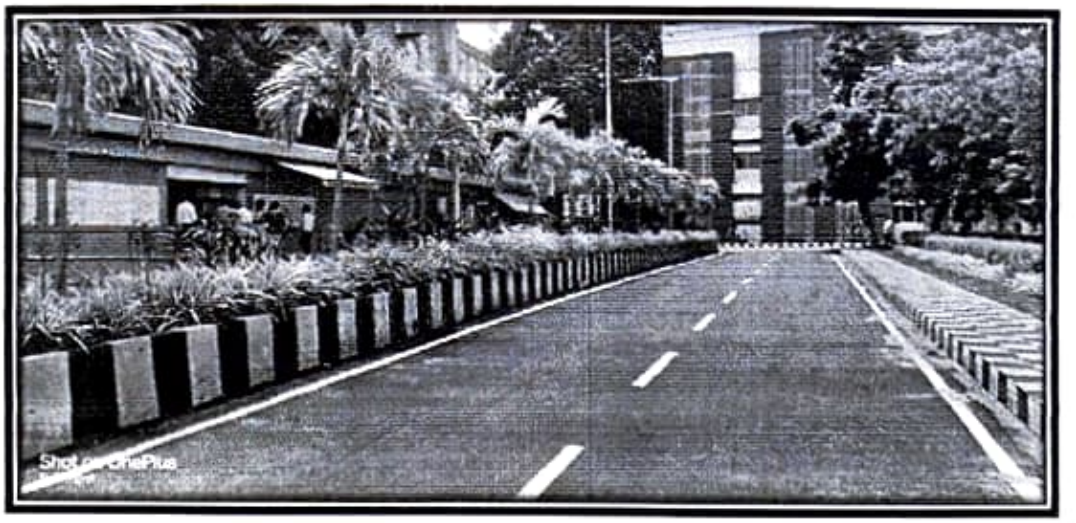
1. EXECUTIVE SUMMARY

Environment Audit of Anil Neerukonda Institute of Technology & Sciences was carried out by TUV India during June 2022. The approach taken in this facility included different tools such as preparation of questionnaire, physical inspection of the campus, observation and review of the documentation, interviewing key persons and associated systems. The study covered the following areas to summarize the present status of environment management in the campus.

The report accounts for the environmental management measures of the *Anil Neerukonda Institute of Technology & Sciences* based on actual assessment. The report compiles a list of possible actions to conserve and efficiently access the available scarce resources and their saving potential is also identified.



2. PROJECT BACKGROUND:

2.1 Objective

The scope of work includes gap analysis of the college campus as per applicable regulations and standards relating to environment management, waste water disposal, waste management, biodiversity assessment and safety practices.

2.2 Methodology

The Study team having diversified experience in Energy Audits, Water Audits, Green Audits, ISO 14001, ISO 45001, ISO 14064, ISO 50001, GRI reporting, AA1000AS, GHG Accounting and Sustainability validations/ Verifications along local EHS legislations is identified and formed to conduct the study.

The team verified all applicable environmental aspects as per the GRI (Global Reporting Initiative) Sustainability Reporting Standards for the entire campus including the EHS (Environment and Health Safety) safety requirements to evaluate institution's intent towards the Sustainability and EHS safety in combating climate change as well as their role towards carbon neutrality, GHG mitigation measures, communications to stakeholder and their concerns.

2.3 About TÜV India

TÜV India Private Limited was incorporated in India in the Year 1989 and is a premier organization in the field of Testing, Certification, Inspection and Training. The company is a subsidiary of TÜV Nord group, which has been working for last 150 Years in the field of Quality, Safety, Health, Standardization, Certification, and Inspection. It has presence in over 70 countries and offers expert services through a global network. With more than 15000 professionals worldwide TÜV Nord has a turnover of over 1 billion Euros. TÜV India offers entire range of services in certification and inspection in India and South Asia with our contingent of professionally qualified and industry experienced Auditors and Inspectors. With a strong team of qualified Engineers having diversified experience in the field of Building Construction, Maintenance, quality assurance, examination of Buildings in distress and related rehabilitation works. We at TÜV ensure to optimize customer operational efficiencies and thereby maximize customer satisfaction.

2.4 About the Institution

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY AND SCIENCES (ANITS), was established in the academic Year 2001-02 with the approval of the *ALL INDIA COUNCIL FOR TECHNOLOGY EDUCATION (AICTE)*, New Delhi and the Government of Andhra Pradesh and is affiliated to ANDHRA UNIVERSITY (AU), Visakhapatnam.

"ANITS" is located in a plot of 12 acres' area in Sangivalasa Village of Bheemunipatnam Mandalam and is approximately 300 meters from the Chennai - Kolkata Highway.

The campus has a population of around 4,766 of which, 4636 are only day users. Of the total population, 92.02% are Students, while teaching and supporting staff account for 5.24 % and 2.72 %, respectively.

ANITS - Campus Population

Infrastructure:

The college campus is spread over an area of over 12 Acres with amenities like Central library, Class Rooms & Seminar Halls, Transport, Hostels for Boys & Girls, Cafeteria, Medical and Sports.

3.0 ENVIRONMENTAL MANAGEMENT SCENARIO AT ANITS

CAMPUS

ANITS has a campus of 4.31 hectares, managed with green development concepts. As per the land management documents of the Institution, an area of 7978.60 m^2 is under built up area, while the remaining area is under Open category, either under Play fields or under parks and green belt.

The management have established a Environmental Policy Advisory committee (EPAC) and prepared a Environmental policy in the academic year 2019 – 2022. Environmental Policy.pdf (anits.edu.in)

S. No	Land use type	Extent (m^2)
1	Total Area	45484.00
2	Built up Ground Area	7978.60

The Green status of the land use in the ANITS, with nearly 32% of the area under open uses, can be considered as very good land use planning. The per capita open area is around 3.624 m^2, which is fairly very good and among similar level institutions under private sector, the status is High healthy.

S. No	Land Use	Extent (m2)	Extent (ha)	Percentage of Land Area
1	Built-up Ground Coverage	7978.60	0.80	17.54
2	Total Parking Area	8974.74	0.90	19.73
3	Tot-Lot + Play Ground Areas	5306.16	0.53	11.67
4	Roads and Tracks	5951.80	0.59	13.08
5	Vacant Site Area	17272.70	1.72	37.98
	TOTAL AREA	**45484.00**	**4.54**	

ANITS management is committed to the environmental concerns and sustainability and aims to make the Campus Carbon Neutral by the academic year 2024 - 2025

Towards this objective ANITS management has taken several Sustainability Initiatives to ensure that the campus complies with the Sustainable Development Goals (SDGs).

The management have prepared a checklist of flora and fauna diversity in and around the college campus. In terms of species diversity, number of trees and biomass quantities, the assessment was made and the results indicate that, the diversity of the tree cover and biological productivity from the available land has good scope for improvement. However, the present state of the tree species diversity and their enumeration are reported.

A total of 634 individual trees belonging to 17 tree species were recorded in the ANITS campus. Their composition indicates that most of them are native species of economic importance. The distribution of the trees into different girth classes indicate that 70% of the trees are aged less than 20 years old, revealing that most of them were planted after the campus is initiated.

4.0 BIODIVERSITY AT ANITS CAMPUS

4.1 Associated Flora in ANITS Campus:

No.	Family	Scientific Name	Vernacular Name	No.
1	ANACARDIACEAE	Mangifera indica	Mango	46
2	APOCYNACEAE	Cascabela thevetia	Pachha Ganneru	56
3	ARECACEAE	Borrasus flabellifer	Thati	58
4	ARECACEAE	Cocos nucifera	Coconut	47
5	ARECACEAE	Dypsis lutescens	Areca Palm	37
6	COMBRETACEAE	Terminalia catappa	Badam	40
7	FABACEAE	Delonix regia	Thurai	48
8	FABACEAE	Caesalpinia pulcherrima	Pamidi Thangedu	22
9	FABACEAE	Dalbergia sissoo	Indian Rosewood	1
10	FABACEAE	Millettia pinnata	Kanuga	42
11	FABACEAE	Peltophorum pterocarpum	Konda Chinta	6
12	FABACEAE	Saraca asoca	Ashoka	62
13	MELIACEAE	Azadirachta indica	Neem	49
14	MORACEAE	Ficus religiosa	Ravi	6
15	MYRTACEAE	Psidium guajava	Guava	52
16	MYRTACEAE	Syzygium cumini	Neredu	3
17	RUBIACEAE	Neolamarcia cadamba	Kadamba	42
18	SAPINDACEAE	Sapindus emarginatus	Kunkudu	17
		TOTAL		634

Distribution of Tree populations in to different Girth Classes

No.	Scientific Name	Vernacular Name	Girth Classes				No.
			A	B	C	D	
1	Mangifera indica	Mango	-	36	7	3	46
2	Cascabela thevetia	Pachha Ganneru	29	27	-	-	56
3	Borrasus flabellifer	Thati	-	12	37	9	58
4	Cocos nucifera	Coconut	-	29	12	6	47
5	Dypsis lutescens	Areca Palm	-	27	7	3	37
6	Terminalia catappa	Badam	18	20	2	-	40
7	Delonix regia	Thurai	21	24	3	-	48
8	Caesalpinia pulcherrima	Pamidi Thangedu	3	19	-	-	22
9	Dalbergia sissoo	Rosewood	-	1	-	-	1
10	Millettia pinnata	Kanuga	31	11	-	-	42
11	Peltophorum pterocarpum	Konda Chinta	2	4	-	-	6
12	Saraca asoca	Ashoka	5	44	9	4	62
13	Azadirachta indica	Neem	13	30	4	2	49
14	Ficus religiosa	Ravi	4	2	-	-	6
15	Psidium guajava	Guava	52	-	-	-	52
16	Syzygium cumini	Neredu	-	2	1	-	3
17	Neolamarcia cadamba	Kadamba	26	16	-	-	42
18	Sapindus emarginatus	Kunkudu	34	3	-	-	17
TOTAL			218	307	82	27	634

A = <40 cm; B = 41 – 90 cm; C = 91 – 140 cm; D = > 140

Mangifera indica

Psidium guajava

Azadirachta indica

4.2 Associated Fauna in ANITS Campus:

There are a number of animal species within the ANITS campus, indicating that the greenery serves as a biodiversity resource. Some of the Avian (Bird) species, and other animals observed and identified by the students are presented in this report and these mostly include 16 species of Birds; 5 species of Butterflies; and one squirrel species. Only such species which are frequently observed in the campus are included.

Butterfly species	
Common Name	Scientific Name
Common tiger	Danaus genutia
Lime butterfly	Papilio demoleus
Common pieroot	Castalius rosimon
Common crow butterfly	Euploea core
Dark Blue Tiger	Tirumala septentrionis
Avian Species	
Common Name	**Scientific Name**
Indian roller	Caoracias benghalensis
Cattle egret	Bubulcus ibis
Green bee eater	Merops orientalis
Blue rock pigeon	Columba livia
Common Myna	Acridotheres tristis
Black Drongo	Dicrurus macrocercus
Black kite	Milvus migrans
House crow	Corvus splendens
Jungle crow	Corvus macrorhynchos
Alexandrine parakeet	Psittacula eupatria
Rose Ringed Parakeet	Psittacula krameri
Spotted Dove	Streptopelia chinensis
Common Myna	Acridotheres tristis
Common House sparrow	Passer domesticus
Common Koel	Eudynamys scolopaceus
Mammalian species	
Common Name	**Scientific Name**
Indian squirrel	Funambulus palmarum

4.3 Environmental and Sustainability Initiatives

The management of ANITS have a vision of making its campus a Carbon Neutral campus and also to empower its students and employees in addressing the environmental and sustainability challenges of the nation, introduced several activities to create awareness and educational activities. These activities are generally taken up at the department level, while some activities on certain days of international or national importance, the activities are taken up at the Institutional level.

SWACH ANITS:

The SWACH ANITS programme was initiated at the Institutional level and coordinated by the NSS wing of the Institution. The programme aims at training the students in the *Participatory Management of the Campus* and also creates awareness among the students on the Swatch missions of the country. The programme for the year was launched in August 2019, and continued till the end of the academic year. About 120 students (10 to 12 volunteers from each department) have participated in this programme.

ECO GANESHA CAMPAIGN:

Eco Ganesha Campaign is one of the regular public outreach programme of **ANITS** conducted every year with the aim of using eco-friendly idols of Ganesh, so as to protect the water bodies from pollution of hazardous chemicals.

Around the time of latter half of August 2019, prior to Ganesh Chaturthi festival, the Green Club (GC) based at the Civil Engineering department, first conducts the ECO friendly Ganesh Idol Competition amongst students, and promote producing chemical free and easily water submersible idols of Ganesh in good numbers.

Fig: Students and Faculty participating in the Eco Ganesh Campaign

Save Earth Campaign

The Save earth campaign was conducted in the month of June 2022 in association with NSS Unit of ANITS College with an objective to create awareness on 4Rs – Refuse, Reduce, Reuse, Recycle.

Fig: Students and Faculty participating in the Save Campaign

5.0 AUDIT RECOMMENDATIONS

- It is recommended to establish a Procurement Policy towards environmental friendly materials.
- Impart environmental education through systematic environmental management approach and improving environmental standards among students and faculty.

6.0 Reference Standards & Regulations

- GRI Standards
- GHG Protocol Corporate Standard
- National Building Code 2016
- ISO 14064
- ISO 14040/44 Life Cycle Assessment
- ISO 46001 Water Efficiency Management
- ISO 14046 Water Footprint Standards
- True Rating Methodology for Waste Management
- Standards & Biodiversity by IISD
- IS 5216 - Guide for Safety Procedures and Practices in Electrical Work

ENVIRONMENT AUDIT REPORT

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY AND SCIENCES (A)

(ANITS)

Sangivalasa, Bheemunipatnam Mandal, Visakhapatnam,

Andhra Pradesh-531162, India

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ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY AND SCIENCES (A)

(ANITS)

Sangivalasa, Bheemunipatnam Mandal, Visakhapatnam,

Andhra Pradesh-531162, India

ENVIRONMENT AUDITING COMMITTEE

S.NO	Name	Designation	Committee Role	Signature
1	Dr.B. N. D. Narasingarao	Professor, HOD Department of Civil	Coordinator	
2	Mr. J. Harsha Vardhana Reddy	Assistant Professor Department of Civil	Member	
3	Dr.S. Siva Kumar	Assistant Professor, Department of Chemistry	Member	
4	Mr. G. Naresh	Assistant Professor, Department of Mechanical	Member	
5	Prof B Vijaya sarathi	Professor, Dept of Civil, AU	External Member	

PREAMBLE

Anil Neerukonda Institute of Technology and Sciences (ANITS), with the approval of the All-India Council for Technical Education, New Delhi and the Govt. of Andhra Pradesh, was established in the Academic Year 2001–02 by Anil Neerukonda Educational Society (ANES) which was founded by Dr. N.B.R. Prasad, an NRI philanthropist from the USA in memory of his son Late Anil Neerukonda to provide quality educational services in the fields of Technology and Sciences. The institute is affiliated to one of the oldest universities of India, Andhra University, Visakhapatnam. The institute is located in Sangivalasa, in Bheemunipatnam Mandal of Andhra Pradesh and is at a distance of 30 km from Visakhapatnam. Started with an intake of 220, the institute presently offers 9 undergraduate programmes in ECE, EEE, CSE, CSE (DS), CSE (AI& ML), IT, Mechanical, Civil & Chemical and 6 post graduate programmes in Communications Systems, Control Systems, Computer Science & Technology, Machine Design, Biotechnology & Soil Mechanics with an intake of 1080 in UG and 99 in PG courses respectively. In the path of providing the highest quality education and continuous improvement in academic and research activities, the institute was first accredited by NBA in 2008 for four programmes and for 5 programmes in 2013 and 2016. NBA accreditation for 7 UG programmes in under progress. The institute was recognized as research center by Andhra University and recognized under 2(f) & 12(b) of UGC act in 2013. ANITS was accredited by NAAC. In order to have flexibility to incorporate the latest developments in science & technology and brining in requirements of the industry into curriculum, ANITS become Autonomous in 2015-16. The institute was recognized as Skill Excellence Center by Govt., of Andhra Pradesh in 2017.

VISION AND MISSION STATEMENTS OF THE INSTITUTION:

Vision

ANITS envisions emerging as a world-class technical institution whose products represent a good blend of technological excellence and the best of human values.

Mission

To train young men and women into competent and confident engineers with excellent communicational skills, to face the challenges of future technology changes, by imparting holistic technical education using the best of infrastructure, outstanding technical and teaching expertise and an exemplary work culture, besides molding them into good citizens.

ANITS Environmental Policy

ANITS

ANITS ENVIRONMENTAL POLICY

ANITS, being the lead institution for Science, Technology and Engineering education in Andhra Pradesh, declared its Environmental Policy to be implemented from the academic year 2019-2020. was prepared by members of the Environmental Policy Advisory Committee (EPAC) during the start of academic year 2019-20.

ENVIRONMENTAL POLICY STATEMENT

"ANITS takes pride in integrating environmental concerns, in all its decision makings at all levels and to be exemplary in making its campus as eco-friendly. ANITS strive to create awareness among its students and employees and contribute to realize the Sustainable Development Goals (SDGs) set by the Government of India by enabling its students in developing innovative technologies that strengthen India's sustainable development and enhance productivity of rural India."

OBJECTIVES OF ENVIRONMENTAL POLICY

- Minimizing adverse impacts on environment through prevention of pollution and conservation of natural resources through continual improvement.
- Continually seeking to improve responsible management and efficient usage of energy, and reducing carbon emissions by utilizing alternate energy resources.
- Reviewing opportunities and implement measure to reduce waste generated by college and thereby minimizing any environmental by its responsible disposal.
- Developing skills among the students and researchers for developing innovative technologies in the reduce, reuse, recycling of wastes and promote entrepreneurships.
- Provide suitable environment awareness and training to staff, faculty, students and society, in practicing and promoting the culture of eco-friendly lifestyles.
- Reach the public through the staff, faculty and students in promoting activities for environmental protection;
- Develop the campus as "*Carbon Neutral*" with developing Carbon stocks in the vegetation and thereby enhancing its potential for carbon sequestration;
- Incorporating environmental concerns in the curriculum of the respective courses and enhance the knowledge systems in the development;
- Involve all students in the environmental activities, including "Each One – Plant One" Tree programme.
- Ensuring compliance with legal as well as other requirement.
- Establishing and reviewing environmental objectives and target periodically to ensure the better environmental performance through pro-active continual improve activities.
- Conduct "Green Audit" and "Energy Audit" every year by involving third part professionals' validation and review the implementation of the Environmental Policy.

Action path to be carried:

1. Awareness boards for saving energy and water to be displayed in all circulation areas and throughout the campus
2. Environmental sensitivity programs/activities must be periodically scheduled for students in developing innovative technologies in the reduce, reuse, recycling of wastes and promote entrepreneurships.
3. Annual Environment and Energy audits of the campus to be conducted
4. Replacement of LED Lamps in place of fluorescent lamps
5. Implementation of power consumption methods/techniques
6. Reuse of one-sided paper for writing or printing is promoted in all departments
7. E-Notice practice is promoted across the campus.
8. Initiatives to maintain an environmentally sustainable campus atmosphere
9. Minimal use of plastic and other such material during the college events
10. Staff and students should be advised to use public/college transport system and vehicle pooling.
11. Strengthening of rain water harvesting system in the campus.
12. Purchase of computers/ electronics systems are carried on buy back policy of old /outdated computers/ electronics systems wherever possible.

Principal
Anil Neerukonda Institute of Technology & Sciences
Sangivalasa-531 162
Visakhapatnam Dist

Campus and Physical Infra:

ANITS has a campus of 4.54 hectares, managed with green development concepts. As per the land management documents of the Institution, an area of 7978.60 m^2 is under built up area, while the remaining area is under Open category, either under Play fields or under parks and green belt.

	Land use Type	Extent (m^2)
1	Total area	45484
2	Built up Ground area	7978

Campus Population:

The campus has a population of around 4,766 of which, 4636 are only day users. Of the total population, 92.02% are Students, while teaching and supporting staff account for 5.24 % & 2.72 % respectively

Environmental Sustainability:

A course on Environmental Studies has been included for all UG programmes. In order to sensitize students about the environment and sustainability issues and activities such as seminars, guest lectures, industry visits and field excursions were organized. Also, June 5th - Environment Day is celebrated every year scattering awareness and responsibility in all the stakeholders. The institute ignites sensitivity towards society and environment by various activities conducted by the Institutes NSS Team like zero plastic in the campus, distributing of cloth and paper bags, making of eco-friendly Ganesh idols, installation of bins to collect wastage and motivating students to spread awareness of cleanliness and Swachh Bharat Mission through activities like cleaning of beach, campus cleaning etc.

Objectives of Environment audit

- Minimize adverse impacts on environment through prevention of pollution and conservation of natural resources
- To suggest sustainable energy usage and water conservation practices.
- To assess the water usage and its quality, within the college campus.
- To find out various sources for generation and measures for mitigation of different wastes.
- To suggest measures to improve biodiversity within the college campus.

ENVIRONMENT FRIENDLY PRACTICES OF COLLEGE

As an environment friendly institution, the institute has solar energy with a capacity of 450kVA, wheeling to eastern power grid and uses LED bulbs for power conservation. The college a solid waste management system, Sewage Treatment Plant (STP) of 200 KL/day capacity and e-waste management system. Good water conservation facilities such as rain water harvesting pits, bore well recharge system and waste water recycling system are available in the campus. Certain green campus initiatives and partial barrier free disabled friendly facilities are created. An inclusive environment is created by maximum participation of stakeholders through various committees, delegating powers, NSS/ club activities. As a mark of respect and showcasing constitutional obligations, various events on days of national significance such as world water day, World environment day, International yoga day, No plastic day etc and activities in tune to the government initiatives such as Swachbharat etc.,are organized in the institute. 2 villages were adopted under UBA (Unnat Bharat Abhiyan) scheme.

1. Land Use:

The Green status of the land use in the ANITS, with nearly 32% of the area under open uses, can be considered as very good land use planning. The per capita open area is around 3.624 m^2 which is fairly very good and among similar level institutions under private sector, the status is **High healthy**

	Land Use	Extent (m^2)	Extent (ha)	% of Land Area
1	Built-up Ground Coverage	7978.60	0.80	17.54
2	Total Parking Area	8974.74	0.90	19.73
3	Tot-Lot + Play Ground Areas	5306.16	0.53	11.67
4	Roads and Tracks	5951.80	0.59	13.08
5	Vacant Site Area	17272.70	1.72	37.98
	TOTAL AREA	**45484**	**4.54**	

The land use can be considered as highly balanced as per the norms for institutions of higher learning. Though the vacant site area, was marked for greening, the total open area (areas under roads and Tracks; Playground areas and more than 80% of the Parking areas are left open to sky, thereby enabling free wind flow, good harvesting of rain waters through natural percolation.

2. Water

ANITS well aware of the importance of water and has a dedicated water management cell. Water is used for different purposes like, Drinking; Other domesticated uses; Laboratories; House Keeping and Greenery. For all the uses, ANITS depends upon ground water only as there was no public supply facility.

ANITS taps around 40 KLD of water from 4 bore wells, and has an installed capacity of 40 KLD above ground storage tanks. The mean distribution of the water for different uses is as follows:

S.No	Purpose	Quantity (KLD)	(% Total)
1	Drinking	6	15
2	Other Domestic Uses	14	35
3	Laboratories & Other facilities	18	45
4	Greenery	2	5

On the whole, the drinking water availability is at 1.2 litres/head and 99 % of the campus population stays in the campus for less than 8 hours, the drinking water availability is reasonably good compared to the standard of 5 litres/head/24hrs. ANITS has a R.O. Plant with an installed capacity of 6000 litres/day, and through which Reject water of 10000 litres/day will be generated for an operating period of 6 hours. More than a half of which is used for floor washes and the remaining for the greenery. The RO plant water also is used by neighbouring sister institution of the ANITS group. ZAM ZAM Aqua system analyses the service condition of the equipment and Department of chemistry analyses the water samples collected from RO unit for all the important parameters on a quarterly basis.

Service report of the RO Plant

ZAM ZAM AQUA SYSTEMS

FIRST IN SERVICE BEST IN QUALITY

BMPS ROAD, GF-1,PRASADAMPADU,VIJAYAWADA-8,CELL.8099999309,9339333331.

SERVICE REPORT

Visiting Date:-31-07-2020.

CUSTOMER ADRESS:-

ANITS COLLEGE,
MUDU GULLA JUNCTION,
BHIMUNIPATTANAM,
VISAKHAPATANAM.

SUB: - Service report of Anits college (Mech building) 1000LPH RO Plant.

Plant Description	Present plant Condition	If any Remarks
Raw water TDS	980ppm	
Product Water TDS	25ppm	Good condition
Sand filter condition	3.2kg pressure	Good condition
Carbon filter condition	3.0kg pressure	Good condition
Dosing pump condition	ok	Good condition
Raw water pump condition	2000Lph output	Good condition
Micron filter housing condition	He was replacing 1nc in 30days	Good condition
High pressure pump condition	ok	Good condition
4" RO Membranes condition	Perfectly good	Good condition
Flow meters condition	Perfectly good	Good condition
Uv system condition	Full working condition	Good condition
Storage tank condition	He was washing 1nc in 30days	Good condition
Multiport valve condition	Not leaking	Good condition

Customer Sign & stamp
After checking our service engineer.

our service engineer Sign & Stamp

Thanking you.
For ZAM ZAM AQUA SYSTEMS

ZAM ZAM AQUA SYSTEMS

FIRST IN SERVICE BEST IN QUAOLITY
BMPS ROAD, QF-1,PRASADAMPADU,VIJAYAWADA-8,CELL:8099999309,9339333331.

SERVICE REPORT

Visiting Date:-30-01-2021.

CUSTOMER ADRESS:-

ANITS COLLEGE,
MUDU GULLA JUNCTION,
BHIMUNIPATTANAM,
VISAKHAPATNAM.

SUB: - Service report of Anits college (Mech building) 1000LPH RO Plant.

Plant Description	Present plant Condition	If any Remarks
Raw water TDS	975ppm	
Product Water TDS	24ppm	Good condition
Sand filter condition	3.2kg pressure	Good condition
Carbon filter condition	3.0kg pressure	Good condition
Dosing pump condition	ok	Good condition
Raw water pump condition	2000Lph output	Good condition
Micron filter housing condition	He was replacing 1nc in 30days	Good condition
High pressure pump condition	ok	Good condition
4" RO Membranes condition	Perfectly good	Good condition
Flow meters condition	Perfectly good	Good condition
Uv system condition	Full working condition	Good condition
Storage tank condition	He was washing 1nc in 30days	Good condition
Multiport valve condition	Not leaking	Good condition

Custom[illegible]e & stamp
After ch[illegible]king our [illegible]ice engineer.

our service engineer Sign & Stamp

Thanking you.
For ZAM ZAM AQUA SYSTEMS

3. ENERGY

ANITS is one of the few institutions in India to have pioneered in the energy conservation and use of renewable energy sources. Basically, it uses three types of Energy sources: (1) Electricity from the Public supply and (2) Electricity from the Own Solar plants and (3) Diesel (HSD).

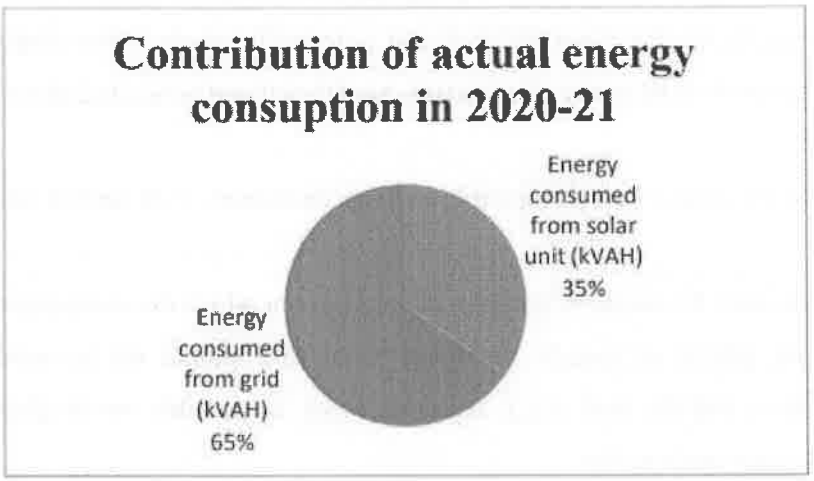
An energy audit is a study of a plant, building or facility to determine how much energy is used and to identify methods for energy savings. Proper balancing in implementation of the new technologies and already existing technology provide the most hopeful prospects for the future. The opportunities lie in the use of existing renewable energy technologies, enhancing the energy efficiency and the distribution of these technologies.

Date collection for energy audit of Anil Neerukonda Institute of Technology and Sciences (ANITS) Campus for the period of April 2020 to March 2021 has been done by the team. This audit was over sighted to inquire about the convenience to develop the energy competence of the campus. This audit is essential to identify the energy proficient appliances/instruments. The data is collected from each classroom, laboratory and every room by considering the number of tubes, fans, ACs, electronic instruments, water purifiers, printers, xerox machines, pumps, projectors etc., present in each room

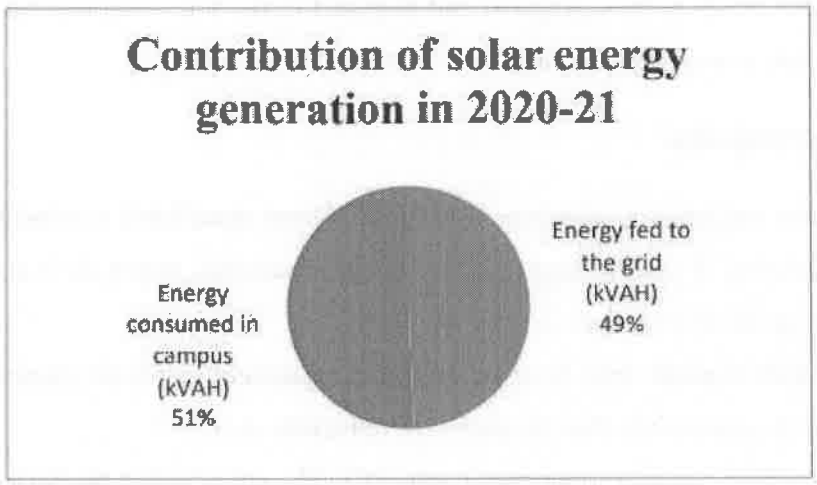
Institute has 450 kVA solar power generation system with 1364 panels installed and is connected to the grid. The energy units consumed from the public supply is exclusive of this power. Thus, addition of this power, accounts for a per capita production of 1963.85 Units/Annum. Highlights of the energy audit are

I. The total connected load as per the present energy audit is 2423.64 kVA.
II. The institute has 450 kVA solar power generation. The total solar energy generation in the year 2020-21 is 4,92,227 kVAh/Annum.
III. The total actual energy consumption in the campus during 2020-21 is 7,16,806 Units/Annum.
IV. The college has paid total 40,15,795/- Rs/Annum for the electricity bill in 2020-21 which is equivalent to 31.33% of the actual energy consumed. This is due to the availability of solar plant in the campus.
V. The contract demand is 450 kVA and monthly minimum consumption is 360 kVA. The average measured maximum demand maintained in the year is 120.99 kVA.
VI. The institute has two capacitor banks of ratings 30 kVAR and 15 kVAR. The Average power factor maintained during the year is 0.9967.
VII. The institute has a 500 kVA diesel generator set to supply the back-up power

The actual energy consumed in 2020-21 is 7,16,806 Units/Annum. Out of this, the solar unit is contributing 2,49,537 Units/Annum (i.e., 34.81%). The remaining 4,67,269 Units/Annum (i.e., 65.19%) are consumed from the grid



The solar unit is generated 4,92,227 Units/Annum in 2020-21. Out of this 2,42,690 Units/Annum (i.e., 49.30%) are fed to the grid. The remaining 2,49,537 Units/Annum (i.e., 50.70 %) are used in the campus



4. WASTE MANAGEMENT

Chemical waste disposal guidelines and norms followed at ANITS

By law, we are required to dispose waste as pollution board rules. We also have a moral obligation to maintain the environment. All lab waste is prima-facie a hazardous waste that must be segregated and disposed appropriately. To avoid difficult and potentially costly waste disposal problems, a procedure should be in place to assure all materials are labeled and unneeded chemicals disposed of properly.

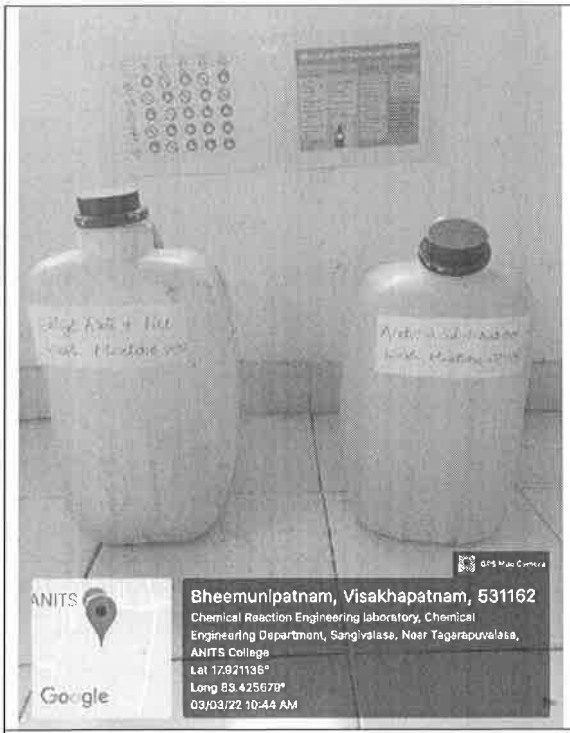
1. Material should be placed into compatible storage containers with secure screw-on tops and labeled.
2. In general waste must be stored in the type of container in which the component materials were purchased (glass, plastic or metal). However, metal cans should not be used for acidic and corrosive solutions (alkali, acid, etc.). Also, as much as possible avoid glass containers for storage as they can shatter easily.
3. Small amount of waste can be collected in the labs. Once a month, lab in-charges are required to collect all the waste and bring it to the waste collection shed (next the utility building). Only labelled and segregate waste will be collected so please make sure all the rules of segregation and labelling are followed. No mystery chemicals please.
4. Hazardous waste needs to be segregated and disposed in the following manner to comply with the institute waste management policy.

Chemical waste segregation:

1. Acids + solvents mixture can spontaneously ignite. Never store/leave a solvent + acid mixture in the lab unattended. If you do happen to make such a solution, segregate it and take it outside of the building to the waster shed.
2. Acidic waste with fluoride ions must be collected separately in plastic containers, e.g. dilute hydrofluoric acid, ammonium fluoride and buffered-oxide etch.
3. Acidic wastes which contain toxic metal salts (Cr, Pb, etc.) cannot be buried in a chemical landfill, so must be collected separately.
4. Acid waste that does not contain metallic toxins or fluoride and have a pH>4 can be disposed into the drain with copious amounts of water
5. Acid waste that does not contain metallic toxins or fluoride and have a pH<4 must be separately collected in plastic containers.
6. Acids + oxidizers react and evolve gas. So unattended acids+oxidizer mixtures present an explosion hazard -- in extreme cases plastic bottle can burst spraying acid everywhere. Fresh

acids+oxidizer mixtures must be collected separately and kept inside the fume hood for 1 day. This allows time for the reaction to complete and gasses to escape. Nitric acid is both a strong acid and an oxidizer so solutions containing HNO3 it should be treated as an acid+oxidizer.

7. Solvents + oxidizer mixture can also spontaneously ignite. Never store/leave a solvents + oxidizer mixture in the lab unattended. If you do happen to make such a solution, segregate it and take it outside of the building to the waste shed.
8. Base + solvent mixtures also evolve gasses. So unattended base+oxidizer mixtures present an explosion hazard -- in extreme cases plastic bottle can burst spraying base everywhere. Fresh base+oxidizer mixtures must be collected separately and kept inside the fume hood for 1 day. This allows time for the reaction to complete and gasses to escape.
9. Solvents must be separately collected in plastic or metal containers, e.g. benzene, ether, ethyl acetate, acetone, alcohols, hydrocarbons, etc.
10. Non-toxic basic waste with a pH<10, must can be disposed into the drain with copious amounts of water.
11. Basic waste with pH > 10, must be separately collected in plastic container. If they do not have any oxidizer, bases can be stored with solvents.



Chemical waste mixtures storage cans in Chemical Reaction Engineering Laboratory

Log Book For chemical waste Disposal
Chemical Reaction Engineering Lab

S.No	Date	Chemical Name	Conc.	Quantity	Staff Signature
01	01/Feb/22	Ethyl acetate	0.1N	20L	
		NaOH	0.1N	20L	
		HCl	0.1N	1L	
		Acetic acid	0.1N	500ml	
02	2/Feb/22	Ethyl acetate	0.1N	20L	
		NaOH	0.1N	20L	
		HCl	0.1N	1L	
		Acetic acid	0.1N	500ml	
03	22/Feb/22	Ethyl acetate	0.1N	20L	
		NaOH	0.1N	20L	
		HCl	0.1N	1L	
		Acetic acid	0.1N	500ml	
04	30/Feb/22	Ethyl acetate	0.1N	20L	
		NaOH	0.1N	20L	
		HCl	0.1N	1L	
		Acetic acid	0.1N	500ml	
05	6/May/22	Ethyl acetate	0.1N	20L	
		NaOH	0.1N	20L	
		HCl	0.1N	20L	
		Acetic acid	0.1N	500ml	

The above Chemicals are neutralize pH = 0 disposal and then to disposed

Chemical waste mixtures & disposable log register in Chemical Reaction Engineering Laboratory

Chemical waste mixtures storage bottles in Mass Transfer Laboratory

Mass Transfer Lab

LOG BOOK FOR WASTE DISPOSAL (CHEMICAL)

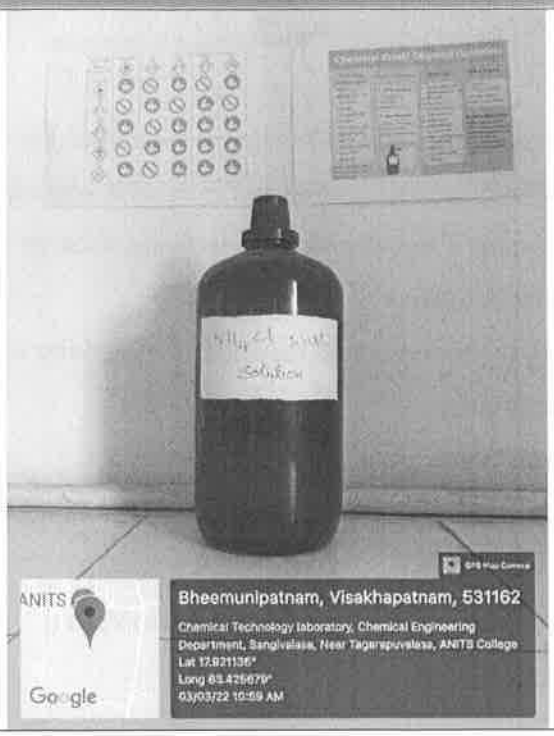
S.NO	Date	Chemical name	Conc.	Quantity	Staff Signature
01	01/03/2021	Toluene + CCl_4		320ml	
		NaOH	0.1N	700ml	
		Acetic acid		50ml	Tulasi
		Benzene		50 ml	
		Hcl	0.1N	100ml	
02	02/03/2021	Toluene + CCl_4		340ml	
		NaOH	0.1N,	700 ml	
		Acetic acid		50ml	Tulasi
		Benzene		50ml	
		Hcl	0.1N	100ml	
03	22/03/2021	Toluene + CCl_4	0.1N	340ml	
		NaOH	0.1N	700ml	
		Acetic acid		50ml	Tulasi
		Benzene		50ml	
		Hcl	0.1N	100ml	
04	30/03/2021	Toluene + CCl_4		320ml	
		NaOH	0.1N	700ml	
		Acetic acid		50ml	Tulasi
		Benzene		50ml	
		Hcl	0.1N	100ml	

S.NO	Date	chemical name	conc.	quantity	Staff Signature
05	06/04/2021	Toluene + CCl_4		320ml	
		NaOH	0.1N, 1N	800ml	
		Acetic acid		50ml	Tulasi
		Benzene		50ml	
		Hcl		100ml	

Tulasi (Lab Technician)

(Lab Incharge)

Chemical waste mixtures & disposable log register in Mass Transfer Laboratory



Chemical waste mixtures storage bottles in Chemical Technology Laboratory

Log Book For Chemical Waste Disposal
Chemical Technology Lab

S.No	Date	Chemical Name	Conc	Quantity	Staff Signature
01	27/02/2021	H_2SO_4	0.1N	800mL	Tulasi
02	04/03/2021	NaOH	0.1N	900mL	Tulasi
03	12/03/2021	NH_3	Dilute	570mL	Tulasi

The above chemicals are marked and kept in disposal area for disposal on 16/3/21
Tulasi (Lab Technician)
Lab Incharge

Chemical waste mixtures & disposable log register in Chemical Technology Laboratory

(Dr. Ch. Anil)
HoD,ChE.

HEAD,
DEPARTMENT OF CHEMICAL ENGINEERING

Solid waste management:

- The dry solid waste is put by the respective departments in a collection pit located within the campus. This dry solid waste is collected every day in the morning and campus is kept clean with as inspiration from Swatch Bharat Mission, Twin-Bin system is being used in the Institute to segregate recyclable and biodegradable waste.
- The used papers and notebooks are collected every semester and recycled. This activity is an exclusive initiative of our students under various clubs.
- Chemical and hazardous waste from laboratories if any are disposed as per norms.
- The campus is Wi-Fi enabled and hence all communication is made online minimizing paper usage.
- Usage of plastic cups, plates and cutlery are banned in the campus as a green initiative.
- Organic waste is composted and used for manure.

Liquid waste management:

- Sewage Treatment Plant (STP) of 200 KL/day capacity is in use both in the Institution campus and Hostel. The treated water is used for flushing and gardening purpose.
- Two STP'S with capacities 300 KLD and 200 KLD are under the premises of ANH, handling waste water from hospital, the Institution campus and hostel.
- Aeration process is being used in the treatment of waste water.
- Liquid chemicals from Chemistry and Environment Engineering Lab are disposed as per safety norms.

E-waste management:

- All Computers, batteries and electronic machinery is purchased under Buy-Back agreement.

Wastes Generation:

The wastes generated from academic and administrative divisions only could be taken in to account, as the total institution could not be covered for certain limitations during this first audit. The wastes generated from the academic and administrative divisions are characterized into

(a) Wet Waste;

(b) Paper & Board waste;

(c) Metallic waste;

(d) Plastic Waste;

(e) Battery waste

(f) E-waste.

The waste generated from the two divisions, from a sampling of 1 month is presented below:

Waste Type	Sources	Qty	Disposal
Wet Waste	Dining Halls & Messes	60 kg/day	Compost
Paper & Board	Administrative & Academic	4.7 kg/day	Authorized Vendors
Metallic	All	0.21 kg/day	Authorized Vendors
Plastic	All	0.36 kg/day	Authorized Vendors
E-waste	All	0.2 kg/day	Authorized Vendors

The waste management is one area where the institution is focusing on application of 5 R's principle so as to enable the young learners for innovations. The Institution has initiated several good initiatives in the field of solid waste management. Within each building or facility, at all common places, at convenient points, semi-closed dust/waste bins were placed to dispose all types of dry wastes. However, for the disposal of Wet-waste, one large bin was placed near the major entries of the buildings. The wet wastes are cleared on daily basis and are transferred to the compost area. On the other hand, the dry wastes are cleared from their bins twice a week, and are transferred to the common place where they are segregated to different waste types and disposed to authorized vendors. All the students are encouraged to examine the dry waste and to take up team projects to develop innovative systems for the use of such wastes or their minimization.

5 Ecological Activities

Environmental and Sustainability Initiatives of ANITS is to realize its Vision of making its campus a Carbon Neutral campus and also to empower its students and employees in addressing the environmental and sustainability challenges of the nation, introduced several activities to create awareness and educational activities. These activities are generally taken up at the department level, while some activities on certain days of international or national importance, the activities are taken up at the Institutional level.

1. **Swachh ANITS:** The programme was initiated at the Institutional level and coordinated by the NSS wing of the Institution. The programme aims at training the students in the Participatory Management of the Campus and also creates awareness among the students on the Swatch missions of the country. The programme for the year was launched in August 2019, and continued till the end of the academic year. About 120 students (10 to 12 volunteers from each department) have participated in this programme.

2. One student One plant:

Department of Mechanical Engineering, ANITS Successfully organized "One student – One plant" on 11th March 2021. The Program was Organised under U TOO CAN Club. It was organised for inculcating the habit of plantation of saplings in the students. It was organised to understand the importance of trees and how trees protect ecological balance in nature.

3. Save The Beaches: ANITS, as part of its environmental initiatives organizes World Ozone Day every year on September 16th so as to educate the young engineers on the importance of use of Ozone Depleting Substances in various technologies and gadgets. The programme is conducted at the Institute level.

Water Quality Analysis reports 2020-2021

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY&SCIENCES
(UGC-Autonomous)
(Affiliated to Andhra University, Approved by AICTE &Accredited by NBA&NAAC with 'A'Grade)
Sangivalasa 531162, Bheemunipatnam Mandal, Visakhapatnam Dist.

Quarterly Report of Water Quality Monitoring
Analysis Carried out by Dept. of Chemistry, ANITS

Date of Sampling 26-06-2020

S.No.	Parameters	SAMPLE RO Water ANITS	W. H. O. Limits	
			A	B
1.	P^H	7.22	7-8.5	6.5-9.2
2.	Temperature(^{0}C)	25	-	-
3.	Total Hardness (ppm)	91.65	120	600
4.	Calcium (ppm)	3.76	75	200
5.	Magnesium (ppm)	19.98	50	150
6.	Chloride (ppm)	11.25	200	600
7.	Alkalinity (ppm)	5.25	-	-
8.	Total dissolved solids (ppm) (Conductivity &TDS meter)	200	500	1500

Note:

A) Recommended maximum concentration ppm

B) Maximum permissible concentration ppm

Recommendations: All the parameters are within the limits and the quality of water is good for drinking

Dr. M.Padmalatha
Assistant professor
Department of Chemistry

Dr.S.Sivakumar
Assistant professor
Department of Chemistry

HoD
Proffessor
Department of Chemistry
Department of Chemistry
Anil Neerukonda Institute of
Technology & Sciences

Principal
ANITS
Anil Neerukonda Institute of
Technology & Sciences
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Quarterly Report of Water Quality Monitoring
Analysis Carried out by Dept. of Chemistry, ANITS

Date of Sampling 15-9-2020

S.No.	Parameters	Sample ANITS RO Water	W. H. O. Limits	
			A	B
1.	p^H	7.85	7-8.5	6.5-9.2
2.	Temperature	27	-	-
3.	Total Hardness (ppm)	116.78	120	600
4.	Calcium (ppm)	22.4	75	200
5.	Magnesium (ppm)	22.86	50	150
6.	Chloride (ppm)	25.85	200	600
7.	Alkalinity (ppm)	110	-	-
8.	Total dissolved solids (ppm) (Conductivity &TDS meter)	300	500	1500

Note:

A) Recommended maximum concentration ppm

B) Maximum permissible concentration ppm

Recommendations: All the parameters are within the limits and the quality of water is good for drinking

Dr. R.Swaroopa rani
Assistant professor
Department of Chemistry

Dr.S.Sivakumar
Assistant professor
Department of Chemistry

HoD
Proffessor
Department of Chemistry

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Quarterly Report of Water Quality Monitoring
Analysis Carried out by Dept. of Chemistry, ANITS

Date of Sampling 26-12-2020

S.No.	Parameters	SAMPLE RO water ANITS	W. H. O. Limits	
			A	B
1.	P^H	6.23	7-8.5	6.5-9.2
2.	Temperature(^{0}C)	27	-	-
3.	Total Hardness (ppm)	84.88	120	600
4.	Calcium (ppm)	0	75	200
5.	Magnesium (ppm)	20.62	50	150
6.	Chloride (ppm)	20.84	200	600
7.	Alkalinity (ppm)	11.29	-	-
8.	Total dissolved solids (ppm) (Conductivity &TDS meter)	300	500	1500

Note:

A) Recommended maximum concentration ppm

B) Maximum permissible concentration ppm

Recommendations: All the parameters are within the limits and the quality of water is good for drinking

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Quarterly Report of Water Quality Monitoring Analysis Carried out by Dept. of Chemistry, ANITS

Date of Sampling 13-03-2021

S.No.	Parameters	SAMPLE RO Water ANITS	W. H. O. Limits	
			A	B
1.	p^H	7.85	7-8.5	6.5-9.2
2.	Temperature	27	-	-
3.	Total Hardness (ppm)	116.74	120	600
4.	Calcium (ppm)	22.42	75	200
5.	Magnesium (ppm)	22. 86	50	150
6.	Chloride (ppm)	25.85	200	600
7.	Alkalinity (ppm)	110	-	-
8.	Total dissolved solids (ppm) (Conductivity &TDS meter)	300	500	1500

Note:

A) Recommended maximum concentration ppm

B) Maximum permissible concentration ppm

Recommendations: All the parameters are within the limits and the quality of water is good for drinking

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Assistant professor
Department of Chemistry

Dr.S.Sivakumar
Assistant professor
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Ambient air quality monitoring:

Since air quality plays a vital role for good health. Air Quality monitoring instrument is used to monitor quarterly the criteria pollutants. The most important air quality parameters, which are measured are SO_2 and NO_2 and SPM. The other criteria pollutants such as Ozone, Carbon Monoxide and Lead are not measured because there are no nearby Industries located near the institute, which are emitting these pollutants. Department of mechanical analyse the air sample for the above-mentioned parameters on quarterly basis

Noise Quality Assessment:

The human ear is constantly being assailed by man-made sounds from all sides, and there remain few places in populous areas where relative quiet prevails. There are two basic properties of sound, (1) loudness and (2) frequency. Loudness is the strength of sensation of sound perceived by the individual. It is measured in terms of Decibels. Just audible sound is about 10 dB, a whisper about 20 dB, library place 30 dB, normal conversation about 35-60 dB, heavy street traffic 60-0 dB, boiler factories 120 dB, jet planes during take-off is about 150 dB, rocket engine about 180 dB. The loudest sound a person can stand without much discomfort is about 80 dB. Sounds beyond 80 dB can be safely regarded as Pollutant as it harms hearing system. The WHO has fixed 45 dB as the safe noise level for a city. For international standards a noise level up to 65 dB is considered tolerate. Loudness is also expelling. Noise equally plays a vital role in the environment; hence noise measurement is also done at the institute quarterly. The college is very quiet and no noise pollution is seen. The maximum observed noise level is between 45-55 dB in most of the places in the departments and at times 65-75 dB near some of machines in lab. Noise levels are within limits as per CPCB standards

Air Quality Analysis reports 2020-2021

Anil Neerukonda Institute of Technology & Sciences (Autonomous)
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Phone: 08933-225083/84/87 Fax: 226395
Website: www.anits.edu.in email: principal@anits.edu.in

Quarterly Report of Air Quality monitoring report

Analysis carried out by Dept. of Mechanical, ANITS

Date of Sampling 27-06-2020

S.No	Parameter	Value *µg/m3*	Permissible limits (As per NAAQS) *µg/m3*
1	Sulphur Dioxide (SO_2)	25	80
2	Nitrogen Dioxide (NO_2)	33	80
3	Particulate matter PM_{10}	79	100

Report: All the analyzed air quality parameters are within the permissible limits

K. GowriSankar
Assistant Professor
Dept. of Mech. Engg.

G. Naresh
Assistant Professor
Dept. of Mech. Engg.

HOD
Mech. Engg.

PROFESSOR & HEAD
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Quarterly Report of Air Quality monitoring report

Analysis carried out by Dept. of Mechanical, ANITS

Date of Sampling 14-09-2020

S.No	Parameter	Value *µg/m3*	Permissible limits (As per NAAQS) *µg/m3*
1	Sulphur Dioxide (SO_2)	28	80
2	Nitrogen Dioxide (NO_2)	37	80
3	Particulate matter PM_{10}	83	100

Report: All the analyzed air quality parameters are within the permissible limits

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Dept. of Mech. Engg.

G. Naresh
Assistant Professor
Dept. of Mech. Engg.

HOD
Mech. Engg.

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Quarterly Report of Air Quality monitoring report

Analysis carried out by Dept. of Mechanical, ANITS

Date of Sampling 28-12-2020

S.No	Parameter	Value *µg/m3*	Permissible limits (As per NAAQS) *µg/m3*
1	Sulphur Dioxide (SO_2)	35	80
2	Nitrogen Dioxide (NO_2)	41	80
3	Particulate matter PM_{10}	88	100

Report: All the analyzed air quality parameters are within the permissible limits

K. GowriSankar
Assistant Professor
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G. Naresh
Assistant Professor
Dept. of Mech. Engg.

HOD
Mech. Engg.

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Quarterly Report of Air Quality monitoring report

Analysis carried out by Dept. of Mechanical, ANITS

Date of Sampling 12-03-2021

S.No	Parameter	Value *µg/m3*	Permissible limits (As per NAAQS) *µg/m3*
1	Sulphur Dioxide (SO_2)	22	80
2	Nitrogen Dioxide (NO_2)	31	80
3	Particulate matter PM_{10}	76	100

Report: All the analyzed air quality parameters are within the permissible limits

K. GowriSankar
Assistant Professor
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G. Naresh
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HOD
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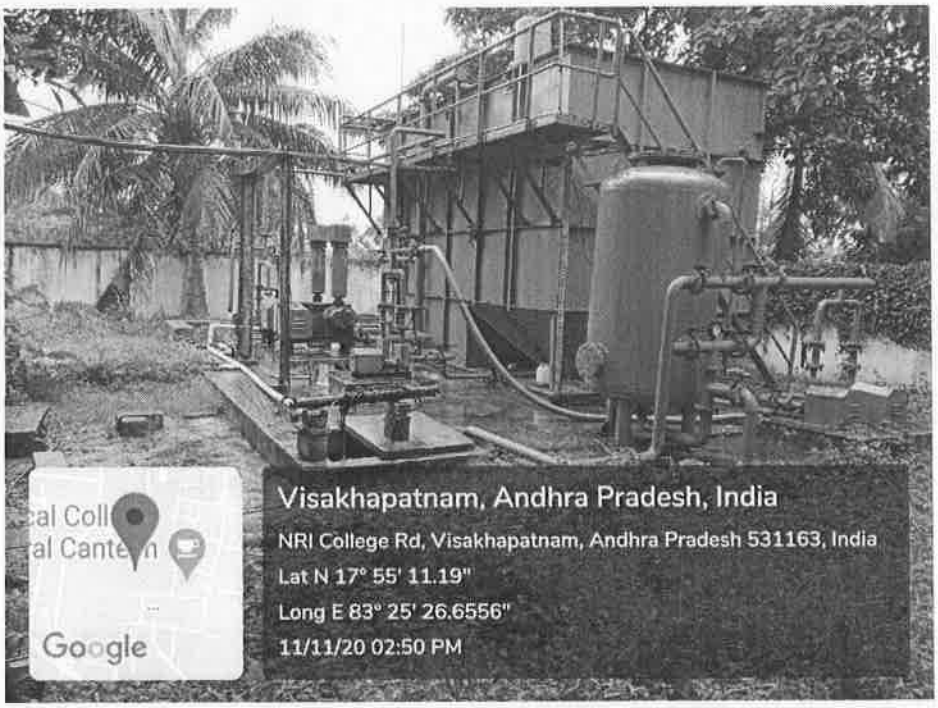
Visakhapatnam Dist

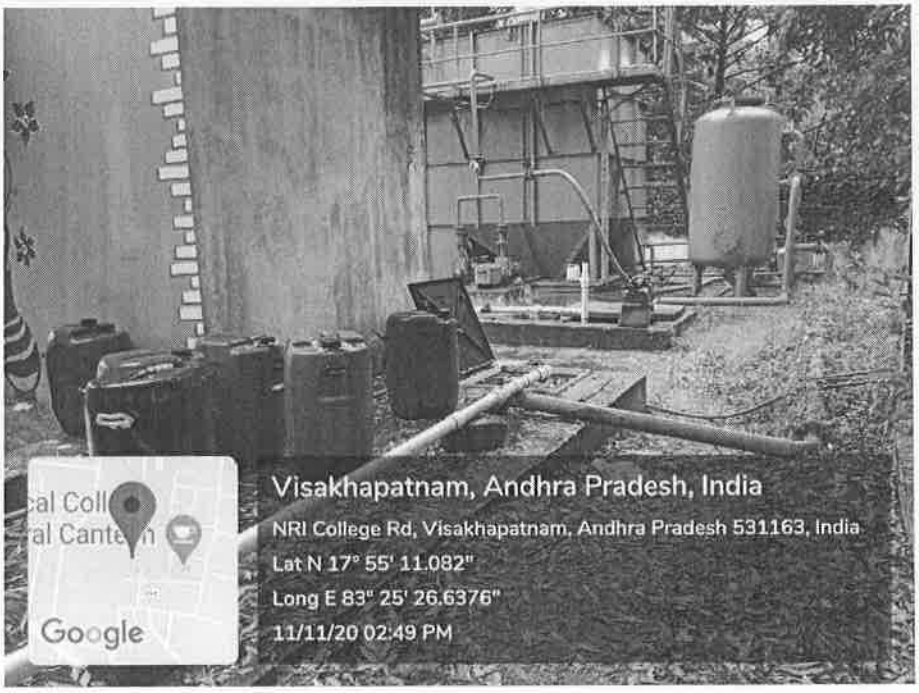
GALLERY

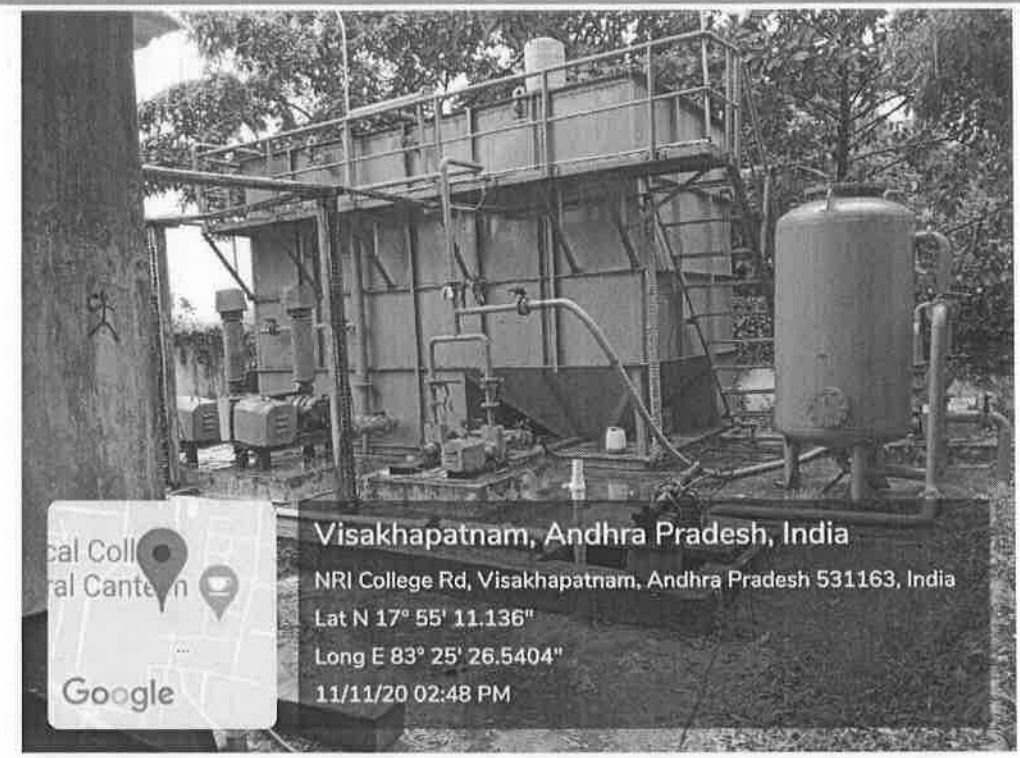
Facilities in institution for the management of degradable and non-degradable waste

Liquid Waste Treatment and Solid Segregation System

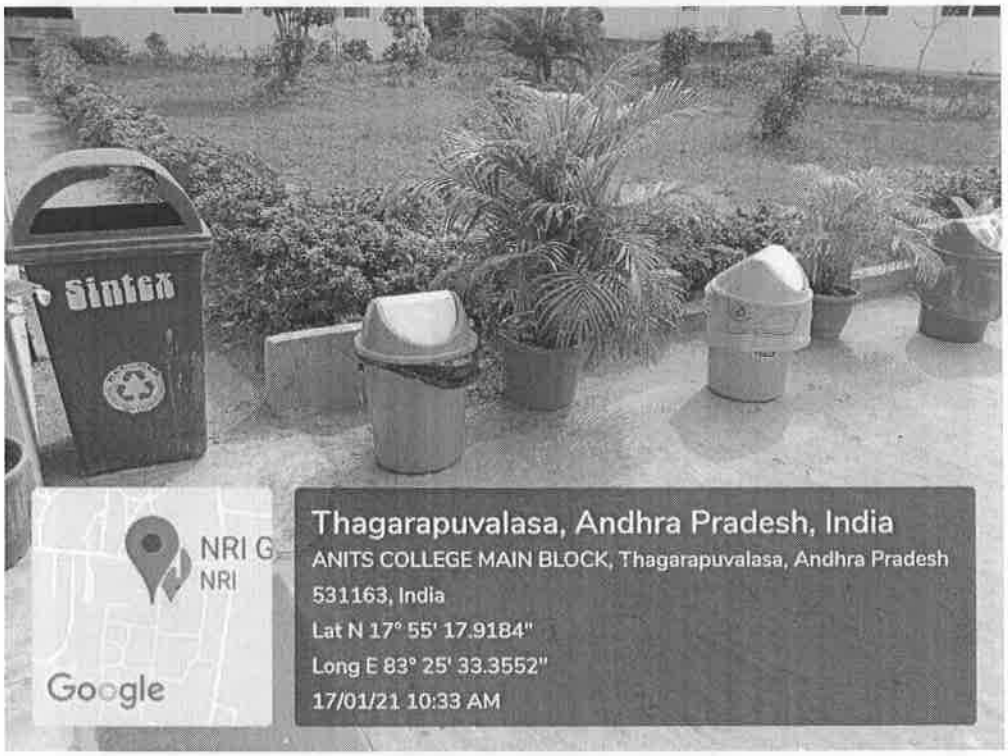
Liquid Waste Treatment







Segregation of waste material in the campus




Sintex
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NRI
Google
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ANITS COLLEGE ECE BLOCK, Thagarapuvalasa, Andhra Pradesh
531163, India
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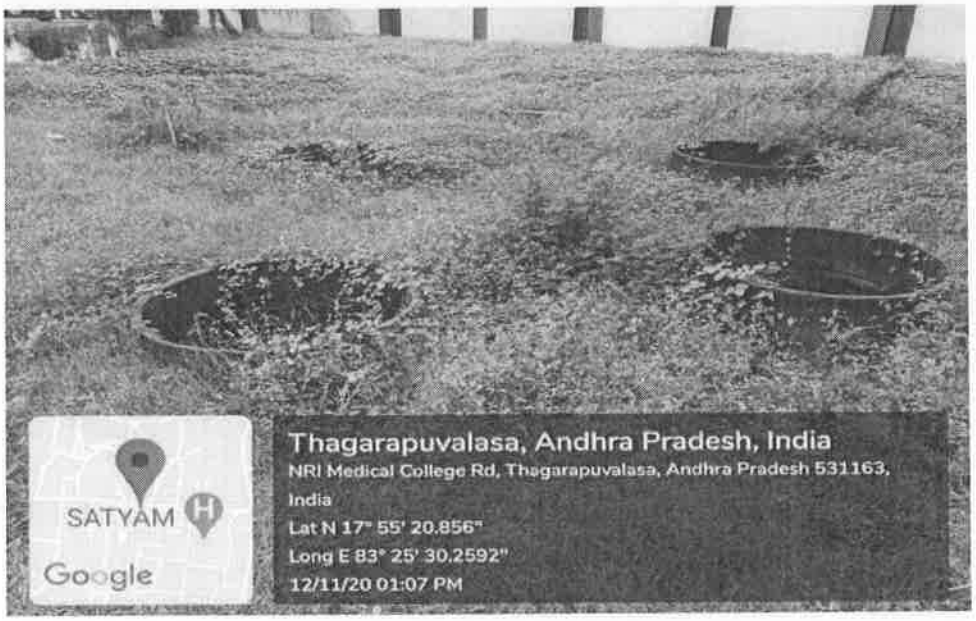
Long E 83° 25' 33.3552"
17/01/21 10:36 AM

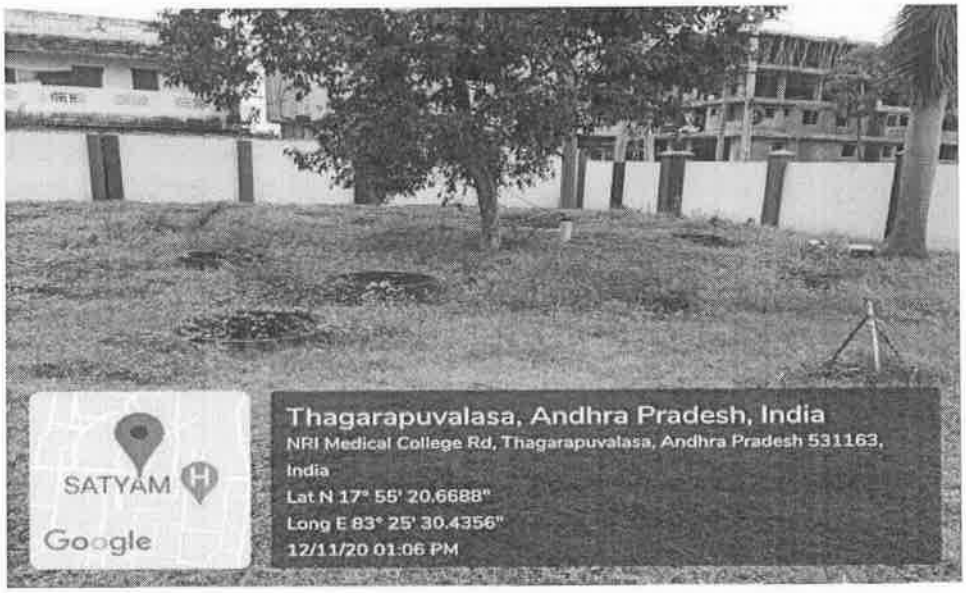
PRINCIPAL

ANITS

Anil Neerukonda Institute of Technology & Sciences (Autonomous)
(Affiliated to AU, Approved by AICTE & Accredited by NBA & NAAC with 'A' Grade)
Sangivalasa-531 162, Bheemunipatnam Mandal, Visakhapatnam District
Phone: 08933-225083/84/87 Fax: 226395
Website: www.anits.edu.in email: principal@anits.edu.in

RAIN WATER HARVESTING





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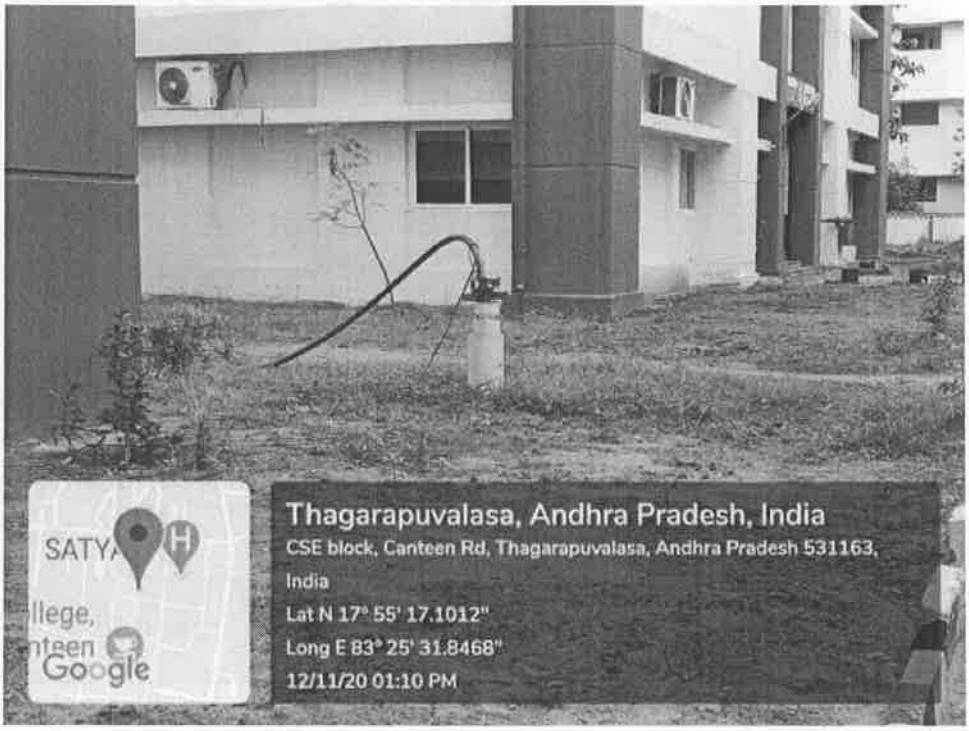
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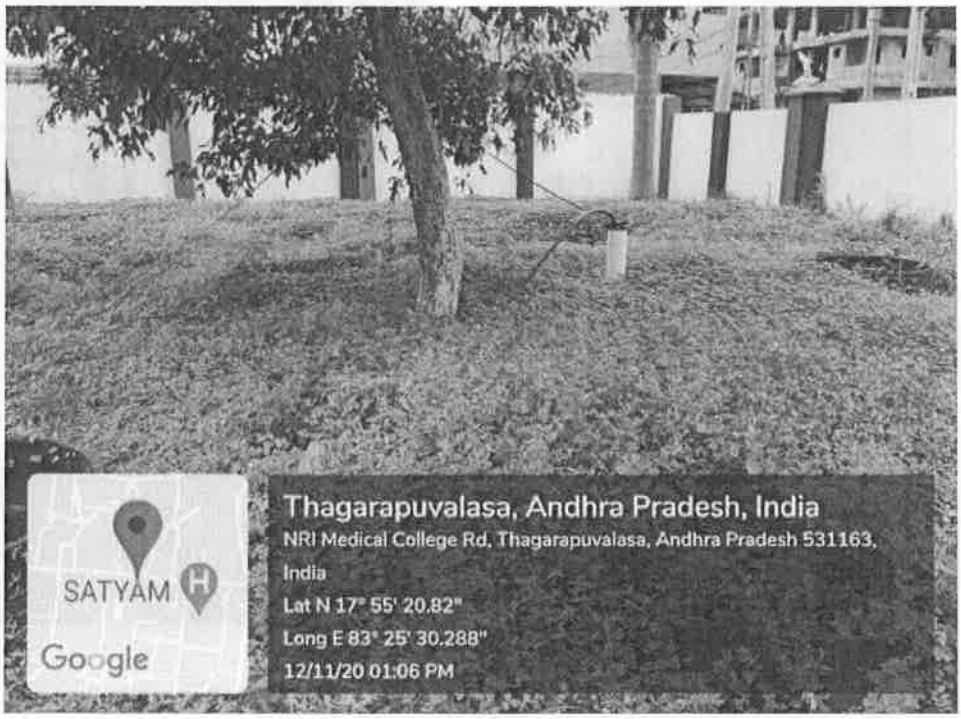
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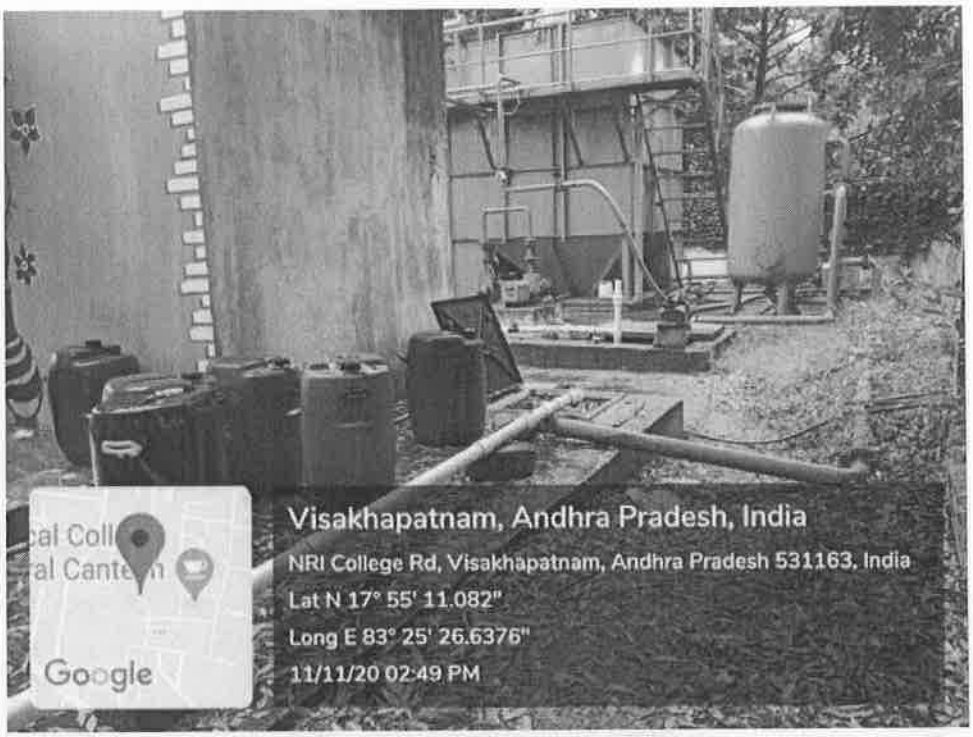
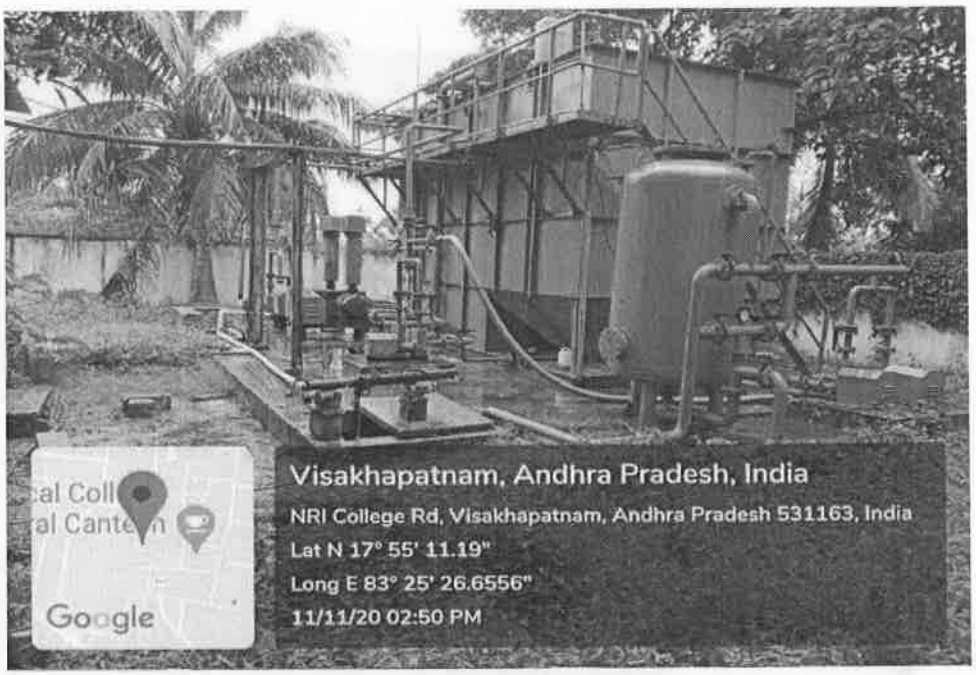
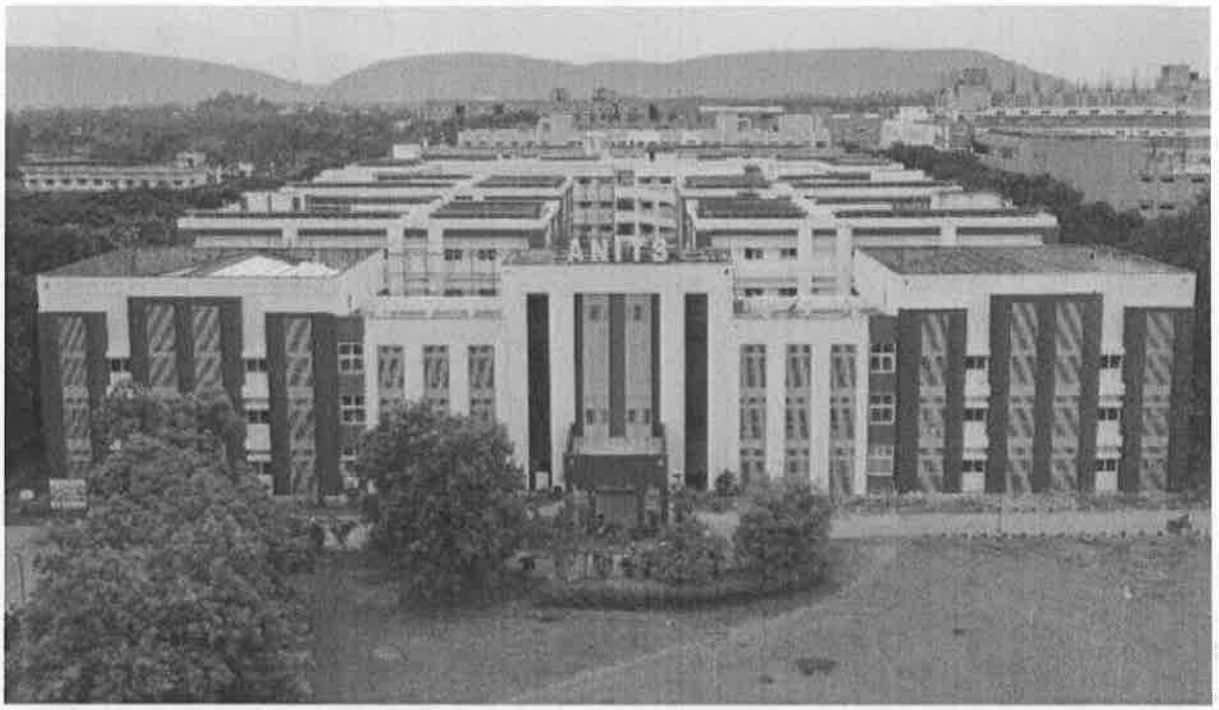
WASTE WATER RECYCLING SYSTEM



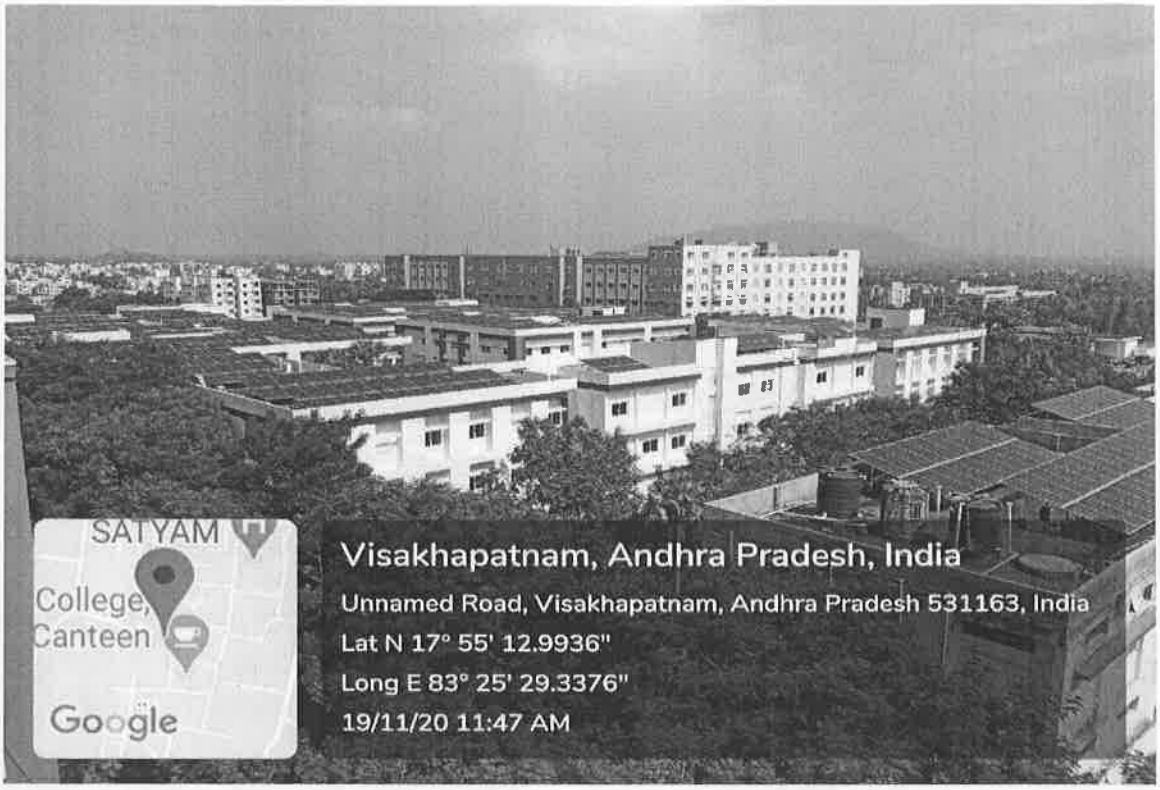


PRINCIPAL

Green Anits Campus



Solar Energy panels



Ecological activities in campus

Say No to Plastic

Special Awareness Camp

Tobacco Free Society and Pledge

One Student – One Planet

SUMMARY OF THE AUDIT

Noteworthy Practices

- The college has adopted steel cutlery replacing plastic glasses, Plastic cups and disposable plates minimizing single use plastic generated in canteen
- 3 stage cleaning is adopted in Kitchen minimizes water usage
- Significant amount of money being spent manually on Gardening and Greening
- Segregation of waste and waste management system is good

Opportunities for Improvement

- Single use plastic like packing material and cooldrink bottles are still in use and may be phased out slowly by adopting feasible methods
- Rainwater can be used as drinking water with minimum treatment. Open well may be modified for the purpose.

Note:

All the findings and recommendations are based on the available data. These are very indicative and detailed study, analysis and proper engineering is required for implementation of any of recommendations