

# **ENVIRONMENTAL AUDIT REPORT | 2022**



# GREEN AUDIT REPORT - 2022

is presented to

**ADICHUNCHANAGIRI  
UNIVERSITY**

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Nagamangala Taluk, BG Nagara – 571 448

has successfully demonstrated knowledge on Energy conservation,  
Water conservation, Bio diversity, Waste management, Indoor  
Environmental quality, Carbon footprint.

07.02.2023

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DATE

*Nischay N.*

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**NISCHAY N**  
GREEN BUILDING CONSULTANT



## Acknowledgement

Environment assessment team thanks the management of Adichunchanagiri University, for assigning this important work of Environment Audit. We appreciate the cooperation to us for completion of study.

Firstly, we would like to pay our obeisance to the almighty and would like to start this audit with blessings of His Holiness **The Hon'ble Chancellor, Param Poojya Jagadguru Sri Sri Sri Dr. Nirmalanandanatha Mahaswamiji** an ardent disciple of His Holiness **Bhairavaikya Jagadguru Padmabhushana Sri Sri Sri Dr. Balagangadharanatha Mahaswamiji**.

Our special thanks are due to:

Dr M A Shekar Hon'ble Vice Chancellor, Dr. B K Narendra Dean of Engineering & Management Adichunchanagiri University, Dr. T Mahadevaiah Vice- Principal & Head, Dept. of Civil Engg BGSIT.

We are also thankful to other staff members who were actively involved in giving us necessary inputs to carry out this very vital exercise for Environment audit.



**Submitted to:**

The Registrar,  
Adichunchanagiri University,  
Bengaluru – Hassan National Highway (NH-75),  
Nagamangala Taluk, BG Nagara – 571 448,  
Mandya District, Karnataka State, India.

**Audited by:**

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## Disclaimer

Environment audit team has prepared this report for Adichunchanagiri University based on input data submitted by the representatives of the University and is complemented with the best judgment capacity of the expert team. While all reasonable care has been taken in its preparation, details contained in this report have been compiled in good faith based on information gathered. It is further informed that the calculations are arrived following best estimates and no representation, warranty or undertaking, express or implied is made and no responsibility is accepted by Audit team in this report or for any direct or consequential loss arising from any use of the information, statements or forecasts in the report.

The detailed Information and analysis presented in this report are valid as on the date of visit and period of study at the site. The work presented represents our best efforts and judgments based on the information available at the time this report was prepared. Green Aura makes no assurances as to the accuracy of any such information or any conclusions based thereon. The observations made in this report are only an indication of the performance of the facility based on our assessment and should not be considered as the comment on the functioning of the facility. The observation is purely based on the data recorded at that point of time.

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## Executive Summary

Universities and Institutions have broad impacts on the world around them, both negative and positive. A nation's growth starts from its educational institutions, where the ecology is thought as a prime factor of development associated with the environment. The activities pursued by University can create a variety of environmental impacts. A clean and healthy environment aids effective learning and provides a conducive learning environment. Adichunchanagiri University is very sensitive to environmental factors as more concepts are being introduced to make them eco-friendly.

Adichunchanagiri University expresses its commitment to sustainability in many ways. It has taken a number of positive steps to reduce its environmental impact. But many areas remain in which substantial improvements can be made. This report serves to highlight Adichunchanagiri University's many accomplishments, and to make recommendations for improving the University's environmental sustainability. The University has conducted the Environment audit for the year **2022** and strives to maintain eco-friendly atmosphere on the campus.

The aim of the report is to identify scope for improvement and recommend implementable and economically viable solutions in achieving the most optimized utilization of energy and water in the campus. If self-enquiry is a natural and necessary outgrowth of a quality education, it could also be stated that institutional self-enquiry is a natural and necessary outgrowth of a quality educational institution. Therefore, it is imperative that the University evaluate its own contributions toward a sustainable future.

The initiatives taken by the University to make the campus Ecofriendly:

1. Energy conservation
2. Water conservation
3. Efforts for carbon neutrality
4. Hazardous and E-waste waste management
5. Health and Well- Being
6. Plantation
7. Carbon neutrality and Institutional footprint

University and its constituent college have undertaken various activities through N.S.S. and other activity to create eco-friendly awareness among the students, University and its constituent arranges special programs by inviting the eminent personalities, who in turn train and educate public. Students are encouraged to participate in eco-friendly activities.

## Table of Contents

1	Environmental Auditing	5
2	About Adichunchanagiri University	6
3	Built Environment	14
4	Bio diversity Audit	19
5	Waste Management Audit	24
6	Green policy and Education	30
7	Observation and Recommendation	37
8	Green Aura's Ceretifications	38



# Environmental Auditing

Environmental Audit is the most efficient way to identify the strength and weakness of environmental sustainable practices and to find a way to solve problem. Environmental Audit is one kind of professional approach towards a responsible way in utilising economic, financial, social and environmental resources. Environmental Audit can “add value” to the management approaches being taken by the University and is a way of identifying, evaluating and managing environmental risks (known and unknown).



## I. About Adichunchanagiri University

The University is situated in a Lush Green Unitary Campus of 67 acres at B.G. Nagara, Nagamangala Tq., Mandya District, Karnataka on the Bangalore – Mangalore National Highway No. 75, 105 Kms from Bangalore, the Capital City of Karnataka.

The University consists of six Constituent colleges in the disciplines of Medicine, Pharmacy, Nursing, Engineering, Management, Commerce and Education. The environment friendly campus has adequate infrastructure and physical facilities for Academics and Research. The campus possesses around 5000 students, 400 teachers and 1800 support staff.

The University employs a broad range of strategies to achieve its Vision, Mission and Objectives to expand the horizon of World Knowledge, provide instruction, Teaching-Learning, Training, Research and Development at the level of Higher Education in the faculties of Health Sciences, Engineering and Technology, Management and Technology, Humanities & Social Sciences and other Emerging and Thrust areas.



ADICHUNCHANAGIRI  
UNIVERSITY

**Logo of Adichunchanagiri University**

**Logo of Adichunchanagiri University symbolizes its vision** “Education for all with Value Systems of Empathy, Enrichment, Equity, Excellence, Empowerment, Entrepreneurship & Enlightenment to Serve the Society”.

## i. Campus Details

The University consists of six Constituent colleges in the disciplines of Medicine, Pharmacy, Nursing, Engineering, Management, Commerce and Education. The environment-friendly campus has adequate infrastructure and physical facilities for Academics and Research. The campus possesses around 5000 students, 400 teachers and 1800 support staff.

**Adichunchanagiri Institute of Medical Sciences (AIMS)** was established in the year 1986 at BG Nagar, near Sri Adichunchanagiri Kshetra with a vision of providing medical education to aspiring students from rural areas. AIMS was inaugurated by the then Honorable Chief Minister of Karnataka, Sri Ramakrishna Hegde on 17th Jan 1986 in the holy presence of Padmabhushana Dr. Sri Sri Sri Balagangadharanatha Maha Swamiji. AIMS has evolved into a prestigious institution in the region since its inception



“Adichunchanagiri Institute of Medical Sciences”

**BGS Institute of Technology (BGSIT)** is a community that is dedicated for creating tomorrow’s engineers and supporting today’s pioneers. BGSIT is situated in a lush green and pollution-free environment, which is very much favorable and motivates the students to earnestly pursue their studies. The campus is 90 kilometers away from Bengaluru City known as Silicon Valley of India on the Bengaluru – Hassan – Mangalore National Highway (NH-75). BGS Institute of Technology (BGSIT), BG Nagar was established in 2005, The campus with 21 acres of land is unique in nature and located within a lush green environment. It is situated on Bengaluru-Hassan-Mangaluru National Highway (NH-75) (Align: Bellur Cross, BG Nagar) and equidistant of 80 kilometers from Bengaluru, Mysuru, Mandya, Hassan and Tumkur.

Fresh oxygen rich air point of great attraction. BGSIT is approved by all Council for Technical Education, New Delhi; affiliated by Visveswaraya Technological University, Belagavi, and recognized by Government of Karnataka. It has the unique distinction of having learned faculty for teaching in respective disciplines. The dynamic and committed faculty and staff ensure high standards of learning and embedding social and ethical values.



“BGS Institute of Technology (BGSIT)”

**Adichunchanagiri College of Nursing**, The College of Nursing is a Part of Adichunchanagiri University, Adichunchanagiri College of Nursing(ACN) is one of the leading institutions in the country, offering Nursing education at the undergraduate, postgraduate and doctoral level.

Adichunchanagiri College of Nursing was started in the year 1995, Five years after the commencement of Diploma in Nursing Course (1991), Basic B.Sc.(Nursing)course was started in 1995, P.B.B.Sc. Nursing) started in the year 2008 and M.Sc.(Nursing) in Community Health Nursing started in the year 2011 and other M.Sc. Nursing Specialties started in the year 2015. PhD was started in the year 2019-2020 to meet the increasing demands for nursing Graduates in Hospitals, Nursing educational Institutions, Clinics, Industrial Nursing etc.

The success of ACN as an acknowledged institution for quality learning is an outcome of the various facets that give ACN its characteristic value – the faculty, enterprising students, infrastructure facilities and industry partnerships. The Institute is reputed for the outstanding students graduating from its undergraduate and postgraduate programmes. The alumni have distinguished themselves through their achievements and contributions to the industry, academics, research, business, government, and social domains.



## Adichunchanagiri College of Nursing



**“Adichunchanagiri College of Nursing”**

**Adichunchanagiri College of Pharmacy** was started in the year 1981 is a Part of Adichunchanagiri University for providing an outstanding professional educational programme in pharmacy. Ten years after the commencement of Diploma course, B. Pharma degree course was started in 1992 to meet the increasing demand for Pharmacy graduates in Pharmaceutical Industries, Hospital Pharmacy, Drug Control Department and R & D department etc. SACCP has a distinctive atmosphere where the emphasis is on teamwork, cooperation, and friendly competition. Smaller student groups in classes lead to students developing closer supportive relationships with each other and faculty members. SACCP provides exceptional campus facilities to serve the needs of the student community.



## Sri Adichunchanagiri College of Pharmacy



**“Adichunchanagiri College of Pharmacy”**

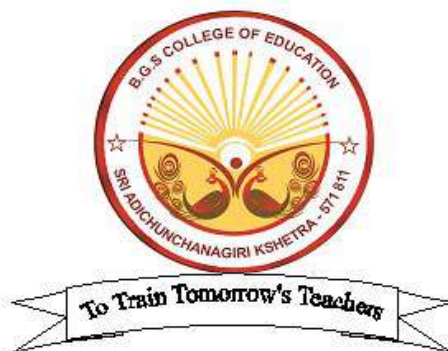
**BGS First Grade College**, the primary objective of education is to create dynamic leaders in the corporate sector, entrepreneurs, and professionals who contribute to the development of society and nation at large. We are committed to maintaining high academic standards and preparing our students to secure rewarding employment on graduation. At the same time, we believe that S.F.G.C students should develop as individuals, gaining in self-confidence and developing a sense of enterprise.



“BGS First Grade College”

**BGS College of Education (BGSCE)**, We at College of Education produce & develop value-added human resources. BGS College of Education ensures quality teacher education programme with ardent effort supported by high-level facilities of laboratories, library, classrooms, Auditorium, Seminar hall, Sports equipment, spacious playground & free hostel facilities for both male and female etc.

BGS College of Education is equipped with all necessary amenities for Teachers' Education Programme. There are Classrooms, Lecture Hall, Activity Room, Library with adequate number of books for use of the teachers and the students, Learning Resource Centre and rooms for Principal, Faculty, Office and Store. Equipment's for the Geography, Psychology and Work Education laboratories are in place. A full-fledged computer laboratory with all other accessories has also been setup.



“BGS College of Education”

ii. Site details

a. Master Plan



Adichunchanagiri University Campus map

**b. Total built-up area of the university**

<b>AIMS College Block</b>				
Sr. No	Building Name	Old Exiting Building Up Area (sqm)	New building Build up Area (sqm)	Total Building Build Up Area in (sqm)
1	AIMS College	12,505.20	11801	24,306.20
2	AIMS Library block	2750	4799	7,549
3	Auditorium Block	2882.62	0	2,882.62
4	AIIMS Forensic block	1103	2151	3,254
5	Animal house	372.67	0	372.67
6	AIMS Teaching block	6569.66	0	6,569.66
<b>Total AIMS college Buildup area</b>				<b>44,934.15</b>

<b>Hospital block</b>				
Sl. No	Building Name	Old Exiting Building Up Area (sqm)	New building Build up Area (sqm)	Total Building Build Up Area in (sqm)
1	Hospital Block	3436.77	20343	57,779.77
2	Ward Block	0	16820	16,820
3	Casualty block	0	5792	5,792
4	OBG Block	0	1400	1,400
5	OT Block	0	3542	3,542
6	ICU Block	0	1987	1,987
7	OPD 2nd Floor	0	3018	3,018
8	OPD 2nd Floor	0	1138	1,138
9	Medical gas generator	0	374	380
10	OT block to ward block	0	604	604
11	ICU block to ward block	0	806	307
<b>Total Build up Area</b>				<b>92,767.77</b>

<b>Residential Block</b>				
Sl. No	Building Name	Old Exiting Building Up Area (sqm)	New building Build up Area (sqm)	Total Building Build Up Area in (sqm)
1	AIMS Boys hostel	5480.92	10981	16,461.92
2	AIMS Girls hostel	12246.47	0	12,246.47
3	K B Boys PG Hostel	4361.05	0	4,361.05
4	K B Girls PG Hostel	3647.58	0	3,647.58
5	AIMS Staff quarter	12601.76	0	12,601.76
6	Nursing staff quarter	0	6977	6,977



7	Principal quarter	1253.53	0	1,253.53
8	Vijnatha bhawan	1894.28	0	1,894.28
9	Manasa complex	2328.62	0	2,328.62
10	Bank building	507.99	0	507.99
11	Working women HO	3801.11	0	3,801.11
12	Hospital canteen	351.3	0	351.3
<b>Total hospital buildup area</b>				<b>66,432.61</b>
<b>Total area in sq. mtr</b>				<b>2,04,134.53</b>

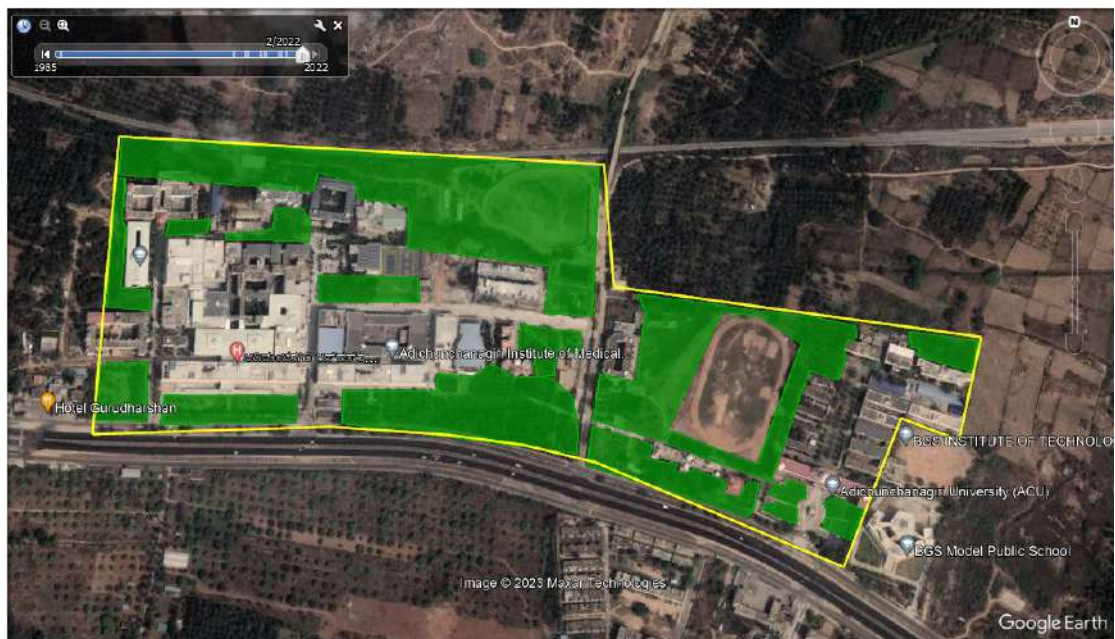
<b>BGSIT Building Details</b>		
<b>Sl.No.</b>	<b>Building Name</b>	<b>Roof Top Area (m<sup>2</sup>)</b>
1	CIVIL ENGG BLOCK 1	261.09
2	CIVIL ENGG BLOCK 2	261.09
3	CIVIL ENGG BLOCK 3	261.09
4	GUEST HOUSE BLOCK	266.79
5	STAFF BLOCK	266.79
6	BOYS HOSTEL 1 BLOCK	679
7	BOYS HOSTEL 2 BLOCK	887.58
8	LIBRARY AND ME BLOCK	801
9	WORKSHOP BLOCK	1542.5
10	TEACHING BLOCK	1420
11	CS EC BLOCK	1625
12	ADMIN BLOCK	1826.7
13	Mechanical BLOCK	763
<b>TOTAL roof top area (m<sup>2</sup>)</b>		<b>10861.76</b>



## II. Built Environment

### i. Development Footprint and Green Cover

Adichunchanagiri University has retained some site features to minimize site damage and associated negative environmental impacts such as, greenery within the campus, thereby providing habitat and promoting biodiversity. Top Soil Preservation is done to protect the top soil and control soil erosion, thereby reducing negative impacts to the site and surroundings, Adichunchanagiri University is having a vegetated area of 31.5acre i.e. nearly 50% area in the university and is equally balanced with the building footprint.



**Adichunchanagiri University campus development footprint and green cover**





University has encouraged to retain the site features of the campus to minimize site damage and associated negative environmental impacts by retaining the existing trees, topography, landscape natural rock, water bodies and channels without any disturbance whatsoever.

## ii. Outdoor Light Pollution Reduction











To Reduce light pollution to increase night sky access and enhance the nocturnal environment. The institute has designed exterior lighting such that no external light fixture emits more than 5% of the total initial designed fixture Lumens, at an angle of 90 degrees or higher from nadir i.e. straight down.



### iii. Air quality

Air pollution has long term and short term impact on the biotic and abiotic component of the environment. The ambient air quality at the core zone of university was monitored. The study area represents it is very calm environment with very less pollutants which was recorded in portable air quality monitor pollution meter with PM 2.5 detector, the preliminary test PM2.5 range was around 5 and it's within the required range of 12.0 so based on the reading Air quality testing was not suggested to the university as the vegetated area is more than the building footprint.

Based on the interaction with building occupants i.e. students and staff members there is no symptoms are often linked to poor indoor air quality such as Dryness and irritation of the eyes, nose, throat, and skin, headache, fatigue, dizziness.

$\text{NO}_2$  Excellent	Breathing in high levels of <b>Nitrogen Dioxide</b>  increases the risk of respiratory problems. Coughing and difficulty breathing are common and more serious health issues such as respiratory... <b>more</b>	12 $6 \mu\text{g}/\text{m}^3$
$\text{PM}_{2.5}$  Excellent	<b>Fine Particulate Matter</b>  are inhalable pollutant particles with a diameter less than 2.5 micrometers that can enter the lungs and bloodstream, resulting in serious health issues. The most severe... <b>more</b>	11 $3 \mu\text{g}/\text{m}^3$
$\text{O}_3$  Excellent	Ground-level <b>Ozone</b>  can aggravate existing respiratory diseases and also lead to throat irritation, headaches, and chest pain.	9 $26 \mu\text{g}/\text{m}^3$
$\text{PM}_{10}$  Excellent	<b>Particulate Matter</b>  are inhalable pollutant particles with a diameter less than 10 micrometers. Particles that are larger than 2.5 micrometers can be deposited in airways, resulting in health... <b>more</b>	8 $6 \mu\text{g}/\text{m}^3$
$\text{CO}$  Excellent	Carbon Monoxide is a colorless and odorless gas and when inhaled at high levels can cause headache, nausea, dizziness, and vomiting. Repeated long-term exposure can lead to heart disease	1 $113 \mu\text{g}/\text{m}^3$
$\text{SO}_2$  Excellent	Exposure to Sulfur Dioxide can lead to throat and eye irritation and aggravate asthma as well as chronic bronchitis.	1 $1 \mu\text{g}/\text{m}^3$

#### Air quality index and pollutants details

The values of air quality data are within permissible limits. Regular check on these parameters should be kept.

Teachers can be powerful advocates for creating healthy indoor environments, including improving University indoor air quality. As they are on the front lines, teachers can perceive when IAQ changes affect students and themselves. By being involved in creating a clean and healthy learning environment, teachers can promote health, wellness and academic productivity.

Top Actions Teachers Staff and Health Professionals Can Take to Address to improve Indoor Air Quality is by,

1. Keep ventilation units in classrooms free of clutter
2. Report any IAQ issues and maintenance problems occurring in classrooms and hallways immediately
3. Reduce the number of items made of cloth in your classroom, including furniture, draperies. These materials attract dust mites, which can negatively impact sensitive students
4. Practice chemical management in your classrooms, if appropriate
5. Keep Indoor plants which purifies Indoor air quality



**Vegetation inside and outside the building to purify air**

### III. Biodiversity Audit.

A scientific survey of flora and fauna of the campus is carried out covering rainy, winter and summer seasons during 2021-22, this biodiversity audit has revealed more than 1500 trees, various species of Mammals, Aves, Arthropods and Annelids were also recorded. This indicated excellent composition of Flora and Fauna. Many birds are reported in the campus seasonally. Institution has started naming the trees and plants with their botanical name and numbering. Biodiversity audit has revealed different species as follows,

Sr.no	SCIENTIFIC NAME	LOCAL NAME
1	Grevillea robusta	Silver oak
2	Millettia pinnata	Honge
3	Saraca asoca	Ashoka tree
4	Artocarpus Heterophyllus	Jack fruit
5	Rose wood	Beetae
6	Peepal(bodhi)	Arali
7	Phyllanthus	Nelli
8	Mangifera indica	Mango
9	Azadirachta indica	Bevu
10	Melia dubia	Hebevu
11	Swieteniamacrophylla	Mahogany
12	Rubiaceae	Tega
13	Magnolia Champaca	Sampige
14	Citrus x sinensis	Ketale
15	Indian almond	Kadu badami
16	Mulberry	Neralae
17	Ficus drupacea	Goni mara
18	Peltophorum pterocarpum	Copperpod Tree
19	Delonix regia	Royal Poinciana Tree
20	Pithecellobium dulce	Manila Tamarind Tree
21	Azadirachta indica	Neem Tree
22	Moringa oleifera	Drumstick Tree
23	Eucalyptus globulus	Eucalyptus Tree
24	Millingtonia hortensis	Indian Cork Tree
25	Emblica officinalis	Indian Gooseberry Tree (Amla)
26	Dalbergia sissoo	Indian Rosewood Tree
27	Tamarindus indica	Tamarind Tree
28	Tectona grandis	Teakwood Tree
29	Ficus recemosa	Cluster Fig Tree
30	Ficus religiosa	Peepal Tree
31	Ficus benghalensis	Banyan Tree
32	Samanea saman	Rain Tree

Various species of Mammals, Aves, Arthropods and Annelids were also recorded. This indicated excellent composition of Flora and Fauna quite unique considering that the campus is situated in the heart of the city. Many birds are reported to breed in the campus seasonally. Animals and Birds most observed are as follows:

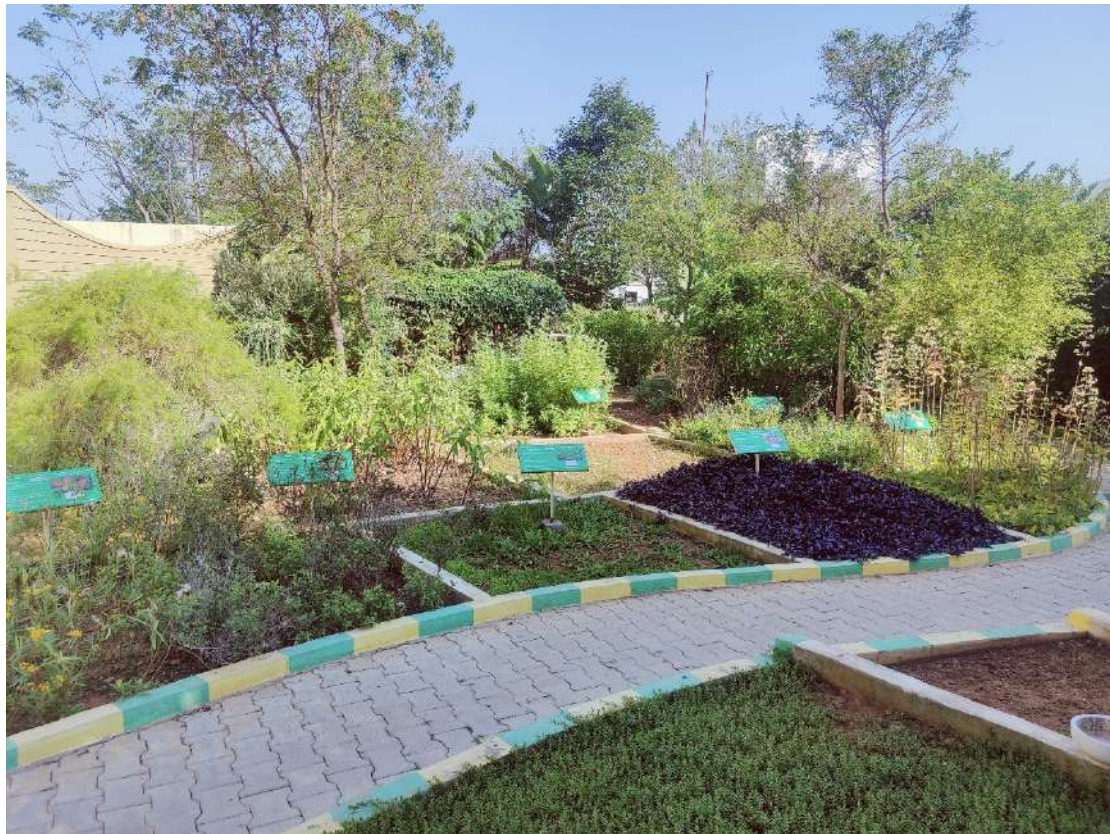
	Sr. No.	Common Name	Species
Birds	1	House Sparrow	Passer domesticus
	2	Great Egret	Ardea alba
	3	Rosy Starling	Paster roseus
	4	Large Grey Babbler	Turtoides malcolmi
	5	Alpine swift	Apus melba
	6	Common Cuckoo	
	7	Common Myna	
	8	Pigeon	Columbidae
Reptiles	1	Indian cobra	Naja naja
	2	Graceful racer	Platyceps gracilis
	3	Indian saw scaled viper	Echis carinatus
	4	Indian python	Python molurus
	5	Indian Green Keelback	Rhabdophis plumbicolor
	6	Common Bronzeback tristis	Dendrelaphis tristis
	7	Indian Chamaleon	Chamaelaeo zeylanicus
	8	Oriental rat snake	Ptyas mucosa
	9	Common cat snake	Boiga trigonata
	10	Indian Palm Squirrel	
Arachnids	1	Scorpion	Heterometrus fulvipes
	2		Hottentota tamulus
Insects	1	Sphinx moths	
	2	Common Gull	Cepora nerissa
	3	Common grass yellow	Eurema hecabe
	4	Lemon migrant	Catopsilia Pomona
	5	White orange tip	Ixias Marianne
	6	Common Jay	Grapium doson
	7	Peacock pancy	Junonia almanac
	8	Common crow butterfly	Euploea core
	9	Lesser grass blue	Zizina otis
	10	Forget Me Not	Catochrysops Strabo
	11	Common Mormon Swallowtail	Papilio polytes
	12	Lime Swallowtail	Papilio demoleus
	13	Lime blue	Chilades lajus
	14	Grasshopper	Poekilocerus pictus
	15	Blue Tiger	Tirumala limniace
	16	Common evening brown	Melanitis leda
	17	Ants, Bees and Wasps, Sawflies etc	



On an average campus is having about 500 trees and plant tree saplings that can mature into fully grown-up trees with large canopy in the next 5 to 8 years.

Institution is Minimizing disturbances and restoring vegetation in the campus, so as to promote habitat and biodiversity.





Cultivation workshop was organized by the university for improving the sustainability of small farming systems through the recycling of organic matter, which can be used as a growing substrate, and then returned to the land as fertilizer



## IV. Waste Management Audit.

Institution facilitate segregation of waste at source to encourage reuse or recycling of materials, thereby avoiding waste being sent to landfills. The waste management is in order with the installation of dust bins. The waste is segregated at source by providing separate dust bins for Biodegradable and Plastic waste. Daily cleaning is carried out and most of the non-biodegradable waste is lifted by the City Municipal service.

Various types of chemical waste are collected and disposed by the Department of Chemistry.

The E-waste and defective item from computer lab is being stored properly. The institution has decided to contact approved E- waste management and Disposal facility in order to dispose E-waste in scientific manner. Hazardous Waste, Radioactive Waste not found.

Institution strongly believes in 3R's **Reduce, Reuse and Recycle** of waste as follows,

**Reduce:** Institution has replaced the use of paper in admissions of the candidates, filling of the examination forms, cash book etc. This has drastically helped in reduction of use of paper. The students also encouraged to use both the sides of the paper for writing tests and are asked to use the paper binding for their academic practical records instead of plastic. Notice and circulars are shared to faculty through email.

**Reuse:** The E-waste and defective item from computer lab is being stored properly. The institution has decided to contact approved E- waste management and Disposal facility in order to dispose E-waste in scientific manner, which can be reused.

Electronic goods are put to optimum use; the minor repairs are set right by the Laboratory assistants and teaching staff; and the major repairs are handled by the Technical Assistant and are reused. ACU has entered into MoU with SOGO Synergy which buys our damaged computers and other non-reparable e-waste and issues a Recycling certificate. SOGO Synergy has a State-Of-The-Art Warehouse measuring 20,000 sq. feet meant for storage, dismantling and recycling of electronic waste with the support of latest technology. The equipment which cannot be refurbished for re-use is dismantled and remanufactured into raw materials (i.e. metals, plastics, glass) to be marketed as recyclable. The company assures that the E-waste does not end up in a landfill. It is sent to an agency authorized by Karnataka State Pollution Control Board (KSCB) for disposal, which processes E-waste in a Zero dumping technology. UPS Batteries are recharged / repaired / exchanged by the suppliers. The waste compact discs and other disposable non-hazardous items are used by students for decoration.

The Wet Waste generated from the institution has entered into an arrangement with a local farmer, who collects wet waste and left over food every evening and uses the same as fodder to his live stock.



**Farmer collecting the wet waste from the college canteen.**

**Recycle:** The waste management is in order with the installation of dust bins. The waste is segregated at source by providing separate dust bins for Biodegradable and Plastic waste. Students and staff members are given sufficient information regarding the effective management of the waste generated in the campus.

### **Organic Waste Management**

To ensure effective waste management, so as to avoid organic waste being sent to landfills and to improve sanitation & health. Institution has Installed an on-site waste treatment system for handling organic (food and garden) waste generated in the campus, including buildings. The generated manure or bio-gas will be utilized as appropriate.

Institution is practicing organic waste composting method by implementing the pipe composting undertaken to compost the biodegradable waste collected from Boy's Hostel. The raw waste was put to active composting without any source separation and pulverization. It is a kind of vermi-composting, often called Tube Composting, carried out within a PVC tube.



**Tube Composting**

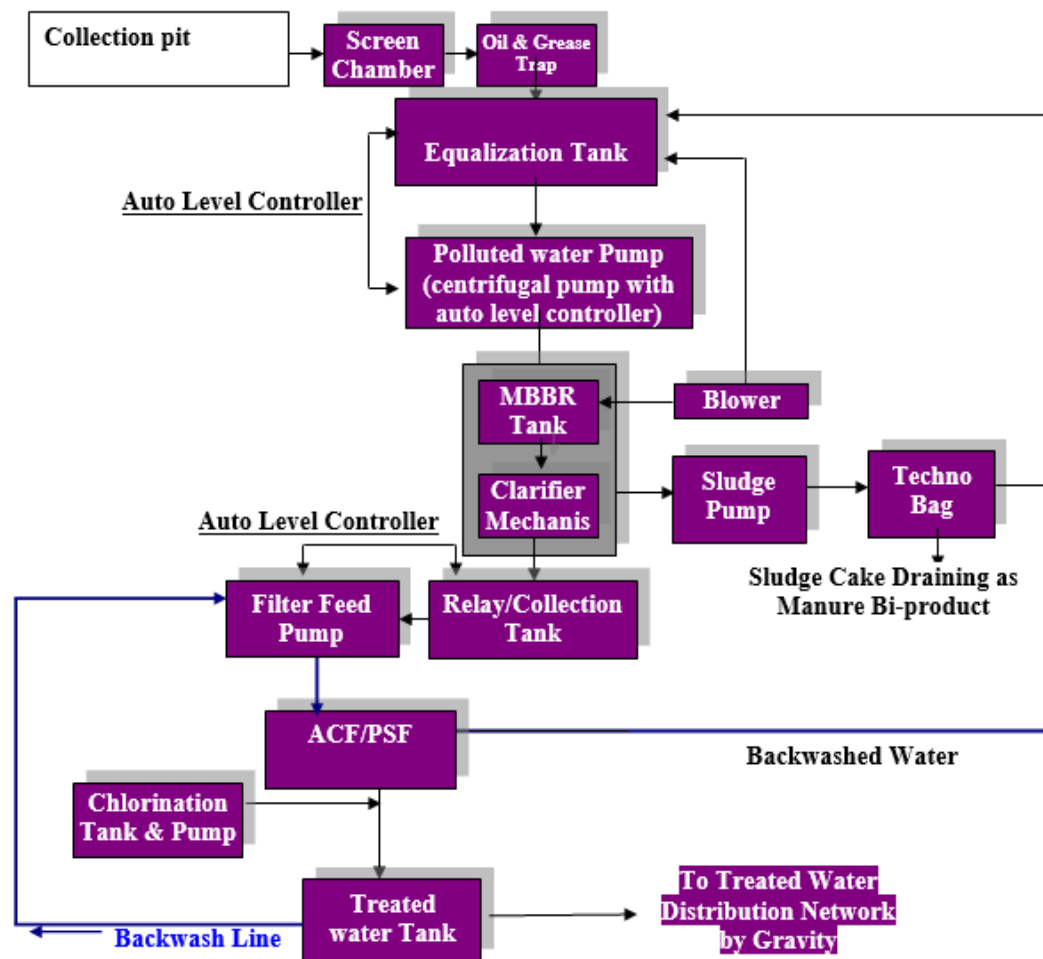
## Sewage Treatment Plant

Institution has designed a sewage treatment plant and will treat waste water to tertiary standards, so as not to pollute the water streams, Sewage treatment plant is provided for 750 KLD capacity of Sewage Treatment Plant advanced technology of MBBR wastewater treatment plant.



MBBR unit in Sewage Treatment Plant. Screening unit in Sewage Treatment Plant.

### GENERIC FLOW CHART: MBBR BASED DOMESTIC POLLUTED WATER POLLUTION CONTROL EQUIPEMNT AND SYSTEM



Hydraulic Flow Drawing for 750kld Sewage Treatment Plant.

### Characteristics of Raw Sewage Water

Sl No	Description	Raw Water	Treated Water
1.	Design Capacity	750 KLD	750 KLD
2.	Average Feed Flow	18KL	18KL
3.	Peak/Max. Feed Flow	50KL	50KL
4.	Operating Hours	24 Hours	24 Hours
5.	PH	6.5 – 8.5	6.5 – 8.5
6.	BOD	250 – 400 mg/l	< 20 mg/l
7.	COD	400 – 600 mg/l	< 100 mg/l
8.	TSS	150 – 250 mg/l	< 50 mg/l
9.	Oil & Grease	30 – 80 mg/l	<10

### Waste Management plan

Waste Management plan as per university green policy, building up a system though university has implemented Green Protocol and started segregation of wastes, it has still not become fully functional. Efforts should be taken for building up a fully functional system for waste management which should rest on the principles of reduce, reuse, repair, redesign, replenish, refuse, reconsider and recycle.

1. Awareness should be given to the entire university community on waste management and waste segregation.
2. Waste auditing: wastes generated by the university should be audited to ascertain the source, type and amount of waste generated in a year. The yearly action plans should address ways to reduce this waste.
3. The cleaning staff should be authorized to report the increase or decrease in the waste generated by each department and the departments who are able to demonstrate reduction in their levels of waste produced should be honored.
4. The system for waste segregation and storing should be put firmly in place. Segregations should be reorganized into different chambers for storing plastic wastes, e-wastes and other non biodegradable wastes, which could be sold to the vendors during periodic intervals.
5. A panel of vendors, including those who are capable of managing e-waste should be contacted and their periodic removal should be ensured.
6. The fine arts University departments could be approached to find out possibilities of creating works of art from the waste generated from within the



university like, installations, gardens which would ensure the up-cycling of solid wastes.

7. Start reducing the paper wastes (paper recycling unit) through relying more on electronic devices at all levels including governance, examinations, admission, and finance etc. e-governance should be ensured.
8. Bio-gas plants established at the canteen and university hostel premises should be well maintained. The staffs who are managing those plants should be given training about its maintenance. The capacity to create gas from degradable wastes should be explored fully and used in the canteen or hostels.
9. Thumburmuzzi Model Aerobic composting pit could be constructed to manage the biodegradable waste that could not be put into biogas plants.
10. Incinerators should be installed into all women's toilets and properly maintained. The female students should be given awareness on the use of alternative eco-friendly ways of managing menstruation.

## V. Green Policy and Education.

The institution promotes green education by involving students, local communities to increase awareness levels and encourage implementation of eco-friendly practices through Eco Club.

Eco Club helps the students to understand environment, environmental law and their role in the environmental protection. The institution conduct lot of programmes and awareness initiatives relating to protection of environment. In this regard many activities are conducted by the club periodically, such activities include many outreach and educational programmes in a year with the involvement of campus occupants, local communities to increase public awareness on environment sustainability and green features of the campus.

The whole campus involved in the Swachh Bharat Abhiyan by creating awareness around the institution regarding clean India mission by keeping their campus and its premises clean all the staffs and students were participated and made the mission successful in the whole campus.

Every year **Environmental Day**, **Earth Day** and **Water Day** is celebrated in the institution. Plantation activities are taken up to bring awareness and to increase the green coverage area in and around the campus.

Adichunchanagiri University – BGS Institute of Technology, BG Nagara, has Conducted Webinar on World Water Day and World Forest Day



A webinar was organized at Civil dept. seminar hall on 22/3/2021 at 11.00 am on the occasion of World Water Day and World Forest Day.

The resource person was Dr. Shashishankar A, Prof & Head, Dept. of Civil Engg, AMC College of Engineering, Bangalore, Dr. B K Narendra, Principal, Department Head, staff and students attended the webinar. Dr. T Mahadevaiah, Head, Dept. of Civil Engg extended warm welcome to the guest and all the attendees and in his presidential remarks stated about the importance and preservation of water.

The program then proceeded with the detail presentation by the chief guest Dr Shashishankar A on the topic “Artificial Intelligence Systems for Water Treatment

Plant Optimization”. The content of the topic was very informative. He addressed the gathering about the importance and feasibility of using Artificial Intelligence system in the existing water treatment plants.

### **Celebration of World Water Day and World Forest Day**



### **“World Earth Day”**

Every year on April 22, “World Earth Day” is observed to raise awareness about environmental protection and to address the global climate problem. BGS Institute of Technology also celebrated “World Earth Day” with the motive of preserving nature by spreading awareness among the students. Each passing year, the climate worsens, and it is our responsibility to assist in the conservation and preservation of Mother Nature. The theme for Earth Day 2022 is Invest in Our Planet. Earth day was celebrated on 22 April 2022 at 11am at BGSIT Seminar hall. Earth Day pledge was taken by the dignitaries, HODs, faculty members and students to save earth by promoting the habit of Reduce, Reuse & Recycle of the natural resources.

Dr. K. Byrappa, Pro Vice-Chancellor, Adichunchanagiri University addressed on theme “Invest on our planet earth “ and shared his knowledge on nuclear disposal effects, ecological imbalance due to deforestation, effect of synthetic fertilizers on water resources, reuse of concrete waste, conservation of water bodies. He also shared

his insights on research on artificial earthquake, reduction of plastic in daily life, sustainable development, and use of renewable energy- shifting from conventional to non-conventional resource usage.

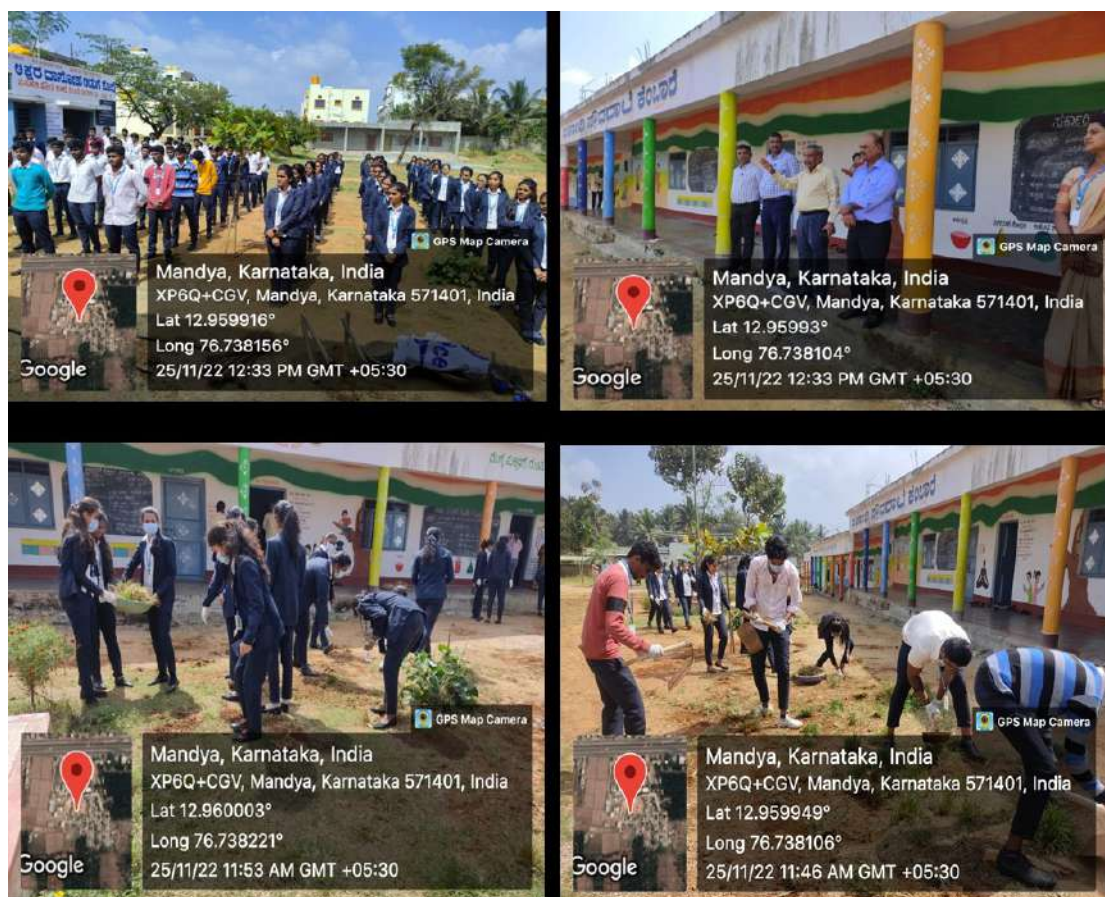
Dr. C. K. Subbaraya, Registrar, Adichunchanagiri University addressed the gathering and motivated the students for the ecological balance, reducing the pollution, deforestation.

Dr. B. K. Narendra Principal - BGSIT and Dean of Engineering & Management spoke on Importance of ecological balance to save earth. Dr. T. Mahadevaiah, Vice-Principal and Head, Dept. of Civil Engg. - BGSIT, extended welcome to all the participants.

Ms. Triveni & Mr. Sharath Babu, 1st year MBA students spoke on the importance of Earth day. Heads of the various Engineering Departments, Faculty members of Civil Engg and MBA Department were present. More than 160 students participated in the program



### NATIONAL SERVICE SCHEME UNIT-13 "SWACHH Activities



### **ACU-BGSIT, BG Nagara BGSIT NSS Unit 13 volunteers of BGSIT-ACU were actively involved in Swachh Bharat activities on 25.11.2022**

NSS Unit 13 volunteers of BGSIT-ACU were actively involved in Swachh Bharat activities, plantation, creating awareness on waste disposal, (degradable and non-degradable) ground water harvesting etc. On 25.11.2022, NSS Unit 13-Volunteers of BGSIT-ACU Mandya assembled at Government Higher Primary & High School, Kembare to carryout Swachh Bharath activities. On that day 117 Volunteers were actively involved in clearing the campus, the Volunteers collected all the plastic waste, tea cups, and trash bags and properly disposed off. They also removed the weeds and unwanted plants in the garden area. The NSS Volunteers actively participated in the program and it was well appreciated by the School authorities.

### **Azadi Ka Amrit Mahotsav Through Green & Clean Energy**

SACCP have organized a workshop on the theme ‘Azadi ka Amrit Mahotsav Through Green & Clean Energy’. First year Pharm D and PG Students are actively Participated in the workshop. The workshop was helpful to the students. The certificates were distributed to all the participants, After the completion of the workshop Quiz was conducted by the Speaker in that 2 students got the first place and 5 have got the second place. The resource person was Mr. V. S Baskar. Faculty, Petroleum Conservation Research Association, Bangalore, on a topic ‘Energy conservation with relevance to social responsibility and Environment’.

## Cleanliness Drive

Institutional NSS team participated in one day Cleanliness Drive organised by NSS Cell, Adichunchangiri University on 17th June 2022 at Bhrammadevarahalli village. The main objective of this programme was to spread awareness among the village people about the significance of Cleanliness and its benefits. During the drive volunteers performed the street play to create awareness about environmental pollution and its hazardous effect on mankind. Around 200 school students were present during the play.



**Department of community health nursing, Department of Paediatric nursing, NSS unit of ACN in association with AH&RC organised a school health Education programme on 14-7-2022**



**Adichunchanagiri College of Nursing Organized "Swatcha Bharath Abhiyan" on 07.04.2022 at Chakenahalli village by the NSS Unit of ACN**



On the occasion of world environment day NSS unit and department of community health nursing along with principal and faculty member celebrated meaningfully by planting tree saplings in ACN campus on 05.06.2022





## **VI. Observation and Recommendation**

### **Observations of the Environmental Audit**

1. Signages have been well maintained at all applicable places in all campuses
2. Paper consumption is monitored in all buildings
3. Waste bins/containers are available at appropriate places. Separate bins are kept for different types of wastes. Waste quantity is monitored
4. E-waste is returned to suppliers for disposal
5. Used Lead-acid batteries are returned to manufacturers or their agents during replacement
6. More 500 number of saplings are planted as a part of NSS and other activity in and around the campus
7. Environment friendly cleaning agents were used for cleaning of floors and toilets at all the campuses
8. Oil cans stored are provided with secondary containment in all campuses
9. Fire-extinguishers are periodically refilled in all campuses
10. Mock drills are carried out towards fire emergencies
11. First aid kits are available in all campuses on each floor at convenient places and monitored for availability of all the items
12. University is successfully implementing majority of the suggestions and recommendation provided in previous 4 years' audit.

### **Recommendation**

1. Training on sustainability should be provided.
2. In future refrigerant selected for the Air Conditioning System to be selected with HFC based refrigerant like R 410A.
3. Adopt the proposed Environmentally Responsible Purchasing Policy, and work towards creating and implementing a strategy to reduce the environmental impact of its purchasing decisions.
4. Practice Institutional Ecology- Set an example of environmental responsibility by establishing institutional ecology policies and practices of resource conservation, recycling, waste reduction, and environmentally sound operations
5. Involve All Stakeholders- Encourage involvement of government, foundations, and industry in supporting interdisciplinary research, education, policy formation, and information exchange in environmentally sustainable development.
6. Renovation of cooking system in the canteen to save gas by installation solar water heater system with heat pump.
7. Tree ownership can be given to employees
8. Develop a butterfly garden that arouses appreciation towards flora and fauna diversity.
9. Sanitary waste: Sanitary napkin burning machine/destroyer called as incinerator" in the ladies' washroom to be installed in every ladies' toilet for a greener tomorrow.

Annex 1  
ISO17020:2012



**Certificate of Registration**

This is to certify that the  
Conformity Assessment Certification  
of  
**GREEN AURA**  
at  
**#692 F, 12TH A CROSS BEL LAYOUT, BHARATHNAGAR, MAGADI  
ROAD, BENGALURU KARNATAKA, 560091, INDIA**

has been independently assessed and is  
compliant with the requirements of:

**ISO/IEC 17020:2012**

For the following scope of activities:  
**GREEN BUILDING SERVICES, CONSTRUCTION, INTERIOR DESIGN, GREEN  
AUDITING, SUSTAINABLE SERVICES**

**Certificate Number: UQ - 2023011404**

Validity of this certificate can be verified at [www.ukcertifications.org.uk/verify](http://www.ukcertifications.org.uk/verify)

Date of Certification	14th January 2023
1 <sup>st</sup> Surveillance Audit Due	13th January 2024
2 <sup>nd</sup> Surveillance Audit Due	13th January 2025
Certificate Expiry	13th January 2026

*Daniel ..*  
Authorised Signatory




This certificate is the property of UK Certification & Inspection Limited and shall be returned immediately on request.  
71-75 Shelton Street, Casper Gardens, London, WC2H 9JQ, United Kingdom  
Website: [www.ukcertifications.org.uk](http://www.ukcertifications.org.uk), email: [info@ukcertifications.org.uk](mailto:info@ukcertifications.org.uk)  
Company No. 11847851

Annex 2  
ISO9001:2015




Annex 3  
Green and Energy certification

 **BUREAU OF ENERGY EFFICIENCY**

Examination Registration No.: ..... **EA- 7271** .....

Accreditation Registration No.: ..... **AEA-284** .....



### Certificate of Accreditation

This is to certify that Mr./Ms. **Shri. Rajesh Kumar Singadiya** having its trade/registered office at ..... has been given accreditation as accredited energy auditor. The certificate shall be effective from **9<sup>th</sup>** day of **May, 2018** .....


The certificate is subject to the provisions of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

This certificate shall be valid until it is cancelled under regulation 9 of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

On cancellation, the certificate of accreditation shall be surrendered to the Bureau within fifteen days from the date of receipt of order of cancellation.

Your name has been entered at AEA No. **284** ..... in the register of list of accredited energy auditors. Your name shall be liable to be struck out on the grounds specified in regulation 8 of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

Given under the seal of the Bureau of Energy Efficiency, Ministry of Power, this **5<sup>th</sup>** day of **October, 2018**

  
Secretary,  
Bureau of Energy Efficiency  
New Delhi

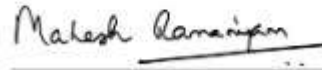
GREEN BUSINESS CERTIFICATION INC. CERTIFIES THAT

## Nischay N

HAS ATTAINED THE DESIGNATION OF

**LEED® Green Associate™**

by demonstrating the knowledge and understanding of  
green building practices and principles needed to  
support the use of the LEED green building program.



MANISH KARAMJANI  
PRESIDENT & CEO, U.S. GREEN BUILDING COUNCIL  
PRESIDENT & CEO, GREEN BUSINESS CERTIFICATION INC.







