



**SGT UNIVERSITY**  
SHREE GURU GOBIND SINGH TRICENTENARY UNIVERSITY  
(UGC Approved) Gurugram, Delhi-NCR



0061B6

**SGT UNIVERSITY**

# GREEN AUDIT REPORT

2022-2023

PREPARED BY  
EHS ALLIANCE SERVICES

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# CERTIFICATE



## CERTIFICATE

PRESENTED TO

**SGT UNIVERSITY**

Gurgaon-Badli Road Chandu, Budhera, Gurugram, Haryana 122505

Has been assessed by EHS Alliance Services for the comprehensive study of environmental impacts on institutional working framework to fulfill the requirement of

## GREEN AUDIT

**ACADEMIC YEAR 2022-23**

The green initiatives carried out by the institution have been verified on the report submitted and was found to be satisfactory.

The efforts taken by the management and the faculty towards environment and sustainability are appreciated and noteworthy.

SIGNATURE



20.05.2023

DATE OF AUDIT

# ACKNOWLEDGEMENT

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EHS Alliance Services would like to thank the management of SGT University, Gurugram for assigning this important work of Green Audit. We appreciate the co-operation to the teams for completion of assessment.

We would like to specially thank **Prof. Vinod Kumar, Pro-Vice Chancellor (SGT University)** for giving us an opportunity to evaluate the environmental performance of the campus.

We would also like to thank for **Prof. (Dr.) Joginder Yadav, Registrar, SGT University** his continuous support and guidance, without which the completion of the project would not have been possible. We are also thankful to other staff members who were actively involved while collecting the data and conducting field measurements.

We are also thankful to

Col. Sukhpal Singh	Pro-Vice Chancellor Admin (Non Academic)
Prof. Satish Chander Sharma	Director, IQAC
Dr. Nishith Mishra	Deputy Director, IQAC
Dr. Archana Chaudhary	Chairperson, Environmental Committee (EC)
Mr. Gaurav Chaudhary	Member (EC)
Dr. Manjri	Member (EC)
Dr. Shikha Sharma	Member & Secretary (EC)
Mr. Mohit Deswal	Member (EC)
Ms. Rachna	Member (EC)
Mr. Saravjeet Jaiswal	Administration
Mr. Umesh Kothari	Member (EC)
Mr. Vijay Kumar Ghai	Assistant Manager Admin



## DISCLAIMER

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EHS Alliance Services Audit Team has prepared this report for SGT University based on input data submitted by the representatives of SGT University complemented with the best judgment capacity of the expert team.

While all sensible 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 conclusions 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.

If you wish to distribute copies of this report external to your organisation, then all pages must be included.

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EHS Alliance staff, agents and accreditation bodies have signed individual confidentiality undertakings and will only receive confidential information on a 'need to know' basis.



**Signature**

**LEAD AUDITOR**

## CONCEPT AND CONTEXT

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The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory from the academic year 2019–20 onwards that all Higher Educational Institutions should submit an annual Green, Environment and Energy Audit Report. Green Audit is assigned to the Criteria 7 of NAAC, National Assessment and Accreditation Council which is a self-governing organization of India that declares the institutions as Grade A, Grade B or Grade C according to the scores assigned at the time of accreditation. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through Carbon Footprint reduction measures.

In view of the NAAC circular regarding Green auditing, the university management decided to conduct an external environment assessment study by a competent external professional auditor. The green audit aims to examine environmental practices within and outside the SGT campus, which impact directly or indirectly on the atmosphere. Green audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of university/college environment. It was initiated with the intention of reviewing the efforts within the institutions whose exercises can cause risk to the health of inhabitants and the environment.

Through the green audit, a direction as how to improve the structure of environment and inclusion of several factors that can protect the environment can be commenced. This audit focuses on the Green Campus, Waste Management, Water Management, Air Pollution, Energy Management & Carbon Footprint etc. being implemented by the institution. The concepts, structure, objectives, methodology, tools of analysis, objectives of the audit are discussed below.





# INTRODUCTION

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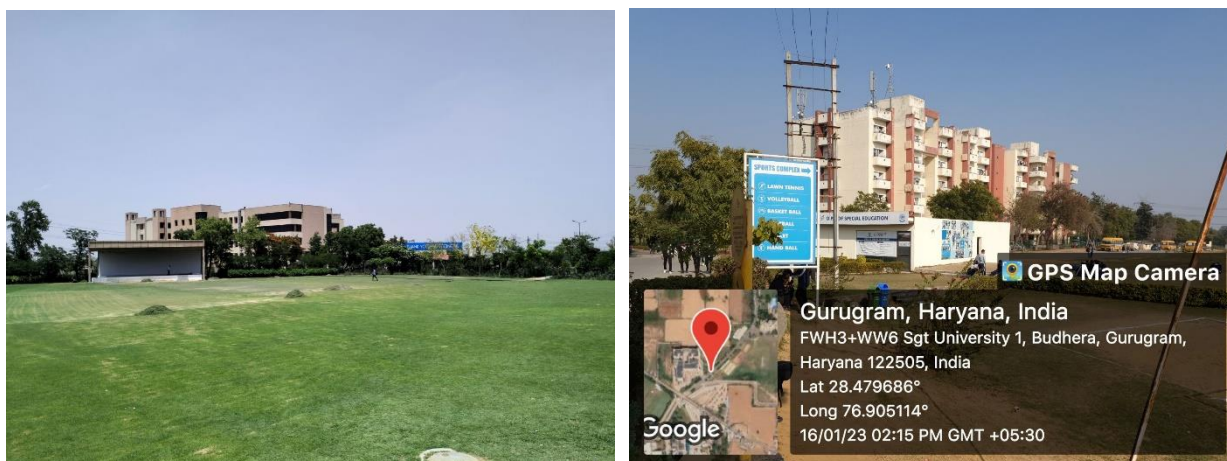
Now days, the educational institutions are becoming more thoughtful towards the environmental aspects and as a result new and innovative concepts are being introduced to make them sustainable and eco-friendly. To preserve the environment within the institution, a number of viewpoints are applied by the several educational institutes to solve their environmental problems such as promotion of the saving the energy, waste recycle, water consumption reduction, water harvesting and many more...

The activities carried out by the institution can also create adverse environmental impacts. Green audit is defined as an official inspection of the effects a university has on the environment. Green Audit is conducted to evaluate the actual scenario at the institution campus. Green audit can be a useful tool for a college/university to determine how and where they are using the most of the energy or water or resources; the institution can then decide how to implement changes and make savings. It can also be used to determine the nature and volume of waste, which can be used for a recycling project or to improve waste minimization plan.

Green auditing and the application of mitigation measures is a win-win situation for all the institutions, the learners and the mother earth. It can also result in health awareness and can promote the environmental awareness, values and beliefs. It provides a better understanding to staff and students about the Green impact on institution. Green auditing also upholds financial savings through reduction of resource usage. It gives an opportunity to the students and teachers for the development of ownership of the personal and social responsibility. The audit process involves primary data collection, site walk through with the team of College/University including the assessment of policies, activities, documents and records.

# OVERVIEW OF THE UNIVERSITY

SGT (Shree Guru Gobind Singh Tricentenary) University, Gurugram, which spreads over 70 acres of lush green campus enveloped with serene beauty and environment. The University is situated at Chandu-Bhudera on the outskirts of Gurgaon; it is less than five kilometers from Delhi border at Daurala and has an easy and convenient access from I.G International Airport.



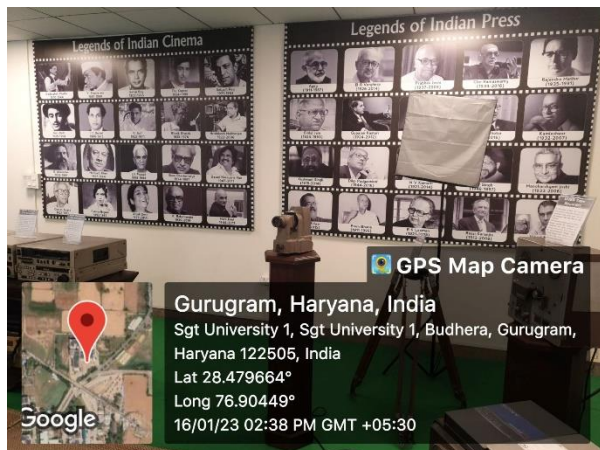
SGT University came into existence by the Haryana Private Universities (Amendment) Act No. 8 of 2013 making educational opportunities available to all segments of the society under the parasol of Dashmesh Educational Charitable Trust, which was founded in 1999 with the holly cause of propagating the message of Shree Guru Gobind Singh Ji, the great philosopher and social reformer which says “spread of learning is the best service to mankind”. In fact, the seeds for its magnificent growth were sown way back in 2002 with the establishment of the SGT Dental College.

The most valuable investment any educational institution can make is “Nurturing Future Leaders”. With the continuous rise in expectation of essential leadership standards, SGT University torch bearers have taken a responsibility for this investment to nurture the Next-Gen leaders with a vision to bridge the existing skill gap. With a firm step forward to attain an academic excellence, several Centers of Excellence, laboratories, incubation cell and industry-academia associations have been setup at the SGT University in association with global leaders.

With dedicate Corporate Resource Center, Centers of Excellence and academic associations like Apple, Laerdal-Jhpiego, SAP Next-Gen, UNESCO Bioethics, IBM, ORACLE, University of California – Berkley, Nobel Biocare, Trimble, Intel, NSE, Tally India, OISTAT, SMC India, CIMA & German Academy for Digital Education we are committed to develop naturally confident young innovative leaders who will weave career advancement opportunities through continuous learning & development support and experience they gain. With the continuously changing nature of work and the war for talent wages, at SGT University we Foster a Culture of Continous Learning to



develop future innovative leaders of international repute, who are quick to learn & implement, understand changing customer needs, highly comfortable & creative with change, are able to revamp operations modestly with an appreciable ROI.



The modern infrastructure and learner centric andragogy at SGT University extend full support to the learners and we are focused to invest more in “Nurturing Future Leaders” to produce much more resourceful and productive employee for each level in the organization be it a “Green Graduates” or a “Tenured Senior Managers”. To map the galloping pace of innovations blended with changing technology and HR systems.

We are determined to inculcate Domain Specific Skills and Soft Skills to our emerging innovative leaders and make them future ready. At SGT University, we are focused to inculcate skills and behaviours for a good cultural fit along with right academic background.

## Facilities

### Hostel

SGT University has separate hostels for girls and boys with round the clock security arrangements, each hostel has separate dining rooms, recreation rooms and study rooms.

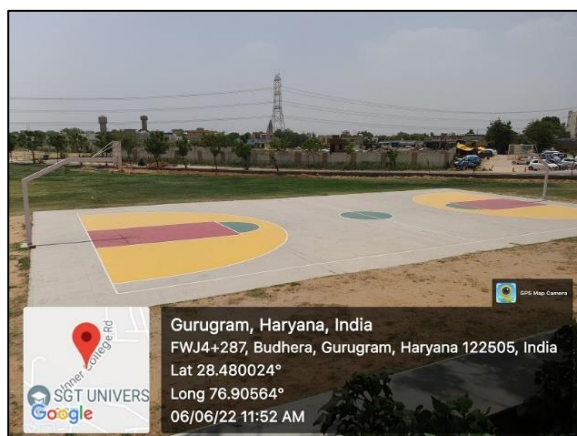
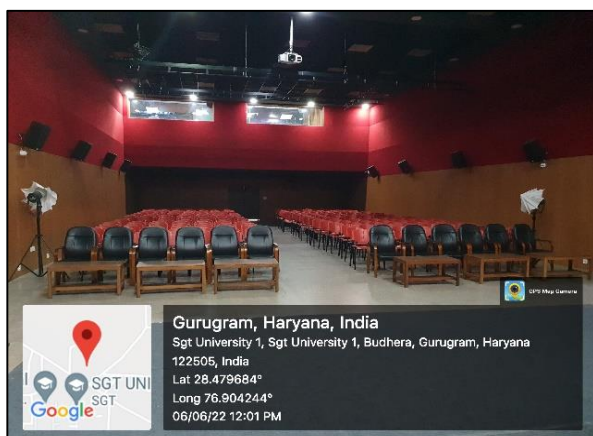


## Transport Services

SGT University has 60 buses that ply on several routes across NCR and its neighbouring areas, serving both students and staff. Bus facilities are also available to hostellers for visits to the city. Students are charged on the basis of actual.

## Seminar Hall

The Seminar Hall is the ideal venue for seminars and medical professional members to talk and deliver lectures to the students of our SGT University to provide them with a better and closer insight into the working of their different fields. These conferences and lectures not only provide the students with first-hand information about the working of various fields but also give them an opportunity to get their doubts cleared by asking questions from our guests. The guests initially deliver their lecture telling the students about their work, the challenges they face, the difficulties they overcome and so on, and after that the students are given an opportunity to ask questions and clear their doubts if any.



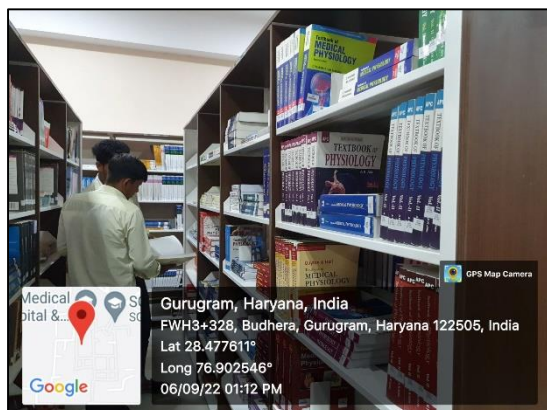
## Play Grounds

The SGT University provides all kinds of sports activities and encourages students to take part in games and to ensure their all-round development. All facilities and playgrounds are available for Basket Ball, VolleyBall, Foot Ball, Table Tennis, Cricket, Badminton etc.



## Library

The Library of the college has fully air conditioned excellent Health Sciences library with state of the art facilities. The library has been carefully designed to have more space & natural lighting for the comfort of readers. It can accommodate 450 users at a time. It covers an extensive set of features with a simple user interface. It is well equipped with modern facilities and resources in the form of CD-ROM, online databases, books, journals, back volumes of journals, thesis, WHO publications etc.

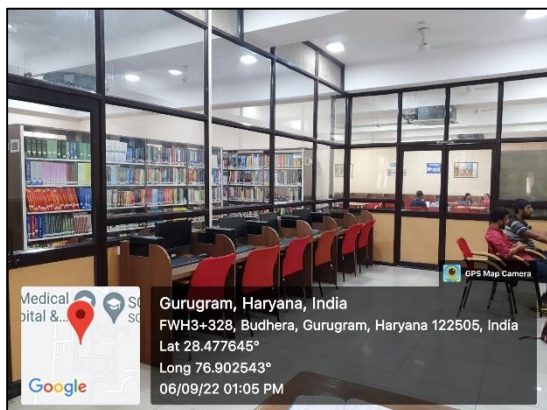


## Canteen

The SGT University has a spacious cafeteria that offers a wide variety of snacks to students and staff at reasonable rates

## Labs

The Highlights of Department of Anatomy, SGT Medical College, Hospital and Research Institute is its Museum, Dissection Hall and Research Lab. The Dissections hall is well equipped with embalming facility, deep freezer, cadaver storage tank, body cutting machine for making specimens for the museum. The research lab is well equipped with the facility of tissue processing, special staining, research microscope with digital camera, facilities for basic research in genetics, anthropometrical studies and egg incubator for research in embryology.





## Gym

SGT University has well equipped gym for fitness both in girls and boys hostel

# VISION & MISSION

### **VISION**

To nurture individual's excellence through value based, cross-cultural, integrated and holistic education adopting the contemporary and advanced means blended with ethical values to contribute in building a peaceful and sustainable global civilization.

### **MISSION**

- To impart higher education at par with global standards that meets the changing needs of the society
- To provide access to quality education and to improve quality of life, both at individual and community levels with advancing knowledge in all fields through innovations and ethical research.
- To actively engage with and promote growth and welfare of the surrounding community through suitable extension and outreach activities
- To develop socially responsible citizens, fostering ethical values and compassion through participation in community engagement, extension and promotion activities.
- To create competitive and coordinated environment wherein the individual develop skills and a lifelong learning attitude to excel in their endeavours.
- To develop Centers of Excellence culminating in achieving the cutting-edge technology in all fields.

### **CORE VALUES**

1. Innovation
2. Leadership
3. Ethics
4. Social responsibility

Presently, SGT University offers around 160+ courses featuring a wide selection of undergraduate, postgraduate and PhD courses. SGT University has 18 faculties namely:

Faculty of Mass Communication & Media Technology	Faculty of Hotel & Tourism Management	Faculty of Fashion & Design
Faculty of Commerce & Management	Faculty of Engineering & Technology	Faculty of Agricultural Sciences
Faculty of Education	Faculty of Law	Faculty of Science
Faculty of Indian Medical System	Faculty of Naturopathy and Yogic Sciences	Faculty of Allied Health Sciences
Faculty of Behavioral Sciences	Faculty of Dental Sciences	Faculty of Nursing
Faculty of Medicine & Health Sciences	Faculty of Physiotherapy	Faculty of Pharmacy



# AUDIT PARTICIPANTS

On behalf of SGT University

Name	Designation/Department
Prof. Vinod Kumar	<i>Pro-Vice Chancellor</i>
Col. Sukhpal Singh	<i>Pro-Vice Chancellor Admin ( Non Academic)</i>
Prof. (Dr.) Satish Chander Sharma	<i>Diretor, IQAC</i>
Dr. Archana Chaudhary	<i>Chairperson, Environmental Committee</i>
Mr. Gaurav Chaudhary	<i>Administration</i>
Dr. Manjri	<i>Member, IQAC</i>
Mr. Vijay Kumar Ghai	<i>Member, IQAC</i>
Dr. Vinod Asati	<i>Head, Horticulture</i>
Mr. Anurag Kahjuria	<i>Registrar Office</i>
Dr. Shikha Sharma	<i>Member &amp; Secretary, IQAC</i>
Mr. Mohit Deswal	<i>Member, IQAC</i>
Ms. Rachna	<i>Member, IQAC</i>
Mr. Wazir Singh	<i>Research Scholar, Environment Science</i>
Mr. Pawan Kumar	<i>Manager, I.T. Dept.</i>
Mr. Bidta Nand Mishra	<i>Asst. Manager, I.T. Dept.</i>
Mr. Shripal Singh	<i>AGM, Maintenance</i>
Mr. Anshu Ghosh	<i>House keeping</i>

On behalf of EHS Alliance Services

Name	Position	Qualifications
Dr. Uday Pratap	<i>Lead-Auditor</i>	<i>Ph.D. , PDIS, Lead Auditor ISO 14001:2015, QCI – WASH, Field expert</i>
Mr. Puneet Kaushik	<i>Co-Auditor</i>	<i>M.Sc. M.Tech (Environment Science &amp; Engineering), PGDISM, Lead Auditor ISO 14001:2015, OHSAS 18001:2007</i>



# EXECUTIVE SUMMARY

Green auditing is an essential step to identify and determine whether the institutions practices are sustainable and ecological. Traditionally, we were upright and efficient users of natural resources. But over the period of time, excessive usage of resources like water, electricity, petrol, etc. have become habitual for everyone especially, in urban and semi-urban areas. It is actually the right time to check if we (our process) are consuming more than required resources? Whether we are using resources sensibly?

Green audit standardizes all such practices and provides an efficient way to use natural resources. In the time of climate change and resource exhaustion it is necessary to re-check the processes and convert it in to green and sustainable. Green audit provides an approach for it. It also increases overall awareness among the individuals working in institution towards the eco-friendly environment.

This is the third attempt to conduct a green audit of the SGT campus for fulfilment of NAAC criteria. This audit was mainly focused on greening indicators like consumption of energy in terms of electricity and fossil fuel, quality of soil, water usage, vegetation, waste management practices and carbon foot print of the campus. Initially a questionnaire was shared to know about the existing resources of the campus and resource consumption pattern of the students and staffs in the SGT University.

## GREEN AUDIT – ANALYSIS

### 1.1 GENERAL INFORMATION

#### 1. Does any Green Audit conducted earlier?

*Yes, This is third time SGT University has gone for External Green Audit in a systematic way of monitoring their environmental eminence.*

#### 2. What is the total strength (people count) of the Institute?

**Students**

Male: 4285 Female: 4462 Total: 8747

**Teachers (including guest faculty)**

Male: 390 Female: 499 Total: 889

**Non-Teaching Staff**

Male: 1736 Female: 656 Total: 2382



**Total Strength**

Male: 6411 Female: 5617 Total: 12018

**3. What is the total number of working days of your campus in a year?**

*There are one hundred eighty working days in a year.*

**4. Where is the campus located?**

*The campus is located at Budhera, Gurugram-Badli Road, Gurugram(Haryana)-122505*

**5. Which of the following are available in your institute?**

<i>Garden area</i>	<i>Available</i>
<i>Playground</i>	<i>Available</i>
<i>Kitchen</i>	<i>Available</i>
<i>Toilets</i>	<i>Available</i>
<i>Garbage Or Waste Store Yard</i>	<i>Available</i>
<i>Laboratory</i>	<i>Available</i>
<i>Canteen</i>	<i>Available</i>
<i>Hostel Facility</i>	<i>Available</i>
<i>Guest House</i>	<i>Available</i>

**6. Which of the following are found near your institute?**

<i>Municipal dump yard</i>	<i>Not in vicinity of institute</i>
<i>Garbage heap</i>	<i>No Garbage heaps</i>
<i>Public convenience</i>	<i>Public convenience is available</i>
<i>Sewer line</i>	<i>Approximately 4 KM sewer line within campus</i>
<i>Stagnant water</i>	<i>No stagnant water</i>
<i>Open drainage</i>	<i>No</i>
<i>Industry – (Mention the type)</i>	<i>No</i>
<i>Bus / Railway station</i>	<i>Budhera Bus stand, Garhi Hashru Railway station</i>
<i>Market / Shopping complex</i>	<i>Available</i>

## 1.2 WASTE MINIMIZATION AND RECYCLING

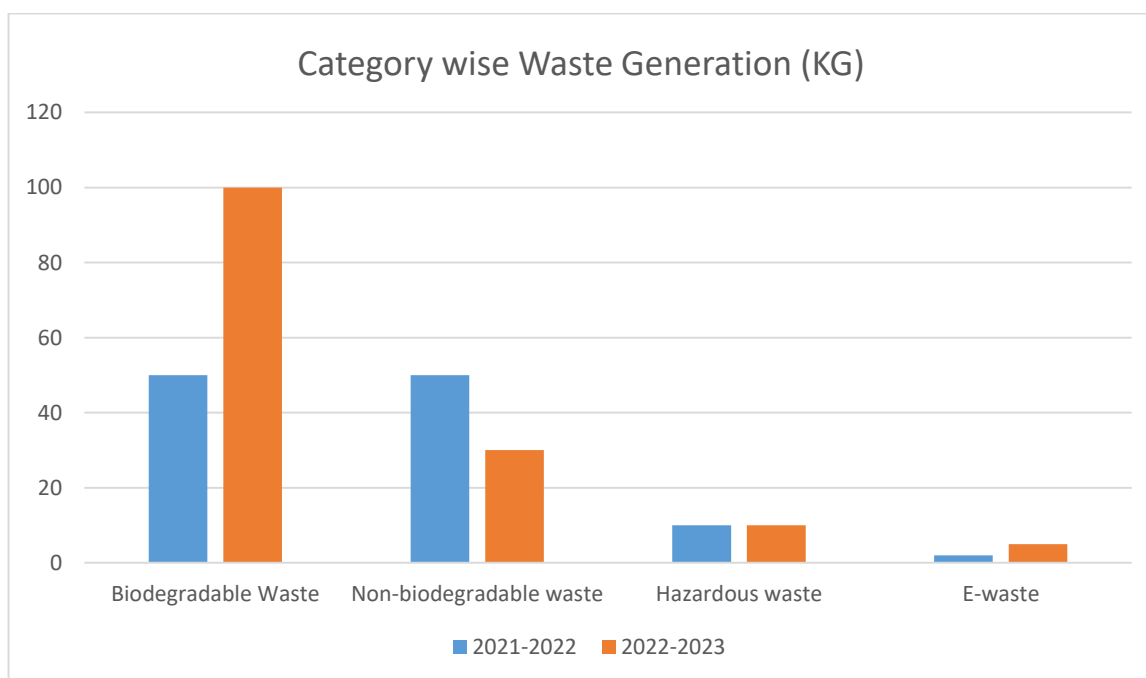
### 1. Does your institute generate any waste? If so, what are they?

Yes, Solid waste, Canteen waste, paper, plastic, horticulture, electronic waste, etc. The University takes measures to manage the solid waste on the campus by the method of segregation at the source, composting of biodegradable waste, recycling of electronic waste, and restricting the use of plastics.

The campus has color coded waste bins for bio-degradable (green) and non-biodegradable (blue) wastes for segregation. The biodegradable waste is converted into compost using the composting facility in the university. The compost is used in the nursery and campus garden.

### 2. What is the approximate amount of waste generated per day? (in KG approx.)

Biodegradable waste – 50 Kg  
Non-biodegradable waste - 50 Kg  
Hazardous Waste - 10 Kg (BMW)  
E-waste - 2 Kg



*Note: University has reduced waste generation in all categories, however biodegradable is shown as increased, as the university has increased the landscape area, and E-waste is also shown increased as the count of the aged computers/laptops is increased.*



### 3. How is the waste generated in the institute managed? By Composting, Recycling, Reusing, Others (specify)

- University avoid use of single use plastic on the campus
- Composting is done for horticulture waste management.
- BMW of SGT University is being managed by the Biotic Waste Limited.
- Solid waste (Both dry and wet) is managed by Gurugram Waste Management System Pvt Ltd
- Oil and hazardous waste is managed by Shiv Shakti Oil and Lubricants and Gujarat Enviro Protection and Infrastructure (Haryana) Pvt. Ltd
- Greenobin is managing paper waste by doing bulk recycling.
- SGT University is in collaboration with Earth Zone Recycling. They collect e-waste (computers, mobile, printers, servers, printers) in the campus, and send for recycling.
- Bi-annual one week collection drive is organized by campus.

### 4. Do you use recycled paper in institute?

Yes, SGT University collaborate with third party recycle vendor for management of the used paper

### 5. How would you spread the message of recycling to others in the community?

University conducts regular awareness campaigns, workshops, and seminars to educate students, faculty, and staff about the importance of recycling and its positive impact on the environment. These initiatives include

- Seminars and add-on courses for students
- MoUs with NGOs
- Reuse waste paper for poster makings
- Nukkar-Natak by Students to increasing awareness
- Part of Environment education

### 6. Can you achieve zero garbage in your institute? If yes, how?

- The university does not encourage use of single use plastic.
- University converts the biodegradable garden and kitchen waste into compost.
- The dry waste is reduced by using digital medium to circulate messages rather than printed paper.
- The University practices the RRR principle.
- The University collaborates with paper recycling services to recycle its paper.



## 1.3 GREENING THE CAMPUS

### 1. Is there a garden in your institute?

*Yes, about 794534 sq ft areas are developed as Gardens.*

### 2. Do students spend time in the garden?

*Yes, students spend around 2-4 Hours during winters.*

### 3. Total number of Plants in Campus?

*Plant type with approx. count*

*Full grown Trees 2569*

*Small Trees 28172*

*Hedge Plants 235735*

*Grass Cover SQM 794534 Sq ft*

### 4. Is the SGT campus having any Horticulture Department? (If yes, give details)

*Yes, Total 65 staff deployed in horticulture*

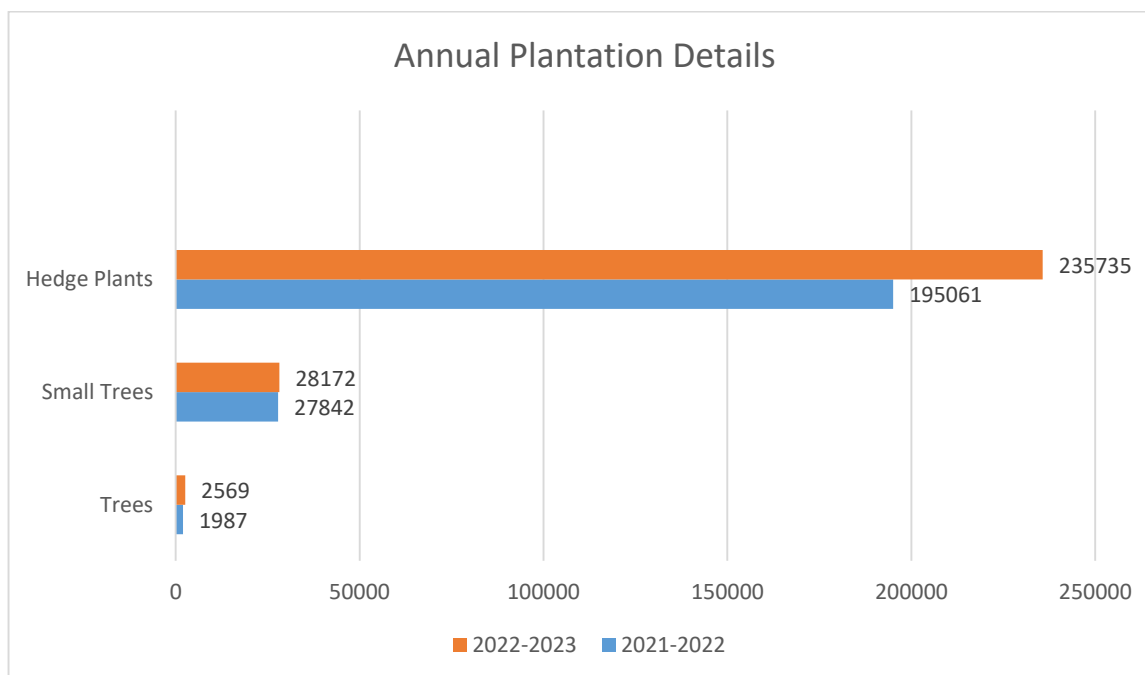
*1 - Head*

*4 – Supervisor*

*60 – gardeners*

### 5. How many Tree Plantation Drives organized by campus per annum?

- Five Plantation Drives are organized by campus in last Financial Year 2022-2023. A total 113182 plants were planted (Details of the same are provided in annexure 1)*
- Plantation by the distinguished guest during event.*



## 6. How many trees and plants were planted in last drive? And, what is the survival rate?

*Total 113182 trees and hedge plants planted in this Financial Year with more than 70% survival rate.*

## 7. Is there any Plant Distribution Program for Students and Community?

*The SGT University has a practice where all guests are given a planter as a gift rather than a bouquet of flowers*

## 8. Is there any Plant Ownership Program?

Yes

# 1.4 WATER AND WASTEWATER MANAGEMENT

## 1. List uses of water in your institute

*Basic use of water in campus:*

**Drinking** – 346.31 KL/month

**Gardening** – 453.81 KL/month, SGT University uses fresh water apart from 4084.33 KL treated water

**Kitchen and Toilets** – 2282.22 KL/month

**Hostel** – 3474.90 KL/Month



**Others** – 967.67 KL/month

**Total = 7524.91 KL/Month**

## 2. How does your institute store water? Are there any water saving techniques followed in your institute?

*SGT University relies on tanker for water supply as a primary source and 3 bore wells as a secondary source. 4 Overhead Water Tanks and 03 Underground Water tanks installed for storage of water.*

*SGT University ensures regular maintenance of water tanks and checking of water quality standards on the campus. The water tanks and water coolers are checked every 3 months, and RO systems are regularly changed.*

### ***Saving Techniques***

- *Avoid overflow of water-controlled valves are provided in water supply system.*
- *Close supervision for water supply system.*
- *Push taps are installed*
- *Water Conservation awareness for new students*
- *Sprinklers usage for gardening and grass cover*

## 3. Locate the point of entry of water and point of exit of waste water in your institute.

**Entry** – *SGT University uses tankers for water and have bore wells as a secondary source*

**Exit** – *From Canteen, Toilets, bathrooms and Hostels through covered drainage which is connected to sewage*

## 4. Write down ways that could reduce the amount of water used in your institute

### ***Basic ways:***

- *The university ensures that the faucets in the washrooms and water filtration units are checked regularly and do not have any leakages.*
- *University has initiated the installation of auto push taps to reduce water wastage.*
- *Periodic Water Conservation awareness for new students*
- *University has initiated Use of sprinklers for gardening*
- *University has adopted drip irrigation for small plants*



## 1.5 ANIMAL WELFARE

### 1. List the animals (wild and domestic) found on the campus (dogs, cats, squirrels, birds, insects, etc.)

*Approx. 5 Dogs, 3 cats, 100+ Squirrels, 20+ species of Birds including peacock, and Butterflies are found in campus. A variety of bird's species and other flora and fauna available, so institute is doing their bit for bio diversity conservation.*

### 2. Does your institute have a Biodiversity Program or a KARUNA CLUB?

*Yes **SGT environment committee** actively participates in activities including feeding the birds, planting fruit based plants for birds, organizes biodiversity awareness campaigns, etc.*

## 1.6 CARBON FOOTPRINT - EMISSION & ABSORPTION

### 1. Electricity used per year - CO<sub>2</sub> emission from Electricity

*(electricity used per year in kWh/1000) x 0.84*  
6031609 kWh/1000 x 0.84  
  
= 6031609/1000x0.84  
= 5066.55 tons

### 2. LPG/PNG used per year - CO<sub>2</sub> emission from LPG/PNG

*(LPG/PNG used per year in kg/1000) x 2.99*  
66477 kg /1000 x 2.99  
  
=66477/1000 x 2.99  
=198.77 tons

### 3. Diesel used per year - CO<sub>2</sub> emission from HSD (Diesel)

*(diesel used per year in litre/1000) x 2.68*  
211356/1000 x 2.68  
= 211356/1000 x 2.68  
= 566.43 tons

### 4. Transportation per year (car) CO<sub>2</sub> emission from transportation (Bus and Car)

*SGT University has 62 buses and 26 cars which runs on diesel 62X1X2x180/100x0.01*  
+26x2x2x180/100x0.02  
= 4.59 + 3.85  
= 8.44 tons

Total CO<sub>2</sub> emission per year cumulative by electricity usage + bus and car transportation = 5840.19 tons

## Carbon absorption by flora in the institution

There are 2569 full grown trees and 28172 semi grown trees of different species and approximately 235735 shrubs/hedge plants.

Carbon absorption capacity of one full grown tree 22 kg CO<sub>2</sub> Therefore Carbon absorption capacity of 1987 full-grown trees  $2569 \times 22 \text{ kg CO}_2 = 56.52 \text{ tons of CO}_2$ .

The carbon absorption capacity of 28172 semi-grown trees is approx. 35% of that of full-grown trees. Hence the carbon absorption  $28172 \times 6.8 \text{ kg of Co}_2 = 191.57 \text{ tons of Co}_2$

There are approximately Hedge Plants 235735 of various species being raised in the gardens and grown in the areas where no buildings are built Carbon absorption of bush plants varies widely with their species. Certain bushes absorb very high level of CO<sub>2</sub> where as some others absorb very low level of CO<sub>2</sub>. In the absence of a detailed scientific study, 200g of CO<sub>2</sub>, absorption is taken per bush (in consultation with Environmental Science specialists). Based on this, total carbon absorption of bushes is  $235735 \times 200 \text{ g} = 47.15 \text{ tons of CO}_2$

The lawns on the campus have buffalo grass, Mexican grass and indigenous grass species and cover a total area of 794534sq. ft. Carbon absorption capacity of a 10 sq. ft. area of lawn is 1 g per day Therefore, carbon absorption by lawn area  $794534 \times 365 \times 0.1 \text{ g CO}_2 = 29 \text{ tons of CO}_2$

Grand total of carbon absorption capacity of the campus is 324.24 tons.

## GREEN INITIATIVES BY CAMPUS

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- **Solid Waste Management**
  - The University has compost bins for managing bio degradable waste.
  - There is ban on single use plastic and plastic crockery in the campus.
  - University actively promotes RRR principle
- **E-waste Management**
  - University has a separate storeroom for the safe storage of electronic waste. After a certain interval of time university disposes of the E-waste to concerned agencies through the auction process.
- **Waste Water management**
  - University has 2 STP of capacity 275 KLD
  - 2 ETP units of capacity of 40 KLD and 10 KLD respectively
- **Renewable Energy**

- Solar power plant of capacity 910 KW is installed on building roof that will supply approx. 20 % of total power in campus.
- Solar water heaters are installed in campus
- **Tree Plantation Drives**
  - 5 Plantation drives carried out. Total 113182 trees, ornamental and hedge plants planted in this Financial Year with more than 80% survival rate.
- **Air Pollution Reduction**
  - Personal Vehicles (Students) are not allowed in the campus to reduce the air pollution
- **Rainwater harvesting**
  - SGT University has 12 traditional rainwater harvesting units and additional 12 units with modular filters
- **SGT Environment Committee** – SGT University has an environment committee. Below are the highlights of their work on environment consciousness.



The Internal Quality Assurance Cell (IQAC), SGT University in association with environmental committee had organized a one day training and workshop on “Disaster Management” on march 25th, 2023

## RECOMMENDATIONS

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- Environmental parameters shall be included in purchase policy to achieve a cradle to grave approach for sustainability.
- Water Meter should be installed at every building of institute for monitoring of water consumption per capita.
- Bore well permission should be taken from authorised government department
- University should increase drip irrigation and increase use of customized sprinklers to save water in campus
- Flow rate of taps should be monitored regularly, it should not be more than 2.5 litres/minute.
- Organize plantation awareness campaigns in nearby schools and local bodies in order to balance the carbon emission and absorption.
- Arrange training programmes on environmental management system and nature conservation for schools and local people.
- Involve lower hierarchy staff in environmental awareness programmes and campaigns.
- Messages display should be increased at various locations to Aware the People about Water and Energy Savings
- Green building guidelines shall be followed for future expansion projects of the campus. (As per NBC 2016)

## CONCLUSION

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This audit involved extensive consultation with all the teams, interactions with key personnel on wide range of issues related to Environmental aspects. SGT University has Environmental Committee for sustainable use of resources.

Overall 60% of SGT campus is for landscaping. The University is considering the environmental impacts of most of its actions and makes an intensive effort to act in an environmentally responsible manner. Even though the University does perform quite well, the recommendations in this report highlight many ways in which the University can work to improve its actions and become a more sustainable institution.

Few things that are important to regulate includes periodic monitoring of water usage. We also highly recommend for installation of water meters at each building/block and water balancing report.



## REFERENCE:

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- The Environment [Protection] Act – 1986 (Amended 1991) & Rules-1986 (Amended 2010)
- The Petroleum Act: 1934 – The Petroleum Rules: 2002
- The Central Motor Vehicle Act: 1988 (Amended 2011) and The Central Motor Vehicle Rules:1989 (Amended in 2005)
- Energy Conservation Act 2010.
- The Water [Prevention & Control Of Pollution] Act – 1974 (Amended 1988) & the Water (Prevention & Control of Pollution) Rules – 1975
- The Air [Prevention & Control Of Pollution] Act – 1981 (Amended 1987) The Air (Prevention & Control of Pollution) Rules – 1982
- The Gas Cylinders Rules – 2016 (Replaces the Gas Cylinder Rules – 1981)
- E-waste management rules 2016
- Electrical Act 2003 (Amended 2001) / Rules 1956 (Amended 2006)
- The Hazardous Waste (Management and Handling and Trans-boundary Movement) Rules, 2008 (Amended 2016)
- The Noise Pollution Regulation & Control rules, 2000 (Amended 2010)
- The Batteries (Management and Handling) rules, 2001 (Amended 2010)
- Relevant Indian Standard Code practices

### Transparency of Green Audit Report

*Green audit report is one of the useful means of demonstrating an organization's commitment to openness and transparency. If an Organisation believes it has nothing to hide from its stakeholders, then it should feel confident enough to make its green audit reports freely available to those who request them. As a basic rule, green audit reports should be made available to all stakeholders.*

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# ANNEXURE I – PLANTATION DRIVE DETAILS

SGT CAMPUS BIG TREE DATA		
Sl No.	Name of Tree Species	Tree (Nos.)
1	Cassia sp	99
2	Alstonia scholaris	106
3	Polyalthia longifolia	45
4	Mangifera indica	59
5	Morus alba	52
6	Syzigium cumini	71
7	Manilkara zapota	19
8	Azadirachta indica	205
9	Lagerstroemia sp	21
10	Bauhinia sp	30
11	Kigelia pinnata	4
12	Tamarindus indica	3
13	Delonix regia	35
14	Ficus infectoria	11
15	Cluster fig	31
16	Melia azedarach	26
17	Psidium guajava	9
18	Artocarpus heterophyllus	1
19	Aegle marmelos	37
20	Cassia fistula	99
21	Erythrina indica	10
22	Zizyphus numularia	14
23	Ficus carica	3
24	Phyllanthus emblica	54
25	Mimusops elengi	27
26	Butea monosperma	11
27	Pongamia pinnata	11
28	Moringa oleifera	2
29	Dalbergia sissoo	20
30	Manilkara hexandra	2

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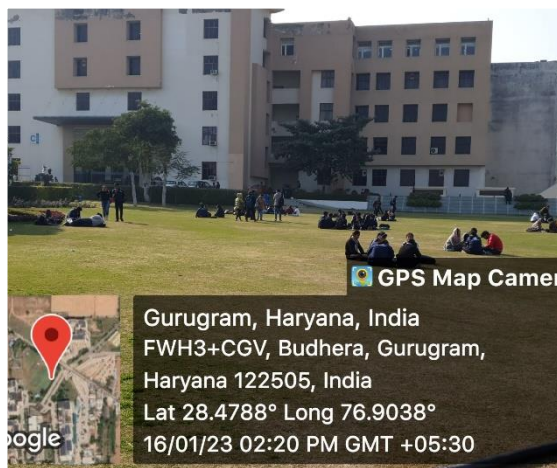
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SGT CAMPUS SHRUBS PLANTS DATA			
SR.NO	PLANTS COMMON NAME	PLANTS BOTANICAL NAME	QTY
1	Gudhaal	Hibiscus	19783
2	inirmi	Clorodendron inirmi	19214
3	Durenta	Golden durenta	12781
4	Moriya	Murraya paniculata	9593
5	Ficus panda	Ficus panda	5389
6	Sambhukas	Sambucus nigra	2305
7	Mogra	Jasminum sambac	11697
8	Chandani	Tabernaemontana divaricata	4575
9	Ratrani	Cestrum nocturnum	3419
10	Jatropha	Jatropha curcas	2518
11	Hameliya	Hamelia patens	4076
12	Ticoma gaudi chaudi	Ticoma gaudi chaudi	4867
13	thevetia	Thevetia	60387
14	Ixora singapori	Ixora coccinea	687
15	Ticoma capensis	Ticoma capensis	3743
16	Tmc chandandi	Tabernaemontana divaricata	985
17	Rose	Rosa indica	8939
18	Cassia gluca	Senna surattensis	2698
19	Almandaa	Allamanda	769
20	Bougainvillea	Bougainvillea	4053
21	Ficus starlight	Ficus starlight	108
22	Eforbia milli	Eforbia milli	1009
23	Pulchierimaa	Caesalpinia pulcherrima	146
24	Thunbergia	Thunbergia	966
25	Marbel of peru	Marbel of peru	836
26	Lagerstomia indica	Lagerstomia indica	1182
TOTAL			186725

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## ANNEXURE II – PHOTOGRAPHS OF ENVIRONMENT CONSCIOUSNESS



Well ventilated building structure



Well maintained SGT campus



Plantation drive



Washing machines to save water

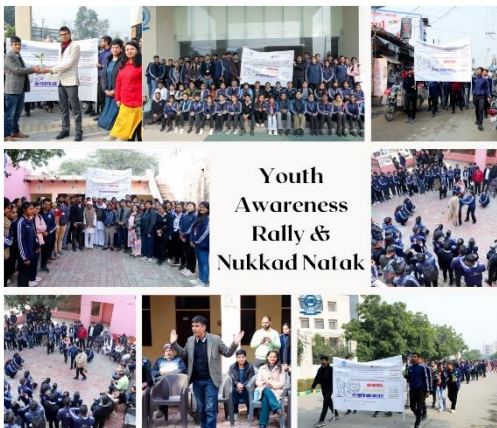




Nest making in SGT University



Plantation drive in the campus



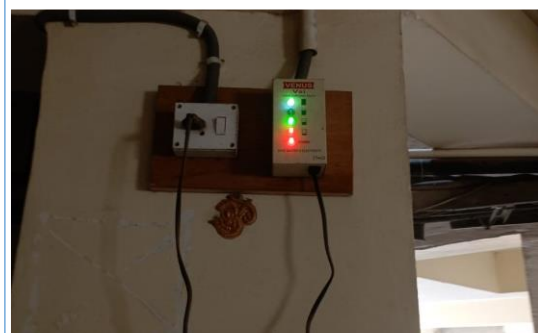
Active participation by students and staff in Plantation Drive



Awareness drive



Conference on environment



Water alarm to avoid overflow in tanks



Planter gifting



Push taps for water saving



Paved walk ways



HAVC used for cooling



Air purifying plants in building



Sensor based lighting in washrooms





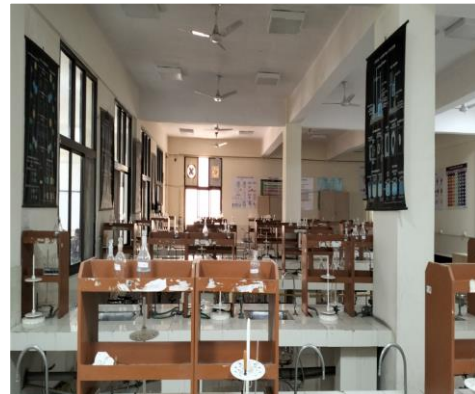
Ventilated corridors with  
natural light



Landscaping



Awareness campaign



Well equipped labs



Sprinklers for irrigation



Artificial bird nest for bio  
diversity conservation

\*\*\*\*\* **END OF THE REPORT** \*\*\*\*\*