



# CERTIFICATE

(GREEN, ENERGY & ENVIRONMENT AUDIT)

*This is to certify that Environmental, Energy and Green Audit has been conducted at SCHVPMR Government Degree College Ganapavaram by the Green Audit Committee constituted by the Principal of SCHVPMR Government Degree College Ganapavaram. The Committee has verified the Green initiatives carried out by the College and the College has successfully demonstrated knowledge on Energy Conservation, Water Conservation, Biodiversity, Waste Management and Carbon footprint. The Green Audit Committee is pleased to declare the below grades in the following categories for the satisfactory performance of the College, and this certification is valid for one year from August 2018 to July 2019.*

**Green Initiatives: A**

**Energy Conservation: B**

**Environmental Protection: A**

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# GREEN AUDIT REPORT

(2018-2019)

SCHVPMR GOVERNMENT DEGREE COLLEGE

GANAPAVARAM

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## Acknowledgement

*Green Audit Assessment Team thanks the SCHVPMR GOVERNMENT DEGREE COLLEGE for assigning this important work of Green Audit. We appreciate the cooperation extended to our team during the entire process. Our special thanks are due to the Principal and Team of colleagues for giving us necessary inputs to carry out this very vital exercise of Green Audit.*

*We are also thankful to the IQAC Coordinator and other staff members who were actively involved while collecting the data and conducting field measurements.*

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## 1. Introduction

The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institute which will lead for sustainable development. We at SCHVPMR GOVERNMENT DEGREE COLLEGE have taken the initiative to make significant contributions in creating a sustainable eco friendly environment. Green Audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of environmental diversity. The 'Green Audit' aims to analyze environmental practices within and outside the college campus, which will have an impact on the eco-friendly ambience. Green Audit helps us to identify and mitigate the ill effects through a sustained and seamless application of remedial measures identified during the audit, to replenish the environment and make the surrounding conducive for a healthy living. An interdisciplinary board of SCHVPMR GOVERNMENT DEGREE COLLEGE is formed with specific goals towards environmental sustenance in the campus. The total area of the campus is 3.5 acres. SCHVPMR GOVERNMENT DEGREE COLLEGE from its time of establishment to date maintains a well developed play ground with flora and fauna to maintain the ecological balance and also an eye feast to stakeholders.

As a major step towards controlling greenhouse gasses, the Principal of SCHVPMR GOVERNMENT DEGREE COLLEGE encourages NSS students to conduct awareness campaigns on plantation under the "JanmaBhoomi" program, a plantation drive initiated by the Govt. of Andhra Pradesh State. Under the audit process the II&III B.Sc. Life Sciences group students and Botany faculty members actively participated in surveying the plant species in the campus.

## 2. Objectives of the Study

1. To introduce and aware students to real concerns of the environment and its Sustainability.
2. To identify, verify and assess the available resources and their management at the college.
3. To share the findings of the audit among the student, staff and Management

fraternity to increase the awareness of ecological imbalances and their ill effects.

4. To identify avenues to save energy, water resources and effective waste management to reduce losses due to the usage of these resources

#### GREEN AUDIT COMMITTEE:

NAME	DESIGNATION
Sri. P. Madhu Raju	Convenor, Principal (FAC), SCHVPMR GDC Ganapavaram
Dr. Ramudu Machavarapu	Assistant Professor of Physics (Ad Hoc) NIT AP, Tadepalligudem
Dr.Ch.CHaitanya	Assistant Professor of Botany, SRBGNR(A)Khammam,Telangana
Sri. NVNB Srinivas Rao	Lecturer in Chemistry, DRG GDC Tadepalligudem
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### 3. Methodology

In order to perform green audits, the methodology included collection of information related to College Building, laboratories, office- based environmental impacts like built-up area, utility bills, energy-saving devices and IT equipment etc. Hence, physical inspection of the campus, observation and review of the documentation, interviewing key persons were carried out. This information needs to be documented and tabulated for arriving at a clear picture of the Institution's annual greenhouse gas emissions and impact of the reduction measures to be undertaken.

#### Green Audit Process:

- ❖ Teams were formulated with clear instructions and scope of the Audit to collect the data.
- ❖ Documentation of physical evidence based on the verification and valuation of the resources and assets.
- ❖ Analysis of the data to identify the areas of improvement
- ❖ Discussion with subject matter experts and relaying the information to the stakeholders for further analysis and its implementations with action plans to meet the desired standards.

## 4. Observations

### 4.1 Physical Structure

The college campus is spread across 3.6 acres of land on Tadepalligudem road. With a built-up area of 1476 square meters, the college is functioning in its own pucca building with two floors (G+1) and RUSA-supported 2nd floor is under construction. Slab work for the entire floor is completed and three computer labs are already arranged there. There are 9 classrooms for conventional teaching and 2 ICT-enabled classrooms, including one smart room, one Virtual Class room on the 1st floor.

Classrooms	9
Staff rooms	1
Laboratories	6
Seminar Hall	1
Library	1
Administrative Office	1
Principal's Office	1
Washrooms	10

## 4.2 Water Use and Management

The study observed that Municipal connection is the major source of water in college. Water is used for drinking purposes, toilets and gardening. There is one RO plant on the premises that caters to the drinking water requirements. The waste water from the RO plants is redirected for cleaning purposes, watering plants and sometimes the open ground to prevent dust from infiltrating into the air. During the survey, no loss of water is observed, neither by any leakages, or by over flow of water from overhead tanks. On an average the total use of water in the college is 1700 L/day, which include domestic, gardening and drinking purposes. One rain water harvesting unit is also functional for recharging ground water level.

### Water Conservation Strategies:

- Water consumption in laboratories is minimized by closing the main valves to avoid any kind of leakage.
- Used organic solvents after physical experimentation are not let into the drains; they are recovered and reused for cleaning.
- Organic compounds prepared in the chemistry lab by BSC students are bottled and issued during the subsequent semester for organic compound analysis.

## 4.3 Energy Use and Conservation

This indicator addresses energy consumption, energy sources, energy monitoring, lighting, appliances, natural gas and vehicles. Energy use is clearly an important aspect of campus sustainability and thus requires no explanation for its inclusion in the assessment.

Energy source utilized by the campus is electricity only. Total average energy consumption is determined as 6735 KWH/month. The entire campus including common facility centers are equipped with tube lights and bulbs. Campus administration runs a switch-off drill on a regular basis.

### Annexure: 1

S.No	ITEMS/ Equipments	Numbers
1	Tubes & Bulbs	65
2	Fan	104
3	LED Bulbs	nil
4	Air Conditioners	3

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5	Projector	1
6	Computers	94
7	Printers	9
8	<b>Other Electrical equipments/ gadgets</b>	
	i. Fridge	3
	ii. Oven	nil
	iii. Freezer	nil
	iv. Amplifier	nil
	v. Microwave	0
	vi. Geyser	0
	vii. LCD/Television	6
	viii. Ice cube maker	0
	ix. Ro plant	1
	x. Water cooler	2
	xi. Cyclostyling Machine	0
	xii. UPS	1
	xiii. CCTV SYSTEM	1
	<b>Total: Other Electrical equipments/ gadgets</b>	<b>8</b>

Transportation is a necessary evil in our society. The institute does not have any self owned buses. The teaching staff, students and members of the office and support staff use their own or public transport for commuting to the college from their respective places of residence. Students staying close by are encouraged to walk or cycle to the institute. Approximately 60% students avail the Government provided bus services to commute to the college at a concessional rate. The office and the staff and students observe no vehicle day on every second Tuesday to promote a clean and green environment.

#### 4.4 Waste Generation and disposal

This indicator addresses waste production and disposal of different wastes like paper, food, plastic, biodegradable, construction, glass, dust etc. and recycling. Waste generation



from tree droppings is a major solid waste generated in the campus. These dried leaves were collected and placed in compost pits for compost preparation. The waste is segregated at the source by providing separate dustbins for Biodegradable and Plastic waste.

Single sided used papers reused for writing and printing in all departments and recently both side printing is carried out as per requirements. Very less plastic waste is generated by the department, office, garden etc. Metal waste and wooden waste is stored and given to authorized scrap agents for further processing.

The solid waste is collected by the municipal corporation and disposed of by their methods. E-waste generated in the campus is very less in quantity. Administration conducts the awareness programs regarding E-waste Management with the help of various departments. The E-waste and defective item from the computer laboratory is being stored properly. The institution has decided to contact approved E-waste management and disposal facilities in order to dispose of E-waste in a scientific manner.

#### 4.5 Green Area

This includes the plants, greenery and sustainability of the campus to ensure that the buildings conform to green standards. Various tree plantation programs are being organized at the college campus with the help of NSS (National Service Scheme) unit, Department of Botany and the Eco Club. This program helps in encouraging an eco-friendly environment which provides pure oxygen within the institute and awareness among villagers.

#### Annexure: 2 FLORA

Plants type	Total Nos
Tree	40
Shrubs	30
Climbers	nil
Total	70

#### Annexure: 3 Water Management in the College

<b>Sources of Water in the College:</b>	Municipal, Tank water Supply
<b>Storage Facility</b>	Sump facility

**Annexure:4 Transportation management**

Particulars	Own Transport	Public Transport	By walk	Total
Number of students	15	220	80	315
Number of Teaching & non teaching staff	18	3	3	24
Total	33	223	103	359

**Annexure:5 Waste management**

Type of Waste	
Dry Waste	2-3 kgs
Wet Waste	1-2 kgs per day
Plastic Waste	1.5kgs per day
E waste	>1kg per day
Total	≤ 8 kgs per day

**5.Recommendations**

- To dig one more compost pit in the campus
- To encourage eco-friendly dustbins.
- To grow herbs that are medicinally important and also purify the air
- To establish a solar panel on the campus

**6. Conclusions**

Considering the fact that the institution is located in the mandal headquarters, there is significant environmental awareness for both faculty and students. The environmental awareness initiatives are substantial. Besides, environmental awareness programmes initiated by the administration shows how the campus is going green. Few recommendations are added to curb the menace of waste management using eco-friendly and scientific techniques. Also installation of a Solar Panel (renewable energy source) would minimize the energy consumption, this may lead to a prosperous future in the context of Green Campus & thus

sustainable environment and community development.

**Annexure 6: List of plants growing in College premises.**

Name of the Tree	Scientific Name of the Tree	Family
Jackfruit	<i>Artocarpus heterophyllus</i>	Moraceae
Neem tree	<i>Azadirachta indica</i>	Meliaceae
Palmyra palm	<i>Borassus flabellifer</i>	Arecaceae
Garden red sandal	<i>pterocarpus santalinus</i>	Santalaceae
Carrot grass	<i>Parthenium hysterophorus</i>	Asteraceae
Areca plam	<i>Dypsis lutescens</i>	Arecaceae
Ice cream bean	<i>Inga edulis</i>	Fabaceae
Tamarind pulp	<i>Dialium indum</i>	Fabaceae
White goose foot	<i>Chenopodium album</i>	Amaranthaceae
Blackboard tree	<i>Alstonia scholaris</i>	Apocynaceae
Red wisteria	<i>Sesbania grandiflora</i>	Fabaceae
French broom	<i>Genista monspessulara</i>	Fabaceae
Jurema preta	<i>Mimosa tenuiflora</i>	Fabaceae
Monkey bread	<i>piliostigma thonnigii</i>	Fabaceae
River red gum	<i>Eucalyptus camaldulensis</i>	Myrtaceae
Black Siris	<i>Albizia odoratissima</i>	Fabaceae
Perfume tree	<i>Cananga odorata</i>	Annonaceae
Argentina mosquito tree	<i>Proposis alba thornless</i>	Fabaceae
Syrian oregano	<i>Origanum syriacum</i>	Lamiaceae

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