



Dasmesh Girls College

(Affiliated to Panjab University - Chandigarh)



DASMESH GIRLS COLLEGE MUKERIAN

GREEN AUDIT REPORT

2022-2023

**PREPARED BY
EHS ALLIANCE SERVICES**

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CERTIFICATE



CERTIFICATE

PRESENTED TO

DASMESH GIRLS COLLEGE MUKERIAN

Chak Alla Baksh, G.T. Road, Distt- Hoshiarpur, Mukerian, Punjab 144211

The above institution has been assessed by EHS Alliance Services for the comprehensive study of Energy Audit on institutional working framework to fulfill the requirement of

GREEN AUDIT

ACADEMIC YEAR 2022-23

The energy-saving initiatives carried out by the institution have been verified as per ISO 14001:2015 standards in the report submitted and were found to be satisfactory.

The efforts taken by management and faculty towards all types of energy used in the institution and sustainability are highly appreciated and noteworthy.

A handwritten signature in blue ink, appearing to read 'H. Singh', written over a horizontal line.

SIGNATURE



10.08.2023

DATE OF AUDIT

EHS ALLIANCE SERVICES, PLOT A-72, SURYA VIHAR, GURUGRAM, 122001
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ACKNOWLEDGEMENT

EHS Alliance Services would like to thank the management of Dasmesh Girls College for assigning this important work of environmental audit. We appreciate the cooperation of the teams for the completion of the assessment.

First of all, we would like to thank **Dr. Karamjit Kaur- Principal** for giving us an opportunity to evaluate the environmental performance of the campus.

We would also like to thank, **Ms. Renu Gupta - Assistant Professor & Member, SAP and Audit Coordinator** for her continuous support and guidance, without which the completion of the project would not have been possible. We are also thankful to other staff members actively involved in collecting the data and conducting field measurements.

We are also thankful to

Dr. Meetu - Assistant Professor and Chief Coordinator, IQAC

Dr. Maninder - Assistant Professor and Coordinator, IQAC

Ms. Satwant Kaur - Assistant Professor & Member, SAP and Nodal Officer

DISCLAIMER

EHS Alliance Services Audit Team has prepared this report for Dasmesh Girls College Mukerian based on input data submitted by the representatives of the college 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 the 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 the 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.

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Signature

LEAD AUDITOR

CONCEPT AND CONTEXT

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 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 the 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 College 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 college campus, which impact directly or indirectly on the atmosphere. Green audit can be defined as the systematic identification, quantification, recording, reporting and analysis of components of the 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 to how to improve the structure of the environment and the 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, and objectives of the audit as below:



INTRODUCTION

Now a 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 college 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 university /college 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 a waste minimization plan.

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



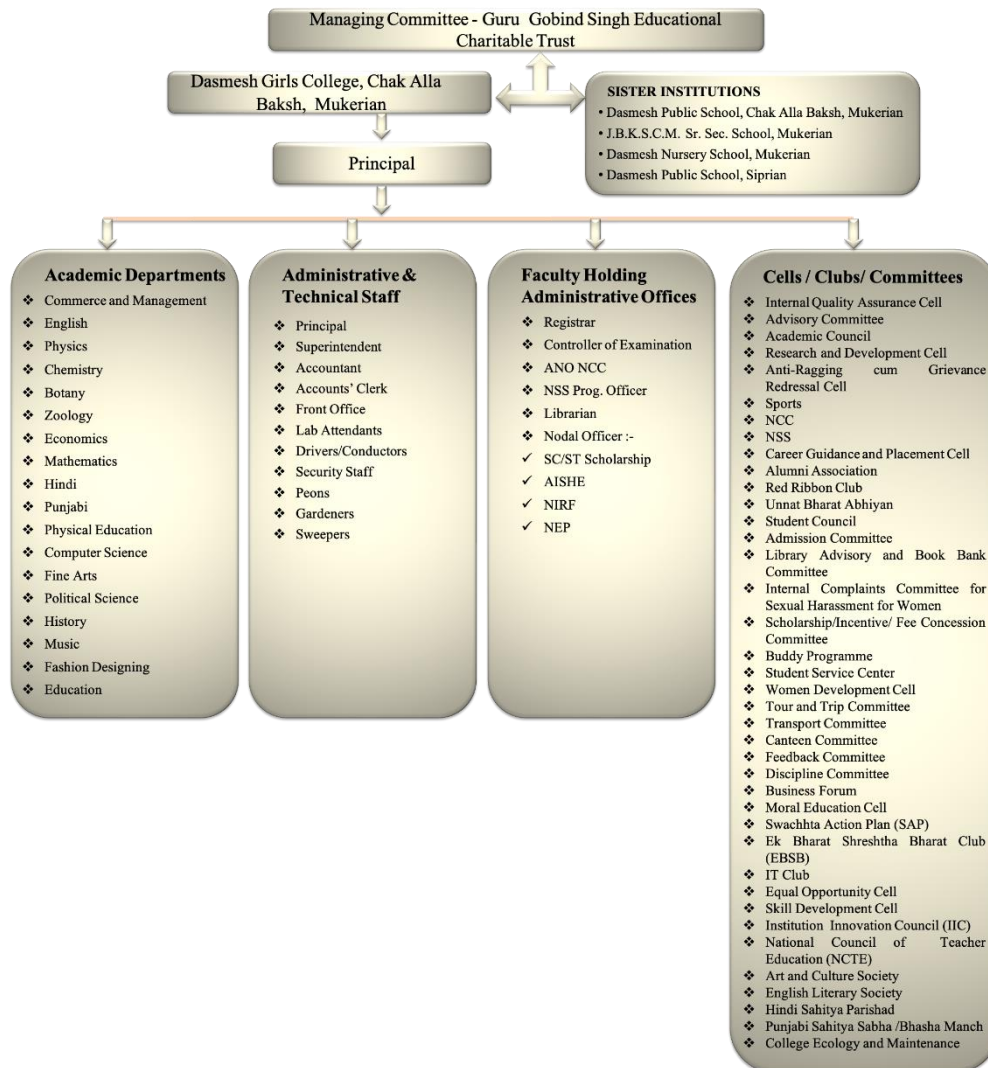
OVERVIEW OF THE COLLEGE

Dasmesh Girls College, an eternal link in the immortal chain of Sri Guru Gobind Singh Educational Trust, Chak Alla Baksh, Mukerian was established in December 2000. It is an institution where learning is a religious habit. It aims at imparting value-based education. This seat of learning has been enunciating the gospels of Guru Gobind Singh in particular and the message of humanity in general. The custodians in the field of education and the great philanthropists of the area got their dream materialized when they came forward with their mission of establishing the institution in the cradle of nature.



The growth of the College became phenomenal when they contributed their might along with Sardar Prakash Singh Badal, the Chief Minister, who showered his bounteous blessings on it on December 21, 2000. Since then, this institution is inculcated the code of discipline and morality among students. The college combines a commitment to teaching excellence with extensive sports and cultural opportunities. The academic and cultural activities are focused on inculcating a strong sense of commitment to nationalists i.e. social and aesthetic values. Seminars, workshops, conferences, and exhibitions are regular feature of its UG / PG Departments. The institution is making every possible effort to uplift the poor and downtrodden section of the area by educating their women folk and encouraging them to realize their potential to face mind-boggling situations of the globalized world. Dasmesh Girls College is housed in a spacious pollution-free, picturesque, and lush-green campus at a convenient distance from the town. A

sense of splendor, beauty, discipline and academic excellence pervades the corridors of the campus. At present, the College is having four-storeyed blocks, viz., Arts cum Administrative Block, Mata Gujri Block, Mata Sundri Block and Bhai Gurdas Block. The college has four sophisticated computer labs, a language lab, Psychology lab, Mathematics lab, a Physics lab, a Chemistry lab, a Zoology lab, a Botany lab, Conference Room, Seminar hall and Smart class rooms with all modern infrastructure required for extending quality-education to the students. College library is the life and soul of this institution. It is fully computerized for various operations viz., Acquisition of books, cataloguing, classification, transaction (issue and return), enquiry etc. This college is being managed by the experienced members of the committee. Under the innovative leadership of its Principal Dr. (Mrs.) Karamjit Kaur, herself a dazzling luminary in the field of education, this college is marching from strength to strength. The College is progressing by leaps and bounds. The visit of the NAAC peer team proved to be a boon for the college. The college is Accredited 'A' Grade by NAAC which has further boosted its credibility in the region. The College has been awarded Best NSS Unit among the Colleges in the state of Punjab. The College has run NSS, NCC and Red Ribbon Club for the betterment of the students.



Organization Chart

MISSION, VISION & GOAL AND OBJECTIVE

MISSION

- ✓ To broaden horizon and enrich life of the women.
- ✓ To develop cultural sensitivity and global understanding.
- ✓ To make women competent professionals in the present cut – throat competition.
- ✓ To compete effectively in today’s environment for ensuing future.
- ✓ To get job opportunities and earning potentials.
- ✓ To be in the forefront of development of a nation.
- ✓ To inculcate discipline and culture.
- ✓ To enhance employability through innovative methods.
- ✓ To inspire the students to imbibe the virtues of hard work, perseverance and to develop a Positive attitude.

VISION

With the purpose of emancipating women as also to educate them, Sri Guru Gobind Singh Educational Trust (Regd.), Chak Alla Baksh, Mukerian founded an institution, Dasmesh Girls College, Chak Alla Baksh, Mukerian, in the year 2001. Disseminating the philosophy of Guru Gobind Singh ‘Shubh Karman te Kabhun na Tarun’ (May I never refrain from the righteous acts), the college has a strong commitment to excel so that the leaders grow up to be fine human beings and are able to assume positive and fulfilling role in nation building and promoting a culture of peace and non-violence. Dasmesh Girls College is an institution where learning is a religious habit. It aims at imparting value-based education. This seat of learning has been enunciating the gospels of Guru Gobind Singh in particular and the message of humanity in general. This institution is making every possible effort towards changing the life of poor and down-trodden of the area by educating their women folk. With its roots deeply couched in Sikh-Culture and Indian Tradition, the institution is receptive to the winds of change responsive to the regional, national and global aspirations. The college earnestly endeavours to enrich and empower all its beneficiaries through value-based, quality- education. Through positive and fertile teaching-learning environment, based on the principle of caring, it aims at sharing peaceful co-existence. The college is consistently engaged in the promotion and revival of Indian tradition, culture, heritage and spiritual philosophy through co-curricular, cultural activities, classroom presentations, learning discourses and awareness- raising programmes. The college envisions the creation of multi-dimensional Personality Development Programmes through college curriculum and to produce world class professionals.

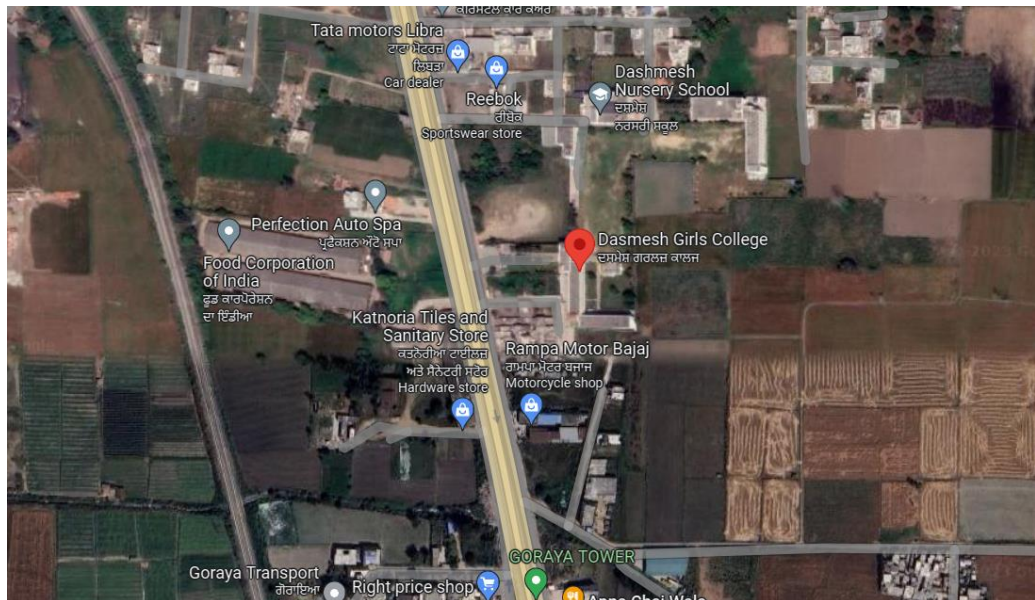
GOALS AND OBJECTIVE

- ✓ To train students with a view to develop their overall personality.
- ✓ To focus on students, to develop student-centric teaching and to make learning a happy and Joyful experience.
- ✓ To maintain good academic standards through effective teaching and learning methods.
- ✓ To sensitize the students regarding issues of contemporary relevance and guide them to Emerge as responsible citizens of the society.

Geo Location

Geo Coordinates from Google maps:

31.9357594, 75.6193359



AUDIT PARTICIPANTS

On behalf of Dasmesh Girls College Mukerian

Name	Designation
Dr. Karamjit Kaur	Principal
Dr. Meetu	Assistant Professor and Chief Coordinator, IQAC
Dr. Maninder	Assistant Professor and Coordinator, IQAC
Dr. Rajwinder Kaur	Assistant Professor & Member, SAP
Dr. Maninderjit Kaur	Assistant Professor & Member, SAP
Ms. Renu Gupta	Assistant Professor & Member, SAP & Audit Coordinator
Dr. Sukhwinder Kaur	Assistant Professor & Member, SAP
Ms. Suman Devi	Assistant Professor & Member, SAP
Ms. Satwant Kaur	Assistant Professor & Member, SAP & Nodal Officer
Ms. Monica	Assistant Professor & Member, SAP
Ms. Neena Rishi	Assistant Professor & Member, SAP
Dr. Ekta	Assistant Professor & Member, SAP

On behalf of EHS Alliance Services

Name	Position	Qualifications
Dr. Uday Pratap	Lead Auditor	Ph.D., PDIS, QCI – WASH, Lead Auditor ISO 14001:2015
Ms. Pooja Kaushik	Co-Auditor	M.Sc., Field Expert, QCI – WASH, PDCCC

EXECUTIVE SUMMARY

Green auditing is an essential step to identify and determine whether the institutional 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. has 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 the required resources? Whether we are using resources sensibly?

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

This is the first attempt to conduct a green audit of this campus for fulfillment 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 the carbon footprint of the campus. Initially, a questionnaire was shared to know about the existing resources of the campus and the resource consumption pattern of the students and staff on the campus.

GREEN AUDIT - ANALYSIS

1.1 GENERAL INFORMATION

1. Does any Green Audit conducted earlier?

No, this is the first external audit organized by the College

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

Students

Male: 0 Female: 1238 Total: 1238

Teachers (including guest faculty)

Male: 0 Female: 59 Total: 59

Non-Teaching Staff

Male: 19 Female: 5 Total: 24

Total Strength

Male: 19 Female: 1302 Total: 1321

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

There are Two Hundred Twenty-Eight working days in a year.

4. Where is the campus located?

The campus is located at Chak Alla Baksh, G.T. Road, Distt- Hoshiarpur, Mukerian, Punjab 144211

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>Not 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 the vicinity of the 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 1.0 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>Mukerian bus stand, Mukerian 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, laboratory waste, e-waste, etc.

Biodegradable Waste: *Two vermin beds were prepared for the introduction of green waste mixed with cow dung in the proportion of 60:40 in each main aim was to recycle green waste generated in college campus into manure that could be further utilized for gardening.*

Non-Biodegradable: *The college also introduced the bottle garden by use of discarded bottles, old tyres, oil cans, paint boxes, and other waste to grow plants. Every day municipal committee van came and took the waste of the college.*

Hazardous: *Hazardous waste is also collected from labs and sent for e-waste and solid waste management.*

BMW- *for BMW three Sanitary Pads Machine installed in different washrooms.*

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

Biodegradable waste – 30 kg

Non-biodegradable waste – 1 kg

Hazardous Waste – 1 < Kg

Others < 1 Kg

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

- 1. Dasmesh Girls College Mukerian is doing composting for solid waste management*
- 2. Rainwater water storage tanks are there for water conservation*
- 3. Lab waste is managed through a dilution process.*

4. Do you use recycled paper in the institute?

Yes

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

College is spreading awareness about recycling through different activities and campaigns to students, staff, and local nearby villages

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

Not yet achieved.

1.3 GREENING THE CAMPUS

1. Is there a garden in your institute?

Yes, about 1,54,720 sq. ft areas are developed as Gardens.

2. Do students spend time in the garden?

Yes, students spend around 2-4 Hours during winter.

3. Total number of Plants on Campus?

Plant type with approx. count

Full-grown Trees	544
Small Trees	393
Hedge, Shrub, Indoor & Ornamental Plants	3,845
Grass Cover sqm	1,54,720 sq. ft.

4. Does the College campus have a Horticulture Department? (If yes, give details)

Yes, 2 staff (maali) deployed in the horticulture department

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

9 Plantation Drives are carried out annually. In total more than 1350 plants were planted. The survival rate is more than 70%. Below are details

Existing Plant details on the college campus

S.No.	TYPES OF TREES/ PLANTS	SCIENTIFIC NAME	COMMON NAME	COUNT OF PLANTS
1	Full Grown	Polyalthia longifolia	Ashoka	248
2	Full Grown	Azadirachta Indica	Neem	6
3	Full Grown	Grevillea robusta	Silver Oak	62
4	Full Grown	Callistemon sp.	Bottle Brush	2
5	Full Grown	Moringa oleifera	Drum stick	1
6	Full Grown	Alstonia sp.	Devil tree	30
7	Full Grown	Toona ciliata	Toon	3
8	Full Grown	Terminalia Arjuna	Arjun	2
9	Full Grown	Ficus religiosa	Peepal	2
10	Full Grown	Hyophorbe lagenicaulis	Bottle palm	40
11	Full Grown	Tectona grandis	Teak	3
12	Full Grown	Pongamia pinnata	Sukhchain	1
13	Full Grown	Cupressus sp.	Cypress	10
14	Full Grown	Thuja sp.	Vidaya padai	10
15	Full Grown	Melia ajadarach	Dhirenk	14
16	Full Grown	Hibiscus rosa sinensis	China rose	10
17	Full Grown	Arica catechu	Areca palm	93
18	Full Grown	Mangifera indica	Mango	2

19	Full Grown	Psidium guajava	Guava	3
20	Full Grown	Citrus lemon	Lemon	1
21	Full Grown	Citrus sinensis	Orange	1
	TOTAL			544
S.No.	TYPES OF TREES/ PLANTS	SCIENTIFIC NAME	COMMON NAME	COUNT OF PLANTS
1	Semi Grown	Syzygium cumini	Jamun	2
2	Semi Grown	Melia azadarach	Dharenk	3
3	Semi Grown	Alstonia sp.	Devil tree	11
4	Semi Grown	Pinus sp.	Pine	1
5	Semi Grown	Prunus persica	Aadu	1
	Semi Grown			
6	Semi Grown	Lagerstroemia indica	Crape myrtle	6
7	Semi Grown	Cassia fistula	Amaltas	3
8	Semi Grown	Phyllanthus emblica	Amla	2
9	Semi Grown	Fargesia rufa	Green panda	36
10	Semi Grown	Hibiscus rosa sinensis	China rose	10
11	Semi Grown	Cycas	Sago palm	19
12	Semi Grown	Juniperus sp.	Juniper	3
13	Semi Grown	Ficus benjamina	Weeping fig	30
14	Semi Grown	Murraya koenigii	Curry leaf	24
15	Semi Grown	Jasminum officinale	Chameli	18
16	Semi Grown	Rosa jnidica	Gulab	194
17	Semi Grown	Rosa alba	White gulab	30
	TOTAL			393
S.No.	TYPES OF TREES/ PLANTS	SCIENTIFIC NAME	COMMON NAME	COUNT OF PLANTS
1	Herbs/ Shrub/ Ornamental	Petunia sp.	Petunia	10
2	Herbs/ Shrub/ Ornamental	Tagetus erecta	Marigold	98
3	Herbs/ Shrub/ Ornamental	Alternanthera sp.	Carpet weed	3
4	Herbs/ Shrub/ Ornamental	Amaranthus viridis	Slender amaranth	5
5	Herbs/ Shrub/ Ornamental	Celosia sp.	Velvet flower	10
6	Herbs/ Shrub/ Ornamental	Syngonium podophyllum	Arrowhead plant	112
7	Herbs/ Shrub/ Ornamental	Nephrolepis	Fern	8
8	Herbs/ Shrub/ Ornamental	Pennisetum purpureum	Grass	10
9	Herbs/ Shrub/ Ornamental	Kalanchoe	Widow's thrill	20
10	Herbs/ Shrub/ Ornamental	Canna indica	Indian shot	20

11	Herbs/ Shrub/ Ornamental	Chlorophytum comosum	Spider plant	45
12	Herbs/ Shrub/ Ornamental	Schefflera arboricola	Seplaria	10
13	Herbs/ Shrub/ Ornamental	Alocasla sp.	Elephant ears	20
14	Herbs/ Shrub/ Ornamental	Cardyline fructicosa	Good luck	49
15	Herbs/ Shrub/ Ornamental	Pilea microphylla	Angeloweed	5
16	Herbs/ Shrub/ Ornamental	Croton (codiaeum variegatum)	Rushfoil	10
17	Herbs/ Shrub/ Ornamental	Pelargonium sp.	Geranium	10
18	Herbs/ Shrub/ Ornamental	Catharanthus rosea	Sada bahar	30
19	Herbs/ Shrub/ Ornamental	Dracena fragans	Corn plant	20
20	Herbs/ Shrub/ Ornamental	Aglaonema sp.	Chinese evergreen	5
21	Herbs/ Shrub/ Ornamental	Portulaca grandiflora	Dupahar khadi	50
22	Herbs/ Shrub/ Ornamental	Cosmos caudatus	Cosmos	30
23	Herbs/ Shrub/ Ornamental	Rannunculus sp.	Buttercup	5
24	Herbs/ Shrub/ Ornamental	Impatiens sp.	Busy lizzie	10
25	Herbs/ Shrub/ Ornamental	Tradescantia sp.	Boat lily	200
26	Herbs/ Shrub/ Ornamental	Bryophyllum pinnatum	Patharchatta	5
27	Herbs/ Shrub/ Ornamental	Euphorbia milli	Crown of thorns	22
28	Herbs/ Shrub/ Ornamental	Viola wittrockiana	Pansy	24
29	Herbs/ Shrub/ Ornamental	Spathiphyllum sp.	Peace lily	8
30	Herbs/ Shrub/ Ornamental	Coleus hydridus	Fairway rose	10
31	Herbs/ Shrub/ Ornamental	Chrysanthemum sp.	Guldaudi	15
32	Herbs/ Shrub/ Ornamental	Dahlia pinnata	Dahlia	10
33	Herbs/ Shrub/ Ornamental	Calendula officinalis	Pot marigold	10
34	Herbs/ Shrub/ Ornamental	Clerodendrum sp.	Hedge plant	800
35	Herbs/ Shrub/ Ornamental	Chamaedorea seifrizii	Bamboo palm	2
36	Herbs/ Shrub/ Ornamental	Dianthus chinesis	Indian pink	20

37	Herbs/ Shrub/ Ornamental	Sansevieria trifasciata	Snake plant	4
38	Herbs/ Shrub/ Ornamental	Crocus sativus	Crocus	10
39	Herbs/ Shrub/ Ornamental	Ficus microcarpa	Chinese banyan	5
40	Herbs/ Shrub/ Ornamental	Ocimum basilicum	Tulsi	5
41	Herbs/ Shrub/ Ornamental	Black pepper	Kali mirch	1
42	Herbs/ Shrub/ Ornamental	Trachyspermum ammi	Ajwain	1
43	Herbs/ Shrub/ Ornamental	Asparagus officinalis	Satawar	6
44	Herbs/ Shrub/ Ornamental	Aloe vera	Aloe	5
45	Herbs/ Shrub/ Ornamental	Mentha arvensis	Mint	20
46	Herbs/ Shrub/ Ornamental	Cymbopogon citratus	Cemon grass	10
47	Herbs/ Shrub/ Ornamental	Chamaecostus cuspidatus	Insulin plant	4
48	Herbs/ Shrub/ Ornamental	Amomum subulatum	Bengal cardamon	1
49	Herbs/ Shrub/ Ornamental	Cinnamomum verum	Cinnamon	1
50	Herbs/ Shrub/ Ornamental	Zomia sp	Guayra	1
51	Herbs/ Shrub/ Ornamental	Agave americana	Agave	3
52	Herbs/ Shrub/ Ornamental	Begonia crenata	Begonia	5
53	Herbs/ Shrub/ Ornamental	Calathea zebrina	Rattle snake plant	4
54	Herbs/ Shrub/ Ornamental	Gerbera	Gerber daisy	5
55	Herbs/ Shrub/ Ornamental	Gazania rigens	Treasure flower	5
56	Herbs/ Shrub/ Ornamental	Zephyrlily	Rain lily	400
57	Herbs/ Shrub/ Ornamental	Tuberose	Rajnigandha	75
58	Herbs/ Shrub/ Ornamental	Callisia repens	Turtle wine	200
	TOTAL			2492
S.No.	TYPES OF TREES/ PLANTS	SCIENTIFIC NAME	COMMON NAME	COUNT OF PLANTS
1	Indore Plant	Sansevieria trifasciata	Snake plant	4
2	Indore Plant	Spathiphyllum sp.	Peace lily	18
3	Indore Plant	Begonia crenata	Begonia	5

4	Indore Plant	Chlorophytum comosum	Spider plant	115
5	Indore Plant	Aloevera	Aloe	15
6	Indore Plant	Calathea zebrina	Rattle snake plant	4
7	Indore Plant	Asparagus officinalis	Satawar	26
8	Indore Plant	Chamaedorea seifrizii	Bamboo palm	2
9	Indore Plant	Areca catechu	Areca palm	93
10	Indore Plant	Croton	Croton	20
11	Indore Plant	Aglaonema sp	Chinese evergreen	5
12	Indore Plant	Crassula ovata	Jade plant	20
13	Indore Plant	Dracena fragans	Corn plant	80
14	Indore Plant	Kalanchoe	Widow's thrill	20
15	Indore Plant	Ficus benjamina	Weeping fig	30
16	Indore Plant	Nephrolepis exaltata	Fern	80
17	Indore Plant	Zamia sp.	Gauyra	1
18	Indore Plant	Schefflera arboricola	Saplaria	10
19	Indore Plant	Ficus microcarpa	Chinese banyan	5
	TOTAL			553

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

Yes

8. Is there any Plant Ownership Program?

Yes, on the 20th of, Sept 2022 under the initiative of the Greenery committee, the Plant Ownership Program started, under this Program 10 students adopted various plants.

1.4 WATER AND WASTEWATER MANAGEMENT

1. List uses of water in your institute

Basic use of water on campus:

Drinking – 31.80 KL/month

Gardening – 646.83 Kl/month

Kitchen and Toilets – 245.05 KL/month

Others – 83.30 KL/month

Hostel – 0.0 KL/Month

Total = 1006.98 KL/Month

**Water consumption is calculated as per NBS-2016*

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

College stores water in overhead tanks of capacity 41,500 litres.

Saving Techniques

- Avoid overflow of water-controlled valves are provided in the water supply system.
- Close supervision of the water supply system.

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

Entry - Water comes from the borewell

Exit- From the Canteen, Toilets, bathrooms, and Labs 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:

- Close the taps after usage
- Water Conservation awareness for new students
- Maintenance and monitoring of valves in supply system to avoid overflow, leakage and spillage

1.5 ANIMAL WELFARE

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

4-5 dogs, 2-3 cats, 50+ butterfly species, 200+ Squirrels, and 200+ Birds are found on campus. A variety of bird species and other flora and fauna are available, so the institute is doing their bit for biodiversity conservation.

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

Yes, Dasmesh Girls College Mukerian's **Eco Club** actively organizes awareness through various campaigns and activities including seminars, poster competitions, etc.

1.6 CARBON FOOTPRINT - EMISSION & ABSORPTION

1. Electricity used per year - CO₂ emission from electricity

(Electricity used per year in kWh/1000) x 0.84
40770.00 kWh/1000 x 0.84

$$= 40770.00/1000 \times 0.84$$
$$= 34.25 \text{ tons}$$

2. LPG/PNG used per year - CO₂ emission from LPG/PNG

$$(LPG/PNG \text{ used per year in KG}) \times 2.99$$
$$= 255 \times 2.99$$
$$= 0.76 \text{ tons}$$

3. Diesel used per year CO₂ emission from HDS (Diesel)

$$(Diesel \text{ used per year in litres}) \times 2.68$$
$$= 300 \times 2.68$$
$$= 0.80 \text{ tons}$$

4. Transportation per year (car) CO₂ emission from transportation (Bus and Car)

There are 15 college-owned vehicles, 14 buses and 1 car.

$$(14 \times 1 \times 2 \times 180/100) \times 0.01 + 1 \times 2 \times 2 \times 180/100 \times 0.02$$
$$= 0.5 + 0.14$$
$$= 0.64 \text{ tons}$$

Total CO₂ emission per year cumulative by electricity usage + LPG + Diesel + bus and car is 36.46 tons.

CARBON ABSORPTION BY FLORA IN THE INSTITUTION

There are 544 full-grown trees and 393 semi-grown trees of different species, on the campus spread over 1,54,720 sq ft.

The carbon absorption capacity of one full-grown tree is 22 kg CO₂. Therefore Carbon absorption capacity of 544 full-grown trees is $544 \times 22 \text{ kg CO}_2 = 11.97 \text{ tons of CO}_2$.

The carbon absorption capacity of 393 semi-grown trees is 30% of that of full-grown trees. Hence the carbon absorption $393 \times 6.8 \text{ kg of Co}_2 = 2.67 \text{ tons of CO}_2$

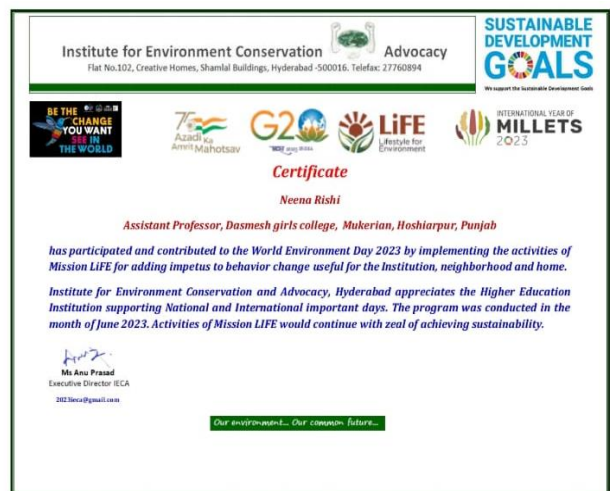
There are approximately Hedge Plants 3845 of various species being raised in the gardens and grown in the areas where no buildings are built. Carbon absorption of bush plants varies widely with their species. Certain bushes absorb very high levels of CO₂ while some others absorb very low levels of CO₂. In the absence of a detailed scientific study, 200g of CO₂ absorption is taken per bush (in consultation with Environmental Science specialists). Based on this, the total carbon absorption of bushes is $3845 \times 200 \text{ g} = 0.77 \text{ tons of CO}_2$

The lawns on the campus have buffalo grass, Mexican grass, and indigenous grass species and cover a total area of 154720 sq. ft. Carbon absorption capacity of a 10 sq. ft. area of lawn is 1 g per day. Therefore, carbon absorption by lawn area $154720 \times 365 \times 0.1 \text{ g CO}_2 = 5.65 \text{ tons CO}_2$ per year.

The grand total carbon absorption capacity of the campus is 21.06 tons.

GREEN INITIATIVES

- The institution does compost for organic solid waste management
- There is a ban on single-use plastic and plastic crockery in the campus.
- The college has a separate storeroom for the safe storage of electronic waste. After a certain interval of time college disposes of the E-waste to concerned agencies through the auction process.
- College has installed 2 solar lights (40W) and 8 solar lights (20W).
- The college has two rainwater storage tanks of 1000 Liters for water conservation.
- Personal Vehicles (Students) are allowed on the campus 100 meters from specified parking.
- World Water Week Celebrations by the Water Conservation Committee of Dasmesh Girls College on 31st Aug, 2022
- Eco Club under the SAP committee of Dasmesh Girls College Mukerian, under the valuable guidance of Principal Dr. Karamjit Kaur Brar has organized an extension lecture on vermicomposting on 20th Sept 2022
- The Waste and Sustainability Committee of Dasmesh Girls College organized an Extension Lecture on 'Waste Management: Reuse and Recycle of Waste Material' on 17-11-2022.
- Institution's Innovation Council and SAP committee of Dasmesh Girls College Mukerian has organized an event on Energy Conservation Day dated 14 December 2022 in GSSS Dhanoa
- The college manages a sanitary waste disposal facility as per the CPCB (Central Pollution Control Board) guidelines for the management of sanitary waste (as per Solid Waste Management Rules, 2016) by Installing of Incinerator.



RECOMMENDATIONS

- Environmental parameters shall be included in the purchase policy to achieve a cradle-to-grave approach for sustainability.
- Colleges should start the use of small-sized Sprinklers for gardening purposes
- Display messages/ posters for Energy Saving needs to be increased at different locations on the college campus.

CONCLUSION

This audit involves considerable team discussions and meetings with key staff members on a variety of environmental-related topics. The eco club of Dasmesh Girls College Mukerian promotes the conservation of resources.

Overall, 60% of Dasmesh Girls College Mukerian is for landscaping. The college makes a significant effort to act in an environmentally responsible manner and takes into account the environmental effects of the majority of its activities. The recommendations in this report suggest some more ways in which the college can work to improve its practices and develop into a more sustainable institution.

It's important to begin a few things, such as initiating sprinklers for irrigation and a conservation awareness message display at different locations on campus. Additionally, we strongly advise increasing awareness amongst the students, staff, and local societies for the 3R principle and conservation of water and energy.

REFERENCE

- 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

ANNEXURE -ENVIRONMENT CONSCIOUSNESS PHOTOS



Well ventilated
building structure



Well maintained
college campus



Lush green campus



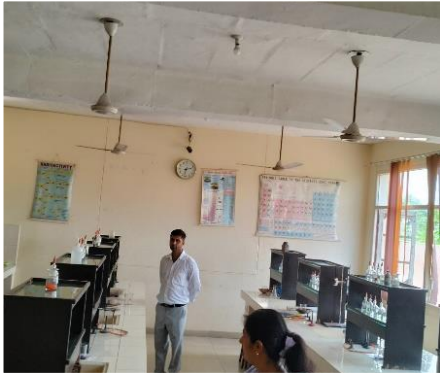
Sports Ground



Library



Smart Classes



Well equipped labs



Open Gym



Cafeteria



Solar lights



Vermi composting pits



Pavements



Bird feeder



Plantation drive



Reuse in action



Reuse in action



Cleanliness drive



Push Taps for water conservation

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