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AGGARWAL COLLEGE BALLABGARH

A Post Graduate Co-educational College Accredited A++ (CGPA: 3.57) by NAAC

ISO 9001: 2015 & ISO 14001:2015 certified

College with Potential for Excellence (CPE) Status by UGC

Affiliated to M.D. University, Rohtak

GREEN AUDIT 2023

Submitted by

Environment Pollution Analysis Lab, Bhiwadi

(An ISO 9001, 17025, NABL, MoEF Accrediated Laboratory)

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Sudeep Shukla

(Dr. Sudeep Shukla)
For
Environment Pollution Analysis Labs
(EPAL), Bhiwadi Rajasthan

Date: 24/05/2023
Place: Bhiwadi

DISCLAIMER

Environmental Pollution Analysis Lab Green Audit Team*, Bhiwadi, Rajasthan has prepared this report for Aggarwal College, Ballabgarh based on input data submitted by the representatives of college 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 conclusions are arrived at by 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.

Environmental Pollution Analysis Lab Green Audit Team, Bhiwadi, Rajasthan and its staff shall keep confidential all information relating to your organization and shall not disclose any such information to any third party, except that in the public domain or required by law or relevant accreditation bodies.

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Date: 24/05/2023
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*Constitution of Audit Team
1) Dr Sudeep Shukla
2) Dr Amrisha Pandey

CONTEXT FOR GREEN AUDIT

The National Assessment and Accreditation Council, New Delhi (NAAC) has recommended that from the academic year 2016–17 onwards that all Higher Educational Institutions should submit an annual Green Audit Report. 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 Aggarwal College Management decided to conduct an external Green Evaluation by an independent agency having competent auditors. The audit process was started in April, 2023 .

Aims and objectives of Environmental Audit in Academic Institutes:

To nurture environmentally friendly management in academic College /institutions following aims and objectives were formulated:

- To assess environmental performance and the effectiveness of the measures to achieve the defined objectives and targets.
- To identify the different pressures on organizations to improve their environmental performance.
- To recognize the initiative taken by the Organization towards the environment.
- To secure the environment and cut down the threats posed to human health.
- To provide baseline information to enable organizations to evaluate and manage environmental change, threat and risk.
- To recognize, diagnose and resolve environmental problems.
- To recognize the effects of an organization on the environment and vice versa.
- To identify and control the impact of activities of organizations on the environment.
- To suggest the best protocols for sustainable development organization and environment.
- To ensure that the natural resources are utilized properly as per national policy of environment.
- To establish the parameters for maintaining health and welfare of the community of the organization.
- To set the procedure for disposal of all types of harmful wastes.
- To reduce energy consumption.

- To give preference to the most energy efficient and environmentally sound appliances.
- To minimize the consumption of water and monitor its quality.
- To identify the risks of hazards and implement the policies for safety of stakeholders.
- To facilitate the stakeholders with different aspects of disaster management.
- To train all stakeholders of the organization and empower them to contribute and participate in the environmental protection.
- To make sure that rules and regulations are taken care of to avoid interruptions in the environment.

Executive Summary

Aggarwal College Ballabgarh (ACB) is a prestigious educational institution in Haryana that was established in 1971 under the Aggarwal Vidya Pracharni Sabha. The parent organization has a long history of promoting education since 1919 and currently manages one College of Education and four schools, catering to approximately 13,354 students. The college not only promoting best education in the region but also the best practices for conservation of environment and sustainability.

ACB strives to reconcile institutional activities with environmental conservation for a safe and secure future in the era of climate change. College is committed to practice and maintain high environmental standards in all of its activities, including teaching, research, and community involvement. ACB is more ecologically conscious and has earned a reputation as a responsible institution. The biodiversity with lush green flora and fauna with equally maintained herbal and plant gardens is a testament to their credentials for maintaining high environmental standards.

The Environmental and Energy Policies of the Aggarwal College is made to provide an overview of the vision to minimize the environmental impacts of its activities and operation and sustainable management of the available resources. The policy statement highlights how the College would pursue environmental best practices and inspire the sustainable use of resources at the community level within and outside college premises. It lays out the concepts; delineate priority areas, and methods for the college's environmental plans' implementation, management, and evaluation. Its goal is to reduce energy and raw materials consumption that could jeopardize the sustainability measures being taken at college level. This policy will communicate the administration's goals and objectives to employees, students, and staff, as well as aid in the creation of a better environment for future generations.

The policy document of the Aggarwal College Ballabgarh (ACB) will aid in the integration of efficiency and environmental consciousness into daily activities, allowing them to better understand their duties and dedication to natural resource conservation and utilization. The ACB welcomes suggestions and promotes exchange of ideas to make a more risk-averse, resilient and

a sustainable society. ACB also takes the lead in developing new frameworks for understanding the paradigm of sustainable development. They are excited to learn about new approaches that could help put the sustainability drive into action. The ACB will continue to be an attractive institution for study, research, sponsorship, and collaboration with the government as a result of the legislation and execution of their innovative policy, which will serve as a model for other institutions.

Introduction :

Aggarwal College Ballabgarh (ACB) is a prestigious educational institution in Haryana that was established in 1971 under the Aggarwal Vidya Pracharni Sabha. ACB is recognized under Section 2(f) and 12(B) of the UGC Act, 1956. In 2016, it was granted the esteemed 'College with Potential for Excellence (CPE)' status by the UGC, New Delhi. The college's commitment to excellence is evident from its accreditation by NAAC in 2019, receiving an 'A++' Grade with CGPA 3.57. Due to its high CGPA, the college has been selected for RUSA grants, with a grant of Rs 2 crore already sanctioned for infrastructure and building construction. Over the years, Aggarwal College Ballabgarh has witnessed significant growth and achievements in the field of education. It offers a wide range of undergraduate, postgraduate, research, and vocational programs. The college prioritizes not only academic development but also research, sports, extracurricular activities, and outreach initiatives.

With a strong enrollment of 4141 students in the 2022-2023 session, including a notable ratio of 1826 female students, the college emphasizes gender equality and empowerment. ACB runs various programs in collaboration with industries and skill-imparting agencies to bridge the gap between industry needs and traditional education. It also focuses on equipping students with market-oriented skills and values through add-on courses and vocational programs.

The college maintains a conducive learning environment, continually enhancing its physical and learning infrastructure. It incorporates modern information communication technology tools to provide multi-dimensional perspectives to students in the digital education era. The faculty at ACB is highly qualified, receptive, and dynamic, promoting global thinking while serving the local community. Aggarwal College Ballabgarh strives for the holistic development of its students, fostering physical, mental, intellectual, and ethical growth. It aims to produce professionals with strong moral values, social responsibility, and a deep concern for society.

Aggarwal College Ballabgarh (ACB) is dedicated to promoting environmental awareness and maintaining a green campus. The college recognizes the importance of sustainable practices and strives to create an eco-friendly environment for its students and staff. Here are some of the initiatives and features that contribute to the college's environmental consciousness:

(a) **Green Infrastructure**: ACB emphasizes the development and maintenance of green infrastructure on its campus. This includes lush gardens, tree plantations, and green spaces that not only enhance the aesthetic appeal but also provide a conducive environment for learning and relaxation.

(b) **Waste Management:** The college promotes proper waste management practices to minimize environmental impact. It encourages waste segregation, recycling, and proper disposal of waste materials. The campus is equipped with designated waste bins for different types of waste, promoting responsible waste management among the college community.

(c) **Energy Conservation:** ACB focuses on energy conservation measures to reduce its carbon footprint. The college implements energy-efficient lighting systems, encourages the use of natural lighting whenever possible, and raises awareness among students and staff about the importance of energy conservation.

(d) **Water Conservation:** Water conservation is given significant attention at ACB. The college promotes the efficient use of water through initiatives like rainwater harvesting and water recycling. These measures help in reducing water consumption and contribute to the preservation of this valuable resources

(e) **Eco-friendly Practices:** The college promotes eco-friendly practices among its students and staff. It encourages the use of eco-friendly products, such as reusable water bottles and bags, and discourages the use of single-use plastics on campus. ACB also organizes awareness campaigns, workshops, and events to educate the college community about the importance of sustainable living.

(f) **Green Initiatives:** ACB actively participates in various green initiatives and environmental campaigns. It collaborates with local environmental organizations, government agencies, and NGOs to organize tree-plantation drives, clean-up campaigns, and awareness programs on environmental issues. These initiatives aim to instill a sense of environmental responsibility and create a greener campus.

Through these efforts, Aggarwal College Ballabgarh strives to create an environmentally conscious atmosphere that fosters sustainability, raises awareness about environmental issues, and prepares students to be responsible stewards of the environment.

Green audit/environmental audit -questionnaire considered during the audit trail and focussed on the areas of ecosystem approaches/environmental feasibility for green auditing to be followed/practiced by participating institutions as below:

I. WASTE MINIMIZATION AND RECYCLING.
II. BIODIVERSITY AND GREENING THE CAMPUS.
III. ENERGY USE & ITS CONSERVATION.
IV. WATER USE & ITS CONSERVATION.
V. CARBON FOOTPRINT.
VI. CLEAN AIR (CAMPUS DESIRABLE AMBIENT AIR);
VII. ENVIRONMENTAL LEGISLATION.
VIII. SOCIAL WELFARE & COMMUNITY OUTREACH.

I. WASTE MINIMIZATION AND RECYCLING

The following Environmental-Green practices are being followed by Aggrawal College is as below:

<table>
<tr><td>1.</td><td>Does your college generate any waste? If so, what are they?</td><td colspan="4">Yes (paper and kitchen waste & sanitary waste)</td></tr>
<tr><td rowspan="2">2.</td><td rowspan="2">What is the approximate amount of waste generated per day? (in Kilograms/month)
300 Kg/month</td><td>Biodegradable</td><td>Non-Biodegradable</td><td>Hazardous</td><td>Electronics waste, Chemical discards & Others (MEDICAL WASTE)</td></tr>
<tr><td>300kg/month</td><td>30 kg/month</td><td>n/a</td><td>n/a</td></tr>
<tr><td>3.</td><td>How the waste generated in the College is managed?</td><td colspan="4">Answer :paper waste sent for recycling, vegetable peelings used for vermicomposting, and other collected by municipal van.
(supportive evidence / document as ANNEXURE-I of Annexure Report)</td></tr>
<tr><td>4.</td><td>Do you use recycled paper in College ?</td><td colspan="4">Answer: Yes</td></tr>
<tr><td>5.</td><td>Do you use reused paper in College ?</td><td colspan="4">Answer: Yes
(supportive evidence / document as ANNEXURE-I of Annexure Report)</td></tr>
<tr><td>6.</td><td>How would you spread the message of recycling to others in the community? Have you taken any initiatives? If yes, please specify.</td><td colspan="4">Answer: by rallies
(supportive evidence / document as ANNEXURE-I of Annexure Report)</td></tr>
<tr><td>7.</td><td>Can you achieve zero garbage in your institute? If yes, how?</td><td colspan="4">Answer: No
(supportive evidence / document as ANNEXURE-I of Annexure Report)</td></tr>
<tr><td>8.</td><td>How do you manage Hazardous andE-waste?</td><td colspan="4">Answer:E-waste is properly disposed through authorized vendor.
(supportive evidence / document as ANNEXURE-I of Annexure Report)</td></tr>
</table>

9.	Is there any awareness programme on waste minimization being carried out by your College ?	Answer: Yes Rallies & other awareness talk are arranged for the students. (supportive evidence / document as ANNEXURE-I of Annexure Report)
10.	Are your College staff and students aware about MSW, E-Waste, HazardousWaste Rules. 2016, 2011, 1989, respectively?	Answer: Yes (supportive evidence / document as ANNEXURE-I of Annexure Report)

Additional information on WASTE MINIMIZATION AND RECYCLING are attached at *Annexure-I* of Annexure report.

The total solid waste collected in the campus is 10 Kg/day (average). Waste generation from tree droppings and lawn management is a major solid waste generated in the campus. The waste is segregated at source by providing separate dustbins for Bio-degradable and Plastic waste.Segregation of chemical waste generated in chemistry and zoology laboratories is also practiced. Single sided used papers reused for writing and printing in all departments. Important and confidential reports/papers are sent for pulping and recycling after completion of their preservation period. Very less plastic waste (0.1Kg/day) is generated by some departments, office, garden etc but it is neither categorized at point source nor sent for recycling. Metal or E-waste and wooden waste is stored and given to authorized scrap agents for further processing. Few glass bottles are reused in the laboratories. The food waste from main canteen and mess is used or sent for vermicomposting.

The institution has two vermicomposting units. The main purpose of this is to reduce disposable waste in the college campus. After complete process of vermicomposting, it is used as manure in thegarden and lawns. Awareness program among farmers is also conducted in the village nearby. The college has adopted the policy of 3 R's that is Reduce, Re-use, Re-cycle. E-waste generated in the campus is very less in quantity. The cartridges of laser printers are refilled outside the college campus. Administration conducts the awareness programme regarding E-waste Management with the help ofvarious departments. The E- waste and defective item from computer laboratory is being stored properly. The institution has decided to contact approved E-waste management and disposal facilityin order to dispose E-waste in scientific manner.

II. BIODIVERSITY AND GREENING THE CAMPUS

The following Environmental-Green practices are being followed by Aggrawal College is as below:

1.	Are there any Biodiversity or Greeningactivities in your College ?	Answer: Yes (supportive evidence / document as ANNEXURE-II of Annexure Report)
2.	Is there any garden in your College ?	Answer: Yes (supportive evidence / document as ANNEXURE-IIof Annexure Report)
3.	Do the students/college participate in the campus greening and biodiversity conservations?	Answer: Yes (supportive evidence / document as ANNEXURE-II of Annexure Report)
4.	Total number of Plants (Herb, Shrubs, Trees, Medicinal) in the Campus.	Trees -375 Answer: (supportive evidence / document as ANNEXURE-ii of Annexure Report)
5.	Name of some important plant's variety exists in your College campus. (Trees, vegetables, herbs, etc.)	Answer: Trees, Herbs (supportive evidence / document as ANNEXURE-II of Annexure Report)
6.	Is the College /University campus have any Horticulture Department/Garden committee/Eco-club?	Answer: Yes (Eco Club) (supportive evidence / document as ANNEXURE-II of Annexure Report)
7.	Number of Tree Plantation drives organized by College per annum. (If Any)	Answer: 3 (supportive evidence / document as ANNEXURE-IIof Annexure Report)
8.	Is there any medicinal garden in yourCollege ?	Answer: Yes (supportive evidence / document as ANNEXURE-IIof Annexure Report)

9.	Whether College is using compost or bio-fertilizer as a part of green farming?	Answer: We have Vermi Compost Unit (supportive evidence / document as ANNEXURE-II of Annexure Report)
10.	Does College organize a community awareness programme/Outreach workshops/Online programme for biodiversity conservation?	Answer: Yes (Outreach Programme are done) (supportive evidence / document as ANNEXURE-II of Annexure Report)

Additional information on BIODIVERSITY AND GREENING THE CAMPUS are attached at *Annexure-II* of Annexure report.

College campus and nearby areas is home to a diverse range of plant and animal life. Some of the most common plant species found include neem, peepal, banyan, arjun, jamun, mango, pipal and kikar,. These plants provide food and shelter for a variety of animals, including monkeys, birds, lizards, and insects.

Ballabgarh is also home to a number of protected areas, including the Asola Wildlife Sanctuary, the Mangar Bani Forest, and the Surajkund Bird Sanctuary. These protected areas help to conserve the biodiversity of Ballabhgarh and provide a haven for the plants and animals that live there.

III. ENERGY USE & ITS CONSERVATION

The following Environmental-Green practices are being followed by Aggarwal College is as below:

1.	How much energy is used by the College in KW per month	Answer: 12060 (supportive evidence / document as ANNEXURE-III of Annexure Report)
2.	List ten ways that you use energy in your College . (Electricity, LPG, firewood, others).	Answer: Electricity, LPG (supportive evidence / document as ANNEXURE-III of Annexure Report)
3.	Are there any energy saving methods employed in your College ? If yes, please specify. If no, suggest some methods.	Answer: LED & Star rating AC & Equipment (supportive evidence / document as ANNEXURE-III of Annexure Report)
4.	How many CFL/LED bulbs has your College installed? Mention energy used by LED bulbs as the College	Answer: Data not available (supportive evidence / document as ANNEXURE-III of Annexure Report)
5.	Are any alternative energy sources employed / installed in your College ? (Photovoltaic cells for solar energy, windmill, energy efficient stoves, etc.,) Please Specify.	solar power plant installed capacity is 72.5 % of total sanctioned load is 220.8 kW. Solarbpower plants are installed at roof of different location of the college building. Which capacity is 45 kW and sanctioned load 45.8 kW at wing -1, Solar power plant are installed

		capacity: 25 kW and sanctioned load are 25 kW at wing -2 and Solar power plant are installed capacity: 90 kW and sanctioned load are 150 kW at wing -3
6.	Do you run "switch off" mock-drills at College ?	Answer: Yes (supportive evidence / document as ANNEXURE-III of Annexure Report)
7.	How much energy (per month) is being saved by the use of efficient light by source replacement by the Aggrawal College ?	Answer (supportive evidence / document as ANNEXURE-III of Annexure Report)
8.	Does the classroom have sufficient solar light illumination? Provide details.	Answer: Yes (supportive evidence / document as ANNEXURE-III of Annexure Report)
9.	Does the College organize any workshops/ seminars/ campaigns toeducate students and staff?	Answer: Yes (supportive evidence / document as ANNEXURE-III of Annexure Report)
10.	Does your machinery (TV, AC, Computer, printers, etc.) run on standby modes most of the time?	Answer: Yes (supportive evidence / document as ANNEXURE-III of Annexure Report)

Additional information with evidential proof on ENERGY USE & ITS CONSERVATION are attachedat *Annexure-III* of *Annexure report.*

IV. WATER USE & ITS CONSERVATION

The following Environmental-Green practices are being followed by Aggarwal College is as below:

1.	What are the sources of water in the College ?	Answer: Water Supply (supportive evidence / document as ANNEXURE-IV of Annexure Report)
2.	List uses of water in your College ?	Answer: Drinking, Gardening (supportive evidence / document as ANNEXURE-IV of Annexure Report)
3.	Daily quantity of water use per day?	Answer: 4KL Daily (supportive evidence / document as ANNEXURE-IV of Annexure Report)
4.	How does your College store water? Are there any water saving techniques followed in your College ?	Answer: Storage Tank (supportive evidence / document as ANNEXURE-IV of Annexure Report)
5.	Are there signs reminding students/staff to turn off water taps?	Answer: Yes (Supportive evidence / document as ANNEXURE-IV of Annexure Report)
6.	Write down ways that could reducethe amount of water used in your College and is being practiced.	Answer: Double Switch System (Supportive evidence / document as ANNEXURE-IV of Annexure Report)
7.	Water use from the College water meter for one year? And annual watercharges paid for water uses?	Answer: N.A (Supportive evidence / document as ANNEXURE-IV of Annexure Report)
8.	Does your College harvest rainwater?	Answer: Yes (4) (supportive evidence / document as ANNEXURE-IV of Annexure Report)
9.	Is there any water recycling system ortreatment of water?	Answer: Yes (supportive evidence / document as ANNEXURE-IV of Annexure Report)
10.	Does College organize workshops/ conferences/ training/seminars for thestudents and College staff for water management and conservation?	Answer: Yes (supportive evidence / document as ANNEXURE-IV of Annexure Report)

Additional information on Water use and its Conservation is attached at *Annexure-IV* of Annexure report.

The data collected from all the departments is examined and verified. On an average the total use ofwater in the Aggarwal college is around 40,000 L/day, which include 6,000 L/day for drinking purpose. Four rainwater harvesting units are installed with water recharge bore well (150 feet and 6" casing) are functional. A recharge well pushes back surface water into the groundwater for recharge bore well. Gardens are watered by using sprinkler irrigation system to save water.

V. CARBON FOOTPRINT

The following Environmental-Green practices are being followed by Aggrawal College is as below:

1.	Total Number of vehicles used by the stakeholders of the College (per day). Number of visitors with vehicles per day?	Answer: 100 Bikes, 20 Cars (ANNEXURE-V of ANNEXURE REPORT)
2.	No. of two wheelers used by the staff members and students? (Annual average of fuel used).	Answer: 50 (ANNEXURE-V of ANNEXURE REPORT)
3.	No. of cars used per day by the staff and students of the College ? (Annual average of fuel used)	Answer: 20 Cars (ANNEXURE-V of ANNEXURE REPORT)
4.	No. of cycles used by the staff members and students and no. of persons using common (public) transportation?	Answer: 10 No of Cycles & 50 No. of Public Transportation (ANNEXURE-V of ANNEXURE REPORT)
5.	Number of generators used every day (hours). Give the amount of fuel used per day? (monthly average of fuel used)	Answer: 2300 Ltr./ Yr.
6.	Number of LPG cylinders used in the canteen (Give the amount of fuel used per month and amount spent).	Answer: N.A (ANNEXURE-V of ANNEXURE REPORT)
7.	Quantity of kerosene/diesel/petrol used in the canteen/labs (Give the amount of fuel used per month and amount spent).	Answer: N.A
8.	Amount of taxi/auto charges paid and the amount of fuel used per month for the transportation ofvegetables and other materials to the canteen?(Please state the distance traveled in kilometers).	Answer: N.A (ANNEXURE-V of ANNEXURE REPORT)
9.	Amount of taxi/auto charges paid per month forthe transportation of office goods to the College ? (Please state the distance traveled in kilometers).	Answer: 2400/- & 2KM

10.	Use of any other fossil fuels (Coal, wood etc.) in the College (Give the amount of fuel used per day and amount spent).	Answer: No
11	No. of air conditioners used in Classroom, Staff room, faculty room?	Answer: 21

Additional information on Water use and its Conservation is attached at *Annexure-V* of Annexure report.

VI. CLEAN AIR (CAMPUS DESIRABLE AMBIENT AIR)

The following Environmental-Green practices are being followed by Aggarwal College is as below:

1.	Are the Rooms in Campus being well ventilated?	Answer: Yes				
2.	Window floor ratio of the Rooms	Answer: 15%				
3.	What is the ownership of the vehicles used by your College ? (Please Tick only one)		N.A			
4.	Provide details of school-owned motorised vehicles?	**Buses**	**Cars/ Vans**	**Two Wheelers (Scooter/Motor Bikes) etc.**	**Other**	**Total**
	No. of vehicles		NO			
	No. of vehicles more than five years old	--	--	--	--	--
	No. of Air-conditioned vehicles	--	--	--	--	--
	PUC done	--	--	--	--	--

5.	Specify the type of fuel used by your school's vehicles:	Buses	Cars/ Vans	Two Wheelers (Scooter/MotorBikes) etc.	Other	Total
	Diesel	--	--	NO	--	
	Petrol	--	--	--	--	
	CNG	--	--	--	--	
	LPG	--	--	--	--	
	Electric	--	--	--	--	
6.	Air Quality Monitoring Program (If Any)					
7.	Students suffer from respiratoryailments? (If Any)	No				
8.	Details of Genset	125KVA*2				
9.	Does the College ban on biomass (Horticulture or Solid waste) burning?	Yes				
10.	Does the College follow Construction and DemolitionRules, 2016?	Yes				

Additional information on CLEAN AIR is attached at *Annexure-VI* of *Annexure report.*

VII – ENVIRONMENTAL LEGISLATIVE COMPLIANCE

The following of Environmental-Green practices are being followed by Aggrawal College is as below:

1.	Are you aware of any environmental lawspertaining to different aspects of environmental management?	Yes
2.	Does your College have any rules to protect the environment? List possiblerules you could include.	College has developed its own Environmental Policy
3.	Environmental Ambient Air Quality Monitoring conducted by the College ?	No, Data of SPCB station is used for the purpose
4.	Does Environmental Water and Wastewater Quality monitoring conductby the Institute?	No
5.	Does stack monitoring of DG sets conducted by the Institute/or throughAccredited laboratory?	No
6.	Is any warning notice, letter issued by state government bodies?	No
7.	Is there any Hazardous waste generated by the College ? If yes, explain its category and disposal method.	No
8.	Does any Bio medical waste/Electronic waste generated by the College ? If yes explain its category and disposal method	No

VII –SOCIAL WELFARE & COMMUNITY OUTREACH

The following Environmental-Green practices are being followed by Aggarwal College is as below:

1.	Are you aware of any environmental Laws pertaining to different aspects of environmental management?	Answer: Yes
2.	Does your College have any rules to protect the environment? List possiblerules you could include.	Answer: ISO-14001-2018
3.	Does housekeeping schedule on your campus?	Answer: Yes
4.	Are students and faculties aware of environmental cleanliness ways? If Yes explain	Answer: Yes
5.	Do Important Days Like World Environment Day, Earth Day, and Ozone Day etc. eminent in Campus?	Answer: Yes
6.	Does College participate in National and Local Environmental Protection Movement?	Answer: Yes
7.	Does College have any Recognition/Certification for environmentfriendliness?	Answer: ISO
8.	Does College use renewable energy?	Answer: Yes
9.	Does College conduct a green/ environmental audit of its campus?	Answer: Yes
10.	Has the College been audited / accreditedby any other agency such as NABL, NABET,TQPM, NAAC etc.?	Answer: NAAC

Additional information on Environmental Legislation is attached at *Annexure-VII* of *Annexure report*

Best Practices Adopted in Aggrawal College

Certificate of Registration

Awarded To

AGGARWAL COLLEGE

Site 1: Sector 2, Milk Plant Road, Ballabgarh,
Faridabad-121004, Haryana, India.
Site 2: Ambedkar Chowk, Tigaon Road, Ballabgarh,
Faridabad-121004, Haryana, India

for their Environmental Management System that complies to the requirements of the standard

ISO 14001:2015

Scope of Certification

Imparting Higher Education to Under Graduate and Post Graduate Students in Different Areas of Academics and Providing Support Services

Initial Certification: 18 Dec, 2018
Issue Date: 14 Oct, 2022
Expiry Date: 19 Sep, 2025

Certificate No.EMS-K22006

Acc No. IM4405101F
www.jas-anz.org/register

Kaushal Goyal
Managing Director

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A	**Renewable Energy** **I.** Adoption of Cycling practices for **Carbon Footprint**. **II.** Annual Sports activity improves the **health of students and staff**. **III.** Solar water Heater at **Aggrawal College campus**. **IV.** A clean source of **energy is utilized at campus**. **V.** Efforts towards **Carbon Neutrality.** **VI.** The Solar plant on building roofs	
B	**Biodiversity Conservation** Flora and fauna conservation	

C	**Tree Plantation Drives** Two Drives Annually as well as every guest is honored by Tree Plantation at Campus.	Yes
d	**Groundwater Recharge** Through Rain Water Harvesting System.	Yes
E	**Pollution Reduction** Promoting battery operated vehicles (Students) and using public transport by students and staff at campus	Yes
F	**E-Waste Management** Old Computers donated to Government School	Yes (Authorized Vendor)
G	**Solid Waste Management** Lifting of garbage from Aggrawal College campus on alternate days by Municipal Corporation.	Yes
H	**Water Conservation**	Yes

AREA OF IMPROVEMENTS

- Campus Biodiversity of Aggarwal College, Ballabgarh should be maintained and recorded properly.
- Water Metering of bore wells and other sources in different uses are not available. However, water meters should be installed and maintained for inventory of water uses.
- Water conservation practices should be implemented properly including recycling of wastewater systems.
- Storage of chemicals like; paints, gum resins, oils, lubricants, acids etc. should be placed at designated area and safety/warning signs should be displayed.
- A Waste Management plan should be prepared for the campus.
- Laboratory waste management policy should be developed and implemented properly.
- Plastic usage can be reduced in the college campus.
- The monthly inventory of e-waste is required to be maintained in formats on a regular basis.
- Environmental monitoring and quality assessment should be ensured on a regular basis.
- College activity including transport, fuel uses and electricity should be maintained effectively aiming for overall reduction in carbon footprint.
- The Community Environmental Awareness programme should be regularly organised by the college.

RECOMMENDATIONS

- Set up a water recycling unit where the recycled water can be used for gardening in college.
- Increase capacity of Solar panels to generate more electricity as renewable energy.
- Rainwater pits should be maintained in the campus wherever possible.
- Promotion of student green start-ups focusing on environment and sustainability.
- Training and awareness of environmental legislation should be organized for faculty staff and students.
- Collaborate with a waste management agency for medical, hazardous and e-waste management.
- Replace tube lights and bulbs with energy efficient LEDs.
- More energy efficient air conditioners and coolers should be used in the college campus.

ANNEXURE

REPORTOF GREEN AUDIT

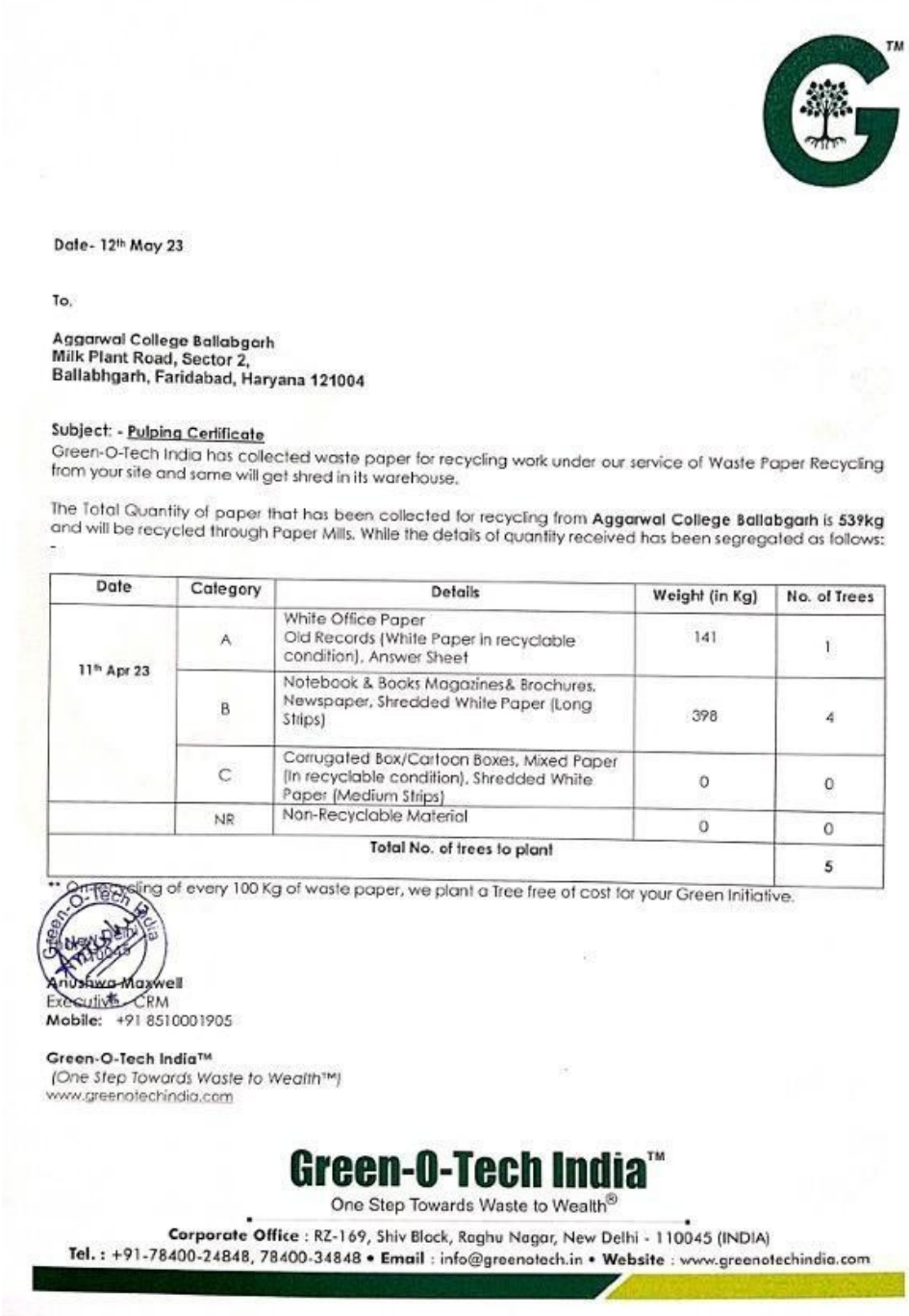
for

Aggarwal College, Ballabhgarh

Figure 1: Waste Segregation System

Figure 2: Sanitary Pad Disposal Unit

Figure 3: Waste Management Awareness Poster



Date- 12th May 23

To,

Aggarwal College Ballabgarh
Milk Plant Road, Sector 2,
Ballabhgarh, Faridabad, Haryana 121004

Subject: - Pulping Certificate

Green-O-Tech India has collected waste paper for recycling work under our service of Waste Paper Recycling from your site and same will get shred in its warehouse.

The Total Quantity of paper that has been collected for recycling from **Aggarwal College Ballabgarh** is **539kg** and will be recycled through Paper Mills. While the details of quantity received has been segregated as follows:

Date	Category	Details	Weight (in Kg)	No. of Trees
11th Apr 23	A	White Office Paper Old Records (White Paper in recyclable condition), Answer Sheet	141	1
	B	Notebook & Books Magazines& Brochures, Newspaper, Shredded White Paper (Long Strips)	398	4
	C	Corrugated Box/Cartoon Boxes, Mixed Paper (In recyclable condition), Shredded White Paper (Medium Strips)	0	0
	NR	Non-Recyclable Material	0	0
Total No. of trees to plant				5

** On recycling of every 100 Kg of waste paper, we plant a Tree free of cost for your Green Initiative.

Green-O-Tech India New Delhi Authorised

Anushwa Maxwell
Executive - CRM
Mobile: +91 8510001905

Green-O-Tech India™
(One Step Towards Waste to Wealth™)
www.greenotechindia.com

Green-O-Tech India™
One Step Towards Waste to Wealth®
Corporate Office : RZ-169, Shiv Block, Raghu Nagar, New Delhi - 110045 (INDIA)
Tel. : +91-78400-24848, 78400-34848 • **Email** : info@greenotech.in • **Website** : www.greenotechindia.com

Figure 4: Waste paper recycling Pulping certificate

Figure 5: Campus biodiversity

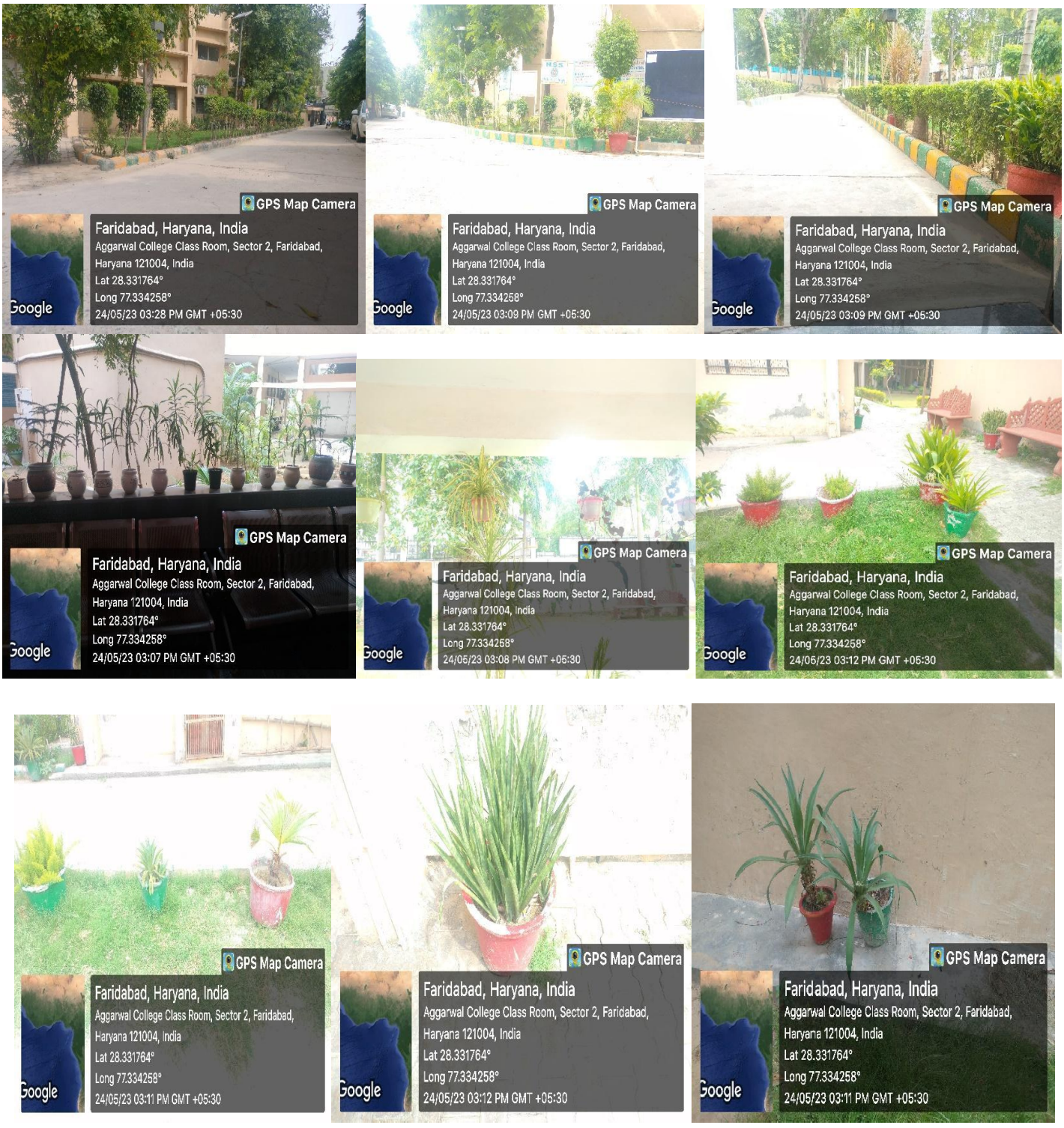


Figure 6: Campus biodiversity.

Figure 7: Solar panel installed in college campus.

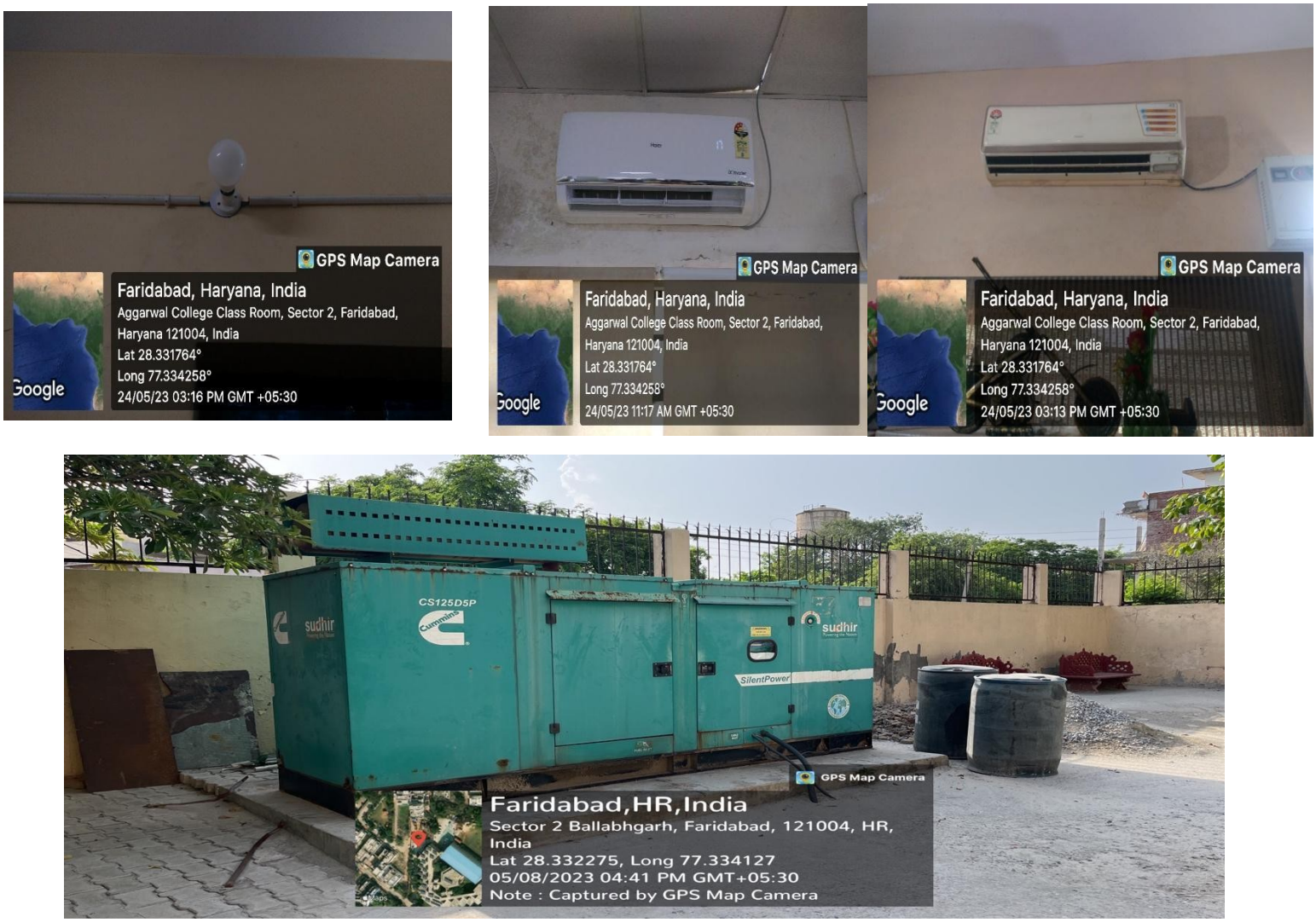


Figure 8: Energy Efficient electrical instrument (star rated AC& DG set and LEDs)

Figure 9: Rain Water Harvesting Units at College Campus

Figure 10 : Water conservation awareness

Figure 11: Water Treatment Plant

Carbon footprint of college considering approximation based on the data provided is as below:

1. Bikes:
Total number of bikes used per day: 100
Assuming an average daily distance of 5 kilometers per bike
Carbon emissions per kilometer for a bike are negligible (as it is human-powered)
Total carbon emissions per day: 0 kg/day
2. Cars:
Total number of cars used per day: 20
Assuming an average daily distance of 30 kilometers per car
Carbon emissions per kilometer for an average car: Approximately 0.2 kg CO2/km
Total carbon emissions per day: 20 cars * 30 km * 0.2 kg CO2/km = 120 kg CO2/day
3. Two-wheelers (excluding bikes):
Total number of two-wheelers used per day: 50
Assuming an average daily distance of 15 kilometers per two-wheeler
Carbon emissions per kilometer for an average two-wheeler: Approximately 0.1 kg CO2/km
Total carbon emissions per day: 50 two-wheelers * 15 km * 0.1 kg CO2/km = 75 kg CO2/day
4. Cycles:
Total number of cycles used per day: 10
Assuming an average daily distance of 5 kilometers per cycle
Carbon emissions per kilometer for a cycle are negligible (as it is human-powered)
Total carbon emissions per day: 0 kg/day
5. Public Transportation:
Total number of persons using public transportation per day: 50
Assuming an average daily distance of 10 kilometers per person
Carbon emissions per kilometer for public transportation can vary, but assuming an average of 0.15 kg CO2/km
Total carbon emissions per day: 50 persons * 10 km * 0.15 kg CO2/km = 75 kg CO2/day
6. Generator:
Amount of fuel used by the generator per day: 2300 liters per year / 365 days = 6.3 liters per day (approx.)
Carbon emissions per liter of diesel fuel: Approximately 2.68 kg CO2/liter
Total carbon emissions per day: 6.3 liters * 2.68 kg CO2/liter = 16.884 kg CO2/day
7.Taxi/Auto charges for transportation of office goods:
Assuming 2 trips per month
Distance per trip: 2 km (as mentioned)
Carbon emissions per kilometer for a taxi/auto: Approximately 0.2 kg CO2/km
Total carbon emissions per month: 2 trips * 2 km * 0.2 kg CO2/km = 0.8 kg CO2/month

To calculate the annual carbon footprint, multiply the daily emissions by the number of days in a year:

Total annual carbon footprint = (120 + 75 + 75 + 16.884) kg CO2/day * 365 days + 0.8 kg CO2/month * 12 months = 104722.26

Annexure VI: Ambient Air Quality at Agrawal College

Source: CPCB&HSPCB
State:Haryana
City:Ballabgarh
Parameter:PM2.5,PM10,NO,NO2,NOx,NH3,SO2,CO,Ozone,RH,WS,WD,SR,BP
Average_Period:24 **Hours**
From:01-05-2023T00:00:00Z **00:00**
To:24-05-2023T13:33:59Z **00:00**

Date	Date	Parameter	Parameter	Parameter
From Date	To Date	PM2.5 (ug/m3)	PM10 (ug/m3)	NO (ug/m3)
01-05-2023 00:00	02-05-2023 00:00	14.74	39.1	5.81
02-05-2023 00:00	03-05-2023 00:00	16.18	30.25	6.04
03-05-2023 00:00	04-05-2023 00:00	26.5	49.02	6.15
04-05-2023 00:00	05-05-2023 00:00	29.98	47.65	6.14
05-05-2023 00:00	06-05-2023 00:00	82.5	134.15	6.06
06-05-2023 00:00	07-05-2023 00:00	125.11	216.27	6.21
07-05-2023 00:00	08-05-2023 00:00	46.89	121.68	6.04
08-05-2023 00:00	09-05-2023 00:00	21.13	52.92	5.93
09-05-2023 00:00	10-05-2023 00:00	55.68	112.85	6.19
10-05-2023 00:00	11-05-2023 00:00	63.04	107.14	6.08
11-05-2023 00:00	12-05-2023 00:00	82.81	132.68	6.05
12-05-2023 00:00	13-05-2023 00:00	65.99	113.8	6.06
13-05-2023 00:00	14-05-2023 00:00	34.31	69.7	6.08
14-05-2023 00:00	15-05-2023 00:00	58.16	125.35	6.0
15-05-2023 00:00	16-05-2023 00:00	32.65	86.78	5.98
16-05-2023 00:00	17-05-2023 00:00	74.1	224.77	6.05
17-05-2023 00:00	18-05-2023 00:00	86.29	176.16	5.93
18-05-2023 00:00	19-05-2023 00:00	44.18	72.99	6.03
19-05-2023 00:00	20-05-2023 00:00	52.66	129.62	6.06
20-05-2023 00:00	21-05-2023 00:00	55.45	125.79	5.9
21-05-2023 00:00	22-05-2023 00:00	61.03	122.67	6.02
22-05-2023 00:00	23-05-2023 00:00	54.07	154.24	6.03
23-05-2023 00:00	24-05-2023 00:00	46.74	120.3	6.1
		Parameter	Parameter	Parameter
From Date	To Date	NO2 (ug/m3)	NOx (ppb)	NH3 (ug/m3)
01-05-2023 00:00	02-05-2023 00:00	4.8	5.18	5.95
02-05-2023 00:00	03-05-2023 00:00	5.01	5.18	6.33
03-05-2023 00:00	04-05-2023 00:00	5.1	5.19	6.59
04-05-2023 00:00	05-05-2023 00:00	5.02	5.05	6.37

05-05-2023 00:00	06-05-2023 00:00	5.0	5.14	6.2
06-05-2023 00:00	07-05-2023 00:00	5.16	5.4	6.83
07-05-2023 00:00	08-05-2023 00:00	4.95	5.13	6.05
08-05-2023 00:00	09-05-2023 00:00	4.91	5.17	5.99
09-05-2023 00:00	10-05-2023 00:00	5.17	5.26	6.72
10-05-2023 00:00	11-05-2023 00:00	5.05	5.19	6.33
11-05-2023 00:00	12-05-2023 00:00	5.02	5.19	6.28
12-05-2023 00:00	13-05-2023 00:00	4.98	5.17	6.18
13-05-2023 00:00	14-05-2023 00:00	5.04	5.2	6.25
14-05-2023 00:00	15-05-2023 00:00	4.99	5.26	6.17
15-05-2023 00:00	16-05-2023 00:00	4.91	5.09	5.77
16-05-2023 00:00	17-05-2023 00:00	5.06	5.39	6.21
17-05-2023 00:00	18-05-2023 00:00	4.94	5.37	5.96
18-05-2023 00:00	19-05-2023 00:00	4.96	5.21	5.97
19-05-2023 00:00	20-05-2023 00:00	5.07	5.26	6.3
20-05-2023 00:00	21-05-2023 00:00	4.97	5.32	6.07
21-05-2023 00:00	22-05-2023 00:00	5.02	5.24	6.17
22-05-2023 00:00	23-05-2023 00:00	4.99	5.16	6.11
23-05-2023 00:00	24-05-2023 00:00	5.0	5.31	6.34
		Parameter	Parameter	Parameter
From Date	To Date	SO2(ug/m3)	CO (mg/m3)	Ozone (ug/m3)
01-05-2023 00:00	02-05-2023 00:00	9.11	0.27	3.75
02-05-2023 00:00	03-05-2023 00:00	6.7	0.27	3.22
03-05-2023 00:00	04-05-2023 00:00	5.82	0.3	4.93

04-05-2023 00:00	05-05-2023 00:00	7.97	0.34	6.1
05-05-2023 00:00	06-05-2023 00:00	6.1	0.77	4.9
06-05-2023 00:00	07-05-2023 00:00	8.32	1.05	3.49
07-05-2023 00:00	08-05-2023 00:00	12.34	1.09	7.64
08-05-2023 00:00	09-05-2023 00:00	3.61	1.11	5.07
09-05-2023 00:00	10-05-2023 00:00	5.69	1.13	6.49
10-05-2023 00:00	11-05-2023 00:00	7.71	1.32	6.91
11-05-2023 00:00	12-05-2023 00:00	8.31	1.34	8.58
12-05-2023 00:00	13-05-2023 00:00	8.67	1.17	13.05
13-05-2023 00:00	14-05-2023 00:00	5.61	1.18	12.67
14-05-2023 00:00	15-05-2023 00:00	11.44	1.12	11.71
15-05-2023 00:00	16-05-2023 00:00	6.05	1.08	10.72
16-05-2023 00:00	17-05-2023 00:00	12.1	1.22	8.23
17-05-2023 00:00	18-05-2023 00:00	11.69	1.09	7.44
18-05-2023 00:00	19-05-2023 00:00	22.47	1.04	7.41
19-05-2023 00:00	20-05-2023 00:00	6.46	1.03	8.08
20-05-2023 00:00	21-05-2023 00:00	6.95	1.15	8.75
21-05-2023 00:00	22-05-2023 00:00	7.35	0.95	9.18
22-05-2023 00:00	23-05-2023 00:00	15.71	1.11	6.63
23-05-2023 00:00	24-05-2023 00:00	12.06	1.06	6.07
		Parameter	Paramter	Parameter
From Date	To Date	RH (%)	WS (m/s)	WD (degree)
01-05-2023 00:00	02-05-2023 00:00	88.81	3.01	82.01
02-05-2023 00:00	03-05-2023 00:00	88.11	2.93	71.56
03-05-2023 00:00	04-05-2023 00:00	89.25	2.74	110.14
04-05-2023 00:00	05-05-2023 00:00	75.52	2.66	118.33
05-05-2023 00:00	06-05-2023 00:00	41.48	5.54	250.68
06-05-2023 00:00	07-05-2023 00:00	42.3	6.45	274.4
07-05-2023 00:00	08-05-2023 00:00	33.92	4.67	174.31
08-05-2023 00:00	09-05-2023 00:00	43.4	3.25	138.33
09-05-2023 00:00	10-05-2023 00:00	28.75	4.96	263.0
10-05-2023 00:00	11-05-2023 00:00	18.93	6.14	280.44
11-05-2023 00:00	12-05-2023 00:00	21.23	4.39	225.01
12-05-2023 00:00	13-05-2023 00:00	21.58	4.58	185.87
13-05-2023 00:00	14-05-2023 00:00	None	3.15	107.32

14-05-2023 00:00	15-05-2023 00:00	20.55	3.71	189.29
15-05-2023 00:00	16-05-2023 00:00	23.08	5.96	263.32
16-05-2023 00:00	17-05-2023 00:00	22.52	6.35	268.92
17-05-2023 00:00	18-05-2023 00:00	26.35	5.32	242.51
18-05-2023 00:00	19-05-2023 00:00	45.05	4.35	235.95
19-05-2023 00:00	20-05-2023 00:00	34.22	6.56	275.86
20-05-2023 00:00	21-05-2023 00:00	26.43	5.78	253.36
21-05-2023 00:00	22-05-2023 00:00	21.42	4.61	233.21
22-05-2023 00:00	23-05-2023 00:00	20.86	7.5	269.8
23-05-2023 00:00	24-05-2023 00:00	20.49	7.59	277.37
From Date	To Date	SR (w/m2)		
01-05-2023 00:00	02-05-2023 00:00	331.81		
02-05-2023 00:00	03-05-2023 00:00	300.54		
03-05-2023 00:00	04-05-2023 00:00	325.9		
04-05-2023 00:00	05-05-2023 00:00	465.14		
05-05-2023 00:00	06-05-2023 00:00	484.55		
06-05-2023 00:00	07-05-2023 00:00	383.45		
07-05-2023 00:00	08-05-2023 00:00	449.42		
08-05-2023 00:00	09-05-2023 00:00	450.06		
09-05-2023 00:00	10-05-2023 00:00	482.22		
10-05-2023 00:00	11-05-2023 00:00	413.87		
11-05-2023 00:00	12-05-2023 00:00	461.32		
12-05-2023 00:00	13-05-2023 00:00	485.42		
13-05-2023 00:00	14-05-2023 00:00	None		
14-05-2023 00:00	15-05-2023 00:00	481.07		
15-05-2023 00:00	16-05-2023 00:00	457.24		
16-05-2023 00:00	17-05-2023 00:00	382.62		
17-05-2023 00:00	18-05-2023 00:00	400.96		
18-05-2023 00:00	19-05-2023 00:00	295.18		
19-05-2023 00:00	20-05-2023 00:00	471.52		
20-05-2023 00:00	21-05-2023 00:00	446.35		
21-05-2023 00:00	22-05-2023 00:00	478.99		
22-05-2023 00:00	23-05-2023 00:00	500.06		
23-05-2023 00:00	24-05-2023 00:00	409.16		

Annexure VII: Social Work, Community Outreach, and other Activities

Figure 12: Plantation drive at Aggarwal College, Ballabgarh

Figure 13: Blood Donation Camp

Figure14: Health Camp at College Campus

Environmental Policy for Aggarwal College Ballabgarh

At Aggarwal College Ballabgarh (ACB), we recognize the critical importance of environmental conservation and sustainability in the present era of global challenges. As a premier Higher Education Institution, we are committed to integrating environmentally responsible practices into all aspects of our operations. Our aim is to promote environmental consciousness among our students, faculty, staff, and the broader community while striving to protect and enhance the naturalresources around us. To achieve this, we establish the following Environmental Policy:

Environmental Compliance: ACB is dedicated to complying with all relevant environmental laws, regulations, and guidelines set forth by the government authorities. We will continuously monitor and review our environmental performance to ensure compliance and seek opportunities for improvement.

Resource Conservation: We will strive to minimize our ecological footprint by efficiently utilizing natural resources, such as water, electricity, and paper. Initiatives will be taken to reduce waste generation and promote recycling, reusing, and upcycling of materials wherever feasible.

Green Infrastructure and Facilities: ACB will undertake initiatives to promote sustainable infrastructure development and green building practices. We will incorporate energy-efficient technologies and renewable energy sources to reduce energy consumption and greenhouse gas emissions.

Environmental Education and Awareness: We believe that education is key to fostering environmental awareness and responsibility. ACB will integrate environmental education into its curriculum and promote initiatives that raise awareness about environmental issues among students, faculty, and staff.

Biodiversity and Green Spaces: We recognize the significance of biodiversity in maintaining ecological balance. ACB will protect and enhance green spaces on campus and collaborate with relevant organizations to conserve local biodiversity.

Waste Management: We are committed to implementing effective waste management practices. ACB will encourage waste segregation, proper disposal, and the adoption of eco-friendly alternatives to single-use plastics and non-recyclable materials.

Sustainable Transportation: ACB will encourage the use of sustainable transportation methods, such as carpooling, cycling, and public transportation, to reduce carbon emissions and promote eco-friendly commuting.

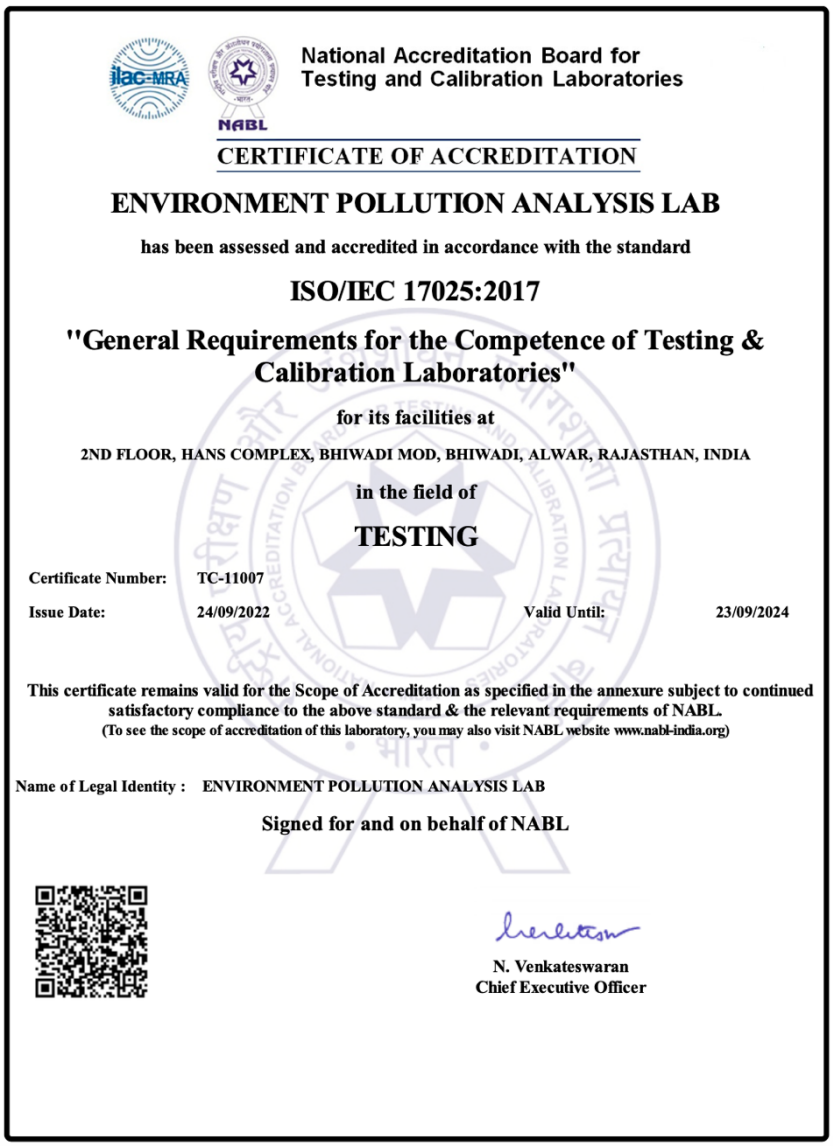
Environmental Research and Innovation: We will support and promote research initiatives focusing on environmental sustainability, conservation, and climate change mitigation. ACB will encourage innovation in environmentally friendly practices and technologies.

Community Engagement: ACB will actively engage with the local community to raise awareness about environmental issues and collaborate on environmental conservation initiatives.

Continuous Improvement: We will regularly review and update our Environmental Policy to ensure its effectiveness and alignment with best environmental practices.

This Environmental Policy reflects our commitment to creating a sustainable and environmentally conscious institution. It will be communicated to all stakeholders and will be an integral part of our institution's vision and mission. By implementing this policy, ACB aims to make a positive impact on the environment and inspire future generations to become responsible stewards of the planet.

Certification of Audit Organization



National Accreditation Board for Testing and Calibration Laboratories

NABL

CERTIFICATE OF ACCREDITATION

ENVIRONMENT POLLUTION ANALYSIS LAB

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

2ND FLOOR, HANS COMPLEX, BHIWADI MOD, BHIWADI, ALWAR, RAJASTHAN, INDIA

in the field of

TESTING

Certificate Number: TC-11007

Issue Date: 24/09/2022 Valid Until: 23/09/2024

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity : ENVIRONMENT POLLUTION ANALYSIS LAB

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

Sudeep Shukla

(Dr. Sudeep Shukla)

For

Environment Pollution Analysis Lab, Bhiwadi, Alwar , Rajasthan

Date: 24/05/2023
Place: Bhwadi

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA

F.No. LB/99/7/2021-INST LAB-HO-CPCB-HO/Pvt./ 3103 Dated: 28th February 2023

Provisional Certificate

To,

Head of Laboratory,
M/s Environment Pollution Analysis Lab,
2nd Floor, Hans Complex, Near Police Chowki, Bhiwadi Mod,
Bhiwadi- 301019, Rajasthan.

Subject: Recognition of M/s Environment Pollution Analysis Lab, 2nd Floor, Hans Complex Near Police Chowki, Bhiwadi Mod, Rajasthan, Bhiwadi- 301019, as Environmental laboratory under the Environmental (Protection) Act- 1986.

Sir,

I am directed to refer the online application, dated 21/10/2022 for the recognition of your laboratory under Environmental (Protection) Act, 1986. Based on the recommendations of the concerned Division, approval of Competent Authority for recognition of Environmental laboratories and your acceptance of the revised terms and conditions at Annexure-III & IV of the guidelines for recognition of environmental laboratories, CPCB approves the recognition of **M/s Environment Pollution Analysis Lab, 2nd Floor, Hans Complex Near Police Chowki, Bhiwadi Mod, Bhiwadi-301019, Rajasthan** and shall be notified in the Gazette of India. Considering the current requirement of mandatory accreditation/ certifications of the laboratory**, this recognition shall be valid up to 23/09/2024.**

2. As sought in the aforementioned application, **M/s Environment Pollution Analysis Lab, 2nd Floor, Hans Complex Near Police Chowki, Bhiwadi Mod, Bhiwadi- 301019, Rajasthan** may undertake the following tests:

i. **Physical Tests-**Conductivity, Colour, pH, Fixed & Volatile Solids, Total Solids, Total Dissolved Solids, Total Suspended Solids, Turbidity, Temperature, Velocity & Discharge Measurement of Industrial Effluent Stream, Odour, Salinity, Settleable Solids and Sludge Volume Index.
ii. **Inorganic (General and Non-metallic):** Acidity, Alkalinity, Ammonical Nitrogen, Chloride, Chlorine Residual, Dissolved Oxygen, Fluoride, Total Hardness, Total Kjeldahl Nitrogen (TKN), Nitrite Nitrogen, Nitrate Nitrogen, Phosphate, Sulphate, Chlorine Demand, Sulphite, Silica and Sulphide.
iii. **Inorganic (Trace Metals):** Boron, Cadmium, Calcium, Total Chromium, Chromium Hexavalent, Copper, Iron, Lead, Magnesium, Mercury, Nickel, Potassium, Sodium, Sodium Absorption Ratio, Zinc, Arsenic, Aluminium, Manganese, Selenium and Silver.
iv. **Organics (General) and Trace Organics:** Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Oil and Grease, Phenolic Compounds, Pesticides (each) (Organo-Chlorine and Organo Nitrogen-Phosphorus), Surfactant, Organic Carbon (in Solid) and Carbon/Nitrogen Ratio.
v. **Microbiological Test:** Total Coliform, Faecal Coliform, *E. coli, Faecal Streptococci* and Total Plate Count.
vi. **Toxicological Tests:** Bioassay Method for Evaluation of Toxicity Using Fish and Measurement of Toxicity Factor Using Zebra Fish (Dimensionless Toxicity Test).
vii. **Soil/Sludge/Sediment and Solid Waste:** Boron, Cation Exchange Capacity (CEC), Electrical Conductivity, Nitrogen (Available), Organic Carbon/Matter (Chemical Method), pH, Phosphorous (Available), Phosphate (Ortho), Phosphate (Total), Potassium, SAR in Soil Extract, Sodium, Soil moisture, TKN, Calorific Value, Ammonia, Bicarbonate, Calcium, Calcium Carbonate, Chloride, Colour, Heavy Metal, Magnesium, Nitrate, Nitrite, Pesticide,

Contd.

Sudeep Shukla

(Dr Sudeep Shukla)

For

Environment Pollution Analysis Lab , Bhiwadi, Alwar, Rajasthan

Date: 24/05/2023
Place: Bhiwadi