

**POST GRADUATE GOVERNMENT COLLEGE FOR GIRLS**  
**SECTOR – 11, CHANDIGARH**



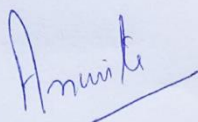
**Green Audit Report**  
**2023**



## Post Graduate Government College for Girls, Sector-11, Chandigarh

Floral diversity in the college campus has been assessed by external and internal committee and a report has been generated to study environmental impact of the institution and to fulfil the requirement for the Green Audit.

Floral diversity in the college and the steps taken by the institution to conserve the floral diversity have been found to be satisfactory.



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## **Report of Post Graduate Government College for Girls-11, Chandigarh**

### **About Institution**

Ever since its inception in 1956, Post Graduate Government College for Girls, Sector 11, Chandigarh has established incredible traditions and legacies by shaping young, impressionable minds, and nurturing them as discerning individuals and empowered nation builders. The intellectual treasure is supplemented with highly qualified and dedicated academic faculty, state of the art infrastructure, well-equipped labs, well-stocked library, value-added amenities and periodic launch of innovative and job-oriented courses. We promise 'going beyond the classroom' approach, cultivating a spirit of 'giving back to the society', and garnering the young women for multi-faceted holistic development. Recently, the Chandigarh MC conducted Swachh ward survey on basis of indicators such as waste segregation, adoption of composting, principles for sustainable zero waste micro-climate. PGGCG-11, Chandigarh, adjudged Rank 1 with highest Score (95.5%) in all categories of 35 wards of Chandigarh. The institute is pioneer in the environment activities for eco-restoration and environment sustainability and won awards at national and International forum.

In view of the NAAC circular regarding Green Auditing, the college management decided to conduct internal Green Auditing for which the Green Audit Committee was reconstituted on 04.08.2022. The members of the Green Audit Committee are mentioned below:

Chairperson: Prof. (Dr.) Anita Kaushal, Principal, Post Graduate Government College for Girls, Sector-11, Chandigarh

Member: Mr. Ajay Kumar Sharma, Dean and Chief Coordinator, Post Graduate Government College for Girls, Sector-11, Chandigarh

Member: Dr. Sadhana Verma, Head of Department, Chemistry and Incharge, Environment Society

Member: Dr. Umesh Bharti, Head of Department, Zoology

Member: Dr. Anurita Sharma, Head of Department, Botany

Member: Dr. Parul Virk, Department of Environment Science

Member: Dr. Amit Jakhal, Department of Botany

The institution has policy for the campus micro-climatic eco-restoration and primarily ten committees have been constituted, which are involved with the sustainability of the campus environment (**Table 1**).



**Table-1. Committees for sustainability of campus environment:**

S.No	Committees constituted	Date
1	Rain water Harvesting Committee	16.11.2005
2	Environment Committee	24.09.2010
3	Green Audit Committee	10.2.2018
4	Floriculture and Landscaping Committee	04.08.2012
5	Renewable Energy Committee	22.08.2012
6	Campus Hygiene Committee (Eat Right Campus)	14.03.2018
7	Cleanliness Committee	12.09.2018
8	Solid Waste Management Committee	19.03.2019
9	Swachhta Committee (Waste segregation)	22.01.2020
10	Plastic free Campus Committee	10.02.2021

The institution has undertaken various environmental activities to achieve the aim of 'Zero waste campus'. The student oriented environment related activities are:

**(i) Cleanathon Report**

Postgraduate Government College for Girls-11, Chandigarh, a NAAC accredited Grade 'A', with CGPA 3.52, organized a cleanliness and fumigation drive in the sprawling campus of 42.6 acres on November 1-5, 2022. The college stands to the fundamentals of prosperity with cleanliness and nurturing the young girls' minds, who are about to set their feet in the world scenario with value based education regarding cleanliness and fumigation, its awareness and benefits.

**Cleanliness and Fumigation Drive:** The five-day cleanliness drive (Nov1-5, 2022) called Cleanathon was launched in college, and one day has been enmarked for scheduled activity. The PGGCG-11, winner of 'Best Maintained Campus 'award for consecutively passt three years (47<sup>th</sup>, 48<sup>th</sup> and 49<sup>th</sup> Rose festival, Chandigarh is the cleanest campus in the area. The



cleanliness drive is conducted after the college hours wherein the laboratories of practical conducting departments are also taken care of. The state of cleanliness remains a power indicator and pillar of the campus sustainable environment, as it protects the students from disease and also protects college infrastructure, electrical equipment, instruments from damage (Figs.1-4). The Cleanathon is a social project in which the hostels and the adjoining areas are also cleaned to promote healthy and hygienic surroundings. The fumigation and cleanliness drive creates the infectionless micro-environment, to avoid the infection sneak into the cleaner and safer campus area (Figs.4-8).

#### Compilation of Data pertaining to Cleanathon procedure in the Campus

S.No.	Date	Remarks
1	20-25 June, 2022	Cleanliness and Fumigation
2	1-5 November, 2022	Cleanliness and Fumigation



Figs.1-4: Fumigation Drive (Nov, 2, 2022) to create infectionless micro-climate of campus





Figs.5-8: Sanitation Drive (Nov, 1-5, 2022) to create infectionless micro-climate in Classrooms and Laboratories

## **(ii) Colloquium- an academic conference**

Colloquium have been organized in the college with the following objectives:

1. To provide platform for intellectual interaction between experts and students
2. To discuss and share recent researches on related issues and constructive feedback thereafter
3. To pursue questions that trigger imagination



4. Harvesting of knowledge by the students by listening to the lectures delivered by experts
5. To present papers, analyse and discuss a particular topic
6. To improve diction and presenting skills with emphasis on practical relevance
7. To introduce students to dedicated researchers and diverse group of scholars representing multiple disciplines
8. To introduce students to a range of challenging assignment, digital power point presentations and archival research.

With the above-mentioned objectives, following colloquiums were organized:

#### **Climate Change and Covid-19**

Botany Department in collaboration with Science Society 'Jigyasa' organized a colloquium wherein Prof. Daizy R. Batish, Chairperson, Department of Botany, Panjab University, Chandigarh was invited as resource person to deliver lecture on Climate Change and Covid-19 on 29<sup>th</sup> February, 2022. As many as 104 students from UG and PG classes were benefitted with her expert knowledge.

#### **"Waste to Wealth" Lecture cum Workshop & Exhibition**

PGGCG-11, Chandigarh in collaboration with Mahatma Gandhi National Council of Rural Education, Ministry of Education, Government of India organized a lecture cum workshop & exhibition on the topic "Waste to Wealth" on June 6, 2022. Mr. Samarth Sharma, Consultant, MGNCRE was the resource person. He conducted lecture cum workshop on theme "Beat single use plastic pollution". Approximately 100 students from both UG and PG classes attended the same. The workshop was followed by an exhibition wherein posters, slogans and products from waste made by student participants were displayed.





Colloquium on Climate Change and Covid-19: Brochure of the event and participants during the event



"Waste to Wealth" Lecture cum Workshop & Exhibition: Brochure of the event and participants during the event



## Green Audit Report

### Topic 1: Floristic Composition

Post Graduate Government college, Sector-11, Chandigarh, affiliated to Panjab University, Chandigarh, was established in present campus in 1956. The college has established in coorelation with the floristic composition given in Table-1 and the floristic composition is itself as an educational hub in regionwith accreditation of Grade 'A' by NAAC. A sprawling campus of 34.93 acres has been meticulously planned in number of functional blocks separated by lush green grass lawns. Apart from records of Forest Department, the field surveys have been undertaken to study the floristic composition of the campus. The floristic composition of the college is given in Table 1.

**Table 1: Trees /shrubs diversity of Post Graduate Government College for Girls, Sector-11, Chandigarh**

S.N	Botanical Name (Common Name)	Family
1	<i>Abrus precatorius</i> (Ratti)	Fabaceae
2	<i>Acorus calamus</i> (Vacha)	Acoraceae
3	<i>Adhatoda vasica</i> (Vasaka)	Acanthaceae
4	<i>Adina codifolia</i> (Kurmi)	Rubiaceae
5	<i>Albizia lebbek</i> (Siris)	Mimosaceae
6	<i>Aloe barbedensis</i> (Ghrit kumari)	Asphodelaceae
7	<i>Alstonia scholaris</i> (Saptaparni; Scholar tree)	Apocynaceae
8	<i>Andrographis paniculata</i> (Kalmegh)	Acanthaceae
9	<i>Anthocephalus chinensis</i> (Kadamb)	Rubiaceae
10	<i>Annona squamosa</i> (Sitaphal; custard apple)	Annonaceae
11	<i>Asparagus officinalis</i> (Asparagus)	Asparagaceae
12	<i>Asparagus racemosus</i> (Satavari)	Asparagaceae
13	<i>Artocarpus lakoocha</i> (Lakooch)	Moraceae
14	<i>Artocarpus heterophyllus</i> (Kathal;Jack tree)	Moraceae
15	<i>Azadirachta indica</i> (Neem)	Meliaceae



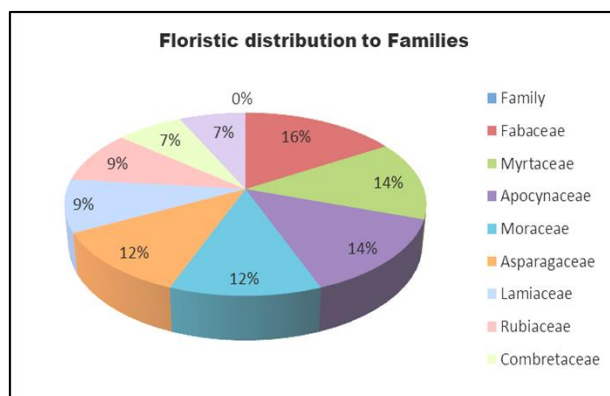
16	<i>Bacopa monnieri</i> (Brahmi)	Asparagaceae
17	<i>Bambusa vulgaris</i> (Bamboo)	Poaceae
18	<i>Barleria prionites</i> (Kala Bansa)	Acanthaceae
19	<i>Bougainvillea sp</i> (Bougainvillea)	Nyctaginaceae
20	<i>Bauhinia purpurea</i> (Gulabi Kachnar)	Fabaceae
21	<i>Bauhinia variegata</i> (Kachnar)	Fabaceae
22	<i>Bombax ceiba</i> (= <i>Salmalia</i> ,Silk Cotton )	Malvaceae
23	<i>Butea frondosa</i> (Dhak)	Fabaceae
24	<i>Butea monosperma</i> (Palash)	Fabaceae
25	<i>Cactus and Succulents</i>	Cactaceae
26	<i>Callistemon viminalis</i> (Bottle Brush)	Myrtaceae
27	<i>Carissa congesta</i> (Karonda)	Apocynaceae
28	<i>Casuarina equisetifolia</i> (Jangli Saru)	Casuarinaceae
29	<i>Catharanthus roseus</i> (Sadabahar)	Apocynaceae
30	<i>Cestrum noctuum</i> (Raat Ki Raani)	Solanaceae
31	<i>Cestrum diurnum</i> (Din Ka Raja)	Solanaceae
32	<i>Citrus limon</i>	Rutaceae
33	<i>Citrus sinensis</i> (Narangi)	Rutaceae
34	<i>Clitoria ternatea</i> (Aparajita)	Fabaceae
35	<i>Coleus barbatus</i> (Patharchat)	Lamiaceae
36	<i>Chukrasia tabularis</i> (Indian Redwood)	Meliaceae
37	<i>Cinnamomum tamal</i> (Tejpatta )	Lauraceae
38	<i>Curcuma longa</i> (Haldi)	Zingiberaceae
39	<i>Cymbopogon citratus</i> (Lemon grass)	Poaceae
40	<i>Cycas circinalis</i> (Queen Sago)	Cycadaceae
41	<i>Cycas revoluta</i> (Sago Palm)	Cycadaceae
42	<i>Dalbergia sissoo</i> (Shisham)	Fabaceae
43	<i>Datura alba</i> (Dhatura)	Solanaceae
44	<i>Delonix regia</i> (GulMohar)	Fabaceae
45	<i>Dendrocalamus strictus</i>	Poaceae
46	<i>Eclipta alba</i> (Bhringaraj)	Asteraceae
47	<i>Emblica officinalis</i> (Amla)	Euphorbiaceae



48	<i>Eriobotrya japonica</i> (Loquat)	Myrtaceae
49	<i>Eucalyptus hybrida</i>	Myrtaceae
50	<i>Ficus benghalensis</i> (Banyan)	Moraceae
51	<i>Ficus carica</i> (Anjeer)	Moraceae
52	<i>Ficus glomerata</i> (Gular)	Moraceae
53	<i>Ficus infectoria</i> (Pilkhan)	Moraceae
54	<i>Ficus panda</i>	Moraceae
55	<i>Ficus religiosa</i> (Peepal)	Moraceae
56	<i>Ficus virens</i> (Pakhar)	Moraceae
57	<i>Grevillea robusta</i> (Silver Oak)	Proteaceae
58	<i>Hamelia patens</i> (Read Head)	Rubiaceae
59	<i>Hibiscus rosa-sinensis</i> (Gurhal)	Malvaceae
60	<i>Ixora coccinea</i> (Jungle ceranium)	Rubiaceae
61	<i>Jacaranda mimosifolia</i> (Nili Gulmohar)	Bignoniaceae
62	<i>Lawsonia inermis</i> (Henna)	Lathyraceae
63	<i>Litchi chinensis</i> (Litchi)	Sapindaceae
64	<i>Lagerstroemia speciosa</i> (Pride of India)	Lathraceae
65	<i>Madhuca indica</i> (Mahua)	Sapotaceae
66	<i>Mangifera indica</i> (Mango)	Anacardiaceae
67	<i>Manilkara zapota</i> (Chiku)	Sapotaceae
68	<i>Mentha x piperita</i> (Peppermint)	Lamiaceae
69	<i>Michelia champa</i> (Champa)	Magnoliaceae
70	<i>Mimosa pudica</i> (Lajwanti)	Fabaceae
71	<i>Mimusops elengi</i> (Maulsiri)	Sapotaceae
72	<i>Moringa oleifera</i> (Moringa)	Moringaceae
73	<i>Morus alba</i> (Shahtoot)	Moraceae
74	<i>Murraya koenigii</i> (Curry patta)	Rutaceae
75	<i>Nerium oleander</i> (Kaner)	Apocynaceae
76	<i>Nyctanthes arbor-tristis</i> (Harshingar)	Nyctanthaceae
77	<i>Ocimum basilicum</i> (Kali Tulsi)	Lamiaceae
78	<i>Ocimum gratissimum</i> (Ram Tulsi )	Lamiaceae
79	<i>Ocimum sanctum</i> (Tulsi)	Lamiaceae



80	<i>Plumeria alba</i> (White Frangipani)	Apocynaceae
81	<i>Polyalthia longifolia</i> ((Asoka Tree)	Annonaceae
82	<i>Pinus roxburghii</i>	Pinaceae
83	<i>Psidium guajava</i> (Guava)	Myrtaceae
84	<i>Pterospermum acerifolium</i> (Kanak Champa)	Sterculiaceae
85	<i>Punica granatum</i> (Pomegranate)	Lythraceae
86	<i>Putranjiva roxburghii</i> (Putranjiva)	Euphorbiaceae
87	<i>Roystonea regia</i> (Royal Palm)	Arecaceae (Palmae)
88	<i>Saraca indica</i>	Caesalpinaceae
89	<i>Schleichera oleosa</i> (Kusum)	Sapindaceae
90	<i>Syzygium aromaticum</i> .(Clove)	Myrtaceae
91	<i>Syzygium cumini</i> (Jamun)	Myrtaceae
92	<i>Tabernaemontana divaricta</i> (Crape Jasmine)	Apocynaceae
93	<i>Tecoma argentea</i> (Yellow Tabebuia)	Bignoniaceae
94	<i>Tecoma capensis</i> (Honey Suckle)	Bignoniaceae
95	<i>Terminalia arjuna</i> (Arjun)	Combretaceae
96	<i>Terminalia bellirica</i> (Behera)	Combretaceae
97	<i>Terminalia chebula</i> (Harad)	Combretaceae
98	<i>Thuja compacta</i> (Vidya tree)	Cupressaceae
99	<i>Tinospora cordifolia</i> (Giloe)	Menispermaceae
100	<i>Vitex negundo</i> (Nirgundi)	Verbenaceae
101	<i>Withania somnifera</i> (Ashwagandha)	Solanaceae
102	<i>Ziziphus mauritiana</i> (Ber)	Rhamnaceae





## Topic 2: Mapping of Diversity and Forest Cover

Floristic composition provides data regarding all kinds of plants growing in the college campus which include trees, shrubs and herbs. Histograms (Figs. 1-4) are prepared on basis of this data and location maps are prepared in relation to the location of these trees in the college campus (Maps 1-2).

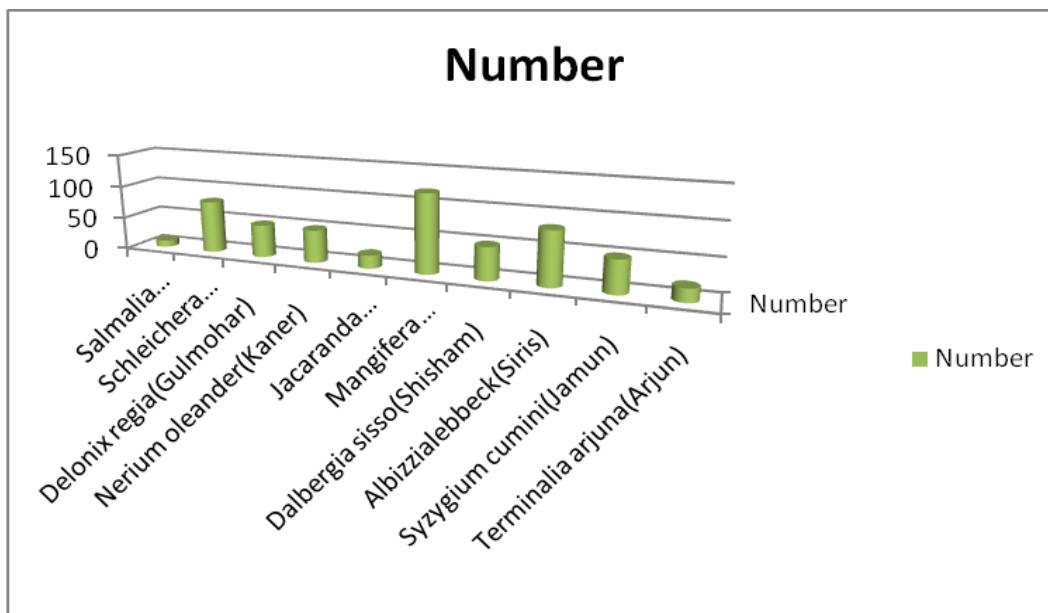


Fig1: Floristic composition(Trees) of the College Campus

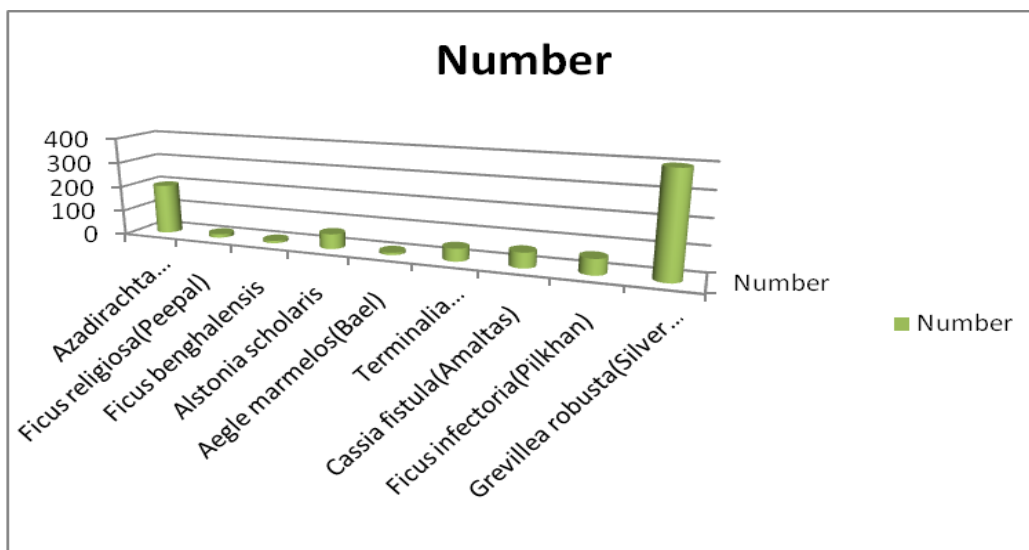


Fig2: Floristic composition(Trees) of the College Campus



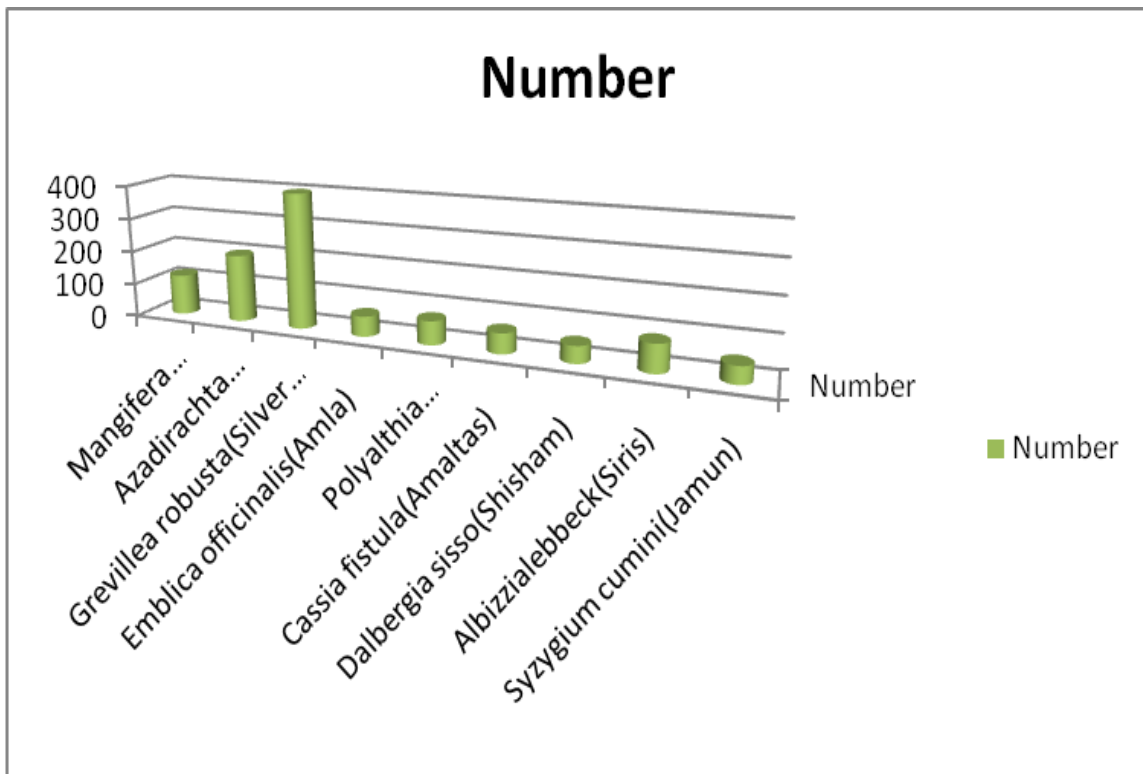


Fig3: Floristic composition of most abundant trees of the College campus

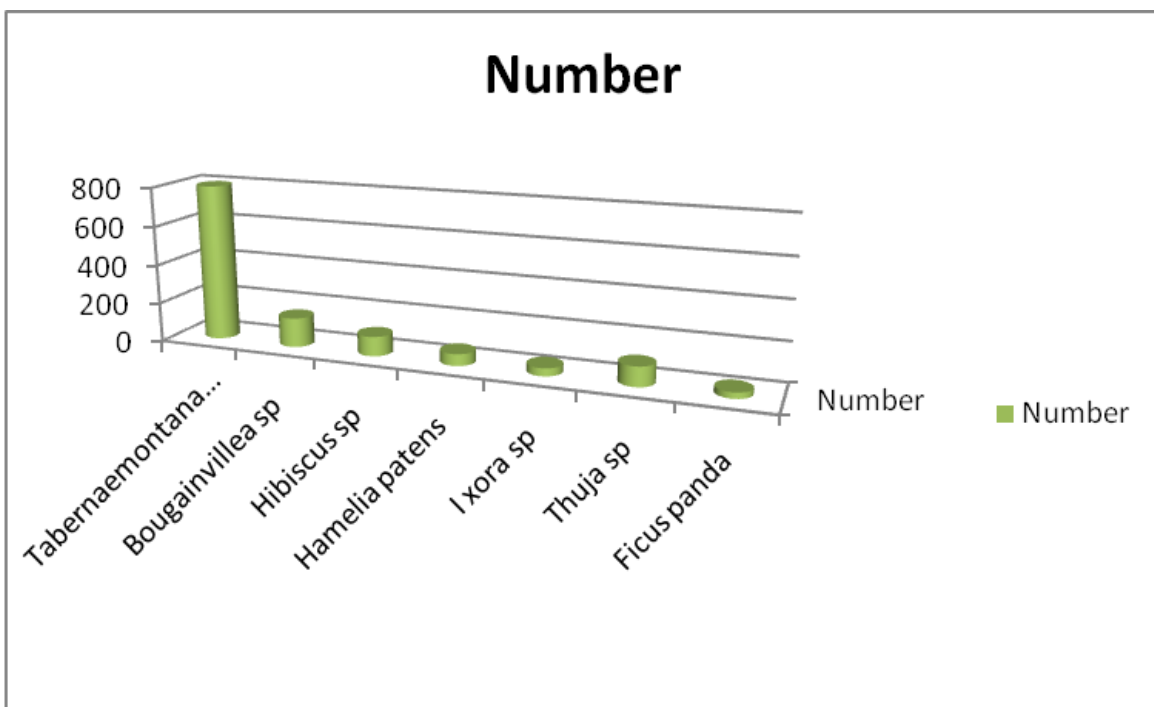


Fig4: Floristic composition of most abundant Shrubs of the College campus











### **TOPIC 3: Solid Waste Management – Practice and Procedure**

The paradigm of waste to energy, mitigation of carbon and its sequestration is relegated to a secondary level which conversely results in India discarding 68.8 million tonne in landfills and comes third after China and US in total GHGs emission. Conforming to these, the college highlights the use of adept schemes for successful co-composting of food, fruit and green waste, with a mechanism to mitigate carbon leakage in the developing countries. The work is a pioneer attempt to produce bio-stable, organoleptic and agronomic feasible organic compost evaluating the physicochemical parameters using the two stage composting (TSC) comprising bioreactor and windrows using mixture of raw materials: 50% green waste (60% leaves, 35% grass clippings and 5% tree branches), 50% food and fruit waste of total 300 per day, to produce compatible compost in 110 days in TSC, hence making the college fully organic. The high quality final compost has 40°C temperature, 7.6 pH, 42% moisture content, 3.36 ds/m electrical conductivity and 25 C/N ratio. The main objective of practice is to analyse and overview the configuration technology, analytical parameters and feasibility of net zero energy improving building resilience, to achieve de-carbonisation target to limit the global temperature rise to 1.5°C, to meet the goals of the Paris agreement to avoid catastrophic impacts of climate change. The inference of study is the mitigation of carbon leakage of 346.7 metric ton CO<sub>2</sub> and generating 564 quintals organic compost to achieve sustainable zero waste future. The concept of circular economy, restorative and regenerative system by design has contributed to a paradigm shift in the transformation of Waste-to-Energy (WtE) which the management of municipal solid waste. The present study entails ascertaining how WtE can serve as a circular economy tool toward carbon foot print benefits and climate change mitigation. The study bagged **United Nations SDG Action Award 2020** and finalists **UN Green Gown International Awards 2022**.

#### ***Composting procedure***

The present model has devised two strategies (i) Single stage windrow composting (SSC) (ii) Two stage windrow composting (**TSC**), to highlight best organic waste management strategies to achieve co-composting of food, fruit and green waste using aerobic windrow composting to reduce their volume and mass and achieve carbon foot print benefits.

#### **1. Single Stage Composting (SSC)**

The energy efficiency initiatives mitigate the carbon foot prints and energy requirement of the



building. The composting process was carried out in batch-wise operation in the open site windrow composting plant (30.7583° N, 76.7841° E) of 0.5 TPD capacity situated in the campus of Post Graduate Government College for Girls, Sector-11, Chandigarh. The windrow plant consists of screening facilities, solid waste separator, charging and composting units, where the organic wastes are accumulated in 3x4m brick lined charging unit with basal bulking agent (green waste) layer, which sequentially alternates with food, fruit and vegetable waste (30cm each) in three different layers. The repetition of the layers is done till the cumulative pile reaches 1.5m height. The piles in windrows are turned manually on 6<sup>th</sup> and 11<sup>th</sup> day to generate micro- positive pressure making windrows aerobic.

## **2. Two stage Composting (TSC)**

In TSC, a mechanical -manual integration, the organic waste is initially added to a bioreactor 'FOODIE' for and after 7days the semi-digested organic cakes are de-confined from the bioreactor and transferred to windrow composting plant. The cakes are added to square 64m<sup>2</sup> open site windrow composting plant and follow the same procedure as above in SSC.

### **Advantages of the practice**

- (i) The existing solid waste management practice in the campus includes segregation of waste at source into dry waste, wet waste, E-waste and medical waste through coded dustbins (Blue, green, red and black), placed at prominent places in the college and hostels (Figs.7-10). The waste thus generated within campus is collected from labelled dustbins placed at various locations and shifted to the windrow plant site located in the campus for composting.
- (ii) The practice provides a better insight on the feasibility, applicability and reproducibility of the single stage windrow composting and two stage composting technology to ensure the efficiency and effectiveness of TSC in producing bio-fertilizer. The two-stage composting (TSC) is used as an alternative process in solid waste management and this new technology can reduce the composting time, land area and GHG emission
- (iii) Every region on earth is generating dry waste (grass, leaves) and wet waste (Vegetable and fruit peelings) in bulk and their dispensing and management is a global problem. The practice is aimed at converting waste into organic compost with C:N ratio 25:1, which is best for agronomic practices



(iv) The organic compost generated increased the yield of agronomic and floriculture crops and in this era of increasing population, the both aspects help in the development of the nation.

(v) The blue prints are prepared regarding the standardization of temperature, humidity, C:N ratio in single stage and two stage composting and these blue prints are replicated with ease, irrespective of area and country.

(v) The problems solved due to the bioconversion of solid waste and its management are:

- Unscientific land filling
- Maintaining soil fertility
- Avoiding a breeding grounds for mosquitoes, casual organism of many diseases
- Saving precious Farm yard Manure (FYM), which are used in Agriculture fields and in Biogas Plants for sustainable development
- The need of market is the organic compost to have more yield, and protect human race from bio- magnification of pesticides and weedicides. The organic compost is used as an alternative renewable source of energy saving the non-renewable fossil fuels (Coal, Petroleum, Diesel etc.).
- The micro-climate of campus has become moderate, as reduction in landfills and dumping sites has reduced the emission of greenhouse gases (GHGs).
- The concept of circular economy (CE), restorative and regenerative system by design has contributed to a paradigm shift in the transformation of Waste-to-Energy (WtE) in the management of municipal solid waste. The practice entails ascertaining how WtE can serve as a circular economy tool toward carbon foot print benefits and climate change mitigation.

(vi) The computation of the meteorological data pertaining to the city average minimum and maximum temperature fluctuations ranges from 0.63-1.78<sup>0</sup>C due to urban heat island effect, a most documented phenomenon of climate change. However, the campus micro-climate has a moderate effect as the temperature remains on the negative side of fluctuation (i.e 1.5<sup>0</sup>C less than the city temperature), primarily due to 56.84% green area with tree basal area of 55% which results in evaporative cooling and mitigation of greenhouse gases due to aerobic windrow composting of campus solid waste, which prevents micro-climatic global warming, hence improving building resilience, to achieve de- carbonization target to limit



the global temperature rise to 1.5°C, to meet the goals of the Paris agreement to avoid catastrophic impacts of climate change.

### **Awards: The Third Party Verification**

The college is a pioneer in waste management practices in country as well as in Asia. The college work on solid waste management has been acclaimed at National and International forum as follows:

1. The work was acclaimed by United Nations and bagged United Nations (UN), Sustainable Development Goals (SDG) Action award in Individual category ("Environment Sustainability") for the practice on Solid waste management (UNDP), an excellent community outreach in Covid-19 era. The present Solid waste windrow project study is the second after Mumbai to get this award and shared stage with actor Sonu Sood and Philanthropist S. P. S. Oberoi for their exemplary and humanitarian work during Covid-19.

2. Skoch awards, instituted in 2003, is the highest honour in the county, which recognise projects and institutions that go extra mile to make India a better nation and covers the best of efforts in capacity building, empowerment and excellence in technology, based on extensive documentation based on desk and secondary research followed by an evaluation presentation to the eminent jury of domain. Skoch are competitive awards, which recognise leadership and excellence in accelerating socio-economic changes and benchmark of best practice in the fields of technology and inclusive growth. The institute is a pioneer among the colleges/institutes in the country to be the winner of 66 Skoch order of Merit-Semi-finalists and joined the selected group finalists like CM Haryana, Madhya Pradesh, Rajasthan, HAL, SAIL, Ministry of Rural development, Government of India.

3. The college work on solid waste management "Windrow composting-An Aerobic Bio-Conversion and Stabilization of Municipal Solid waste (MSW) in Chandigarh" was recognised and awarded in category of 'Climate Change and Sustainability of Health Care System' in 26<sup>th</sup> International Congress of IFHE- International Award 2020 organised by IFHE (International Federation of Health Care Engineering) in Italy (Jan 24-28, 2021).

**4. Green Champion Award – Swachhta Action Plan- Exemplary Performance Award-2020-2021**



The college was awarded Green Champion Award (2020-2021) by Mahatma Gandhi National Council of Rural Education (MGNCRE), Department of Higher Education, Ministry of Education, Government of India for its contribution to contribution to the field of Swachhta aspects and practice and figured in the India Today's list of 400 prominent colleges in the country for work on environment sustainability.

5. The Rose festival of Chandigarh is one of the biggest rose shows held in the country. It is a colourful bonanza which showcases the diverse beauty of flowers. At the same time, the festival has also made efforts to ensure that such diversity and heterogeneity is reflected at the organization level, and to spread awareness about the need to preserve nature. The institute has been conferred with the Best Maintained Campus in 47th, 48th and 50th Rose Festival in Section H (Category H3) since the year 2018 till the year 2022; a creditable achievement by the Government institute. The flowers in the all competitions are raised through waste generated compost, an excellent '**Best of Waste scenario**'.

6. The institute work on solid waste management "Windrow Composting-An aerobic Bio-conversion and Stabilization of Municipal Solid Waste (MSW) in Chandigarh" was awarded as Innovative Environment Project by Confederation of Indian Industry (CII) in their 8<sup>th</sup> edition of National Awards on July 20-30, 2021 for their Carbon foot print Benefit.

7. The institute was acclaimed and awarded in "Innovation in Recycling process and Technology" Category, in the Business World prestigious award "Recycling for Greener Tomorrow Conclave Awards 2022" on January 16, 2022.

8. The Green Gown International Awards in partnership with Association of Common with Universities (ACU), AUF, International Association of Universities (IAU) and United Nations Environment Program (UNEP), recognized the International Sustainability initiatives being undertaken across the world. The ethos of the awards is to ensure the lessons and examples of good practice. Green Gown International Award, a prestigious award of UK, is the leading global environmental authority which promotes the coherent implementation of environmental dimensions of sustainable development, announced finalists shortlisted from 19 countries and the work "Windrow Composting: Stabilization of Municipal Solid Waste (MSW) in Chandigarh for Sustainable Zero Waste Future", was shortlisted as one of the finalists of United Nations Green Gown International Awards 2022, a pioneer project from India.



9. On Environment Day (June 5, 2022), the National Environmental Science Academy, New Delhi has conferred 'Green Technology Innovative Awards-2022 to the institute in International Conference on Agriculture Science and at ICAR-IGFRI, Jhansi, Uttar Pradesh, for the contribution in the field of mitigation of Carbon footprints and Green awards for Innovation & Environment Awareness at World Environment Expo (Pragati Maidan, New Delhi).

10. Recently, awarded "Green Technology Award 2022" in ESDA World Environment Summit (WES) organized by United Nations Environment Program (UNEP) with Ministry of Environment and Climate Change, Government of India and in association with CSRI-NEERI, CSRD JNU and foreign partner, Maldives, Nepal and Switzerland and Indian counterpart (NABARD) at Vallabhbhai Patel Chest Institute at Delhi University, New Delhi on October 16, 2022.

**पीजीजीसीजी-11 में अब हर शनिवार को मनाया जाएगा नो प्लास्टिक डे**

चंडीगढ़। पोस्ट ग्रेजुएट गवर्नमेंट कॉलेज फॉर गर्ल्स सेक्टर 11 में पर्यावरण दिवस पर नो प्लास्टिक डे : बी पार्ट ऑफ द सॉल्यूशन की शुरुआत की गई। अब कॉलेज हर शनिवार को नो प्लास्टिक डे मनाएगा। इसका मकसद है युवाओं और आम लोगों को प्लास्टिक के खतरे के बारे में बताना। नॉन बायोडिग्रेडेबल प्लास्टिक प्रोडक्ट पर्यावरण के लिए सबसे बड़ा खतरा है। इस कॉलेज को हाल ही में मिनिस्ट्री ऑफ एजुकेशन की ओर से ग्रीन चैंपियन अवार्ड मिला है। कॉलेज की प्रिंसिपल प्रो अनीता कौशल के अनुसार ऐसी चोट में करीब 170 किलो सॉलिड वेस्ट प्रतिदिन होता है जिसमें से 17.6 फीसदी प्लास्टिक वेस्ट है। इसी को कंट्रोल करने के लिए हर शनिवार अब नो प्लास्टिक डे मनाया जाएगा।

**प्लास्टिक प्रदूषण के खिलाफ की वर्चुअल रैली**

चंडीगढ़। पोस्ट ग्रेजुएट गवर्नमेंट कॉलेज फॉर गर्ल्स के वनस्पति विज्ञान ने वीरवार को प्लास्टिक प्रदूषण के खिलाफ वर्चुअल रैली निकाली। इसमें छात्रों, शिक्षण संकायों और सफाई कर्मचारियों ने भाग लिया। प्लास्टिक प्रदूषण कम करने के प्रेरक कदम के रूप में करीब 100 छात्रों ने पोस्टर व नारों के साथ हिस्सा लिया। कॉलेज प्राचार्या प्रोफेसर डॉ. अनीता कौशल ने छात्रों को प्रोत्साहित किया और पर्यावरण की बहाली के लिए प्लास्टिक के कम से कम उपयोग पर जोर दिया। ब्यूरो

**न्यूज बीफ**

**अंतर्राष्ट्रीय प्लास्टिक बैग मुक्त दिवस मनाया**

चंडीगढ़, 3 जुलाई (आशीष)। उच्च शिक्षा निदेशालय के तत्वावधान में शिक्षा संस्थानों ने शनिवार को प्लास्टिक बैग नहीं पर एक अभियान शुरू किया। 3 जुलाई को अंतर्राष्ट्रीय प्लास्टिक बैग मुक्त दिवस के रूप में मनाया जाता है।

यह एक वैश्विक पहल है जिसका उद्देश्य प्लास्टिक बैग के उपयोग को खत्म करना है। पोस्ट ग्रेजुएट गवर्नमेंट कॉलेज फॉर गर्ल्स, सेक्टर-11 की प्रिंसिपल प्रो. अनीता कौशल ने कहा कि अभियान ने संस्थानों में लगभग 17.6 फीसदी प्लास्टिक कचरे के प्रबंधन के लिए प्लास्टिक बैग को कम करने, पुनः उपयोग, रि-साइकिल प्लास्टिक बैग को बढ़ावा दिया है। अभियान का उद्देश्य पर्यावरण को संरक्षित करने के सरकारी प्रयासों का समर्थन करना और पर्यावरण की बहाली पर परिवारों के बीच ज्ञान जागरूकता में सुधार करना है। इस दौरान 50 हजार से अधिक छात्रों और कॉलेजों के शिक्षण और गैर-शिक्षण कर्मचारियों ने एकल उपयोग प्लास्टिक और प्लास्टिक की वस्तुओं के नकारात्मक प्रभावों को कम करने का संकल्प लिया।

**स्वच्छता एक्शन प्लान** **बिजली की 30 से 32 फीसद कम खपत के लिए मिला सम्मान**

## जीसीजी-11 को मिला ग्रीन चैंपियन अवार्ड

जास, चंडीगढ़ : पोस्ट ग्रेजुएट गवर्नमेंट कॉलेज फॉर गर्ल्स (जीसीजी) सेक्टर-11 को ग्रीन चैंपियन अवार्ड मिला है। यह अवार्ड महात्मा गांधी नेशनल कार्डसिल आफ स्वर एजुकेशन, मिनिस्ट्री आफ एजुकेशन भारत सरकार की तरफ से स्वच्छता एक्शन प्लान के तहत दिया गया है। अवार्ड में कॉलेज को पांच हजार रुपये कैश अवार्ड के साथ प्रशस्ति पत्र हासिल हुआ है। गवर्नमेंट आफ इंडिया की तरफ से अवार्ड घोषित होने के बाद मंगलवार को डायरेक्टर स्कूल एजुकेशन आरएस बराड़ ने अवार्ड प्रिंसिपल डा. अनीता कौशल को हेंडओवर किया।

यह किया है कॉलेज ने : जीसीजी-11 ने एनजी सॉलिंग को दिशा में काम किया और 30 से 32 फीसद बिजली की खपत कॉलेज कैपस में कम करके दिखाई है। इस प्रोजेक्ट के लिए कॉलेज के लेक्चरर



बिजली बचाने के लिए पोस्ट ग्रेजुएट गवर्नमेंट कॉलेज फॉर गर्ल्स सेक्टर-11 को ग्रीन चैंपियन अवार्ड मिला। यह अवार्ड गवर्नमेंट ऑफ इंडिया की तरफ से मंगलवार को डायरेक्टर हायर एजुकेशन आरएस बराड़ ने प्रिंसिपल अनीता कौशल को सौंपा।

डा. विशाल शर्मा ने काम किया है। बिजली के अलावा कुड़ा निपटान और जल संरक्षण की दिशा में भी कॉलेज कैपस में काम किया गया है, जिसके लिए एमएचआरटी पहले भी कॉलेज को सम्मानित कर चुकी है। कुड़ा निपटान के लिए सीआइआई भी कॉलेज को वेस्ट प्रैक्टिस में चुन चुकी है।

एक हजार आवेदन में जीसीजी को मिला पहला स्थान : ग्रीन चैंपियन अवार्ड पाने के लिए चंडीगढ़ सहित पंजाब से एक हजार से ज्यादा आवेदन गए थे। जिसमें से जीसीजी-11 को पहला स्थान मिला है। कॉलेज प्रिंसिपल डा. अनीता

**यह रहा है खास**

यूनाइटेड नेशन (यूएन) कमरे में चलने वाले एसी का तापमान 26 स्वास्थ्य के लिए बेहतर घोषित कर चुकी है। डा. विशाल बीते तीन सालों से कॉलेज कैपस में चलने वाले एसी का तापमान 26 तक चला रहे हैं। डा. विशाल के अनुसार यदि एसी का तापमान 26 डिग्री तक रहता है तो सबसे पहले बिजली की खपत 30 से 32 फीसद कम होगी और कमरे में बैठने के लिए बेहतरीन माहौल मिल सकेगा। कमरे में ऑक्सीजन का स्तर ठीक रहेगा और ऑक्सीजन का स्तर ठीक रहने से शरीर में थकान और सुस्ती नहीं आएगी और इससे सामान्य लाइफस्टाइल भी संभलता है।

कौशल ने बताया कि पर्यावरण की सुरक्षा के लिए सहयोग जरूरी है।



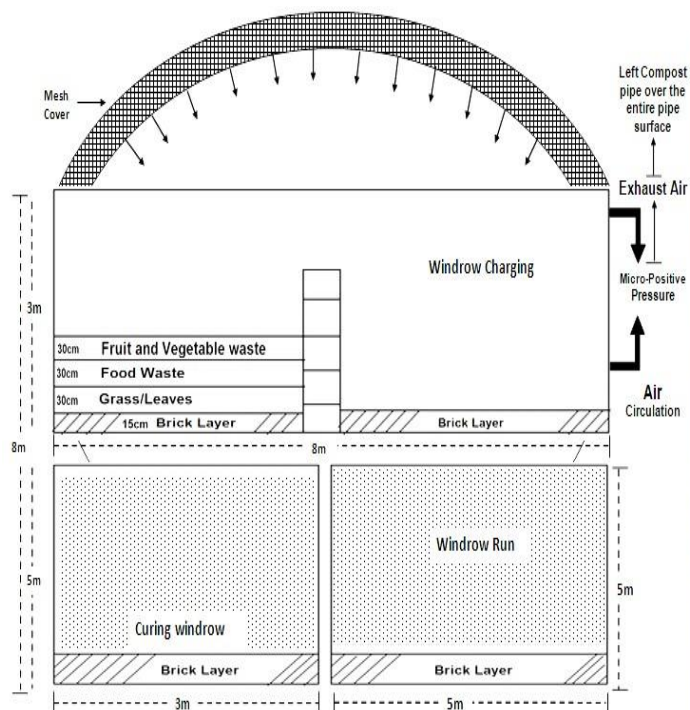


Fig.1. Design of Windrow composting plant, Fig.2. Layout windrow composting plant in PGGCG-11, Chandigarh, Figs.3-4. Field layout of membrane covered charging and curing windrow unit (0.5 TPD)



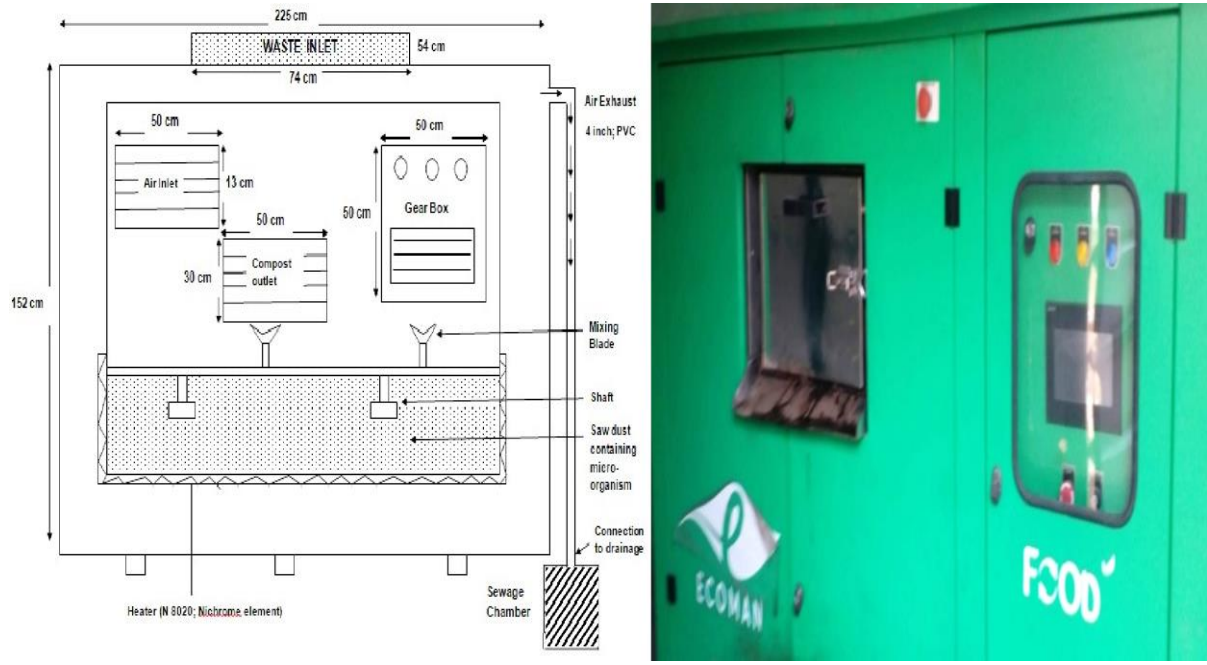
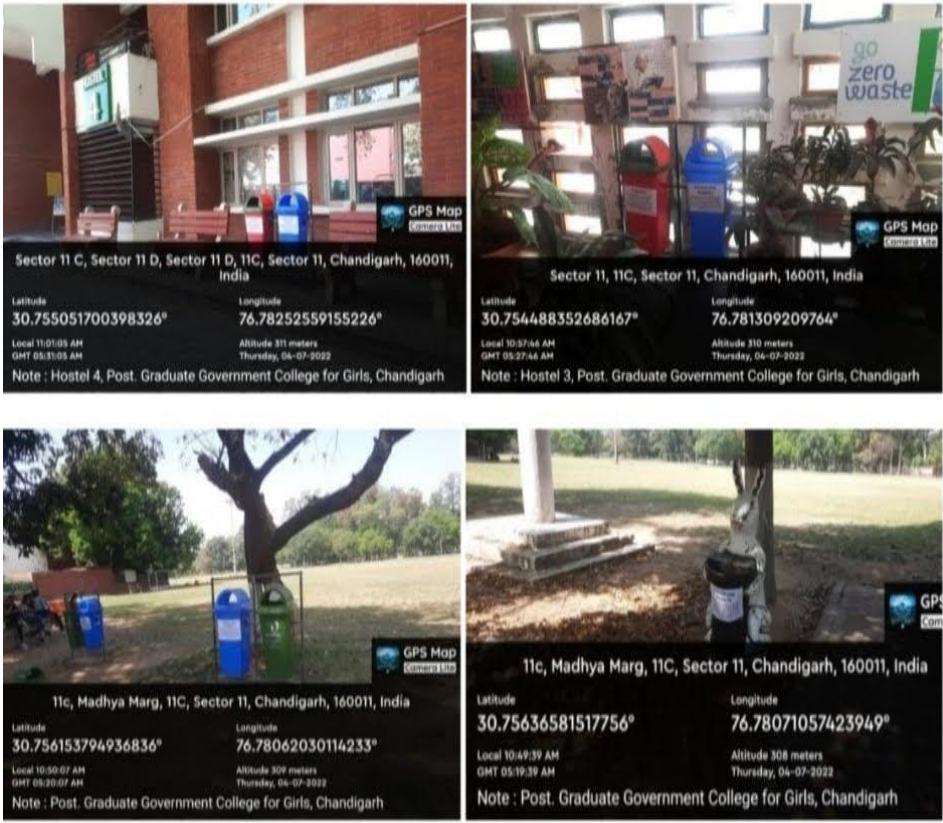


Fig.5. Outlay of Bioreactor, Fig.6. Bioreactor 'Foodie'



Figs. 7-10. Segregation of waste materials



### Challenges faced during the Composting process

1. **Solid waste auditing:** The first and foremost if the solid waste auditing, which plays an important role in devising the composting strategy i.e. Layout designing, sizing and capacity.
2. **Segregation:** The segregation at source presents a major challenge, as composite culture is dumped in landfills which results in greenhouse gases (GHGs) emission. It also hampers the composting process.
3. **House hold composting:** The major obstacle stands in way of household composting is the misconception that the composting is smelly and attract flies and maggots.
4. **Budgetary constraint:** The budget limitations concerning community composting can be addressed by starting low cost windrow composting.
5. **Designing of the windrow plant:** While designing the plant, its economic aspect and land saving has to be kept in mind.
6. **Maintenance:** Due to financial constraint, manual turning has to be done on every 6<sup>th</sup> and 11<sup>th</sup> day.
7. **Standardizing the compost monitoring:** The physico-chemical parameters (Temperature, pH, Moisture content, Electrical conductivity and C/N ratio) to make compost feasible to floriculture and Landscaping operation.

**Table2: Total Waste Generated:**

S.No.	Number of students	Total Faculty (Teaching & Non-teaching)	Collection of Solid Waste	Total waste Generated
<b>DAY SCHOLAR@50gram/day</b>				
1.	3462	196	3658x50 gram	182.9Kg/day
<b>HOSTELERS@200 gram /day</b>				
2.	797	4	801x200 gram	160.2 Kg/day

Total waste to be generated as per Strength and formula of MGNCRE, GOI:  $182.9 + 160.2 = 343.1$

Plastic waste = 72 Kg

Wet waste =  $343.1 - 72 = 271.1$  Kg/day ----- 1

Waste Generated in Month of February, 2022

Wet waste generated per Day (Actual) =  $3760/24 = 156.66$

Wet waste generated as per strength (Formula; as depicted in reference

1) =  $271.1$  Wet waste Saved from generation =  $114.4$  kg/day

Waste Generated in Month of March, 2022

Wet waste generated per Day =  $4305/27 = 159.44$

Wet waste generated as per strength (Formula; as depicted in reference 1) =  $271.1$

Wet waste Saved from generation =  $117.7$  kg/day (Computation of yearly date in Summary enclosed below:

Total Solid Waste Generated as per MGNCRE Formula ( $8133 \times 12$ ) = 97596

Total waste actually generated: 79800

Waste Generation Less:  $97596 - 79800 = 48596$  kg (Reduced with constant Workshops, Survey and Awareness of Stakeholders).



## SOLID WASTE AUDITING

MONTHWISE LOG BOOK/RECORD OF WASTE GENERATION & PROCESSING OF THE BWG				
NAME OF THE BULK WASTE GENERATOR- Khukhrain Bhawan, Plot No. 1, Sector- 35D, CHANDIGARH: 2022 January 2022				
DATE	TOTAL WASTE GENERATED (kg)	WET WASTE (kg)	DRY WASTE (kg)	WET WASTE PROCESSED THROUGH COMPOSTING (kg) (APPROX-ROUND FIGURE GIVEN)
1-1-22	40	28	12	28 kg
3-1-22	42	32	10	32 kg
4-1-22	38	29	09	29 kg
5-1-22	40	29	11	29 kg
6-1-22	36	28	08	28 kg
7-1-22	36	28	08	28 kg
8-1-22	36	28	08	28 kg
10-1-22	36	28	08	28 kg
11-1-22	36	28	08	28 kg
12-1-22	36	28	08	28 kg
13-1-22	36	28	08	28 kg
14-1-22	36	28	08	28 kg
15-1-22	36	28	08	28 kg
17-1-22	36	28	08	28 kg
18-1-22	36	28	08	28 kg
19-1-22	36	28	08	28 kg
20-1-22	36	28	08	28 kg
21-1-22	36	28	08	28 kg
22-1-22	36	28	08	28 kg
23-1-22	36	28	08	28 kg
24-1-22	36	28	08	28 kg
25-1-22	36	28	08	28 kg
26-1-22	36	28	08	28 kg
27-1-22	36	28	08	28 kg
28-1-22	36	28	08	28 kg
29-1-22	36	28	08	28 kg
30-1-22	36	28	08	28 kg
AVERAGE	366	270	259	270
Signature of the Incharge of Facility: <i>[Signature]</i>				

MONTHWISE LOG BOOK/RECORD OF WASTE GENERATION & PROCESSING OF THE BWG				
NAME OF THE BULK WASTE GENERATOR- POST GRADUATE GOVERNMENT COLLEGE FOR GIRLS-11, CHANDIGARH: 2022 MONTH: November 2022				
DATE	TOTAL WASTE GENERATED (kg)	WET WASTE (kg)	DRY WASTE (kg)	WET WASTE PROCESSED THROUGH COMPOSTING (kg) (APPROX-ROUND FIGURE GIVEN)
1-11-22	110	102	08	102 kg
2-11-22	116	110	06	110 kg
3-11-22	114	108	06	108 kg
4-11-22	118	108	10	108 kg
5-11-22	118	104	06	104 kg
7-11-22	118	110	08	110 kg
8-11-22	112	104	08	104 kg
9-11-22	114	108	06	108 kg
10-11-22	118	108	10	108 kg
11-11-22	116	108	08	108 kg
12-11-22	118	104	06	104 kg
14-11-22	120	110	10	110 kg
15-11-22	114	106	08	106 kg
16-11-22	110	104	06	104 kg
17-11-22	112	108	08	108 kg
18-11-22	116	108	08	108 kg
19-11-22	108	102	06	102 kg
21-11-22	122	110	12	110 kg
22-11-22	118	110	08	110 kg
23-11-22	116	108	08	108 kg
24-11-22	118	108	10	108 kg
25-11-22	114	106	08	106 kg
26-11-22	112	106	06	106 kg
28-11-22	122	110	12	110 kg
29-11-22	120	110	10	110 kg
30-11-22	118	110	08	110 kg
AVERAGE	1196	1188	1208	1188
Signature of the Incharge of Facility: <i>[Signature]</i>				

Month, Year	Ward Number	Ward Name	Area Name	Name of BWG	Full Address
Jun-22	13	13	PGGC Girls College	PGGC Girls College	PGGC Girls College Sector- 11
DATE	TOTAL WASTE GENERATED	WET WASTE	DRY WASTE	WET WASTE PROCESSED THROUGH COMPOSTING	
01-06-2022	108	100	8	100	
02-06-2022	131	122	9	122	
03-06-2022	131	121	10	121	
04-06-2022	119	112	7	112	
05-06-2022	0	0	0	0	
06-06-2022	115	110	5	110	
07-06-2022	106	100	6	100	
08-06-2022	132	120	12	120	
09-06-2022	126	121	5	121	
10-06-2022	115	110	5	110	
11-06-2022	126	118	8	118	
12-06-2022	0	0	0	0	
13-06-2022	120	110	10	110	
14-06-2022	119	108	11	108	
15-06-2022	128	116	12	116	
16-06-2022	117	109	8	109	
17-06-2022	119	110	9	110	
18-06-2022	126	122	4	122	
19-06-2022	0	0	0	0	
20-06-2022	124	114	10	114	
21-06-2022	116	105	11	105	
22-06-2022	131	116	15	116	
23-06-2022	128	118	10	118	
24-06-2022	122	114	8	114	
25-06-2022	115	105	10	105	
26-06-2022	0	0	0	0	
27-06-2022	109	100	9	100	
28-06-2022	131	120	11	120	
29-06-2022	140	124	16	124	
30-06-2022	115	100	15	100	
TOTAL IN (KG)	3169	2925	244	2925	
AVERAGE	105.6333333	97.5	8.133333333	97.5	

Name of in-charge of the BWG	Mobile No. of the incharge	Type of on-site processing facility
Prof. Dr. Vishal Sharma	8219747409	Machinery composting

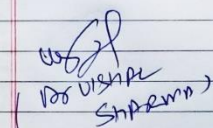
  

*[Signature]*  
 Dr. Vishal Sharma  
 Incharge of the Botany Deptt.  
 Govt. College for Girls  
 Sector-11, Chandigarh



Month, Year	Ward Number	Ward Name	Area Name	Name of BWG	Full Address
Jul-22	13	13	PGGC Girls College	PGGC Girls College	PGGC Girls College Sector- 11
	DATE	TOTAL WASTE GENERATED	WET WASTE	DRY WASTE	WET WASTE PROCESSED THROUGH COMPOSTING
	01-07-2022	126	118	8	118
	02-07-2022	127	118	9	118
	03-07-2022	0	0	0	0
	04-07-2022	115	105	10	105
	05-07-2022	120	110	10	110
	06-07-2022	129	121	8	121
	07-07-2022	131	119	12	119
	08-07-2022	127	115	12	115
	09-07-2022	119	104	15	104
	10-07-2022	0	0	0	0
	11-07-2022	124	114	10	114
	12-07-2022	128	120	8	120
	13-07-2022	126	118	8	118
	14-07-2022	119	109	10	109
	15-07-2022	129	118	11	118
	16-07-2022	117	105	12	105
	17-07-2022	0	0	0	0
	18-07-2022	115	100	15	100
	19-07-2022	113	100	13	100
	20-07-2022	119	109	10	109
	21-07-2022	117	109	8	109
	22-07-2022	117	108	9	108
	23-07-2022	121	111	10	111
	24-07-2022	0	0	0	0
	25-07-2022	122	114	8	114
	26-07-2022	129	120	9	120
	27-07-2022	126	118	8	118
	28-07-2022	122	118	4	118
	29-07-2022	118	109	9	109
	30-07-2022	121	116	5	116
	31-07-2022	0	0	0	0
TOTAL IN (KG)		3177	2926	251	2926
AVERAGE		102.483871	94.38709677	8.096774194	94.38709677

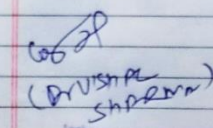
Name of in-charge of the BWG	Mobile No. of the incharge	Type of on-site processing facility
Prof. Dr. Vishal Sharma	8219747409	Machinery composting

  
 (Prof. Dr. Vishal Sharma)

In-charge of the Rotary Dept.  
 Govt. College for Girls  
 Sector-11, Chandigarh

Month, Year	Ward Number	Ward Name	Area Name	Name of BWG	Full Address
Aug-22	13	13	PGGC Girls College	PGGC Girls College	PGGC Girls College Sector- 11
	DATE	TOTAL WASTE GENERATED	WET WASTE	DRY WASTE	WET WASTE PROCESSED THROUGH COMPOSTING
	01-08-2022	108	100	8	100
	02-08-2022	129	120	9	120
	03-08-2022	134	124	10	124
	04-08-2022	111	100	11	100
	05-08-2022	134	122	12	122
	06-08-2022	129	114	15	114
	07-08-2022	0	0	0	0
	08-08-2022	107	100	7	100
	09-08-2022	117	109	8	109
	10-08-2022	125	119	6	119
	11-08-2022	120	115	5	115
	12-08-2022	121	113	8	113
	13-08-2022	108	105	3	105
	14-08-2022	0	0	0	0
	15-08-2022	128	118	10	118
	16-08-2022	130	119	11	119
	17-08-2022	119	104	15	104
	18-08-2022	125	109	16	109
	19-08-2022	110	100	10	100
	20-08-2022	112	103	9	103
	21-08-2022	0	0	0	0
	22-08-2022	128	120	8	120
	23-08-2022	129	122	7	122
	24-08-2022	115	106	9	106
	25-08-2022	126	120	6	120
	26-08-2022	117	111	6	111
	27-08-2022	114	109	5	109
	28-08-2022	0	0	0	0
	29-08-2022	115	110	5	110
	30-08-2022	108	100	8	100
	31-08-2022	120	110	10	110
TOTAL IN (KG)		3239	3002	237	3002
AVERAGE		104.483871	96.83870968	7.64516129	96.83870968

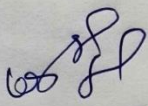
Name of in-charge of the BWG	Mobile No. of the incharge	Type of on-site processing facility
Prof. Dr. Vishal Sharma	8219747409	Machinery composting

  
 (Prof. Dr. Vishal Sharma)

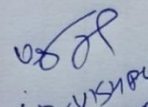
In-charge of the Rotary Dept.  
 Govt. College for Girls  
 Sector-11, Chandigarh



MUNICIPAL CORPORATION CHANDIGARH MONTHLY LOGBOOK FOR BULK WASTE GENERATORS								
Month, Year	Ward Number	Ward Name	Area Name	Name of BWG	Full Address	Name of in-charge of the BWG	Mobile No. of the incharge	Type of on-site processing facility
Oct-22	13	13	PGGC Girls College	PGGC Girls College	PGGC Girls College Sector-11	Prof. Dr. Vishal Sharma	8219747409	Machinery composting
	DATE	TOTAL WASTE GENERATED	WET WASTE	DRY WASTE	WET WASTE PROCESSED THROUGH COMPOSTING			
	10/1/2022	118	112	6	112			
	10/2/2022	0	0	0	0			
	10/3/2022	120	112	8	112			
	10/4/2022	122	110	12	110			
	10/5/2022	116	108	8	108			
	10/6/2022	122	116	6	116			
	10/7/2022	120	110	10	110			
	10/8/2022	120	110	10	110			
	10/9/2022	0	0	0	0			
	10/10/2022	128	120	8	120			
	10/11/2022	114	108	6	108			
	10/12/2022	118	108	10	108			
	10/13/2022	120	110	10	110			
	10/14/2022	122	114	8	114			
	10/15/2022	118	110	8	110			
	10/16/2022	0	0	0	0			
	10/17/2022	128	122	6	122			
	10/18/2022	116	110	6	110			
	10/19/2022	114	106	8	106			
	10/20/2022	120	110	10	110			
	10/21/2022	122	114	8	114			
	10/22/2022	124	114	10	114			
	10/23/2022	0	0	0	0			
	10/24/2022	130	120	10	120			
	10/25/2022	126	118	8	118			
	10/26/2022	120	112	8	112			
	10/27/2022	128	116	12	116			
	10/28/2022	120	110	10	110			
	10/29/2022	124	118	6	118			
	10/30/2022	0	0	0	0			
	10/31/2022	126	118	8	118			
	TOTAL IN (KG)	3156	2936	220	2936			
	AVERAGE	101.8064516	94.70967742	7.096774194	94.70967742			

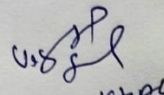
  
 (Vishal Sharma)  
 Incharge of the Botany Dept.  
 Govt. College for Girls  
 Sector-11, Chandigarh

MUNICIPAL CORPORATION CHANDIGARH MONTHLY LOGBOOK FOR BULK WASTE GENERATORS								
Month, Year	Ward Number	Ward Name	Area Name	Name of BWG	Full Address	Name of in-charge of the BWG	Mobile No. of the incharge	Type of on-site processing facility
Nov-22	13	13	PGGC Girls College	PGGC Girls College	PGGC Girls College Sector-11	Prof. Dr. Vishal Sharma	8219747409	Machinery composting
	DATE	TOTAL WASTE GENERATED	WET WASTE	DRY WASTE	WET WASTE PROCESSED THROUGH COMPOSTING			
	11/1/2022	110	102	8	102			
	11/2/2022	116	110	6	110			
	11/3/2022	114	108	6	108			
	11/4/2022	118	108	10	108			
	11/5/2022	110	104	6	104			
	11/6/2022	0	0	0	0			
	11/7/2022	118	110	8	110			
	11/8/2022	112	104	8	104			
	11/9/2022	114	18	96	18			
	11/10/2022	118	108	10	108			
	11/11/2022	116	110	6	110			
	11/12/2022	110	104	6	104			
	11/13/2022	0	0	120	0			
	11/14/2022	120	110	4	110			
	11/15/2022	114	106	4	106			
	11/16/2022	110	104	8	104			
	11/17/2022	112	104	12	104			
	11/18/2022	116	108	9C1	108			
	11/19/2022	1089	102	20	102			
	11/20/2022	0	0	118	0			
	11/21/2022	122	110	6	110			
	11/22/2022	118	110	8	110			
	11/23/2022	116	108	6	108			
	11/24/2022	118	108	4	108			
	11/25/2022	114	106	106	106			
	11/26/2022	112	106	16	106			
	11/27/2022	0	0	0	0			
	11/28/2022	122	110	0	110			
	11/29/2022	120	110	10	110			
	11/30/2022	118	110	8	110			
	TOTAL IN (KG)	3977	2698	1601	2698			
	AVERAGE	132.5666667	89.93333333	53.36666667	89.93333333			

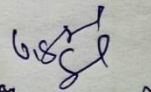
  
 (Vishal Sharma)  
 Incharge of the Botany Dept.  
 Govt. College for Girls  
 Sector-11, Chandigarh



MUNICIPAL CORPORATION CHANDIGARH MONTHLY LOGBOOK FOR BULK WASTE GENERATORS								
Month, Year	Ward Number	Ward Name	Area Name	Name of BWG	Full Address	Name of in-charge of the BWG	Mobile No. of the incharge	Type of on-site processing facility
Dec-22	13	13	PGGC Girls College	PGGC Girls College	PGGC Girls College Sector-11	Prof. Dr. Vishal Sharma	8219747409	Machinery composting
	DATE	TOTAL WASTE GENERATED	WET WASTE	DRY WASTE	WET WASTE PROCESSED THROUGH COMPOSTING			
	12/1/2022	140	128	12	128			
	12/2/2022	122	114	8	114			
	12/3/2022	120	110	10	110			
	12/4/2022	0	0	0	0			
	12/5/2022	118	110	8	110			
	12/6/2022	128	110	10	110			
	12/7/2022	130	118	8	118			
	12/8/2022	122	122	10	122			
	12/9/2022	124	114	10	114			
	12/10/2022	120	112	8	112			
	12/11/2022	0	0	0	0			
	12/12/2022	124	114	10	114			
	12/13/2022	118	108	10	108			
	12/14/2022	128	120	8	120			
	12/15/2022	126	116	10	116			
	12/16/2022	130	120	10	120			
	12/17/2022	122	112	10	112			
	12/18/2022	0	0	0	0			
	12/19/2022	132	120	12	120			
	12/20/2022	128	120	8	120			
	12/21/2022	130	122	8	122			
	12/22/2022	120	110	10	110			
	12/23/2022	126	110	16	110			
	12/24/2022	130	120	10	120			
	12/25/2022	0	0	0	0			
	12/26/2022	138	128	10	128			
	12/27/2022	128	118	10	118			
	12/28/2022	120	108	12	108			
	12/29/2022	118	110	8	110			
	12/30/2022	128	120	8	120			
	12/31/2022	130	120	10	120			
	1/1/2023	3400	3134	264	3134			
	1/2/2023	109.6774194	101.0967742	8.516129032	101.0967742			

  
 CD VISHAL SHARMA  
 Incharge of the Botany Dept.,  
 Govt. College for Girls  
 Sector-11, Chandigarh

MUNICIPAL CORPORATION CHANDIGARH MONTHLY LOGBOOK FOR BULK WASTE GENERATORS								
Month, Year	Ward Number	Ward Name	Area Name	Name of BWG	Full Address	Name of in-charge of the BWG	Mobile No. of the incharge	Type of on-site processing facility
Jan-23	13	13	PGGC Girls College	PGGC Girls College	PGGC Girls College Sector-11	Prof. Dr. Vishal Sharma	8219747409	Machinery composting
	DATE	TOTAL WASTE GENERATED	WET WASTE	DRY WASTE	WET WASTE PROCESSED THROUGH COMPOSTING			
	1/1/2023	0	0	0	0	Sunday		
	1/2/2023	126	118	8	118			
	1/3/2023	128	118	10	118			
	1/4/2023	124	114	10	114			
	1/5/2023	120	110	10	110			
	1/6/2023	128	120	8	120			
	1/7/2023	124	112	12	112	Sunday		
	1/8/2023	0	0	0	0			
	1/9/2023	130	118	12	118			
	1/10/2023	120	108	12	108			
	1/11/2023	124	116	8	116			
	1/12/2023	118	110	8	110			
	1/13/2023	122	114	8	114			
	1/14/2023	128	120	8	120	Sunday		
	1/15/2023	0	0	0	0			
	1/16/2023	130	120	10	120			
	1/17/2023	126	118	8	118			
	1/18/2023	124	118	6	118			
	1/19/2023	118	110	8	110			
	1/20/2023	120	116	4	116			
	1/21/2023	126	114	12	114			
	1/22/2023	0	0	0	0			
	1/23/2023	132	122	10	122			
	1/24/2023	124	114	10	114			
	1/25/2023	126	118	8	118			
	1/26/2023	122	112	10	112			
	1/27/2023	128	112	16	112			
	1/28/2023	120	109	11	109			
	1/29/2023	0	0	0	0			
	1/30/2023	130	120	10	120			
	1/31/2023	124	116	8	116			
	TOTAL IN (KG)	3242	2997	237	2997			
	AVERAGE	108.0666667	99.9	7.6	99.9			

  
 CD VISHAL SHARMA  
 Incharge of the Botany Dept.,  
 Govt. College for Girls  
 Sector-11, Chandigarh



MUNICIPAL CORPORATION CHANDIGARH MONTHLY LOGBOOK FOR BULK WASTE GENERATORS								
Month, Year	Ward Number	Ward Name	Area Name	Name of BWG	Full Address	Name of in-charge of the BWG	Mobile No. of the incharge	Type of on-site processing facility
Feb-23	13	13	PGGC Girls College	PGGC Girls College	PGGC Girls College Sector-11	Prof. Dr. Vishal Sharma	8219747409	Machinery composting
	DATE	TOTAL WASTE GENERATED	WET WASTE	DRY WASTE	WET WASTE PROCESSED THROUGH COMPOSTING			
	2/1/2023	0	0	0	0			
	2/2/2023	123	121	3	121			
	2/3/2023	125	123	2	123			
	2/4/2023	126	118	9	118			
	2/5/2023	122	112	11	112			
	2/6/2023	129	123	7	123			
	2/7/2023	125	110	16	110			
	2/8/2023	0	0	0	0			
	2/9/2023	132	119	13	119			
	2/10/2023	123	112	12	112			
	2/11/2023	121	118	4	118			
	2/12/2023	119	109	11	109			
	2/13/2023	124	115	8	115			
	2/14/2023	131	123	9	123			
	2/15/2023	0	0	0	0			
	2/16/2023	132	119	14	119			
	2/17/2023	128	117	12	117			
	2/18/2023	127	119	9	119			
	2/19/2023	119	109	14	109			
	2/20/2023	125	114	12	114			
	2/21/2023	129	112	16	112			
	2/22/2023	0	0	0	0			
	2/23/2023	131	123	9	123			
	2/24/2023	128	115	12	115			
	2/25/2023	129	121	9	121			
	2/26/2023	121	114	6	114			
	2/27/2023	131	115	15	115			
	2/28/2023	123	111	13	111			
	TOTAL IN (KG)	3023	2792	246	2792			
	AVERAGE	100.7666667	93.0666667	8.2	93.0666667			

VSSP  
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 C Dr Vishal  
 SHARMA  
 Incharge of the Botany Deptt.  
 Govt. College for Girls  
 Sector-11, Chandigarh

MUNICIPAL CORPORATION CHANDIGARH MONTHLY LOGBOOK FOR BULK WASTE GENERATORS								
Month, Year	Ward Number	Ward Name	Area Name	Name of BWG	Full Address	Name of in-charge of the BWG	Mobile No. of the incharge	Type of on-site processing facility
Mar-23	13	13	PGGC Girls College	PGGC Girls College	PGGC Girls College Sector-11	Prof. Dr. Vishal Sharma	8219717409	Machinery composting
	DATE	TOTAL WASTE GENERATED	WET WASTE	DRY WASTE	WET WASTE PROCESSED THROUGH COMPOSTING			
	3/1/2023	122	112	10	112			
	3/2/2023	124	110	14	110			
	3/3/2023	126	118	8	118			
	3/4/2023	130	128	12	128			
	3/5/2023	0	0	0	0			
	3/6/2023	140	110	12	110			
	3/7/2023	120	118	10	118			
	3/8/2023	128	112	10	112			
	3/9/2023	122	118	10	118			
	3/10/2023	126	120	8	120			
	3/11/2023	130	122	10	122			
	3/12/2023	0	0	0	0			
	3/13/2023	132	122	10	122			
	3/14/2023	120	119	9	119			
	3/15/2023	126	108	12	108			
	3/16/2023	124	114	12	114			
	3/17/2023	122	114	10	114			
	3/18/2023	132	112	10	112			
	3/19/2023	0	0	0	0			
	3/20/2023	120	118	14	118			
	3/21/2023	124	112	8	112			
	3/22/2023	126	118	10	118			
	3/23/2023	128	114	10	114			
	3/24/2023	130	118	8	118			
	3/25/2023	120	120	8	120			
	3/26/2023	0	0	0	0			
	3/27/2023	130	118	12	118			
	3/28/2023	120	108	12	108			
	3/29/2023	128	120	8	120			
	3/30/2023	124	114	10	114			
	31.03.2023	126	116	10	116			
	TOTAL IN (KG)	3028	2795	243	2795			
	AVERAGE	100.9333333	93.1666667	8.1	93.1666667			

VSSP  
 C Dr Vishal  
 SHARMA  
 Incharge of the Botany Deptt.  
 Govt. College for Girls  
 Sector-11, Chandigarh



MUNICIPAL CORPORATION CHANDIGARH MONTHLY LOGBOOK FOR BULK WASTE GENERATORS								
Month, Year	Ward Number	Ward Name	Area Name	Name of BWG	Full Address	Name of in-charge of the BWG	Mobile No. of the incharge	Type of on-site processing facility
Apr-23	13	13	PGGC Girls College	PGGC Girls College	PGGC Girls College Sector-11	Prof. Dr. Vishal Sharma	8219747409	Machinery composting
	DATE	TOTAL WASTE GENERATED	WET WASTE	DRY WASTE	WET WASTE PROCESSED THROUGH COMPOSTING			
	4/1/2023	122	112	10	112			
	4/2/2023	124	110	14	110			
	4/3/2023	126	118	8	118			
	4/4/2023	130	118	12	118			
	4/5/2023	0	0	0	0			
	4/6/2023	140	128	12	128			
	4/7/2023	120	110	10	110			
	4/8/2023	128	118	10	118			
	4/9/2023	122	112	10	112			
	4/10/2023	126	118	8	118			
	4/11/2023	130	120	10	120			
	4/12/2023	0	0	0	0			
	4/13/2023	132	122	10	122			
	4/14/2023	128	119	9	119			
	4/15/2023	120	108	12	108			
	4/16/2023	126	114	12	114			
	4/17/2023	124	114	10	114			
	4/18/2023	132	112	10	112			
	4/19/2023	0	0	0	0			
	4/20/2023	132	118	14	118			
	4/21/2023	120	112	8	112			
	4/22/2023	128	118	10	118			
	4/23/2023	124	114	10	114			
	4/24/2023	126	118	8	118			
	4/25/2023	128	120	8	120			
	4/26/2023	0	0	0	0			
	4/27/2023	130	118	12	118			
	4/28/2023	120	108	12	108			
	4/29/2023	128	120	8	120			
	4/30/2023	124	114	10	114			
	TOTAL IN (KG)	3044	2791	243	2791			
	AVERAGE	101.4666667	93.03333333	8.1	93.03333333			

CS62P  
(Dr. Vishal Sharma)

Incharge of the Botany Deptt.  
Govt. College for Girls  
Sector-11, Chandigarh

MUNICIPAL CORPORATION CHANDIGARH MONTHLY LOGBOOK FOR BULK WASTE GENERATORS								
Month, Year	Ward Number	Ward Name	Area Name	Name of BWG	Full Address	Name of in-charge of the BWG	Mobile No. of the incharge	Type of on-site processing facility
May-23	13	13	PGGCG-11 Chd.	PGGCG-11 Chd.	PGGCG-11 Chd.	Dr. Anurita Sharma	9463743007	Machinery composting
	DATE	TOTAL WASTE GENERATED	WET WASTE	DRY WASTE	WET WASTE PROCESSED THROUGH COMPOSTING			
	01-05-2023	134	125	9	125			
	02-05-2023	140	127	13	127			
	03-05-2023	120	112	8	112			
	04-05-2023	133	118	15	118			
	05-05-2023	178	165	13	165			
	06-05-2023	0	0	0	0			
	07-05-2023	120	110	10	110			
	08-05-2023	128	118	10	118			
	09-05-2023	122	112	10	112			
	10-05-2023	126	118	8	118			
	11-05-2023	130	120	10	120			
	12-05-2023	127	127	0	127			
	13-05-2023	0	0	0	0			
	14-05-2023	128	119	9	119			
	15-05-2023	125	108	17	108			
	16-05-2023	132	114	18	114			
	17-05-2023	127	114	13	114			
	18-05-2023	121	112	9	112			
	19-05-2023	0	0	0	0			
	20-05-2023	132	118	14	118			
	21-05-2023	120	112	8	112			
	22-05-2023	0	0	0	0			
	23-05-2023	127	115	12	115			
	24-05-2023	126	118	8	118			
	25-05-2023	128	120	8	120			
	26-05-2023	0	0	0	0			
	27-05-2023	124	112	12	112			
	28-05-2023	126	110	16	110			
	29-05-2023	126	118	8	118			
	30-05-2023	128	118	10	118			
	31-05-2023	174	165	9	165			
	TOTAL IN (KG)	3402	3125	277	3125			
	AVERAGE	113.4	104.1666667	9.233333333	104.1666667			

Anurita  
Incharge of the Botany Deptt.  
Govt. College for Girls  
Sector-11, Chandigarh

Dr. Anurita  
Dr. Anurita Jakkal  
Dr. Shikha Sharma



#### Topic 4: Vermi Composting

**PGGCG-11, Chandigarh** is carrying out vermicomposting in four pits below ground level inoculated with red earthworms (*Eisenia fetida*). The entire leaf litter of the college is periodically being added to the pits (10x3x2 feet) along with farm yard manure (FYM). Cow dung and chopped dried leafy materials are mixed in the proportion of 1:1 and are kept for partial decomposition for 15 – 20 days. A layer of 20cm of chopped dried leaves/grasses is kept as bedding material at the bottom of the bed and middle layer 10 cm of cow dung. Red earthworm (1500-2000) is released on the upper layer of bed. Bed is kept moist by sprinkling of water (daily), and it should be turned once after 30 days for maintaining aeration and for proper decomposition. Compost gets ready in 60 days. The finished product is 40-50% of the raw materials. Every 2-3 months the black and granular vermi-compost is being harvested, sieved, graded and utilized



Picture showing a view of vermicomposting unit



## Total Greenery of the campus (PGGCG-11, CHD)

Total Area of Campus: 1521600 Sq.ft.

Covered Area (Building Area): 603485.88 Sq.ft. (39.66%)

Total Green Area = 918114.12 Sq.ft (60.34%)

Water Harvesting Area = 21666.5 Sq.ft.

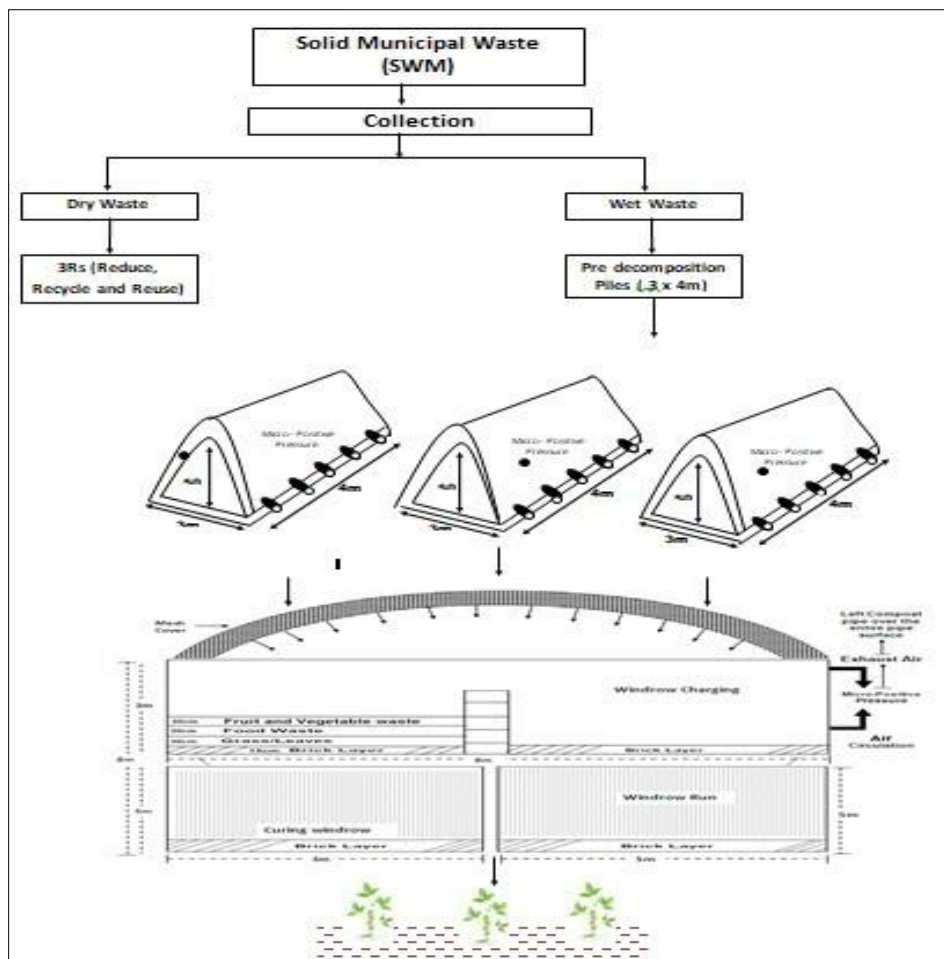
Windrow Composting Plant and Bioreactor = 1496 Sq.ft.

Vermicomposting = 344.4 Sq.ft.

Total Area for Greenery and Environment Services including Water Harvesting, Windrow Composting plant and Bioreactor =  $918114.82 + 21666.5 + 1496 + 344.4 = 941621.02$  Sq.ft.

Percentage of Greenery and Environment Services including Water Harvesting, Windrow Composting plant and Bioreactor =  $941621.72 / 1521600 \times 100 = 61.88\%$

Basal Tree cover Area = 504962.77 (55%)



(i) Layout of Windrow plant



## **Topic 5: Audit of Campus Green Infrastructure, site planning and layout**

**POST GRADUATE GOVERNMENT COLLEGE FOR GIRLS, SECOR 11, CHANDIGARH**

### **RAIN WATER HARVESTING UNIT**



**FILTRATION TANK**

(35 ft x 11.5 ft x 6 ft)



**RAINWATER TRAP UNIT**

(3 ft x 3 ft x 3 ft)

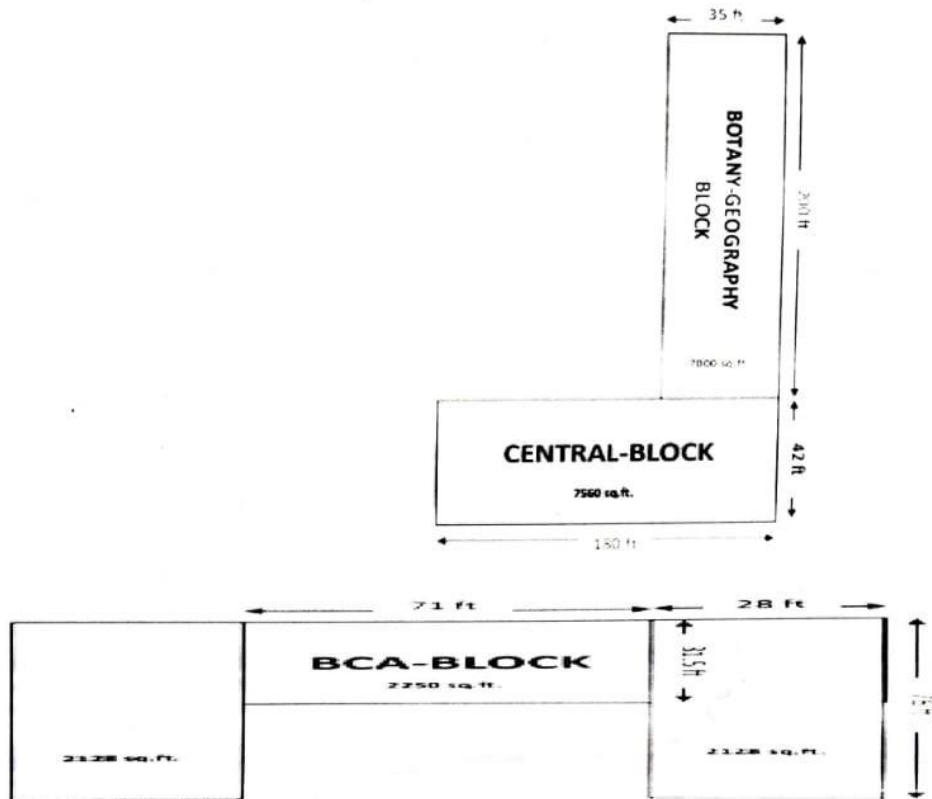
#### **Total roof top area for rain water harvesting**

Botany Geography Block:	7000 sq. ft.
Central Block:	7560 sq. ft.
BCA Block:	6506 sq. ft.
<b>TOTAL AREA:</b>	<b>21,066 sq. ft.</b>

**Total rainwater trap units connected to above said rooftop area: 22**



# **Rain Water Harvesting UNIT** **Roof Top Measurements in Blocks**



## **(iii) Solar Grid System**



u6r

*Maudhat*

Principal  
 Post. Graduate Govt. College for Girls  
 C. P. 11, Chandigarh



## **BIRD MAPPING AT POST GRADUATE GOVT. COLLEGE FOR GIRLS, SECTOR-11, CHANDIGARH**

Birds are sensitive indicators of biological richness and environmental trends and fulfil many key ecological functions; they contribute to our understanding of natural processes; they are an important economic resource; and they have inspired and delighted people of many cultures for centuries, which makes them excellent ambassadors for the promotion of conservation awareness and international collaboration. Birds play an essential role in the functioning of the world's ecosystems causing a direct impact on human health, economy and food production. They occupy many levels of trophic webs, from mid-level consumers to top predators. Birds help to maintain sustainable population levels of their prey and predator species and, after death, provide food for scavengers and decomposers. Many birds are important in plant reproduction through their services as pollinators or seed dispersers. Post Graduate Govt College for Girls, Sector-11, organised a bird watching activity under the supervision of Dr. Umesh Bharti, Department of Zoology to familiarise the students of MSc Zoology with the habits and day today activities of birds visiting the campus of college. They recorded the following birds in the campus in the month of October. Every month the record will be made.

### **1. Common name– Grey bellied cuckoo**

Scientific name-*Cacomantis passerinus*

Classification-:

Kingdom- Animalia

Phylum- Chordata

Class- Aves

Order- Cuculiformes

Family- Cuculidae

Genus- Cacomantis

Species- C. passerinus



Location- found near hostel -4 in PGGCG-11, Chandigarh (Submitted by –Shreya Sharma; Msc zoology ; Roll no- 62748)

Habits and habitat – the species prefer light woodland and cultivated areas. This species breeds in tropical southern Asia from India and Sri Lanka to South China and Indonesia.



- Comments- .One of smaller cuckoos, a total length of 23 cm.
- White patches are present on wings.
- Adults are mainly grey with white lower belly and undertail.
- Some females are dark brown in color.
- The juveniles resembles female but is of duller colour.
- They show brood parasitism.

Diet- feeds on variety of insects and caterpillar. They produce a sound pee- pip-pee- pee... ..

## 2. Common name: Common ground dove

Scientific name: *Columbina passerina*

Classification:

Kingdom:Animalia

Phylum:Chordata

Class: Aves

Order:Columbiformes

Family:Columbidae

Genus:Columbina



Location in college: Near cafe shop of college on wires. Time: Around 2:40 pm (By: Meenakshi MSc-1st zoology, Roll No 62740)

Habits:

- . It feeds predominantly on tiny seeds of grasses, weeds and crop milk.
- . It breeds nearly year round but breeding appears to peak in response to resource availability.
- . It has a less tendency to form flocks and appears to have a relatively limited repertoire of social behaviours.
- . It builds flimsy nests and lay 2 eggs.
- . Nestlings have rapid growth rates and can fly as early as 11 days post hatching.



### 3. Common name– Grey bellied cuckoo

Scientific name-*Cacomantis passerinus*

Classification-: Kingdom- Animalia

Phylum- Chordata

Class- Aves

Order- Cuculiformes

Family- Cuculidae

Genus- Cacomantis

Species- C. passerinus



Location- found near hostel -4 in PGGCG-11 , chandigarh (Submitted by –Sukhmeen Kaur ; Msc zoology ; Rollno- 62749)

Habits and habitat – the species prefer light woodland and cultivated areas. This species breeds in tropical southern Asia from India and Sri Lanka to South China and Indonesia.

- Comments- .One of smaller cuckoos, a total length of 23 cm.
- White patches are present on wings.
- Adults are mainly grey with white lower belly and undertail.
- Some females are dark brown in color.
- The juveniles resemble female but is of duller colour.
- They show brood parasitism.

Diet- feeds on variety of insects and caterpillar and they produce a sound pee- pip-pee- pee...

### 4. Common Name: Indian rose ringed parakeet

Scientific Name: *Psittacula krameri*

Classification:

Kingdom: Animalia



Phylum: Chordata

Class: Aves

Order: Psittaciformes

Family: Psittaculidae

Genus: Psittacula

Species: P. krameri

Location in the College: Near main gate of college  
(Anjali, Roll no. – 62735, MSc. Zoology 1<sup>st</sup> year)



Time: around 9:00 am

Habits: 1) Usually feed on buds, fruits, vegetables, nuts, berries, and seeds.

2) Breeding season: These parrots typically breed between February and March.

3) Nesting Cavities: Old holes previously excavated by woodpeckers or barbets work well for these medium sized birds.

4) Egg Laying: Females lay an average clutch of between two and six small, whitish eggs. For the three weeks after laying, she incubates her eggs. Parental care is done by both father and mother.

5) They are herbivorous and non migratory species.

6) Both males and females have the ability to mimic human speech

## 5. Common Name: Red Wattled Lapwing

Classification:

Kingdom: Animalia

Phylum: Chordata

Class: Aves

Order: Charadriiformes

Family: Charadriidae

Genus: Vanellus

Species: indicus





LOCATION: College Playground, near stage, PGGCG 11(Devyani Sharma, M. Sc Zoology I 62737)

HABIT AND HABITAT: Usually keeps in pairs or trios in well watered open country, ploughed fields, grazing land and margins

Occasionally form large flocks ranging from 26 to 200 birds.

COMMENTS:

- Measures 30 to 35 cms in length and weighs 110 to 230 grams. Wingspan: 80 to 85 cms.
- A prominent white patch runs from the sides of the crown to the flanks along the sides of the neck.
- Bill is reddish with black tip.
- Male and female are similar in plumage.
- Diet: Consists mainly of insects, Beetles, ants, termites, butterflies, small gastropods. Also feed on seeds, grains and other plant matter.
- Reproduction: Breeding season is from March to September ( In India)

These are monogamous and highly territorial. Prefer nesting sites close to water.

Both of the pair takes part in nest building, incubation and care of chicks. The chicks hatch out in about 25 days.

#### 6. Common Name: Teetar or Bhoora Teetar

Classification:

Kingdom: Animalia

Phylum: Chordata

Class: Aves

Order: Galliformes

Family: Phasianidae

Genus: Francolinus

Species: pondicerianus





LOCATION IN PGGCG 11 - Near parking, Beside compost pit. TIME (2:20 pm) by Sunil (62751)

- Grayish brown game birds with short stubbed tail. Usually seen in small groups
- Males are larger than females and have an anchor shaped black mark on throat.
- Resident in drier areas mostly plains throughout India upto about 1500ft. in the Himalayas.
- Normally found foraging on bare or low grass covered ground in shrubs.
- Feed on seeds, grains, insects particularly termites and beetles.
- Fast runners. They take to wing only when surprised in bushes.
- Average life span is 8 years

#### 7. Common Name – Yellow footed green pigeon

Zoological Name – *Treron phoenicoptera*

#### CLASSIFICATION:

Kingdom – Animalia

Phylum – Chordata

Class – Aves

Order – Columbiformes

Family – Columbidae

Genus – Treron

Species-T.phoenicoptera

Location- In garden backside of hostel number 4, PGGCG-11(Timing-5:30pm) (Pallavi Sharma

Roll number-62743)

#### Habit and habitat

- They prefer semi evergreen forests, deciduous forest, wooded habitats and secondary forests up to 800 meter. They commonly found in road side trees particularly Banyan and Peepal trees. Also visits gardens even inside towns.





- They also found in a wide range of wooded habitats including dry and moist deciduous forest, secondary growth, scrubland, groves of trees in open country, agricultural land, villages, overgrown gardens and tree lined roads.
- They are social birds. They found in pairs or small groups (up to 5 to 10 Individuals) and sometime large groups. They are gregarious and arboreal, only rarely descending to the ground.
- The flight is noisy, swift, strong, and direct, and the call is a series of about ten beautiful, mellow, musical whistles, which usually give the first indication of their presence in a locality.
- Yellow footed green pigeons are herbivores. They feed on various fruits, berries and crops. They also feed on buds, shoots and various grains.
- They forage in flocks. In the early morning they are often seen on the tops of emergent trees in dense forest areas. At the time of resting, they often perch on the highest branches of a tall tree in pairs or small groups.

#### 8. Common name- Sath Bhai

Scientific name—*Argya striata*

Classification

Kingdom - Animalia

Phylum - Chordata

Class - Aves

Order - Passeriformes

Family -Leiothrichidae

Genus - *Argya*

Species –*A. straiata*

Location- On roof of tuck shop;Time – 2:15 pm (Deepti Siwach Roll no. – 62736)

Habits

- These are gregarious and social.
- These feed mainly on insects but also eat grains, nectar and berrirs.
- They are long lived and have been noted to live as long as 16.5 years in capitivity.





- Young birds have a dark iris. Older birds have a pale creamy colour iris.
- These breed throughout the year. Peak breeding is noted between March- April and July – September.
- These lay 3-4 eggs ( can be 7) and are deep grey in colour.

#### 9. **Common name: Indian myna**

Scientific name : *Acridotheres tristis*

Classification

Kingdom : Animalia

Phylum. : Chordata

Class : Aves

Order. : Passeriformes

Family. : Sturnidae

Genus. : *Acridotheres*

Species. : *Tristis*



Location in college : hostel entrance gate Time : 2:30 pm (Deepti Siwach Roll no. – 62736)

- The common myna is brown with a black head .It has a yellow bill, legs and brown eye skin.
- Habitat: it is closely associated with human habitation
- They are accomplished scavengers , feeding on almost anything, including insects , fruits and vegetables, scraps and even fledging sparrows.
- They mate for life and compete for nesting sites. Favoured location are walls , ceilings of buildings ,tree hollows etc.

#### 10. **COMMON NAME : Common Pigeon/ Rock Dove**

SCIENTIFIC NAME : *Columba livia*

\*CLASSIFICATION :

Kingdom - Animalia

Phylum - Chordata

Class - Aves

Order - Columbiformes

Family - Columbidae

Genus– *Columba*





LOCATION : Hostel number 4 window ledge PGGCG-11 (PRACHI GUPTA, Roll No. – 12957)

HABITAT : Has a restricted natural resident range in Western and Southern Europe, North Africa and South Asia. Naturally occur on cliffs, usually on coasts but also found on artificial cliff faces created by apartment buildings.

HABITS:

- Often found in pairs during the breeding season but usually gregarious.
- They are generally monogamous with two young/ squabs per brood.
- Feed on the ground in flocks/ individually.
- They are scavengers.
- Two prominent black bars distinctive on its pale grey wings.
- When disturbed, a pigeon in group will take off with a noisy clapping sound that is a cue for others in the flock to take flight.
- They are able to dip their bills into water and drink continuously without having to tilt their heads back like in most birds.
- Best in flimsy platform of straw and sticks, often laid on window ledges of buildings.
- Breed at anytime of the year but peak times are spring and summer.

11. Common Name: **Pigeon; Dove; white rock dove**

SCIENTIFIC NAME: - *Columba livia*

CLASSIFICATION

KINGDOM – Animalia

PHYLUM - Chordata

CLASS - Aves

ORDER - Columbiformes

GENUS - Columba



LOCATION IN PGGCG -11- Near parking, TIME 12:45PM (Devyani Sharma, M. Sc Zoology I 62737)

HABITS :

- Small pigeon {7.6 to 8.4 inches}
- Found in pairs, groups, flocks
- Fly in rapid, undulating motion



Breeding occur from October and January; March and June

**12. Common Name: Lesser Golden-backed Woodpecker**

SCIENTIFIC NAME: - *Dinopium benghalense*

**CLASSIFICATION**

KINGDOM – Animalia

PHYLUM - Chordata

CLASS - Aves

ORDER - Piciformes

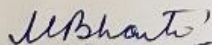
GENUS - *Dinopium*

LOCATION IN PGGCG -11- On trees backside of  
hostel number 4, PGGCG-11(Timing-5:30pm)  
(Pallavi Sharma, Roll number-62743)



**HABITS:**

- Most woodpeckers live solitary lives
- Aggressive behaviors include bill pointing and jabbing, head shaking, wing flicking, chasing, drumming, and vocalizations.
- Woodpeckers are diurnal, roosting at night inside holes and crevices.
- Most woodpecker species feed on insects and other invertebrates living under bark and in wood, but overall, the family is characterized by its dietary flexibility, with many species being both highly omnivorous and opportunistic.
- They nest in cavities, nearly always in the trunks and branches of trees, well away from the foliage. Breeds in late-May or early June to mid-May.

  
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