



2022-23

Green Audit



CMP Degree College, Prayagraj



CRITERION 7 – INSTITUTIONAL VALUES AND BEST PRACTICES

KEYINDICATOR-7.1 INSTITUTIONAL VALUES AND SOCIAL RESPONSIBILITIES

Metric No. 7.1.3 QnM: Quality audits on environment and energy regularly undertaken by the Institution. The institutional environment and energy initiatives are confirmed through the following

INTERNAL GREEN AUDIT



2022-2023



QnM 7.1.3 -Quality audits on environment and energy regularly undertaken by the institution. The institutional environment and energy initiatives are confirmed through the following:

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ZERTIFIKAT • شهادة • CERTIFIKAT • CERTIFICATE • SERTIFIKA

Certificate of Registration



This is to certify that the Environmental Management System of

C.M.P. DEGREE COLLEGE

(A CONSTITUENT P.G. COLLEGE, UNIVERSITY OF ALLAHABAD)
 MAHATMA GANDHI MARG, GEORGE TOWN, PRAYAGRAJ- 211002
 UTTAR PRADESH, INDIA

has been successfully assessed &
 conforms with the following standard

ISO 14001:2015

Scope of Certification

PROVISION OF EDUCATIONAL SERVICES FOR GRADUATION, POST GRADUATION AND Ph.D. PROGRAMS IN ARTS, SCIENCE, COMMERCE, LAW AND COMPUTER SCIENCE & APPLICATIONS, CERTIFICATE AND DIPLOMA IN DIFFERENT SHORT-TERM SKILL DEVELOPMENT, PERSONALITY DEVELOPMENT, WATER, ENVIRONMENTAL AND ENERGY LITERACY COURSES, APPROVED UNDER SCHEDULED CRITERIA OF UGC AND BCI

Certificate No. : CMP/EMS/A24/1624
 Initial Registration Date : 15.01.2024
 Issue Date : 15.01.2024
 Surveillance 1 Audit Date : 15.12.2024
 Surveillance 2 Audit Date : 15.12.2025
 Re-Certification Due on : 15.12.2026
 Date of Expiry : 14.01.2027


 Signature of Director



Accreditation No.: CB-MS-2808
 (Accredited by United Accreditation Foundation (UAF),
 400 North Center DR, STE 202, Norfolk, VA 23502, United States of America)
 To Check Certification Status:
www.saaracertification.com & www.uafaccreditation.org



SAARA MANAGEMENT SYSTEM PRIVATE LIMITED
 F-7, Top Floor, Main Road, Kalkaji, New Delhi-110019, India
 E-mail: saaramsp@gmail.com Website: www.saaracertification.com

The validity of certificate is subject to regular surveillance audit on or before above mentioned dates and its only valid after successful surveillance with continuation letter issued by SMSPL. It is issued subject to the continued availability of access at any time and without notice to the above named organization's premises for the purpose of assessment and surveillance regarding the standard named above and SMSPL terms and conditions. The certificate is the property of SMSPL and shall be returned immediately when demanded.



The policy goals of the CMP College Green Audit are:

1. Identification and documentation of the strengths and areas of improvement within sustainable operations of administrative, academic and research laboratories via gap analysis, and outlining actions that can be implemented to further targets.
2. Increase environmental awareness throughout campus and motivate all stakeholders for optimized sustainable use of available resources.
3. The importance of the program is to collect baseline data of environmental parameters and resolve the environmental issue before they become a problem.

To achieve the aforementioned goals, CMP Green Audit Committee endeavors towards the following objectives:

- To identify current and emerging environmental issues.
- To monitor environmental management practices.
- To examine the current practices that can impact the environment.
- To create awareness among the various stakeholders of the College.
- To prepare a Green Audit Report on green practices followed by different Departments, support services, and administration.

METHODOLOGY ADOPTED

The methodology adopted to conduct the Green Audit of CMP College will have the following components:

1. Onsite field visits were conducted by the Green Audit Team as and when necessary.
2. Enquiries were conducted amongst different stakeholders to know about the various components in connection with water use, energy consumption and waste disposal, etc.
3. The water quality analysis was done using standard protocols.
4. Different standard protocols were followed to document and estimate the floral and faunal account.

1. Water Audit

Water is an important natural resource and is available naturally depending on the climate and topographic features. All organisms are dependent on water for their living. Although water is available in nature, portable water is not available freely for human consumption. There have been many practices to conserve water so that it can be readily available for human use. It has been noticed that due to unsustainable use of water resources there is contamination and depletion of the groundwater and also water which is available in various reservoirs like lakes,



ponds, streams etc which is becoming more alarming. Therefore, it becomes increasingly important to conserve protect and manage the water resources availability and usage so that it is sustainably used within the College campus. Water auditing is conducted to evaluate the quality, availability and usage of water; the facilities available and methods adopted to revitalize and use it so that the resources are intact without leading to deterioration.

Table 1: Source and uses of water in the CMP campus

Source of water		
Sl. No	Parameters	Information
1	No of Wells	Nil
2	No of the motors used	05
3	Horsepower- motor	13 HP X 5
4	Depth of well- Total	Nil
5	Capacity of Tank (Total)	19000L
Quantity of water used in different sections of the Campus		
6	Sections	Water use (L/day)
7	Hostel	00
8	Resident quarter	00
9	Administrative block	500
10	Construction work	00
11	Canteen	500
12	Urinals and Toilets	1000
13	Departments	2000
14	Gardens	1000
15	Laboratories	500
16	Drinking	500
17	Leakage	00
18	Main purposes of water use in the campus	Drinking and cooking purpose Toilets and wash areas Laboratory use Gardening Construction



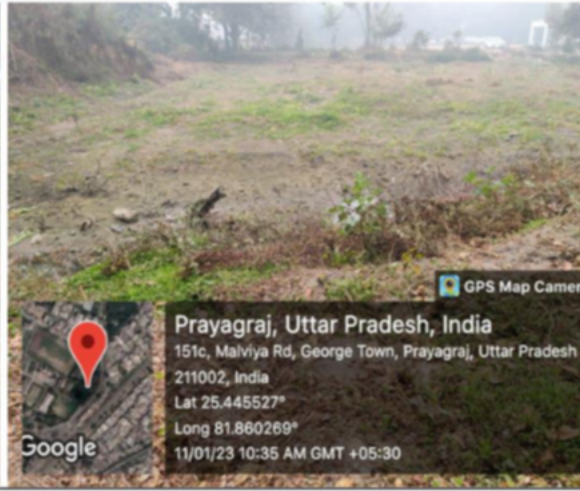
19	Nos. of water tap excluding households/ residential quarters)	Nil
20	Water cooler and drinking water filtration facility (excluding households/ residential quarters)	10
21	Nos. of urinal and toilets (excluding households/ residential quarters)	25
22	Nos. of waterless /bio-toilets	Nil
23	Any water wastage/why?	Yes, leakage from pipes and tanks, leaving of taps open at times
24	Water usage for gardening	2000L
25	Wastewater sources	leakage from pipes and tanks, Overflowing of tanks from residential qtrs., Toilets, laboratories, hostels
26	Use of wastewater	Nil
27	The fate of wastewater from labs	Discharged into a soak pit in case of contamination and natural discharge
28	Any wastewater treatment for lab water	NO
29	Whether any green chemistry method practiced in Labs	No
30	Rainwater harvesting	Rainwater harvesting is maintained by the water body within the premises which also helps in maintaining the ground water level and there is no reusable rain water which is harvested



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WATER CONSERVATION IN CMP COLLEGE



RAIN WATER HARVESTING CHAMBER IN COMMERCE DEPARTMENT





Status of Solid Waste Generation in the campus

Each and every department of CMP College as well as administrative offices create some waste and dumped in small waste bin located in the department. Each building several dust bins are placed from where housekeeping staffs take the wastes. From the small bin wastes are dumped in big bin by the housekeeping staffs regularly. As tabulated below, on an average, the hostels and teacher flats/quarters account for the highest amount of solid waste generated on the campus. On average, various stakeholders generate 50 kg of different types of solid waste per week.

Solid Waste Management

Management of solid waste is one area where all department are more-or-less aware of the issues involved. Each of these sections has appropriated their own set of solid waste management practices as per their convenience, requirements, and availability of resources. Investigations revealed that 21 Academic Departments of the college have a total of 42 numbers of indoor dustbins installed for solid-waste disposals. On an average, each of these departments has a provision of about 5 dustbins. At present none of the Departments had facility of segregating the waste.

Table 2.: Solid waste generated on the campus per Week

Sl. No.	Stakeholders	Types of solid waste	Average waste generated /week (Kg)
1.	ACADEMIC DEPARTMENT	Paper waste	5
2.		Plastic waste	1
3.		Organic Waste	Nil
4.		E-waste	1
5.	ADMINISTRATIVE OFFICE	Paper waste	6
6.		Plastic waste	2
7.		Organic Waste	3
8.		E-waste	Nil
9.	RESIDENTIAL QUARTER/HOSTELS/GUEST HOUSE	Paper waste	Nil
10.		Plastic waste	Nil
11.		Organic Waste	Nil
12.		E-waste	Nil
13.	CANTEENS	Paper waste	3
14.		Plastic waste	2
15.		Organic Waste	10
16.		E-waste	Nil
		TOTAL	33 Kg /week



Organic wastes:

The organic wastes filled in the pits are subjected to composting which forms a best practice in the campus. In addition to the organic waste generated from different units, large sources of organic wastes other than kitchen wastes (college canteen, house hold) like leave litter, terrestrial weeds etc that are generated from maintain and cleaning the campus are collected during different periods of the year. These organic wastes are hard to degrade in the soil due to high content of lignin.

Vermicomposting is the technology where with the use of locally available appropriate species of composting earthworms (*Perionyx excavates*), huge amount of plant biomass produced in the college campus is reduced into available plant nutrient rich organic manure within a short time span. Following collection of wastes from in and around the CMP College Campus, the waste resources are dumped near the vermicomposting unit (basement of car parking area). The organic wastes to be processed by earthworms are chemically analysed to know their nutrient values. All the different types of wastes are mixed thoroughly and precomposted for 2-3 weeks. After precomposting precomposed substrates are loaded in the cemented vermicomposting tanks (15' × 1' × 0.75'). Locally available earthworms, *Perionyx excavatus* are then introduced in the composting tanks. Following inoculation, the earthworms (*Perionyx excavatus*) through their feeding, burrowing and casting activities convert the organic wastes into manure called vermicompost within 45 days. Vermicompost generated in the composting unit is applied to flower garden and medicinal garden of the College for sustainable agriculture.

Liquid waste management:

Liquid waste is generated from science laboratories and canteen. Liquid wastes generated by the College are of two types: 1. Sewage waste 2. Laboratory, residential washing and canteen effluent. The laboratory liquid is sent to soak pit and other liquid wastes are mainly drained to improve the ground level of water. College do not have any sewage treatment plant yet.

Observations

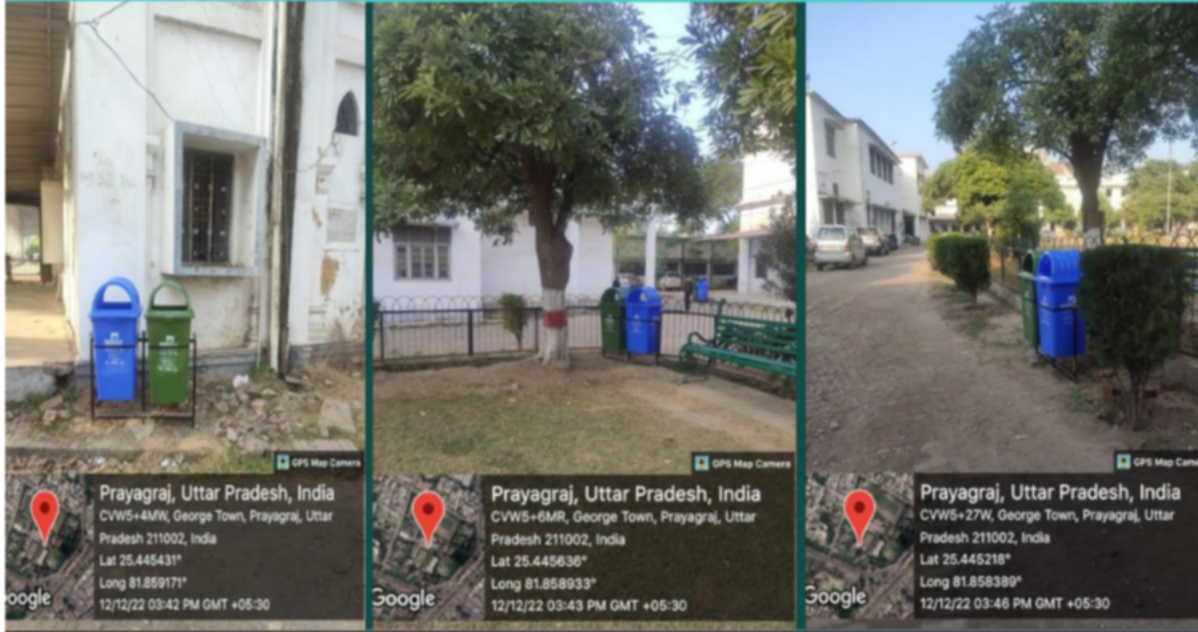
- ❖ Disposal of biomedical waste generated in the CMP laboratories is not streamlined.
- ❖ The liquid hazardous waste generated in the laboratories required transportation to off-campus disposal facility.



SOLID WASTE MANAGEMENT

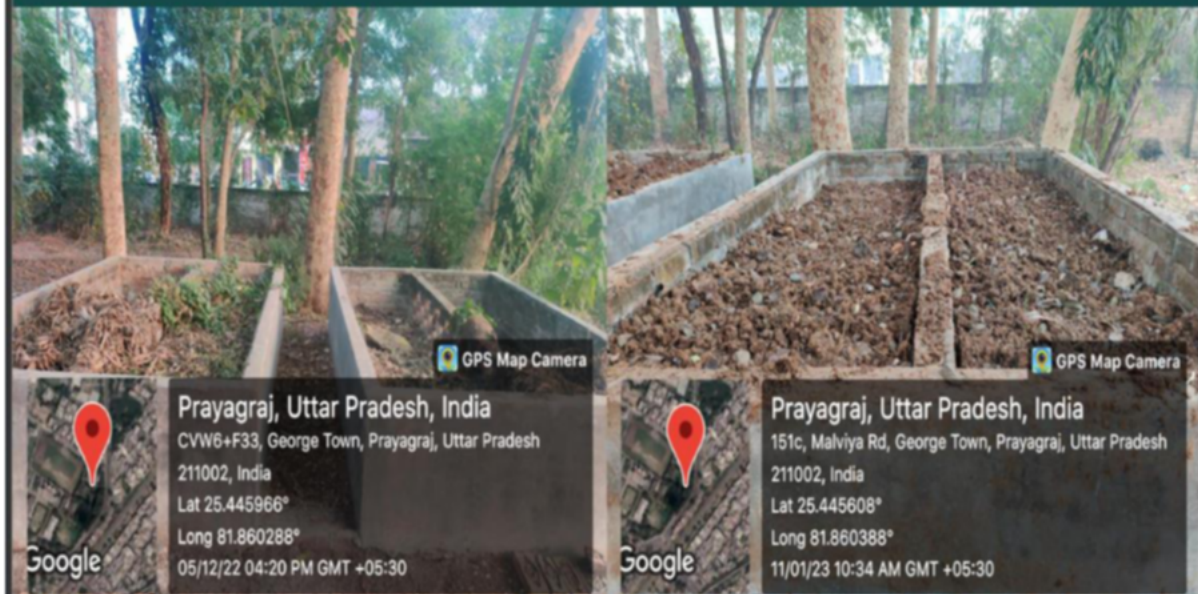
Segregating the waste

Need to label on the bins with pictorial representation of the kind of waste to be disposed of



ORGANIC WASTE MANAGEMENT

Composting & Vermicomposting





Energy audit

According to Energy Conservation Act, 2001, Energy Audit is the verification, monitoring, and analysis of the use of energy including submission of a technical report containing recommendations for improving energy efficiency with cost-benefit analysis and an action plan to reduce energy consumption. The Energy and electricity audit aimed to cover the aggregate consumption of Electrical and Natural gas energy within the CMP College campus including academic and administrative blocks. Within the campus, no other fossil fuel like coal-fire or firewood, etc based energy is used. All the buildings of the College are designed and constructed in such a way that during day time no electricity is consumed for lighting of tube lights and other electric lights. Proper day light and ventilation facilities are available for every building.

Observations

- ❖ Separate Electricity meters were not found in the, Academic, and administrative blocks.

Biodiversity of CMP College

Fauna

Biodiversity audit

Biodiversity audit of CMP College is a continuous process and efforts of the faculty members, researchers, and the students to assess the living biota and its conservation have been going on for many years. Regularly many conservation practices are taken up by the College so that anthropogenic impact on the biodiversity components and ecosystems are minimized. The scientific information and existing database are based on various studies as well as research work done by Botany and Zoology departments of CMP College. Despite various limitations, data have been compiled to prepare authentic documentation that provides an insight into the status of the biodiversity and natural ecosystem in the campus. Different conservation practices also have been applied for a better and sustainable campus ecosystem. The main objective of biodiversity audit is to provide documentation of biodiversity components within the institutional area, to observe ecosystem structures and functions along with regular biodiversity monitoring of the different components of biodiversity. A lake is located within the campus and maintained by Botany department to enrich the beauty of the campus. Earlier the lake was a small unutilized waterbody, which was later extended for irrigation purposes and a small



barrage was constructed to maintain the water level of the area. Many migratory birds are often observed and some of the fishes are available during the rainy seasons. It is also used for irrigation purposes in the nearby agriculture field and cultural services like scenic beauty. Spread over approximately 15 acres of land, the CMP College campus is home to different varieties of fauna as well as flora.

Faunal diversity

The faunal diversity under different species groups is listed in Table

Faunal diversity			
SN.	Common Name	Zoological name	Family
1.	White-throated Kingfisher	<i>Halcyon smyrnesis</i>	Alcedinidae
2.	Red-vented Bulbul	<i>Pycnonotus cafer</i>	Pycnonotidae
3.	Brain fever Bird	<i>Hierococcyx varius</i>	Cuculidae
4.	Rock Pigeon	<i>Cloumba livia</i>	Columbidae
5.	The Indian Roller	<i>Coracias benghalensis</i>	Coraciidae
6.	Indion Robin	<i>Copsychus fulicatus</i>	Muscicapidae
7.	Eurasian Hoopoe	<i>Upupa epops</i>	Upupidae
8.	Hérons	<u><i>Ardea</i></u>	Ardeidae
9.	Oriental Magpie-Robin	<i>Copsychus saularis</i>	Muscicapidae
10.	Dhorfakhta, Panduk, Gugi	<i>Streptopelia decaocto</i>	Columbidae
11.	Indian Pond-Heron	<i>Ardeola grayii</i>	Ardeidae
12.	Asian green bee-eater	<i>Merops orientalis</i>	Meropidae
13.	Red-Wattled lapwing	<i>Vanellus indicus</i>	Charadriidae
14.	Greater Coucal	<i>Centropus sinensis</i>	Cuculidae
15.	Babblers	<i>Argya striata</i>	Leiothrichidae









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16.	White-browed wagtail	<i>Motacilla maderasptensis</i>	Motacillidae
17.	Spotted Owlet	<i>Athene brama</i>	Strigidae
18.	Common moorhen	<i>Gallimula chloropus</i>	Rallidae
19.	Black drongo	<i>Dicrurus macrocercus</i>	Dicruridae
20.	Bank Myna	<i>Acridotheres ginginiamus</i>	Sturnidae
21.	Yellow-footed green pigeon	<i>Treron phoenicoptera</i>	Columbidae
22.	Picture wing	<i>Phyothemis variegata</i>	Libellulidae
23.	Striped Tiger	<i>Danaus genutia Cramer</i>	Nymphalida
24.	Danaid Egg fly	<i>Hypolimna smisippus</i>	Nymphalidae
25.	Japanese silk moth	<i>Antheraea yamamai</i>	Saturniidae
26.	Red Pierrot	<i>Talicada nyseus</i>	Lycenidae
27.	Blue Pansy	<i>Junonia orithya</i>	Nymphalidae
28.	Oriental hornet	<i>Vespa orientalis</i>	Vespidae
29.	Honey bee	<i>Apis mellifera</i>	Apidae
30.	Triangled Moth	<i>Trigonodes hyppasia</i>	Noctuoidea
31.	Desert locurt	<i>Schistocera sp.</i>	Acrididae
32.	Jewel bug	<i>Arachnids</i>	Scutellaridae
33.	Dung beetle	<i>Scarabaeus viettei</i>	Geotrupidae
34.	Lady beetle	<i>Anegleis cardoni</i>	Coccinellidae
35.	Flower chafer	<i>Protaetia alboguttata</i>	Scarabaeidae



Fauna

		
Name: White-throated Kingfisher Zoological name: <i>Halcyon smyrnensis</i> Family: <u>Alcedinidae</u>	Name: Red-vented Bulbul Zoological name: <i>Pycnonotus cafer</i> Family: Pycnonotidae	Name: Brain fever Bird Zoological name: <i>Hierococcyx varius</i> Family: Cuculidae
		
Name: Rock Pigeon Zoological name: <i>Cloumba livia</i> Family: Columbidae	Common Name: The Indian Roller Zoological name: <i>Coracias benghalensis</i> Family: Coraciidae	Common Name: Indion Robin Zoological name: <i>Copsychus fulicatus</i> Family: Muscicapidae
		
Common Name: Eurasian Hoopoe Zoological name: <i>Upupa epops</i> Family: Upupidae	Common Name: Herons Zoological name: <i>Ardea</i> Family: Ardeidae	Common Name: Oriental Magpie-Robin Zoological name: <i>Copsychus saularis</i> Family: Muscicapidae



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<p>Common Name: Dhorfakhta, Panduk, Gugi Zoological Name: <i>Streptopelia decaocto</i> Family: Columbidae</p>	<p>Common Name: Indian Pond-Heron Zoological name: <i>Ardeola grayii</i> Family: Ardeidae</p>	<p>Common Name: Asian green bee-eater Zoological name: <i>Merops orientalis</i> Family: Meropidae</p>
<p>Common Name: <i>Red-Wattled lapwing</i> Zoological name: <i>Vanellus indicus</i> Family: Charadriidae</p>	<p>Common Name: Greater Coucal Zoological name: <i>Centropus sinensis</i> Family: Cuculidae</p>	<p>Common Name: Babblers Zoological name: <i>Argya striata</i> Family: Leiothrichidae</p>
<p>Common Name: White-browed wagtail Zoological name: <i>Motacilla maderasptensis</i> Family: Motacillidae</p>	<p>Name: Spotted Owlet Zoological name: <i>Athene brama</i> Family: Strigidae</p>	<p>Common Name: Common moorhen Zoological name: <i>Gallinula chloropus</i> Family: Rallidae</p>



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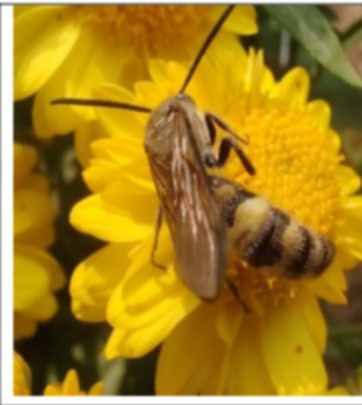
		
<p>Common Name: Black drongo Zoological name: <i>Dicrurus macrocercus</i> Family: Dicruridae</p>	<p>Common Name: Bank Myna Zoological name: <i>Acridotheres ginginianus</i> Family: Sturnidae</p>	<p>Common Name: Yellow-footed green pigeon Zoological name: <i>Treron phoenicoptera</i> Family: Columbidae</p>
		
<p>Common Name: Zoological name: <i>Phyothemis variegata</i> Family: Libellulidae</p>	<p>Common Name: Striped Tiger Zoological Name: <i>Danaus genutia</i> Cramer Family: Nymphalidae</p>	<p>Common Name: Peacock Pansy Zoological Name: <i>Junonia almana</i> Family: Nymphalidae</p>
		
<p>Common Name: Danaid Egg fly Zoological Name: <i>Hypolimna smisippus</i> Family: Nymphalidae</p>	<p>Common name: Japanese silk moth Zoological name: <i>Antheraea yamamai</i> Family: Saturniidae</p>	<p>Common Name: Red Pierrot Zoological Name: <i>Talicada nyseus</i> Family: Lycaenidae</p>



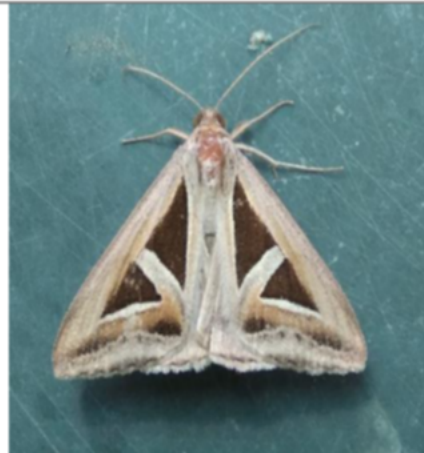
Common Name: Blue Pansy
Zoological Name: *Junonia orithya*
Family: Nymphalidae



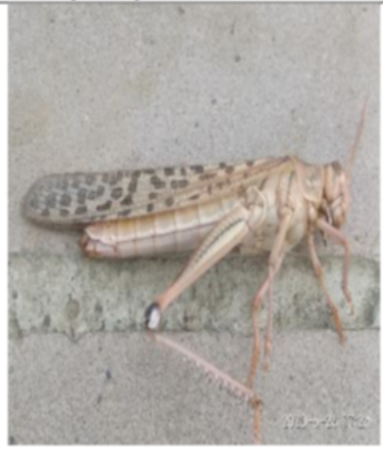
Common Name: Oriental hornet
Zoological name: *Vespa orientalis*
Family: Vespidae



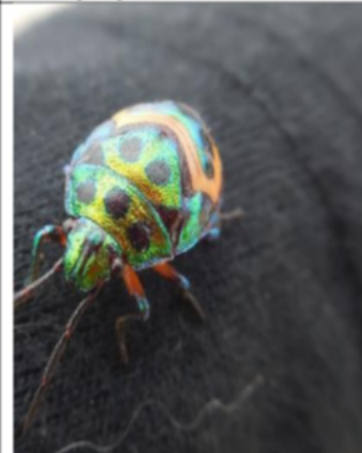
Common Name: Honey bee
Zoological name: *Apis mellifera*
Family: Apidae



Common Name: Triangled Moth
Zoological name: *Trigonodes hyppasia*
Family: Noctuoidea



Common Name: Deseart locurt
Zoological name: *Schistocera sp.*
Family: Acrididae



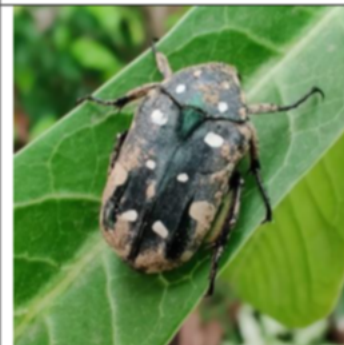
Common Name: Jewel bug
Zoological name: Arachnids
Family: Scutellaridae



Common Name: Dung beetle
Zoological name: *Scarabaeus viettei*
Family: Geotrupidae



Common Name: Lady beetle
Zoological name: *Anegleis cardoni*
Family: Coccinellidae



Common Name:
Zoological name: *Protaetia alboguttata*
Family: Scarabaeidae



Floral diversity

The floral diversity under different species groups is listed. The list is based on the studies carried out by Dr. Deepak Kumar Gond and Dr Alok Singh and his team of scholars.

S. No.	Botanical name	Family	Habit	English name
1.	<i>Abrus precatorius</i> Wall.	Fabaceae	Climber	Rosary Pea/Crab's Eye
2.	<i>Acacia auriculiformis</i> L.	Fabaceae	Tree	Northern Black Wattle
3.	<i>Acalypha indica</i> L.	Euphorbiaceae	Herb	Indian Acalypha
4.	<i>Achyranthes aspera</i> L.	Amaranthaceae	Herb	Prikly Chaff Flower
5.	<i>Acmella oleracea</i> (L) R.K Janson	Asteraceae	Herb	Toothache plant
6.	<i>Acorus calamus</i> L.	Araceae	Herb	Sweet flag
7.	<i>Adansonia digitata</i> L.	Malvaceae	Tree	Baobab
8.	<i>Adiantum capillus-veneris</i> L.	Pteridaceae	Fern	Maidenhair Fern
9.	<i>Aegle marmelos</i> (L.) Corrêa Syn. <i>Crateva marmelos</i> L.	Rutaceae	Tree	Bengal quince
10.	<i>Ageratum conyzoides</i> L.	Asteraceae	Herb	Chick Weed/Billygoat
11.	<i>Albizia lebbek</i> L.	Fabaceae	Tree	Lebbek / Flea Tree
12.	<i>Allamanda cathartica</i> L.	Apocynaceae	Climber	Golden trumpet
13.	<i>Aloe vera</i> (L.) Burm. f.	Liliaceae	Herb	Indian aloe
14.	<i>Alpinia calcarata</i> (Haw.) Roscoe	Zingiberaceae	Herb	Cardamom ginger
15.	<i>Alpinia galanga</i> (L.) Willd.	Zingiberaceae	Herb	Greater galangal
16.	<i>Alstonia scholaris</i> (L.) R. Br	Apocynaceae	Tree	Blackboard tree
17.	<i>Alternanthera pungens</i> L.	Amaranthaceae	Herb	Khaki Weed
18.	<i>Alternanthera sessilis</i> L.	Amaranthaceae	Herb	Sessile Joyweed
19.	<i>Amaranthus viridis</i> L.	Amaranthaceae	Herb	Green Amaranth / Slender Amaranth
20.	<i>Amomum subulatum</i> Roxb.	Zingiberaceae	Herb	Greater cardamom
21.	<i>Amorphophallus paeoniifolius</i> (Dennst.) Nicolson	Arecaceae	Shrub	Elephant foot yam



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22.	<i>Andrographis paniculata</i> (Burm.) Wall. ex Nees	Acanthaceae	Herb	Green chiretta
23.	<i>Argyrea nervosa</i> (Burm. f.) Bojer	Convolvulaceae	Climber	Elephant creeper
24.	<i>Asclepias curassavica</i> L.	Asclepiadaceae	Herb	False ipecac
25.	<i>Asparagus adscendens</i> Roxb.	Liliaceae	Shrub	Shatamull
26.	<i>Asparagus densiflorus</i> (Kunth.) Jessop	Liliaceae	Shrub	Asparagus fern
27.	<i>Asparagus racemosus</i> Willd.	Liliaceae	Climbing Shrub	Wild asparagus
28.	<i>Azadirachta indica</i> (L.) A. Juss.	Meliaceae	Tree	Margosa tree
29.	<i>Azadirachta indica</i> L.	Meliaceae	Tree	Neem Tree
30.	<i>Bacopa monnieri</i> (L.) Wettst.	Scrophulariaceae	Herb	Bacopa
31.	<i>Baliospermum solanifolium</i> (Burm.) Suresh	Euphorbiaceae	Shrub	Red physic nut
32.	<i>Barleria lupulina</i> Lindl.	Acanthaceae	Shrub	Hophead
33.	<i>Barleria prionitis</i> L.	Acanthaceae	Shrub	Porcupine flower
34.	<i>Bauhinia purpurea</i> L.	Fabaceae	Tree	Butter tree
35.	<i>Bauhinia tomentosa</i> L.	Fabaceae	Tree	Bell Bauhinia
36.	<i>Bauhinia variegata</i> L.	Fabaceae	Tree	Butterfly tree
37.	<i>Bergenia ciliata</i> (Haw.) Sternb.	Saxifragaceae	Herb	Hairy bergenia
38.	<i>Bixa orellana</i> L.	Bixaceae	Tree	Annatto
39.	<i>Boerhavia diffusa</i> L.	Nyctaginaceae	Herb	Spreading Hogweed
40.	<i>Boerhavia diffusa</i> L.	Nyctaginaceae	Herb	Hog weed
41.	<i>Bombax ceiba</i> L.	Malvaceae	Tree	Silk cotton tree
42.	<i>Bryophyllum pinnatum</i> (Lam.) Kurz.	Crassulaceae	Herb	Air plant
43.	<i>Butea monosperma</i> L.	Fabaceae	Tree	Rorest flame
44.	<i>Caesalpinia bonduc</i> (L.) Roxb.	Caesalpiniaceae	Shrub	Bonduce nut
45.	<i>Calliandra haematocephala</i> Hassk.	Mimosaceae	Shrub	Red powder puff
46.	<i>Callistemon citrinus</i> Skeels	Myrtaceae	Tree	Bottle brush
47.	<i>Calotropis gigantea</i> (L.) Dryand.	Apocynaceae	Shrub	Crown flower



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48.	<i>Cannabis sativa</i> L.	Cannabaceae	Herb	Hemp
49.	<i>Caryota urens</i> L.	Arecaceae	Tree	Fishtail palm
50.	<i>Cascabela thevetia</i> (L.) H. Lippold	Apocynaceae	Shrub	Yellow oleander
51.	<i>Cassia absus</i> L.	Caesalpinaceae	Tree	Golden Shower Tree
52.	<i>Casuarina equisetifolia</i> J. R.	Casurinaceae	Tree	Whistling Pine
53.	<i>Catharanthus roseus</i> (L.) G. Don.	Apocynaceae	Herb	Periwinkle / Madagascar
54.	<i>Ceiba pentandra</i> (L.) Gaertn.	Bombaceae	Tree	Kapok tree
55.	<i>Celastrus paniculatus</i> Willd.	Celastraceae	Shrub	Staff tree
56.	<i>Centella asiatica</i> (L.) Urban.	Apiaceae	Herb	Indian penns wort
57.	<i>Chlorophytum arundinaceum</i> Baker	Asparagaceae	Herb	Chlorophytum
58.	<i>Chlorophytum boriviliamum</i> Santapau & R.R.Fern.	Liliaceae	Herb	Safed musli
59.	<i>Chrysopogon zizanioides</i> (L.) Roberty.	Poaceae	Herb	khas-grass
60.	<i>Cinnamomum camphora</i> (L.) J.Presl	Lauraceae	Tree	Camphor
61.	<i>Cinnamomum tamala</i> (Buch. -Ham.) T. Nees & Eberm	Lauraceae	Tree	Indian cinnamom
62.	<i>Cinnamomum verum</i> J.Presl	Lauraceae	Tree	Cinnamom
63.	<i>Cissampelos pareira</i> L.	Velvet Leaf	Menisper Maceae	Climber
64.	<i>Cissampelos pareira</i> L.	Menispermaceae	Climber	Velvet Leaf Plant
65.	<i>Cissus quadrangularis</i> L.	Vitaceae	Herb	Devil's Backbone
66.	<i>Clitoria ternatea</i> L.	Fabaceae	Climber	Indian mezorion, Winged leaved Clitoria
67.	<i>Coix lacryma-jobi</i> L.	Poaceae	Herb	Jobs tears
68.	<i>Combretum indicum</i> (L.) DeFilipps.	Combretaceae	Climber	Rangoon creeper
69.	<i>Commiphora mukul</i> (Hook. ex Stocks) Engl.	Burseraceae	Shrub	Indian bdellium-Tree
70.	<i>Costus speciosus</i> (Koen. ex Retz.) Sm.	Zingiberaceae	Herb	Wild ginger
71.	<i>Couropita guianensis</i> Aubl.	Lecythidaceae	Tree	Cannon Ball Tree
72.	<i>Crimum asiaticum</i> L.	Amaryllidaceae	Herb	Poison bulb



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73.	<i>Curculigo orchioides</i> Gaertn.	Hypoxidaceae	Herb	Black musli
74.	<i>Curcuma amada</i> Roxb.	Zingiberaceae	Herb	Mango ginger
75.	<i>Curcuma angustifolia</i> Roxb.	Zingiberaceae	Herb	Indian arrowroot
76.	<i>Curcuma longa</i> L.	Zingiberaceae	Herb	Turmeric
77.	<i>Curcuma zedoaria</i> (Christm.) Roscoe	Zingiberaceae	Herb	Zedoary
78.	<i>Cycas revoluta</i> Thunb.	Cycadaceae	Tree	Sago palm
79.	<i>Cycas rumphi</i> Miq.	Cycadaceae	Tree	False sago palm
80.	<i>Cymbopogon citratus</i> (DC.) Stapf	Poaceae	Herb	Lemon Grass
81.	<i>Cymbopogon citratus</i> (DC.) Stapf	Poaceae	Herb	Lemon grass
82.	<i>Cyperus rotundus</i> L.	Cyperaceae	Herb	Nutiggrass
83.	<i>Delonix regia</i> (Hook.) Raf.	Caesalpiniaceae	Tree	Flame tree
84.	<i>Desmodium gangeticum</i> (L.) DC.	Fabaceae	Herb	Salpani
85.	<i>Eclipta alba</i> (L.) Hassk.	Asteraceae	Herb	Eclipta
86.	<i>Elettaria cardamomum</i> (L.) Maton	Zingiberaceae	Herb	cardamomum
87.	<i>Emblica officinalis</i> Gaertn.	Euphorbiaceae	Tree	Indian goose berry
88.	<i>Erythrina indica</i> Lam.	Fabaceae	Tree	Cord tree
89.	<i>Eucalyptus camaldulensis</i> Dehnh.	Myrtaceae	Tree	Red gum
90.	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Herb	Asthma plant
91.	<i>Ficus benghalensis</i> L.	Moraceae	Tree	Indian banyan tree
92.	<i>Ficus racemosa</i> L.	Moraceae	Tree	Cluster fig
93.	<i>Ficus religiosa</i> L.	Moraceae	Tree	Holy fig tree
94.	<i>Flemingia strobilifera</i> (L.) W.T.Aiton	Fabaceae	Shrub	Luck plant
95.	<i>Flueggea virosa</i> (Roxb. ex Willd.) Royle. <i>Flueggea microcarpa</i> Blume	Phyllanthaceae	Tree	white berry-bush
96.	<i>Frerea indica</i> Dalzell	Ascepiadaceae	Succulent herb	Indian Frerea
97.	<i>Galphimia gracilis</i> Bartl.	Malpighiaceae	Shrub	Rain of gold
98.	<i>Ginkgo biloba</i> L.	Ginkgoaceae	Tree	Maidenhair tree
99.	<i>Grevillea robusta</i> A. Cunn. ex	Proteaceae	Tree	Silky oak



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	R. Br.			
100.	<i>Grewia asiatica</i> L.	Malvaceae	Shrub	Sherbet Berry
101.	<i>Gymnema sylvestre</i> (Retz.) Schult.	Asclepiadaceae	Climber	Sugar killer
102.	<i>Hedychium coronarium</i> J.Koenig	Zingiberaceae	Herb	Ginger lily
103.	<i>Hedychium spicatum</i> Sm.	Zingiberaceae	Herb	Spiked Ginger Lily
104.	<i>Hemidesmus indicus</i> (L.) R. Br. ex Schult.	Apocynaceae	Climber	Indian Sarsaparilla
105.	<i>Ixora coccinia</i> L.	Rubiaceae	Shrub	Ixora
106.	<i>Ixora undulata</i> Roxb. ex Sm.	Rubiaceae	Shrub	White jungle flame
107.	<i>Jatropha gossypifolia</i> L.	Euphorbiaceae	Shrub	Cotton-leaf physicnut
108.	<i>Juniperus chinensis</i> L.	Cupressaceae	Shrub	Chinese juniper
109.	<i>Justicia adhatoda</i> L.	Acanthaceae	Shrub	Malabar nut
110.	<i>Kaempferia galanga</i> L.	Zingiberaceae	Herb	Aromatic Ginger
111.	<i>Kaempferia rotunda</i> L.	Zingiberaceae	Herb	Peacock Ginger
112.	<i>Khaya anthotheca</i> (Welw.) C.DC.	Meliaceae	Tree	East African mahogany
113.	<i>Kigelia africana</i> (Lam.) Benth.	Bignoniaceae	Tree	Sausage tree
114.	<i>Lagerstromia speciosa</i> (L.) Pers.	Lythraceae	Tree	Pride of India
115.	<i>Livistonia chinensis</i> (Jacq.) R.Br. ex-Mart.	Arecaceae	Tree	Chinese fan palm
116.	<i>Mangifera indica</i> L.	Anacardiaceae	Tree	Mango tree
117.	<i>Milingtonia hortensis</i> L.f.	Bignoniaceae	Tree	Indian cork tree
118.	<i>Mimosa pudica</i> L.	Mimosaceae	Herb	Sensitive plant
119.	<i>Mimusops elengi</i> L.	Sapotaceae	Tree	Spanish cherry
120.	<i>Monoon longifolium</i> (Sonn.) B.Xue & R.M.K. Saunders	Annonaceae	Tree	False ashok
121.	<i>Morus alba</i> L.	Moraceae	Tree	Mulberry
122.	<i>Murraya koenigii</i> (L.) Spreng.	Rutaceae	Shrub	Curr's leaf
123.	<i>Murraya paniculata</i> L. Jack	Rutaceae	Shrub	Orange jasmine
124.	<i>Musa × paradisiaca</i> L.	Musaceae	Herb	Banana
125.	<i>Neolamarckia cadamba</i> (Roxb.) Bosser	Rubiaceae	Tree	Burflower tree



126.	<i>Nyctanthes arbor-tristis</i> L.	Oleaceae	Tree	Night jasmine
127.	<i>Ocimum basilicum</i> L.	Lamiaceae	Herb	Common sweet basim
128.	<i>Ocimum gratissimum</i> L.	Lamiaceae	Herb	clove basil
129.	<i>Ocimum kilimandscharicum</i> Gürke	Lamiaceae	Herb	camphor basil
130.	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Herb	Holy basil
131.	<i>Paederia foetida</i> L.	Rubiaceae	Climber	Chinese moon creeper
132.	<i>Passiflora edulis</i> Sims	Passifloraceae	Climber	Passion flower
133.	<i>Passiflora foetida</i> L.	Passifloraceae	Climber	Wild Water Lemon
134.	<i>Passiflora rubra</i> L.	Passifloraceae	Climber	Dutchman's laudanum
135.	<i>Oroxylum indicum</i> (L.) Vent.	Bignoniaceae	Tree	Indian trumpet tree
136.	<i>Peltophorum pterocarpum</i> (DC.) Backer ex K.Heyne	Caesalpiniaceae	Tree	Copperpod
137.	<i>Phoenix rupicola</i> T.Anderson	Arecaceae	Tree	Cliff date palm
138.	<i>Phyla nodiflora</i> (L.) Greene	Verbenaceae	Herb	Capeweed
139.	<i>Phyllanthus reticulatus</i> Poir.	Phyllanthaceae	Shrub	Black-Honey Shrub
140.	<i>Phyllanthus urinaria</i> L.	Euphorbiaceae	Herb	Common leaf flower
141.	<i>Pinus roxburghii</i> Sarg.	Pinaceae	Tree	Chir pine
142.	<i>Piper longum</i> L.	Piperaceae	Climbing Herb	Long pepper
143.	<i>Piper nigrum</i> L.	Piperaceae	Herb	Black pepper
144.	<i>Pistia stratiotes</i> L.	Araceae	Aquatic	Water Lettuce
145.	<i>Plumbago auriculata</i> Lam. Syn. <i>Plumbago capensis</i> Thunb.	Plumbaginaceae	Shrub	Blue plumbago
146.	<i>Plumbago indica</i> L.	Plumbaginaceae	Shrub	Rose-colored Leadwort
147.	<i>Plumbago zeylanica</i> L.	Plumbaginaceae	Shrub	White leadwort
148.	<i>Plumeria alba</i> L.	Apocynaceae	Tree	Caterpillar tree
149.	<i>Plumeria rubra</i> L.	Apocynaceae	Tree	Pagoda tree
150.	<i>Pongamia pinnata</i> (L.) Pierre	Fabaceae	Tree	Pongam tree
151.	<i>Psidium guajava</i> L.	Myrtaceae	Tree	Guava
152.	<i>Pterocarpus santalinus</i> L.f.	Fabaceae	Tree	Red sandal wood



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153.	<i>Pterospermum acerifolium</i> (L.) Willd.	Sterculiaceae	Tree	Bayur tree
154.	<i>Pulmeria alba</i> L.	Apocynaceae	Shrub	White frangipani
155.	<i>Rauwolfia serpentina</i> (L.) Benth. ex Kurz	Apocynaceae	Shrub	Indian snakeroot
156.	<i>Rauwolfia tetraphylla</i> L.	Apocynaceae	Shrub	Wild Snake Root
157.	<i>Roylea cinerea</i> (D. Don) Baillon	Lamiaceae	Shrub	Ashy Roylea
158.	<i>Santalum album</i> L.	Santalaceae	Tree	Sandalwood
159.	<i>Saraca indica</i> L.	Caesalpiniaceae	Tree	Ashoka Tree
160.	<i>Senna auriculata</i> (L.) Roxb.	Fabaceae	Shrub	Matura tea tree
161.	<i>Senna occidentalis</i> (L.) Linx	Fabaceae	Shrub	Coffee senna
162.	<i>Senna sophera</i> (L.) Roxb	Fabaceae	Shrub	Sophera senna
163.	<i>Stevia rebaudiana</i> (Bertoni) Bertoni	Asteraceae	Herb	Sweet herb
164.	<i>Strychnos nux-vomica</i> L.	Loganiaceae	Tree	The strychnine tree
165.	<i>Syzygium cumini</i> (L.) Skeels	Myrtaceae	Tree	Java plum
166.	<i>Tamarindus indica</i> L.	Fabaceae	Tree	Tamarind
167.	<i>Tectona grandis</i> L.f.	Verbenaceae	Tree	Teak
168.	<i>Terminalia arjuna</i> (Roxb.) W. & A.	Combretaceae	Tree	Arjuna myobalan
169.	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Combretaceae	Tree	Beddanut
170.	<i>Terminalia catappa</i> L.	Combretaceae	Tree	Indian-almond
171.	<i>Terminalia chebula</i> (Gaertn.) Retz.	Combretaceae	Tree	Black myrobalan
172.	<i>Thespesia populnea</i> (L.) Soland. ex Correa	Malvaceae	Tree	Indian tulip tree
173.	<i>Thuja occidentalis</i> L.	Cupressaceae	Tree	Northern white cedar
174.	<i>Tinospora sinensis</i> (Lour.) Merr.	Menispermaceae	Climber	Tinospora
175.	<i>Tylophora indica</i> (Burm. f.) Merr.	Asclepiadaceae	Climber	Emetic swallow Wart
176.	<i>Vitex negundo</i> L.	Verbenaceae	Tree	Five leaved chaste Tree
177.	<i>Vitex trifolia</i> L.	Verbenaceae	Tree	Three leaved tree chest tree
178.	<i>Withania somnifera</i> (L.) Dunal	Solanaceae	Shrub	Wintercherry






179.	<i>Zamia furfuracea</i> L.f. ex Aiton	Zamiaceae	Tree	Cardboard palm
180.	<i>Zingiber officinale</i> Rosc.	Zingiberaceae	Herb	Ginger
181.	<i>Ziziphus mauritiana</i> Lam.	Rhamnaceae	Shrub	Indain plum

Observations

- ❖ Fascinating characteristic of the CMP College Campus is its lush green environment with rich floral and faunal diversity.
- ❖ The trees existing are not managed properly and even are axed at times for construction activity.
- ❖ Growth of weeds and other invasive species is a cause of concern after the rains.

Flora of CMP College

		
<p>Common Name: Indian Head Ginger Plant name: <i>Costus spicatus</i> Family: Costaceae</p>	<p>Common Name: Arctic lupine Plant name: <i>Lupinus arcticus</i> Family: Fabaceae</p>	<p>Common Name: Plant name: <i>Millettia peguensis</i> Family: Fabaceae</p>



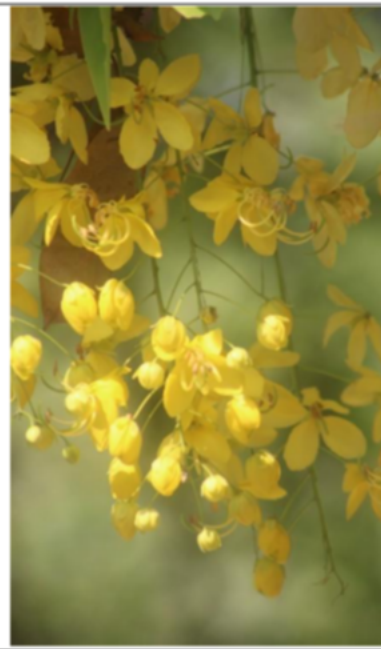
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Common Name: Guduchi
Plant name: *Tinospora cordifolia*
Family: Menispermaceae



Common Name: False bird of paradise Ginger
Plant name: *Heliconia rostrata*
Family: Heliconiaceae



Common Name: Golden shower tree
Plant name: *Cassia fistula*
Family: Fabaceae



Common Name: Marijuana
Plant name: *Cannabis sativa*
Family: Cannabaceae



Common Name: Van Bhindi
Plant name: *Malachra capitata*
Family: [Malvaceae](#)



Common Name: Bottlebrushes
Plant name: *Callistemon lanceolatus*
Family: Myrtaceae



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<p>Common Name: Silk-cotton tree Plant name: <i>Bombax ceiba</i> Family: Malvaceae</p>	<p>Common Name: Peela gulmohar Plant name: <i>Peltophorum pterocarpum</i> Family: Fabaceae</p>	<p>Common Name: Gulmohar Plant name: <i>Delonix regia</i> Family: Fabaceae</p>
<p>Common Name: Red water lily Plant name: <i>Nymphaea nouchali</i> Family: Nymphaeaceae</p>	<p>Common Name: Indian snakeroot Plant name: <i>Rauvolfia serpentina</i> Family: Apocynaceae</p>	<p>Common Name: Ashoka tree Plant name: <i>Saraca asoca</i> Family: Fabaceae</p>



		
Common Name: Barbados Cherry Plant name: <i>Malpighia glabra</i> Family: Malpighiaceae	Common Name: Painted Spiral Ginger, Plant name: <i>Costus pictus</i> Family: Costaceae	Common Name: Golden dewdrops Plant name: <i>Duranta</i> Family: Verbenaceae
		
Common Name: Kadamba Plant name: <i>Anthocephalus Indicus</i> Family: Rubiaceae	Common Name: Bachelor's Button Plant name: <i>Gomphrena celosioides</i> Family: Amaranthaceae	Common Name: Tropical milkweed Plant name: <i>Asclepias curassavica</i> Family: Apocynaceae
		
Common Name: Red Sage Plant name: <i>Lantana camara</i> Family: Verbenaceae	Common Name: Peruvian primrose-willow Plant name: <i>Ludwigia peruviana</i> Family: Onagraceae	Common Name: Rose Moss Plant name: <i>Portulaca</i> Family: Portulacaceae



Summary

Green auditing is the process of identifying and determining whether the practices of the Institution are eco-friendly and sustainable for which CMP College, conducted the first “Green Audit” for the year 2020-2021 with a primary objective to prepare a statement on the green practices followed by the College and to conduct a well-formulated audit report. Green auditing began with the assessment of the status of vegetative cover, waste management practices, water use and efficiency and energy conservation strategies etc. The audit team monitored different facilities at the College campus, determined different types of appliances and utilities (Water cooler, taps, toilets, lights, fan, ACs etc.) as well as measuring the usage per item (Watts indicated on the appliance or measuring water from a tap) and identifying the relevant consumption patterns (such as how often an appliance is being used) and their impacts. The staff and learners were enquired to get details of usage, frequency, of general characteristics of different appliances. Data collection was done by onsite visit and by direct accounting in different sectors such as water, energy, waste, biodiversity status. The environmental monitoring in the College campus to ascertain the status of the ambient quality of the campus was done through standard protocols. The data were collated and analysed to prepare this audit report of CMP College.

Water auditing was conducted for the evaluation of facilities of raw water intake and determining the facilities for water treatment and reuse. The potable water quality is within the standard limits. CMP does not have a reusable water treatment facility for wastewater generated from Academic buildings, administrative buildings, library, laboratories, canteen, etc. and thus require attention. The stake holders of the residential quarters of CMP specially re-use the grey water which is obtained from the various domestic activities and they re-use the same water for gardening and vegetable fields etc. Also, water recycling is done as per the direction of the competent authority in broader scale as and when required. CMP is blessed with a natural large water body measuring inside its premises. Naturally, this large place serves the main purpose of rainwater harvesting. Rainwater harvesting systems could be improved so that there is a facility available in every building for reusing of water.

Biodiversity audit of CMP College is a continuous process and efforts of the faculty members, researchers, and students to assess the living biota and its conservation have been going on for many years. Spread over approximately 15 acres of land, the CMP College campus is home to



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different varieties of fauna as well as flora. Although best effort was made to record the fauna of the campus but the list has not been exhaustive. A total of 35 tree species with 113 individuals. The observation, suggestions and recommendations specified at every section will guide the college authority in formulating suitable policy for the college so as to improve the quality of environment within the College campus by defining its goal such that the concerted efforts can bring about an impact at the global level.

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