SIBSAGAR COLLEGE, JOYSAGAR (AUTONOMOUS)

REPORT ON TWO BEST PRACTICES OF THE INSTITUTION

A. COMMUNITY SERVICE AND COMMUNITY PARTICIPATION

A.1. Objectives of the Practice

Community service is one of the best practices of higher educational institutions like a college. An educational institution needs continuous help and support from the neighbouring community as well as it should take the responsibility to provide continuous support to the community in all dimensions. The educational institutions cannot sustain without the help and support from the local community and the community also cannot develop without the support and guidance from the educational institutions. Following this principle, the Sibsagar College has been providing physical, intellectual, cultural and healthcare supports to the local community, a part of which is being highlighted here.

A.2. Context

The students come to Sibsagar College from almost all corners of the district in which the college is situated. Most of the areas of the district are feeder areas for the college. Thus, thousands of people of different parts of the district are directly or indirectly linked with the activities of the college. These people are of diverse professions, from Govt. servants to farmers and daily workers. Most of the people are farmers and businessman and a considerable percentage of the people are not aware about the scientific ways of living. Therefore, it is a part of the duty of the college that it should take the responsibility of looking after the people of the concerned areas in terms of providing help and support in their healthy living. Aiming the above, the college has been organizing programmes at various rural and sub-urban areas of the district to make the people aware about the healthcare practices, animal husbandry and livestock management, agriculture management, superstitions and their effects, etc.

A.3. The Practice

The Sibsagar College has been trying its best to maintain a good relationship with the neighbouring community by providing intellectual support since the dawn of its establishment which is still being continued. In addition to offering quality education to the students, the college has been providing help and support to the local community through various activities. A few recent instances of such community service activities are highlighted here.

a) **Village Adoption:** The department of Botany of Sibsagar College has adopted a village, the *Khonakhukura Village* of Sivasagar district in 2017. Since then, the department has been organizing various awareness programmes, tutorial classes in the schools of the village, etc. in association and collaboration with the college authority, teachers of other departments of the college, Assam Science Society, Kendriya Vidyalaya, and other institutions. The department has also organized Vaccination cum Health treatment of livestock and Awareness camping in association with the Veterinary and Animal Husbandry Department, Govt. of Assam. Specially, a training programme on Maintenance of the Nutritional and Medicinal garden has

been organized for the people of the adopted village in 2018. The medicinal plant garden is being well maintained by the people of the village. (Annexure – I)

b) **Health Awareness Programmes:** The department of Chemistry of Sibsagar college has prepared sanitizers in its own laboratory and distributed the same to the local people. Also, the same department has organized Covid-19 awareness programmes at Joyrapar veterinary center and distributed sanitizers. Similar Covid-19 awareness and sanitation programmes have been organized by the department of Botany also in association with the teachers' unit of the college. (Annexure-II).

c) **Healthcare Services:** The Women Study and Development Cell (WSDC) of Sibsagar college has organized a healthcare service camp at the District Training cum Rehabilitation Center for Physically Handicapped, Na-Pukhuri, Sivasagar, Assam and distributed crutches to the handicapped persons. (Annexure-III)

d) **Social Service Programmes:** The 10 Assam Bn. NCC of the college has been organizing various social service programmes like March Past training programmes at different schools of the district, campus cleaning programmes at civil hospital and *Angan Badi Center*, etc. The WSDC of Sibsagar college also has been organizing social service programmes in the occasion of Women's Day (Annexure – IV).

A.5. Evidence of Success

All the above mentioned activities and programmes of the college have been successfully implemented with full cooperation from the people. The people of the areas have been benefited a lot by the community service activities of the college. The students of the schools of adopted villages have been receiving quality education from the guest teachers provided by the college. The health and social awareness programmes have been able to make the people aware about the health related issues, various superstitions and other socio-economic issues.

A.6. Problems Encountered and Resources Required

Problems Encountered:

No remarkable problem was encountered during implementation of the aforesaid programmes. As the people of the areas got benefited from these activities, they extended full cooperation to the college. In other words, the people always welcome such activities of any institutions and these programmes can be carried out without facing any problem and difficulties.

Resources Required:

For carrying out the above community service activities, the principal requirements were the manpower and human resources. Faculties from different disciplines were required to conduct special classes in the schools, which were provided from the college itself. Man-power was required to conduct cleaning and sanitation programmes, which was provided by the entrusted faculty members and students of the college. To the health awareness and vaccination programmes, the college invited medical and veterinary staffs as experts cum resource persons, and they extended full cooperation in these efforts of the college. In addition to the above, a huge amount of monetary involvement was also there which was managed by the individual funds of the concerned departments and organizations of the college like WSDC, NCC, NSS, etc.

A. 7. Notes (Optional)

Please add any other information that may be relevant for adopting/ implementing the Best Practice in other Institutions (in about 150 words).

Any other information regarding Institutional Values and Best Practices which the university would like to include.

It can be mentioned that different departments of the college have been arranging popular talks on various subjects of physical, biological and social sciences from time to time inviting guest faculties, scientists and experts from different universities and scientific institutions for the benefit of the student community. Such programmes are organized not only for the students of its own, but students as well as faculty members from other colleges and schools are also invited to participate. Moreover, the college has been arranging a few faculty exchange and student exchange programmes also, which is going to be implemented as a regular practice in the NEP, that is coming to the threshold.

B. TITLE OF THE PRACTICES THAT HAVE BEEN NEWLY INITIATED

B.1. Practice of Environment Audit and Green Audit

The Sibsagar College is situated about 5 km south-west to the district head-quarter of Sivasagar at the bank of the historic Joysagar tank, the largest man-made tank of Asia. It is covered by an evergreen natural environment which is very rich in floral and faunal diversity. For further improvement of the quality of the environment, the college has initiated the process of environmental auditing since last year. For the purpose, the college has formed an Environment Audit Committee including senior faculty members of the institute as well as external members.

The committee pursued its activities in order to document the status of the environment and the activities of the college community and finally prepared the report as a compilation of records as well as presentation of snapshots towards creating a green and eco-friendly environment. The committee has collected data/information by direct observation and from some earlier literatures. However, the information in some environmental parameters was inadequate and may need further validation. In spite of the inherent limitations, however, this compilation provides an insight of the status of the environment in the campus and the practices that point more towards what needs to be done further for a better and sustainable campus environment.

B.2. Objectives

The term environmental audit means different things to different people. Terms such as assessment, survey and review are used to describe the same type of activity. Furthermore, some organization consider that an environmental audit' addresses only environmental matters, whereas other use the term to mean an audit of health, safety and environmental matters.

The main objective of the environment audit is to-

- Environmental education through systematic environmental management approach
- Determining how well the environmental management systems and equipment are performing
- Verify compliance with the relevant national, local and other laws and regulations
- Minimize human expouser to risk from environmental, health and safety problems

B.3. An Overview

Sibsagar College, a premier seat of higher education in this part of the state, is situated at Joysagar beside the historic tank which stands testimony to the hallowed memory of Sati Joymati, the Ahom Queen of the 17th century. This college is located amidst a picturesque atmosphere, about 5 km south-west of Sivasagar Town, quite away from the din and bustle of town-life. It was established in 1947, coinciding with independence, upholding the aura of that awakening and has traverses a long way since then. Over the years it has cherished a proud tradition of possessing resourceful and accomplished faculty members and an impressive record of academic output. A posse of patriots and statesmen were its architects, some of whose names have come to be indelibly stamped in the annals of Asom. Their selfless and unflinching commitment had ushered in a rich heritage to this College.

The college is spread in an area of 103 Bigas of Land in 3 blocks viz., Main campus, Stadium and Demow pathar area. The college main campus is stretch of 36 Bighas on the bank of Historical Joysagar tank with one Administrative building, 2 auditorium, classrooms & laboratories and one boys and one girls hostel. Besides, on the approaching bank, there is teacher's residential campus. The stadium has an area of 32 Bighas with both outdoor and indoor stadium facilities.

A. Botanical Garden

The Botanical Garden of the Sibsagar College is under the Administration of the Sibsagar College joysagar, and is maintained by the Department of Botany. It is situated on the eastern side of the Joysagar tank and south west part of Sibsagar College and in the area adjacent to JPCM hall and B.Ed College. It has an area of 8390square meters. The Botanical garden comprises of two plots, one is near the Department and the other is just at the back side of the Boys' hostel of the college. The first plot comprises so many valuable plant species of medicinal importance including herbs, shrubs, aroids and small trees. A well-equipped shade house is also attached to this plot. Different rare orchid species and pteridophytes are kept in the shade house. Projects of the students are also carried out inside the shade house. In this part of the Botanical garden, more than 150 plant species are collected from different parts of the region. In this part of the Botanical garden, special emphasis is given to the herbal medicinal plants as well as different rare, endangered and threatened (RET) plants of the region. Students of this department undertake many projects on medicinal plants used by different ethnic groups as part of their syllabus and thereby they also collect the plant species from different localities. This garden is open to all interested persons and school students for exploring knowledge on plants specially their medicinal values.

List of plant species in the Botanical Garden

Sl No	Scientific Name	Family
1	Ocimum sanctum Linn.	Lamiaceae
2	Punica grantum Linn.	Myrtaceae
3	Centella asiatica (L) Urban	Apiaceae
4	Oxalis debilis var. corymbosa (DC.) Lourteig	Oxalidaceae
5	Oxalis corniculata Linn.	Oxalidaceae
6	Alternanthera sessilis (L.) R.Br. ex DC	Amaranthaceae
7	Wedellia calendulacea Lees	Asteraceae
8	Mentha Arvensis L	Lamiaceae
9	Eclipta alba Hassa	Asteraceae
10	Bacopa monnieri (L) Pennel	Scrophulariaceae
11	Andrographis paniculata (Burm f.) Wall ex Nees	Acanthaceae
12	Mimosa pudica L	Mimosaceae
13	Tridax procumbens L.	Asteraceae
14	Houttuyenia cordata Thunb	Sauraceae
15	Drymaria cordata (L) Willd.	Caryophyllaceae
16	Eryngium foetidum L	Apiaceae
17	Fragaria indica Arnd.	Rosaceae
18	Catheranthus roseus (L) G. Don	Apocynaceae
19	Heliotropium indicum (L) Kurt G. Kissmann	Boraginaceae
20	Spilanthes acmella L	Asteraceae
21	Leucas plukentii (Roth) Spreng	Lamiaceae
22	Passiflora edulis Sims F.	Passifloraceae
23	Amaranthus spinosus L	Amaranthaceae
24	Phlogocanthus thyrsiflorus Nees	Acanthaceae

25	Achasma loroglossum (Gagnep) Larsen	Zingiberaceae
26	Rauwolfia tetraphyla Benth	Apocynaceae
27	Kalanchoe pinnata (Roxb) Pers	Crassulaceae
28	Costus speciosus Koen ex. Retz.) Sm.	Zingiberaceae
29	Aquilaria malaccensis Lamk	Thymaleaceae
30	Calamus leptospadix Griff.	Arecaceae
31	Livistona jenkinsiana Griff	Arecaceae
32	Flemingia strobilifera (L) Br.	Papillianaceae
33	Cassia alata L	Caesalpinaceae
34	Psidium guajava L	Myrtaceae
35	Averrhoa carambola L	Averrhoaceae
36	Coffea arabica L	Rubiaceae
37	Murraya koengii (L) Spreng	Rutaceae
38	Ocimum basilicum L	Lamiaceae
39	Cascabela thevetia (L) Lippold	Apocynaceae
40	Leonarus sibiricus Linn.	Lamiaceae
41	Lawsonia inermis Linn.	Lythraceae
42	Spondias mangifera Willd	Anacardiaceae
43	Erythrina indica Lam	Leguminosae
44	Morus indica Linn.	Moraceae
45	Asparagus racemosus Willd.	Liliaceae
46	Elaeocarpus floribundus (Blume)	Elaeocarpaceae
47	Piper nigrum L.	Piperaceae
48	Paederia foetida L.	Rubiaceae
49	Datura stramonium L.	Solanaceae
50	Pandanus odorus Salisb.	Pandanaceae
51	Lasia spinosa (L) Thw	Araceae
52	Ananas comosus (L) Merr	Bromaliaceae
53	Flacourtia cataphracta Roxb.	Flacourtiaceae
54	Polygonum chinense L.	Polygonacaea
55	Solanum indicum L	Solancaeae
56	Zanthoxylum hamiltonianum Wall	Rutaceae
57	Acorus calanus L.	Araceae
58	Rumex acetosella L.	Polygonaceae
59	Ricinus communis L.	Euphorbiaceae
60	Butea monosperma Lam.	Papilionaceae
61	Crataeva religiosa (Forst) Hook. f and Th	Capparidaceae
62	Solanum xanthocarpum Schred and Wendle	Solanaceae
63	Zyziphus jujube Lamk	Rhamnaceae
64	Euphorbia hirta L.	Euphorbiaceae
65	Saccharum officinarum L.	Poaceae
66	Abroma augusta L	Sterculiaceae
67	Camellia sinensis var. assamica L.	Theaceae
68	Polygonum hydropiper L.	Polygonaceae

69	Oldenlandia diffusa Roxb.	Rubiaceae
70	Carallia lucida Roxb.	Rhizophoraceae
71	Hydrocotyle rotundifolia Roxb.	Apiaceae
72	Rubus ellipticus (Franch.) Thaun	Rosaceae

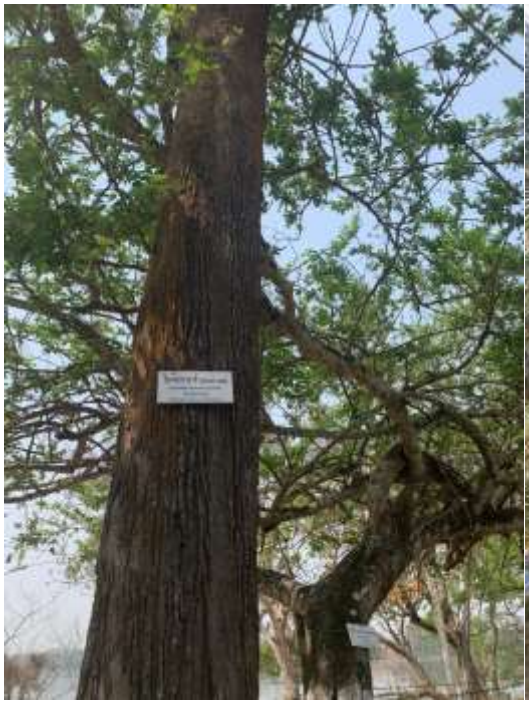
Orchid species growing in Shade house of the Botanical garden

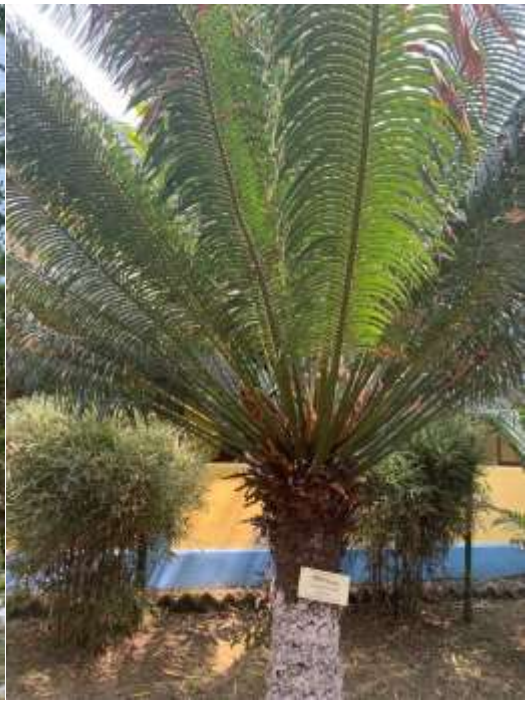
Aerides multiflora Roxb.
Agrostophyllum khasianum, Griff
Bulbophyllum affine Lindley
Bulbophyllum careyanum Hook. Spreng.
Bulbophyllum sikkimensis King & Pantling J.J. Smith
Cleisostoma appendiculatum (Lindl.) Benth. Hook.f.ex Jackson
Cymbidium aloifolium (L.) Sw.
Cymbidium bicolour. Lindl. subsp. obtusum Du Puy & Cribb.
Dendrobium aphyllum (Roxb.) Fischer
Dendrobium lituiflorum Lindl
Dendrobium moschatum (Buch.Ham) Swartz
Luisia trichorrhiza, (Hook.) Blume.
Papilionanthe teres (Roxb) Schltr
Pholidota articulate Lindl
Phaius tankervelli Lindl.
Dendrobium terminale Parish. & Reichb.f
Dendrobium fimbriatum Hk.
Eria pubescence (Hook) Lindl.
Pholidota imbricate var. Sessilis Hk.f.
Rynchostylis retusa (L.) Blume.

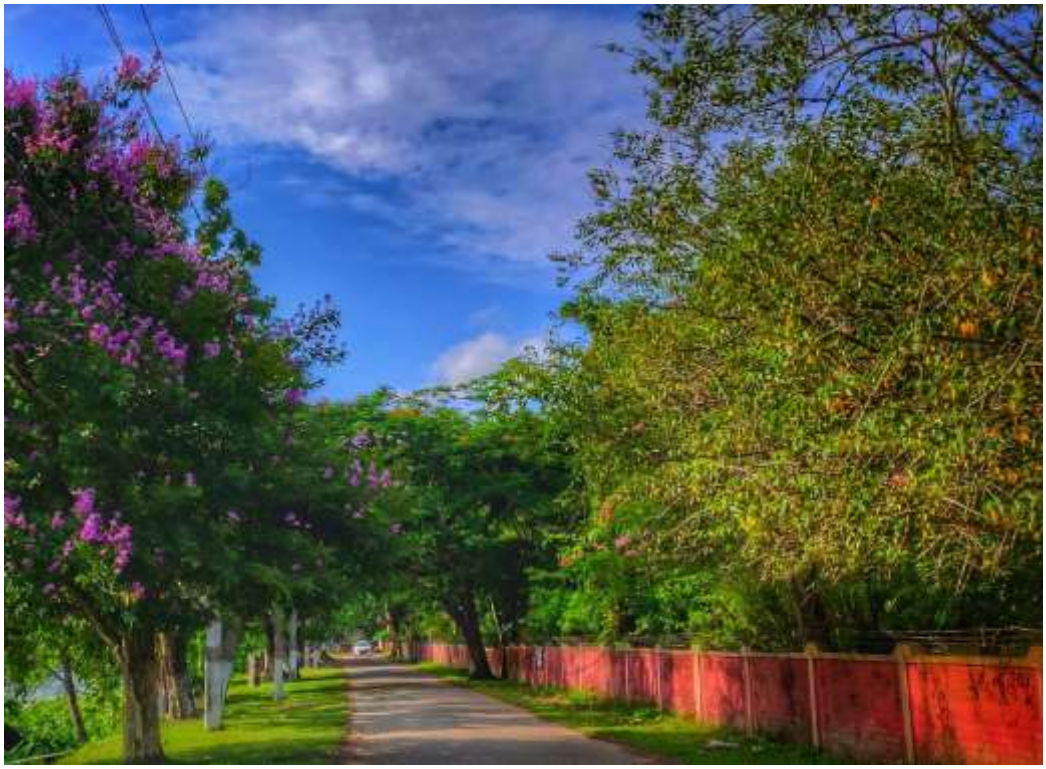
Floral Diversity

	Scientific Name	Family
1	Mangifera indica Linn.	Anacardiaceae
2	Spondias mangifera Willd.	Anacardiaceae
3	Polyalthia longifolia Sonn.	Anonaceae
4	Anona squamosa Linn.	Anonaceae
5	Alstonia scholaris R.Br.	Apocynaceae
6	Plumeria alba Linn.	Apocynaceae
7	Averrhoa carambola Linn.	Aquilifoliaceae
8	Heteropanax fragrans Seem.	Araliaceae
9	Oroxylum indicum Vent.	Bignoniaceae
10	Bombax ceiba Linn	Bombacaceae
11	Ceiba pentandra (Linn) Gaertn.	Bombacaceae
12	Ehretia acuminata R.Br.	Boraginaceae
13	Cassia auriculata Linn.	Caesalpiniaceae
14	Cassia seamea Buch.-Ham	Caesalpiniaceae
15	Tamarindus indica Linn.	Caesalpiniaceae
16	Caesalpinia pulcherrima Swartz.	Caesalpiniaceae
17	Poinciana regia Bojr.	Caesalpiniaceae
18	Bauhinia alba (Linn) Hort	Caesalpiniaceae
19	Cassia fistula(Linn)	Caesalpiniaceae
20	Casuarina equisetifolia Forst.	Casuarinaceae
21	Terminalia belerica Roxb.	Combretaceae
22	Terminalia chebula Retz.	Combretaceae
23	Terminalia arjuna Weight & Arm.	Combretaceae
24	Dillenia indica Linn.	Dilleniaceae
25	Elaeocarpus floribundus Bl.	Elaeocarpaceae
26	Phyllanthus emblica Linn.	Euphorbiaceae
27	Mallotus albus Muell-Arg.	Euphorbiaceae
28	Mallotus philippinensis Muell-Arg.	Euphorbiaceae
29	Flacourtia cataphracta Roxb.	Flacourtiaceae
30	Mesua ferrea Linn.	Gutiferae
31	Machilus bombicina King.	Lauraceae
32	Litsaea monopetala (Roxb)Pers.	Lauraceae
33	Lagerstroemia flos-reginae Retz.	Lythraceae
34	Melia azedarach Linn	Meliaceae
35	Toona ciliata Roem.	Meliaceae
36	Azadirachta indica A.Juss.	Meliaceae
37	Albizzia lebbek (L) Benth.	Mimosaceae
38	Albizzia lucida Benth.	Mimosaceae
39	Albizzia stipulata Boivin.	Mimosaceae
40	Pithecobium saman Benth.	Mimosaceae
41	Acacia auriculiformis A. Cunn.	Mimosaceae
42	Acacia obtusifolia A.Cunn.	Mimosaceae
43	Albizzia procera Benth.	Mimosaceae
44	Ficus bengalensis Linn.	Moraceae

45	Ficus elastica Roxb.	Moraceae
46	Ficus benjamina (L.)Willd.	Moraceae
47	Ficus rumphii Bl.	Moraceae
48	Ficus religiosa Linn.	Moraceae
49	Ficus glomerata Roxb.	Moraceae
50	Artocarpus heterophyllus Lam.	Moraceae
51	Morus alba Linn.	Moraceae
52	Artocarpus lakoocha Roxb.	Moraceae
53	Artocarpus chaplasha Roxb.	Moraceae
54	Moringa oleifera Lamk.	Moringaceae
55	Ravenala mdagascariensis Sonn.	Musaceae
56	Callistemon lanceolatus DC	Myrtaceae
57	Psidium guayava Linn.	Myrtaceae
58	Eucalyptus citriodora Hook.	Myrtaceae
59	Syzygium cuminii (Linn)Skeels.	Myrtaceae
60	Syzygium kurzii Dathie	Myrtaceae
61	Eugenia fruticosa Roxb.	Myrtaceae
62	Syzygium malaccansis Linn.	Myrtaceae
90	Nyctanthes arbor-tristis L.	Oleaceae
63	Phoenix sylvestris Roxb.	Palmae
64	Areca catechu Willd.	Palmae
65	Cocos nucifera Linn.	Palmae
66	Livistonia jenkinsiana Griff.	Palmae
67	Pinangra gracilis	Palmae
68	Caryota urens Linn.	Palmae
69	Pandanas tectorius Park.	Pandanaceae
70	Dalbergia sissoo Roxb.	Papilionaceae
71	Pongamia pinnata (L.) Pierre	Papiliopnaceae
72	Erythrina indica Lam.	Papiliopnaceae
73	Butea monosperma (Lam.)Taub.	Papillionaceae
74	Pinus longifolia Roxb.	Pinaceae
75	Grevillea robusta A.Cunn.	Protiaceae
76	Zizyphus jujuba (L.) Lamk.	Rhamnaceae
77	Anthocephalus cadamba Miq.	Rubiaceae
78	Vangueria spinosa Roxb.	Rubiaceae
79	Adina cordifolia Hook.	Rubiaceae
80	Aegle marmelos(L.) Correa	Rutaceae
81	Salix tetrasperma Roxb.	Salicaceae
82	Sapindas mukorossi Gaertn.	Sapindaceae
83	Litchi chinensis Sonner	Sapindaceae
84	Mimusops eleng Roxb.	Sapotaceae
85	Aquilaria agallocha Roxb.	Thymeliaceae
86	Premna bengalensis Clarke	Verbenaceae
87	Gmelina arborea Linn.	Verbenaceae
89	Tectona grandis Linn.	Verbenaceae







Faunal Diversity

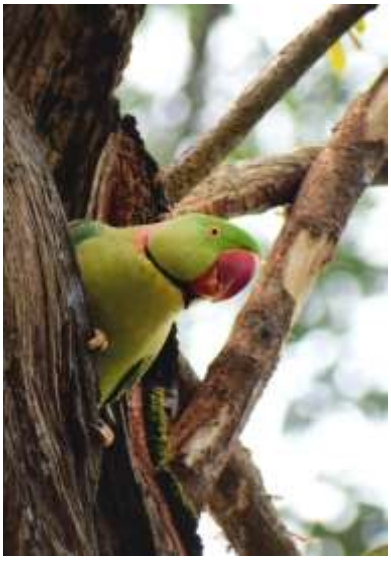
Mammalian diversity

Sl. No.	Common Name	Scientific Name
1	Mongoose	Helogale parvula
2	Himalayan Hoary- bellied Squirrel	Callosciurus pygerythrus
3	Lesser Bandicoot-Rat	Bandicota bengalensis
4	Large Bandicoot-Rat	Bandicota indica
5	House Rat	Rattus rattus
6	House Mouse	Mus musculus
7	Asiatic Greater Yellow House Bat	Scotophilus heathii

Avian diversity

Sl. No.	Common name	Scientific name
1	Great Crested Grebe	Podiceps cristatus
2	Greylag Goose	Anser anser
3	Barheaded Goose	Anser indicus
4	Lesser Whistling Teal	Dendrocygna javanica
5	Brahmini Duck	Tadorna ferruginea
6	Northern Pintail	Anas acuta
7	Common Teal	Anas creca
8	Spotbill Duck	Anas poecilorhyncha
9	Mallard	Anas platyrhynchos
10	Gadwall	Anas strepera
11	Shoveller	Anas clypeata
12	Common Pochard	Aythya ferina
13	Tufted Duck	Aythya fuligula
14	Greater Adjutant Stork	Leptoptilos dubius
15	Lesser Adjutant Stork	Leptoptilos javanicus
16	Asian Openbill Stork	Anastomus oscitans
17	Indian Pond heron	Ardeola greyii
18	Cattle egret	Bubulcus ibis
19	Little egret	Egreta garzetta
20	Median egret	Egreta intermedia
21	Grey heron	Ardea cineria
22	Purple heron	Ardea purpurea
23	Little Cormorant	Phalacrocorax niger,
24	Large Cormorant	Phalacrocorax carbo
25	Darter	Anhinga rufa
26	Coot	Fulica atra
27	Common Moorhen	Gallinula chloropus
28	PurpleMoorhen	Porphyrio porphyrio
29	Bronzewinged Jacana	Metopidius indicus
30	Black headed Gull	Larus ridibundus
31	Spotted Dove	Streptopelia chinensis
32	Yellow-Footed Green Pegion	Treron phoenicopterus
33	Crimson breasted Barbet	Megalaima haemacephala
34	Lineated Barbet	Megalaima lineata
35	Golden backed Woodpecker	Dinopium bengalense
36	Common Myna	Acridotheres tristis
37	Jungle Myna	Acridotheres fuscus
38	Pied Myna	Sturnus contra
39	House Crow	Corvus splendens

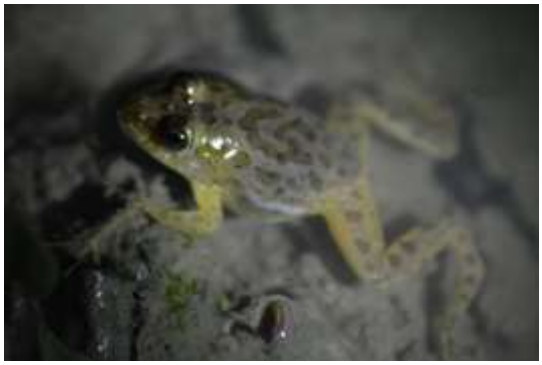
40	Jungle Crow	Corvus macrorhynchos
41	Indian Treepie	Dendrocitta vagabunda
42	Blackheaded Oriole	Oriolus xanthornus
43	Golden Oriole	Oriolus oriolus
44	Black Drongo	Dicrurus adsimilis
45	Red vented Bulbul	Pycnonotus cafer
46	Redwhiskered Bulbul	Pycnonotus jocosus
47	Magpie Robbin	Chopsychus solaris
48	White-Capped Redstart	Chaimarrornis leucocephalus
49	Grey Tit	Parus major
50	White Wagtail	Motacilla alba
51	Hoopoe	Upopa epops
52	White Wagtail	Motacilla alba
53	Ruby Cheeked Sunbird	Chalcoparia singalensis
54	Purple Sunbird	Necterinia asiaticus
55	Rose-Ringed Parakeet	Psittacula krameri
56	Indian Cuckoo	Cuculus micropterus
57	Koel	Eudynamys scolopacea
58	Small Blue Kingfisher	Alcedo atthis
59	Whitebreasted Kingfisher	Helcyon smyrensis
60	Pied Kingfisher	Ceryle rudis
61	Indian Roller	Coracias benghalensis
62	Spotted Owlet	Athene brama
63	Brown Hawk Owl	Ninox scutulata
64	House Swift	Apus affinis

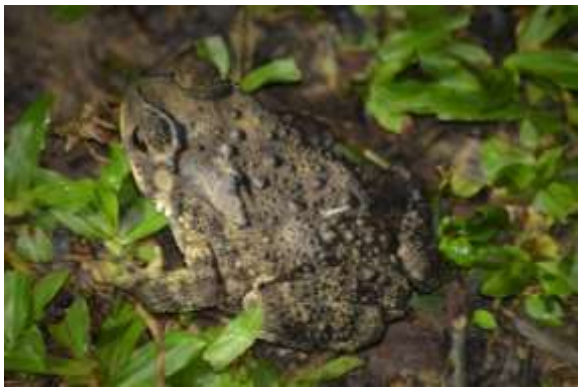


Avian Diversity


Amphibian Diversity

Sl. No	Common Name	Scientific Name
1	Annandales' Pigmy Tree Frog	Chiromantis simus
2	Pointed Nose Frog	Clinotarsus alticola
3	Common Asian Toad	Duttaphrynus melanostictus
4	Indian Skipping Frog	Euphlyctis cyanophlyctis
5	Indian Cricket Frog	Fejervarya limnocharis
6	Pierre's Cricket Frog	Fejervarya pierrei
7	Jerdon's Bull Frog	Hoplobatrachus crassus
8	Indian Bull Frog	Hoplobatrachus tigerinus
9	Taipeh Frog	Hylarana taipehensis
10	Ornamented Pigmy Frog	Microhyla ornata
11	Bhamo Frog	Humerana humeralis

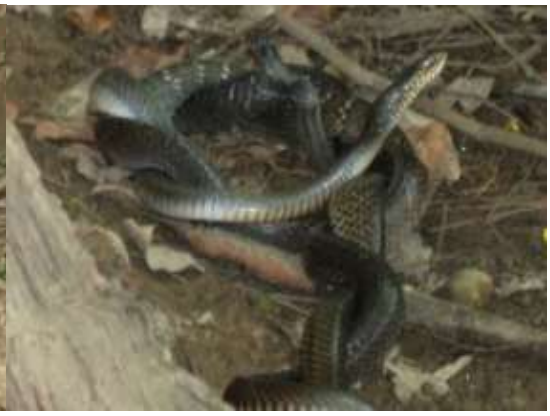




Reptilian Diversity

Sl. No.	Common Name	Scientific Name
1	Indian Softshell Turtle	Nilssonia gangetica
2	Common Indian Skink	Mabuya carinata
3	Assam Olive-brown Skink	Mabuya multifasciata
4	Tokay Gecko	Gecko gecko
5	Common House Gecko	Hemidactylus frenatus
6	Common Indian Monitor	Varanus bengalensis
7	Common Worm Snake	Typhlina bramina
8	Slender Worm Snake	Typhlina porrectus
9	Common Wolf Snake	Lycodon aulicus
10	Banded Wolf Snake	Lycodon fasciatus
11	Common Kukri Snake	Oligodon arnensis
12	Checkered Keelback Water-Snake	Xenochrophis piscator
13	Copperhead Trinket Snake	Elaphe radiata
14	Rat Snake	Ptyas mucosus
15	Banded Racer	Argyrogena fasciolatus
16	Common Bronze-back Tree Snake	Dendrelaphis tristis
17	Common Cat Snake	Boiga trigonata
18	Banded Krait	Bungarus fasciatus

19	Black Krait	Bungarus niger
20	Common Spectackled Cobra	Naja naja naja
21	Common Monocled Cobra	Naja naja kaouthia
22	Pit Viper	Trimeresurus sp.

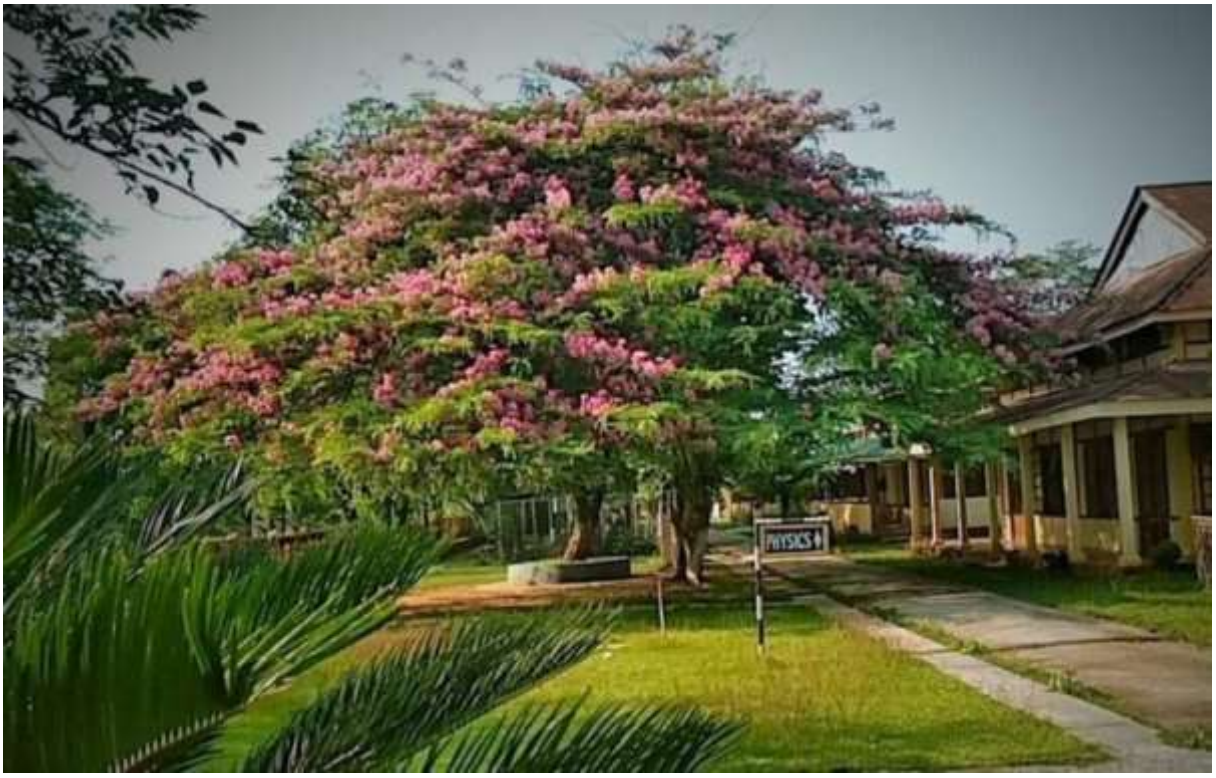


Insect Diversity

No.	Insect Order	Species
1.	Thysanoptera	Gynaikothrips sp.
2.	Ephemeroptera	Coleon sp.
3.	Diptera	Musca sp. Hydrotea sp. Chironomus sp. Clogmia albipunctata Culex sp. Aedes sp. Anopheles sp. Podonomous sp.
4.	Isoptera	Odontotermis sp.
5.	Hymenoptera	Apis indica Oecophylla smaragdina Vespa sp. Euodynerus sp. Messor sp., Bombus sp. Solenopsis sp.
6.	Orthoptera	Mantis sp. Oxya hyla Meconema sp. Periplanata americana Gryllus sp.

		Gryllotalpa sp.
7.	Lepidoptera	Appias libythea Amata sperbis Athyma nefte Pieris canidia Arctornis sp. Gandaca harina Eurema sp. Zizeeria kassandra. Mycalesis sp. Papilio sp.
8.	Coleoptera	Altica sp. Leptispa sp. Eretes sticticus Dineutus indicus Anthia sexguttata Hydrophilus olivaceous Dicladispa armigera Leptispa pygmaea Menochilus sexaculatus Epilachna dodecastigma Batocera rufomaculata Tribolium castaneum Luciola sp.
9.	Odonata	Onychargia atrocyna Libellula sp. Tramea sp. Sympetrum sp.
10.	Hemiptera	Leptocorisa sp. Aleurothrixus sp.

GREEN AUDIT REPORT



SIBSAGAR COLLEGE,
JOYSAGAR
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CONTENTS

FOREWORD

The environment in which we live is extremely important since it is directly tied to our survival. It is the responsibility of each and every individual to keep it healthy. The authority of Sibsagar College, Joysagar formed a Green Audit Report Committee for the year 2020-2021 with its mandate to prepare its first green audit report. The team of Green Audit Report

Committee undertook an environmental self-inquiry of the campus in order to improve environmental quality and to maintain a pristine environment. Green Audit Committee prepared the report with inputs from faculty members, students and other stakeholders engaged for data collection as well as other relevant aspects. The Committee deliberated on various relevant issues in the campus and suggested a series of measures which are under different stages of implementation.

As part of our ongoing effort to document the status of the environment and the activities of the Sibsagar College community, this report is a compilation of records as well as a presentation of snapshots on our commitment towards a green eco-friendly environment. Despite its inherent limitations, this report provides an insight of the status of the environment in the campus as well as practices that indicate to what has to be done in the future to ensure a better and sustainable campus environment.

Students, faculties, and staff of Sibsagar College, Joysagar are committed to undertake this green audit as a means to continually improve its environmental performance and standard in recognition of the immediate and serious threat that climate change poses to the environment.

(Dr. Profulla Ch. Kalita)
Principal and Secretary
Sibsagar College, Joysagar, Assam

GREEN AUDIT REPORT COMMITTEE

Internal Auditor:

Sl. No.	Name	Position/Department
1.	Dr. Profulla Chandra Kalita	Principal, Sibsagar College, Joysagar
2.	Dr. Utpal Dutta	Associate Professor, Department of Botany
3.	Dr. Chinmoyee Sonowal	Associate Professor, Department of Zoology
4.	Dr. Imdadur Rahman	Assistant Professor, Department of Zoology
5.	Dr. Parag Jyoti Gogoi	Assistant Professor, Department of Physics
6.	Dr. Paramartha Gogoi	Assistant Professor, Department of Chemistry
7.	Dr. Kabita Gogoi	Assistant Professor, Department of Botany

External Auditor:

Chapter-I

INTRODUCTION

Sibsagar College, Joysagar, is one of the oldest colleges in the entire province of Assam offering graduate and postgraduate courses affiliated with Dibrugarh University, entering the Platinum Jubilee year on 2nd November, 2021. The college is situated at the eastern bank of Joysagar Tank and is approximately 5 km southwest of Sivasagar town. In 1947, Padmadhar Chaliha founded the college and his son, Paragdhar Chaliha, was the chief architect. Initially affiliated with Gauhati University, from 1965 until the present, the school has been affiliated with Dibrugarh University. The college campus is 103 bighas of land, and the college contains 16

Sl. No.	Name	Position/Department
1.	Dr. Jogen Chandra Kalita	Professor, Department of Zoology, Gauhati University
2.	Dr. Sarat Borkataki	Principal, Nagaon College, Assam
3.	Dr. Sarat Kakoty	Dean of Science, Dibrugarh University, Dibrugarh, Assam

different departments.

The college has acquired the distinction of being included in the list of 'A' grade accredited colleges, recognized by the NAAC. The college has studies centre of Krishna Kanta Handique State Open University and Dibrugarh University distant learning. It has under its arm Sibsagar College of Teachers' Education. The college has extended enormous contribution to the society and community through the activities of the Women Studies and Development Cell (WSDC), NCC, NSS and SCTU.

Green audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of college or university environment. The green audit aims to analyze environmental practices in and around the college campuses, which will have an impact on the eco-friendly atmosphere.

Green auditing is the self assessment process of identifying and determining whether institutions practices are eco-friendly and sustainable. Through the green audit, a direction as how to improve the structure of environment and there are include several factors that have determined the growth of carried out the green audit. Green audit provides overall consciousness among the people working in institution towards an environment. Green audit is a useful tool for an institution to determine whether the resources like energy, water and other resources are consuming more than required. Green audit regulates all such practices and gives an efficient way of natural resource utilization.

In the present era of climate change and resource depletion it is necessary to adopt the system of Green audit to verify the processes and convert it in to green and clean one. Green audit provides overall consciousness among the people towards the environment.

AIM OF THE GREEN AUDIT

1. Identification and documentation of green practices followed by the Sibsagar College.
2. Identify and analyze the strength and weakness in green practices and suggest solution for problems identified.
3. Identify and assess different types of waste management and their impact on environment and resolve environmental issue before they become problem.
4. Increase environmental awareness throughout the college campus for optimized sustainable use of available resources.

OBJECTIVE OF THE GREEN AUDIT

1. To map the geographical location of the college.
2. To examine the current practices in laboratory waste and their management.
3. To document the resources of environment and their sustainable utilization.
4. To identify and analyze significant environmental issues.
5. To assess the management of solid wastes generated in the college campus

Chapter-II

METHODOLOGY

Data for green audit was collected by questionnaires, physical inspection of the college campus, observation and review of documentation and data analysis.

Sibsagar College has build area comprising of various departments, administrative building, library building, teachers colony, students hostel and stadium. All the building, vegetation area and open spaces are checked with the help of questionnaires. Personal observations were made during the onsite visit.

To prepare the green audit, the filled questionnaires of the survey from each group were tabulated as their modules. The tabulated data is then used for further analysis. Interpretation of the overall outcome was made which incorporates all the primary and secondary data. Final report preparation was done using this interpretation.

Survey of tree species, aquatic macrophytes and algal flora of the historic Joysagar tank was also done by the Department of Botany. Plantation drive and awareness camp on conservation are two common practices of the department of Botany

Birds were observed within the transect of 300 m. Binoculars of 10×50 were used for observations. Photography was done with Nikon SLR camera of D 7000 with Zoom lenses. The birds were identified by using slandered books such as Ali (1981), Ali and Ripley (1983), Ali and Futehally (1989), Ali (1996), Ali (2002), Grewal *et al*. (2017).

The insect specimens were identified with the help of available literature (Imms, 1964; Kapoor, 1983; Mani, 1994; Forey and Fitzsimons, 2007; Castner, 2008).

Insect nets were employed for catching flying butterfly. The catching specimens were identified and verified with the help of standard identification manuals and published literatures- Wynter-Blyth (1957), Evans (1932), Haribal (1992), Kunte (2000) and Kehimker (2008).

Physical verification of the by-products of the college canteen and the labs have been done to study the waste management system. Visit of the laboratories has given an idea of the wastes generated in the laboratories and their management; management of the electrical energy and e-wastes.

Chapter-III

OBSERVATION

3.1 Energy use

The college laboratories are well equipped with a good number of instruments ranging from electronic balances to sophisticated PCR etc. which consume huge amount of electric energy during operation. Majority of the classrooms are with projectors which also consume electric energy in addition to the light and fans.

The teachers always suggest the students to put off the switches of the electric gadgets when not in use. This may be considered as one of the best practices towards sustainable use of energy.

To minimize the use of electric energy for drawing water through pumps the college has installed a rain water harvesting unit which is another best practice of the college.

All the departments of the science

3.2 Laboratory Waste Management

Some of the department of the college separated the useful components and cabinets of laboratory equipment which are out of order and then use the same in developing other needful Lab devices. For example, department of Physics uses the components like capacitors, resistors, inductors etc. which are in good condition in designing devices like LCR circuit, LR circuit, battery eliminators, device for measuring velocity of sound. Photographs for such devices are appended herewith. They also collect the damaged LED bulbs and make it ready for reuse. This is a very good practice of the college.



M le

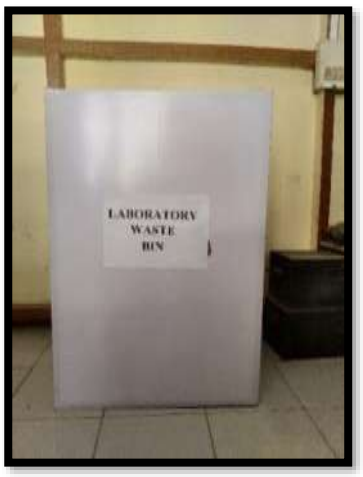
Laboratory Waste Disposal

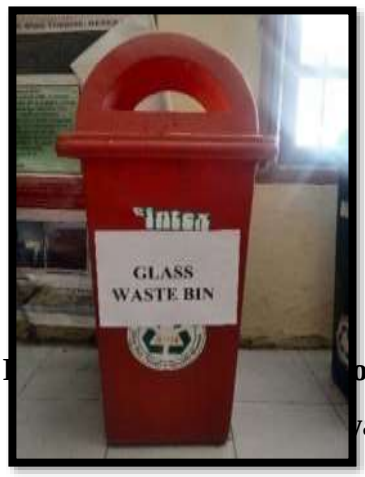
(i) **<u>Glass waste bin:</u>** Broken or unbroken glass parts, should not be placed in general waste

bins. The bottle cap can be removed and disposed in the general waste bin. Broken glass should be treated as Sharps waste. If pieces of broken glass are too large for a sharps container, they should be placed into an impervious container with a secure lid, and then placed in appropriate wheelie bin. Any glass that has been contaminated, and unable to be safely decontaminated, should be treated as other waste of the same hazard e.g. Chemically Contaminated Waste Biological/Clinical, Bio security Waste, cytotoxic etc. Contaminated glass containers or laboratory glass such as glass slides, beakers, volumetric flasks of other Pyrex items cannot be placed in general recycling bins. Each and every science department generate such types of glass wastes. The college authority collects such types of materials and sale them from time to time following proper rules.

(ii) <u>E- waste bin</u>: The unused or out of order electronic parts of the damaged electronic parts are stored in the e-waste bin and they are sold after proper bidding process for reuse. Since the municipal area is quite away from the college, these can not be directly transferred to the municipality waste bin.

(iii) **<u>Laboratory Waste bin</u>**: The damaged mechanical parts of the laboratory equipment such as cabinets of electronic equipment, bottle caps, glass holders etc. are stored in the laboratory waste bins and finally send to scrap for disposal.





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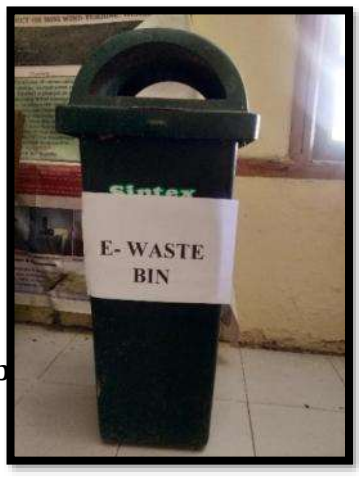


3.3 BIODIVERSITY

Biodiversity includes plants and animals of a specified area. The college campus is rich in biodiversity.

The college campus has sufficient number of tree species. Aquatic macrophytes are also available in the Joysagar tank. This is the reason why faunal species are also abundant. Therefore, diverse types of insects, amphibians, reptiles, birds and mammals are also found in

the college campus. Hence, vectors of pollination are also available which make a strong ecosystem in the college campus. During winter thousands of migratory birds visit the neighbouring Joysagar tank.

It is the prime duty of the authority to pay maximum effort to conserve the biodiversity of the college campus and its vicinity.

During the visit is has been come to our knowledge that the college along with the Department of Botany and Zoology always inspire the students of the college not to destroy the eco-system as a whole and always advice them to maintain the eco-friendly environment within the college campus.

3.3.1 Floral diversity in the Sibsagar College Campus

There are 215 tree individuals covering the whole campus. Survey of tree species, aquatic macrophytes and algal flora of the historic Joysagar tank was also done by the Department of Botany. Plantation drive and awareness camp on conservation are two common practices of the department of Botany.

Table 1. List of plant species in the Botanical Garden

Code	Scientific Name	Family
BG 001	*Ocimum sanctum* Linn.	Lamiaceae
BG 002	*Punicagrantum* Linn.	Myrtaceae
BG 003	*Centellaasiatica* (L) Urban	Apiaceae
BG 005	*Oxalis debilis* var. corymbosa (DC.) Lourteig	Oxalidaceae
BG 006	*Oxalis corniculata* Linn.	Oxalidaceae
BG 007	*Alternantherasessilis* (L.) R.Br. ex DC	Amaranthaceae
BG 008	*Wedelliacalendulacea* Lees	Asteraceae
BG 009	*MenthaArvensis* L	Lamiaceae
BG 010	*Eclipta alba*Hassa	Asteraceae
BG 011	*Bacopamonnieri* (L) Pennel	Scrophulariaceae
BG 012	*Andrographispaniculata* (Burm f.) Wall ex Nees	Acanthaceae
BG 013	*Mimosa pudica* L	Mimosaceae
BG 014	*Tridaxprocumbens* L.	Asteraceae
BG 015	*Houttuyeniacordata*Thunb	Sauraceae
BG 016	*Drymariacordata* (L) Willd.	Caryophyllaceae
BG 017	*Eryngiumfoetidum* L	Apiaceae
BG 019	*Fragariaindica*Arnd.	Rosaceae
BG 020	*Catheranthusroseus* (L) G. Don	Apocynaceae
BG 021	*Heliotropiumindicum* (L) Kurt G. Kissmann	Boraginaceae

BG 022	*Spilanthesacmella* L	Asteraceae
BG 023	*Leucasplukentii* (Roth) Spreng	Lamiaceae
BG 024	*Passifloraedulis* Sims F.	Passifloraceae
BG 025	*Amaranthusspinosus* L	Amaranthaceae
BG 026	*Phlogocanthusthyrsiflorus*Nees	Acanthaceae
BG 027	*Achasmaloroglossum* (Gagnep) Larsen	Zingiberaceae
BG 028	*Rauwolfiatetraphyla*Benth	Apocynaceae
BG 029	*Kalanchoepinnata* (Roxb) Pers	Crassulaceae
BG 030	*Costusspeciosus*Koen ex. Retz.) Sm.	Zingiberaceae
BG 031	*Aquilariamalaccensis*Lamk	Thymaleaceae
BG 032	*Calamusleptospadix*Griff.	Arecaceae
BG 033	*Livistonajenkinsiana*Griff	Arecaceae
BG 034	*Flemingiastrobilifera* (L) Br.	Papillianaceae
BG 035	*Cassia alata* L	Caesalpinaceae
BG 036	*Psidiumguajava* L	Myrtaceae
BG 037	*Averrhoacarambola* L	Averrhoaceae
BG 040	*Coffeaarabica* L	Rubiaceae
BG 041	*Murrayakoengii* (L) Spreng	Rutaceae
BG 042	*Ocimumbasilicum* L	Lamiaceae
BG 043	*Cascabelathevetia* (L) Lippold	Apocynaceae
BG 044	*Leonarussibiricus* Linn.	Lamiaceae
BG 045	*Lawsoniainermis* Linn.	Lythraceae
BG 047	*Spondiasmangifera*Willd	Anacardiaceae
BG 048	*Erythrinaindica* Lam	Leguminosae
BG 049	*Morusindica* Linn.	Moraceae
BG 050	*Asparagus racemosus*Willd.	Liliaceae
BG 051	*Elaeocarpusfloribundus* (Blume)	Elaeocarpaceae
BG 052	*Piper nigrum* L.	Piperaceae
BG 053	*Paederiafoetida* L.	Rubiaceae
BG 054	*Daturastramonium* L.	Solanaceae
BG 055	*Pandanusodorus*Salisb.	Pandanaceae
BG 056	*Lasiaspinosa* (L) Thw	Araceae
BG 057	*Ananascomosus* (L) Merr	Bromaliaceae
BG 058	*Flacourtiacataphracta*Roxb.	Flacourtiaceae
BG 059	*Polygonumchinense* L.	Polygonacaea
BG 060	*Solanumindicum* L	Solancaeae
BG 061	*Zanthoxylumhamiltonianum* Wall	Rutaceae
BG 062	*Acoruscalanus* L.	Araceae
BG 063	*Rumexacetosella* L.	Polygonaceae
BG 064	*Ricinuscommunis* L.	Euphorbiaceae
BG 065	*Buteamonosperma* Lam.	Papilionaceae
BG 066	*Crataevareligiosa* (Forst) Hook. f and Th	Capparidaceae
BG 068	*Solanumxanthocarpum*Schred and Wendle	Solanaceae
BG 069	*Zyziphus jujube*Lamk	Rhamnaceae

BG 070	*Euphorbia hirta* L.	Euphorbiaceae
BG 071	*Saccharumofficinarum* L.	Poaceae
BG 072	*Abromaaugusta* L	Sterculiaceae
BG 073	*Camellia sinensis* var. assamica L.	Theaceae
BG 074	*Polygonumhydropiper* L.	Polygonaceae
BG 018	*Oldenlandiadiffusa*Roxb.	Rubiaceae
BG 038	*Carallialucida*Roxb.	Rhizophoraceae
BG 004	*Hydrocotylerotundifolia*Roxb.	Apiaceae
BG 075	*Rubusellipticus* (Franch.) Thaun	Rosaceae

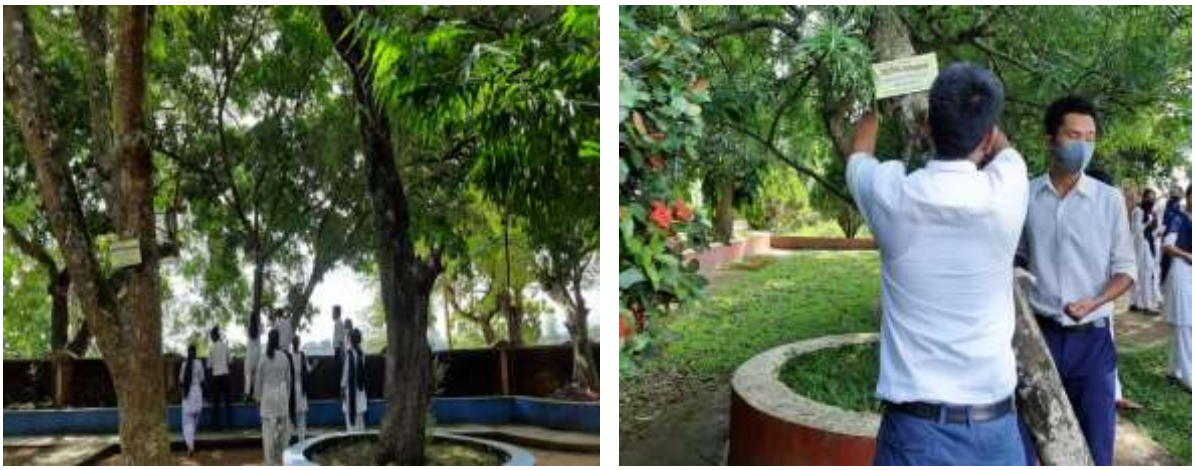


Fig. Naming of plants by the students of Botany department

Table 2. List of Orchid species growing in Shade house of the Botanical garden, Sibsagar College, Joysagar.

1. *Aeridesmultiflora*Roxb.
2. *Agrostophyllumkhasianum*,Griff
3. *Bulbophyllum affine* Lindley
4. *Bulbophyllumcareyanum* Hook. Spreng.
5. *Bulbophyllumsikkimensis* King &Pantling J.J. Smith
6. *Cleisostomaappendiculatum* (Lindl.) Benth. Hook.f.ex Jackson
7. *Cymbidium aloifolium* (L.) Sw.

8. *Cymbidium bicolour*. Lindl. subsp. *obtusum* Du Puy&Cribb.
9. *Dendrobiumaphyllum* (Roxb.) Fischer
10. *Dendrobiumlituiflorum*Lindl
11. *Dendrobiummoschatum* (Buch.Ham) Swartz
12. *Luisiatrichorrhiza,* (Hook.) Blume.
13. *Papilionantheteres* (Roxb) Schltr
14. *Pholidota articulate*Lindl
15. *Phaiustankervelli*Lindl.
16. *Dendrobiumterminale*Parish. &Reichb.f
17. *Dendrobiumfimbriatum*Hk.
18. *Eria pubescence* (Hook) Lindl.
19. *Pholidota imbricate* var. SessilisHk.f.
20. *Rynchostylisretusa*(L.) Blume.

Fig. Botanical Garden in the Sibsagar College campus

Table 3. List of Tree species in and around the Sibsagar College, Joysagar.

	Scientific Name	Family	Common	Distribution
1	*Mangiferaindica*Linn.	Anacardiaceae	Aam	Common
2	*Spondiasmangifera*Willd.	Anacardiaceae	Amora	Common
3	*Polyalthialongifolia*Sonn.	Anonaceae	Debodaru	Common
4	*Anonasquamosa*Linn.	Anonaceae	Atlas	Rare
5	*Alstoniascholaris*R.Br.	Apocynaceae	Chatiana	Common
6	*Plumeria alba* Linn.	Apocynaceae	Gulanchi	Common
7	*Averrhoacarambola*Linn.	Aquilifoliaceae	Kordoi	Common
8	*Heteropanaxfragrans*Seem.	Araliaceae	Keseru	Common
9	*Oroxylumindicum Vent.*	Bignoniaceae	Bhat-ghila	Common

10	*Bombaxceiba Linn*	Bombacaceae	Himolu	Common
11	*Ceibapentandra (Linn) Gaertn.*	Bombacaceae	BogaHimolu	Common
12	*Ehretiaacuminata R.Br.*	Boraginaceae	Boal	Common
13	*Cassia auriculata Linn.*	Caesalpiniaceae	Medelua	Common
14	*Cassia seameaBuch.-Ham*	Caesalpiniaceae	GulapiHonaru	Common
15	*Tamarindusindica Linn.*	Caesalpiniaceae	Teteli	Common
16	*Caesalpiniapulcherrima*	Caesalpiniaceae	Krishna-	Common
17	*Poinciana regiaBojr.*	Caesalpiniaceae	Radha-chura	Common
18	*Bauhinia alba (Linn) Hort*	Caesalpiniaceae	Kanchan	Common
19	*Cassia fistula(Linn)*	Caesalpiniaceae	Sonaru	Common
20	*CasuarinaequisetifoliaForst.*	Casuarinaceae	Jhau	Rare
21	*TerminaliabelericaRoxb.*	Combretaceae	Bhomora	Rare
22	*Terminaliachebula Retz.*	Combretaceae	Hilikha	Common
23	*Terminaliaarjuna Weight &*	Combretaceae	Arjun	Common
24	*Dilleniaindica Linn.*	Dilleniaceae	Ou-tenga	Common
25	*Elaeocarpusfloribundus Bl.*	Elaeocarpaceae	Jalphai	Common
26	*Phyllanthusemblica Linn.*	Euphorbiaceae	Amlakhi	Common
27	*MallotusalbusMuell-Arg.*	Euphorbiaceae	Morolia	Common
28	*MallotusphilippinensisMuell-*	Euphorbiaceae	Henduri	Common
29	*FlacourtiacataphractaRoxb.*	Flacourtiaceae	Ponial	Common
30	*Mesuaferrea Linn.*	Gutiferae	nahor	Common
31	*Machilusbombicina King.*	Lauraceae	Som-goch	Common
32	*Litsaeamonopetala (Roxb)Pers.*	Lauraceae	Hualu	Common
33	*Lagerstroemia flos-reginae*	Lythraceae	Ajar	Common
34	*Meliaazedarach Linn*	Meliaceae	Ghoraneem	Common
35	*ToonaciliataRoem.*	Meliaceae	Jiya-Poma	Common
36	*AzadirachtaindicaA.Juss.*	Meliaceae	Mohaneem	Common
37	*Albizzialebbek (L) Benth.*	Mimosaceae	Koroi	Common
38	*AlbizzialucidaBenth.*	Mimosaceae	Maj	Common
39	*AlbizziastipulataBoivin.*	Mimosaceae	Saw koroi	Common
40	*PithecobiumsamanBenth.*	Mimosaceae	Sirish	Common
41	*Acacia auriculiformis A. Cunn.*	Mimosaceae	Auri	Common
42	*Acacia obtusifoliaA.Cunn.*	Mimosaceae	Acacia	Rare
43	*AlbizziaproceraBenth.*	Mimosaceae	Bogakoroi	Common
44	*Ficusbengalensis Linn.*	Moraceae	Borgoch	Common
45	*FicuselasticaRoxb.*	Moraceae	Rabar	Common
46	*Ficusbenjamina (L.)Willd.*	Moraceae	Jari-gach	Common
47	*Ficusrumphii Bl.*	Moraceae	Pakori-Goch	Common
48	*Ficusreligiosa Linn.*	Moraceae	Ahotgoch	Common
49	*FicusglomerataRoxb.*	Moraceae	Dimoru	Common
50	*Artocarpusheterophyllus Lam.*	Moraceae	Kathal	Common
51	*Morus alba Linn.*	Moraceae	Nooni	Common
52	*ArtocarpuslakoochaRoxb.*	Moraceae	Bohot	Rare
53	*ArtocarpuschaplashaRoxb.*	Moraceae	Sam-kathal	Rare
54	*MoringaoleiferaLamk.*	Moringaceae	Sajina	Common
55	*RavenalamdagascariensisSonn.*	Musaceae	Traveller's	Rare
56	*Callistemon lanceolatus DC*	Myrtaceae	Bottlle-brus	Common
57	*Psidiumguayava Linn.*	Myrtaceae	Modhuriam	Common

58	*Eucalyptus citriodora Hook.*	Myrtaceae	Eucalyptus	Common
59	*Syzygiumcuminii (Linn)Skeels.*	Myrtaceae	Kola jamu	Common
60	*SyzygiumkurziiDathie*	Myrtaceae	Bogi-jamu	Common
61	*Eugenia fruticosaRoxb.*	Myrtaceae	Katia jamu	Common
62	*Syzygiummalaccansis Linn.*	Myrtaceae	Pani-jamu	Common
90	*Nyctanthes arbor-tristis L.*	Oleaceae	Hewali	Common
63	*Phoenix sylvestrisRoxb.*	Palmae	Khejur	Common
64	*Areca catechu Willd.*	Palmae	Tamul	Common
65	*Cocosnucifera Linn.*	Palmae	Narikol	Common
66	*LivistoniajenkinsianaGriff.*	Palmae	Tokou-goch	Common
67	*Pinangragracilis*	Palmae	Mamori-	Common
68	*Caryotaurens Linn.*	Palmae	Chewatamul	Common
69	*Pandanastectorius Park.*	Pandanaceae	Keteki	Common
70	*DalbergiasissooRoxb.*	Papilionaceae	Sissoo	Common
71	*Pongamiapinnata (L.) Pierre*	Papiliopnaceae	Karach	Common
72	*Erythrinaindica Lam.*	Papiliopnaceae	Modar	Common
73	*Buteamonosperma (Lam.)Taub.*	Papillionaceae	Palash	Common
74	*PinuslongifoliaRoxb.*	Pinaceae	Pine	Rare
75	*GrevillearobustaA.Cunn.*	Protiaceae	Silver-oak	Common
76	*Zizyphusjujuba (L.) Lamk.*	Rhamnaceae	Bogori	Common
77	*AnthocephaluscadambaMiq.*	Rubiaceae	Kodom	Common
78	*VangueriaspinosaRoxb.*	Rubiaceae	Kotkora	Rare
79	*Adina cordifolia Hook.*	Rubiaceae	Halodhi-sopa	Common
80	*Aeglemarmelos(L.) Correa*	Rutaceae	Bel	Common
81	*Salix tetraspermaRoxb.*	Salicaceae	Bhe	Common
82	*SapindasmukorossiGaertn.*	Sapindaceae	Monichal	Common
83	*Litchi chinensisSonner*	Sapindaceae	Lichu	Common
84	*MimusopselengRoxb.*	Sapotaceae	Bokul	Common
85	*AquilariaagallochaRoxb.*	Thymeliaceae	Sanshi	Common
86	*Premnabengalensis Clarke*	Verbenaceae	Gahara	Common
87	*Gmelinaarborea Linn.*	Verbenaceae	Gamari	Common
89	*Tectonagrandis Linn.*	Verbenaceae	Shegun	Common

3.3. 2 Faunal diversity in the Sibsagar College Campus

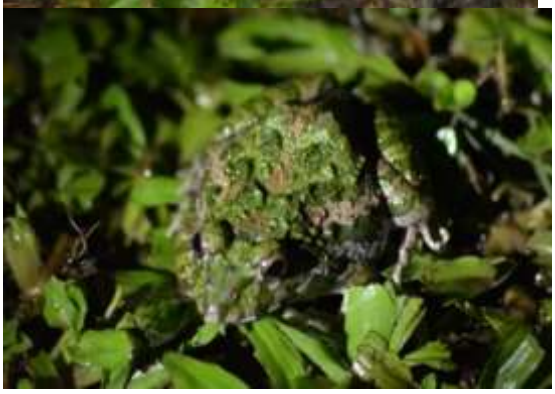
Table 4: Mammalian diversity in the Sibsagar College Campus

Sl. No.	Common Name	Scientific Name
1	Mongoose	*Helogale parvula*

2	Himalayan Hoary- bellied Squirrel	*Callosciurus pygerythrus*
3	Lesser Bandicoot-Rat	*Bandicota bengalensis*
4	Large Bandicoot-Rat	*Bandicota indica*
5	House Rat	*Rattus rattus*
6	House Mouse	*Mus musculus*
7	Asiatic Greater Yellow House Bat	*Scotophilus heathii*

Table 5: Amphibian Diversity of Sibsagar College Campus

Sl. No.	Common Name	Scientific Name
1	Annandales' Pigmy Tree Frog	*Chiromantis simus*
2	Pointed Nose Frog	*Clinotarsus alticola*
3	Common Asian Toad	*Duttaphrynus melanostictus*
4	Indian Skipping Frog	*Euphlyctis cyanophlyctis*
5	Indian Cricket Frog	*Fejervarya limnocharis*
6	Pierre's Cricket Frog	*Fejervarya pierrei*
7	Jerdon's Bull Frog	*Hoplobatrachus crassus*
8	Indian Bull Frog	*Hoplobatrachus tigerinus*
9	Taipeh Frog	*Hylarana taipehensis*
10	Ornamented Pigmy Frog	*Microhyla ornata*
11	Bhamo Frog	*Humerana humeralis*



Duttaphrynus melanostictus

Hoplobatrachus crassus

Euphlyctis cyanophlyctis

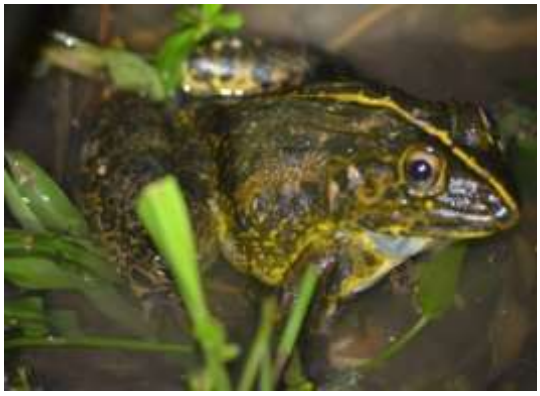
Humerana humeralis

Microhyla ornate

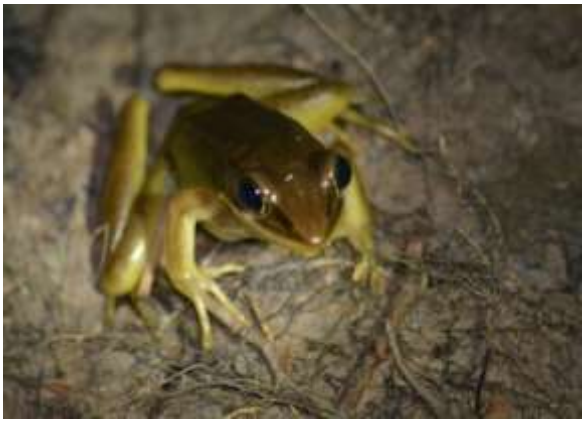
Chiromantis simu

Fig. Amphibian diversity in the Sibsagar College Campus

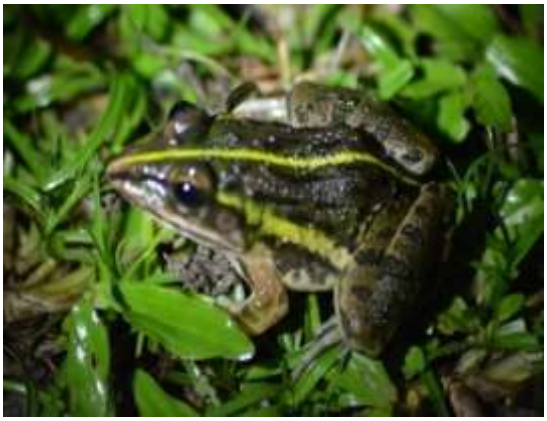
Hylarana taipehensis



Hoplobatrachus tigerinus



Clinotarsus alticola



Fejervarya pierrei

Fejervarya limnocharis

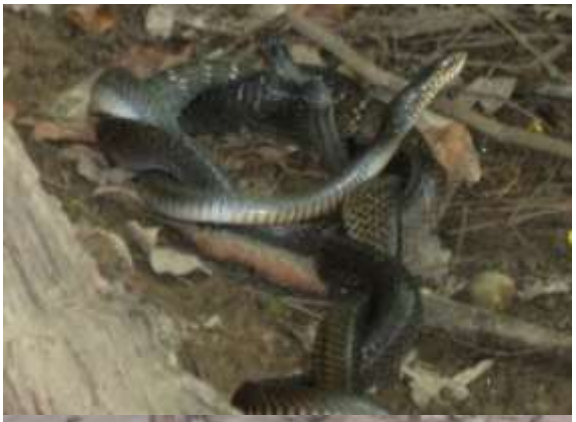
Mating of *Hoplobatrachus crassus*

Fig. Amphibian diversity in the Sibsagar College Campus

Table 6: Reptilian Diversity of Sibsagar College Campus

Sl. No.	Common Name	Scientific Name

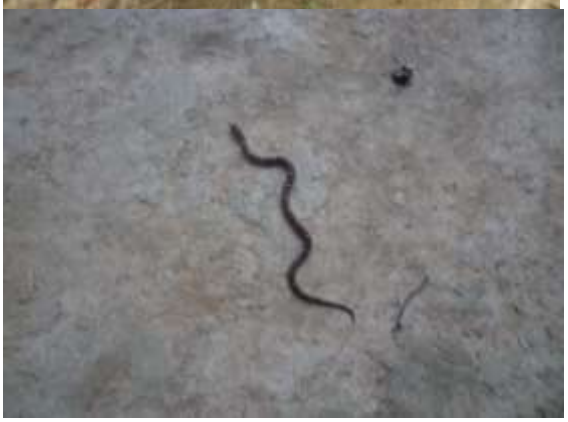
1	Indian Softshell Turtle	*Nilssonia gangetica*
2	Common Indian Skink	*Mabuya carinata*
3	Assam Olive-brown Skink	*Mabuya multifasciata*
4	Tokay Gecko	*Gecko gecko*
5	Common House Gecko	*Hemidactylus frenatus*
6	Common Indian Monitor	*Varanus bengalensis*
7	Common Worm Snake	*Typhlina bramina*
8	Slender Worm Snake	*Typhlina porrectus*
9	Common Wolf Snake	*Lycodon aulicus*
10	Banded Wolf Snake	*Lycodon fasciatus*
11	Common Kukri Snake	*Oligodon arnensis*
12	Checkered Keelback Water-Snake	*Xenochrophis piscator*
13	Copperhead Trinket Snake	*Elaphe radiata*
14	Rat Snake	*Ptyas mucosus*
15	Banded Racer	*Argyrogena fasciolatus*
16	Common Bronze-back Tree Snake	*Dendrelaphis tristis*
17	Common Cat Snake	*Boiga trigonata*
18	Banded Krait	*Bungarus fasciatus*
19	Black Krait	*Bungarus niger*
20	Common Spectackled Cobra	*Naja naja naja*
21	Common Monocled Cobra	*Naja naja kaouthia*
22	Pit Viper	*Trimeresurus sp.*



Rate Snake (*Ptyas mucosus*)

Copper-headed Trinket Snake (*Elaphe radiata*)

Banded Krait (*Bungarus fasciatus*)



Banded Wolf Snake (*Lycodon fasciatus*)

Fig. Reptilian diversity in the Sibsagar College Campus

Table 7: Avian diversity in the Sibsagar College Campus and in the Joysagar Tank

Sl. No.	Common name	Scientific name
1	Great Crested Grebe	*Podiceps cristatus*
2	Greylag Goose	*Anser anser*
3	Bar headed Goose	*Anser indicus*
4	Lesser Whistling Teal	*Dendrocygna javanica*
5	Brahmini Duck	*Tadorna ferruginea*
6	Northern Pintail	*Anas acuta*
7	Common Teal	*Anas creca*
8	Spot-billed Duck	*Anas poecilorhyncha*
9	Mallard	*Anas platyrhynchos*
10	Gadwall	*Anas strepera*
11	Shoveller	*Anas clypeata*
12	Common Pochard	*Aythya ferina*
13	Tufted Duck	*Aythya fuligula*
14	Greater Adjutant Stork	*Leptoptilos dubius*
15	Lesser Adjutant Stork	*Leptoptilos javanicus*
16	Asian Open bill Stork	*Anastomus oscitans*
17	Indian Pond heron	*Ardeola greyii*
18	Cattle egret	*Bubulcus ibis*
19	Little egret	*Egreta garzetta*
20	Median egret	*Egreta intermedia*
21	Grey heron	*Ardea cineria*
22	Purple heron	*Ardea purpurea*
23	Little Cormorant	*Phalacrocorax niger,*
24	Large Cormorant	*Phalacrocorax carbo*
25	Darter	*Anhinga rufa*
26	Coot	*Fulica atra*
27	Common Moorhen	*Gallinula chloropus*
28	Purple Moorhen	*Porphyrio porphyrio*
29	Bronze winged Jacana	*Metopidius indicus*
30	Black headed Gull	*Larus ridibundus*
31	Spotted Dove	*Streptopelia chinensis*
32	Yellow-Footed Green Pigeon	*Treron phoenicopterus*
33	Crimson breasted Barbet	*Megalaima haemacephala*
34	Lineated Barbet	*Megalaima lineata*
35	Golden backed Woodpecker	*Dinopium bengalense*
36	Common Myna	*Acridotheres tristis*
37	Jungle Myna	*Acridotheres fuscus*
38	Pied Myna	*Sturnus contra*

39	House Crow	*Corvus splendens*
40	Jungle Crow	*Corvus macrorhynchos*
41	Indian Tree pie	*Dendrocitta vagabunda*
42	Black-headed Oriole	*Oriolus xanthornus*
43	Golden Oriole	*Oriolus oriolus*
44	Black Drongo	*Dicrurus adsimilis*
45	Red vented Bulbul	*Pycnonotus cafer*
46	Red-whiskered Bulbul	*Pycnonotus jocosus*
47	Magpie Robin	*Chopsychus solaris*
48	White-Capped Redstart	*Chaimarrornis leucocephalus*
49	Grey Tit	*Parus major*
50	White Wagtail	*Motacilla alba*
51	Hoopoe	*Upopa epops*
52	White Wagtail	*Motacilla alba*
53	Ruby Cheeked Sunbird	*Chalcoparia singalensis*
54	Purple Sunbird	*Necterinia asiaticus*
55	Rose-Ringed Parakeet	*Psittacula krameri*
56	Indian Cuckoo	*Cuculus micropterus*
57	Koel	*Eudynamys scolopacea*
58	Small Blue Kingfisher	*Alcedo atthis*
59	White-breasted Kingfisher	*Helcyon smyrensis*
60	Pied Kingfisher	*Ceryle rudis*
61	Indian Roller	*Coracias benghalensis*
62	Spotted Owlet	*Athene brama*
63	Brown Hawk Owl	*Ninox scutulata*
64	House Swift	*Apus affinis*

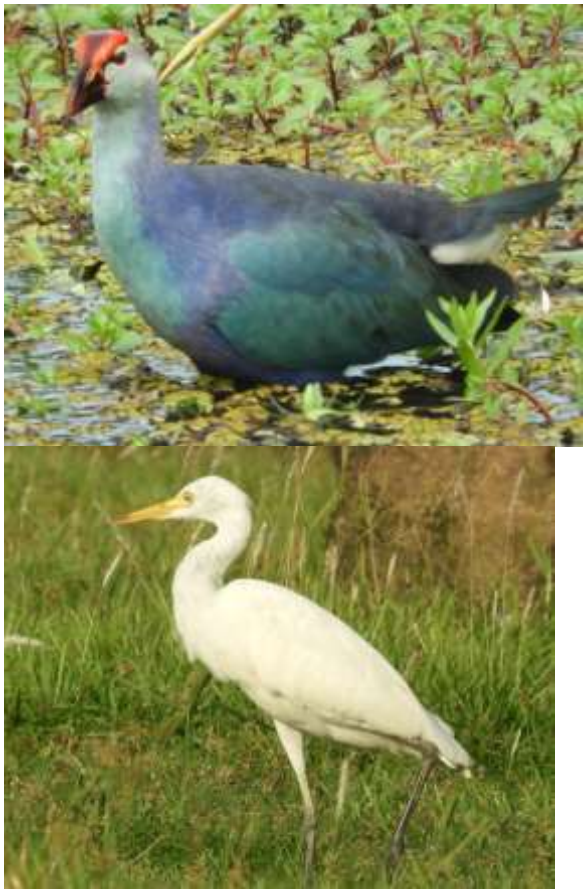


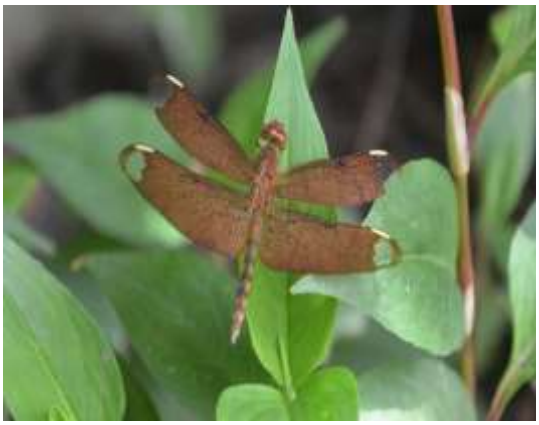
Fig. Avian diversity in in the Sibsagar College Campus

Table 8 : Diversity of insects in the Sibsagar College Campus.

No.	Insect Order	Species
1.	Thysanoptera	*Gynaikothrips sp.*
2.	Ephemeroptera	*Coleon sp.*
3.	Diptera	*Musca sp.* *Hydrotea sp.* *Chironomus sp.* *Clogmia albipunctata* *Culex sp.* *Aedes sp.* *Anopheles sp.* *Podonomous sp.*
4.	Isoptera	*Odontotermis sp.*
5.	Hymenoptera	*Apis indica* *Oecophylla smaragdina* *Vespa sp.* *Euodynerus sp.* *Messor sp.,*

		Bombus sp. *Solenopsis sp.*
6.	Orthoptera	*Mantis sp.* *Oxya hyla* *Meconema sp.* *Periplanata americana* *Gryllus sp.* *Gryllotalpa sp.*
7.	Lepidoptera	*Appias libythea* *Amata sperbis* *Athyma nefte* *Pieris canidia* *Arctornis sp.* *Gandaca harina* *Eurema sp.* *Zizeeria kassandra.* *Mycalesis sp.* *Papilio sp.* *Polyura atahanas* *Vindula erota* *Castalius rosimon* *Lexias cyanipardus* *Eurena brigitta* *Graphium doson* *Lampides boeticus* *Imbrix salsala* *Pseudocoladenia dan* *Pelopidas mathias* *Sinthusa nasaka* *Appias lyncida* *Junonia almanac* *Lebadea marpha*
8.	Coleoptera	*Altica sp.* *Leptispa sp.* *Eretes sticticus* *Dineutus indicus* *Anthia sexguttata* *Hydrophilus olivaceous* *Dicladispa armigera* *Leptispa pygmaea* *Menochilus sexaculatus* *Epilachna dodecastigma* *Batocera rufomaculata* *Tribolium castaneum* *Luciola sp.*
9.	Odonata	*Onychargia atrocyna* *Libellula sp.* *Tramea sp.* *Sympetrum sp.*

10.	Hemiptera	*Leptocorisa sp.* *Aleurothrixus sp.*



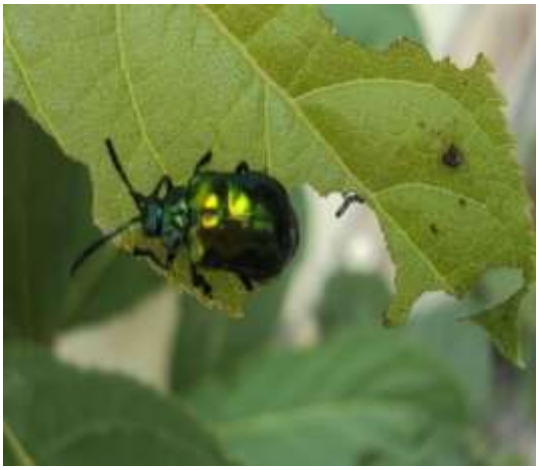
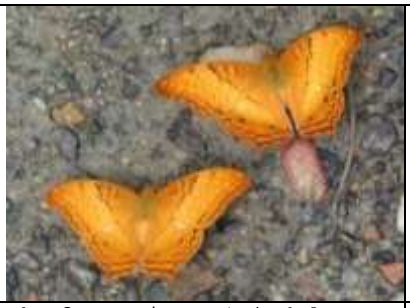
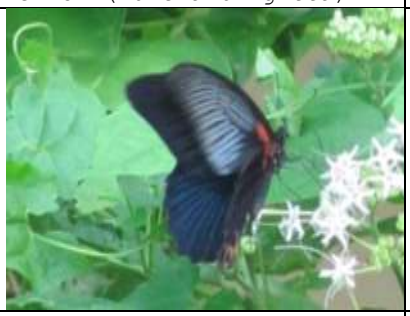
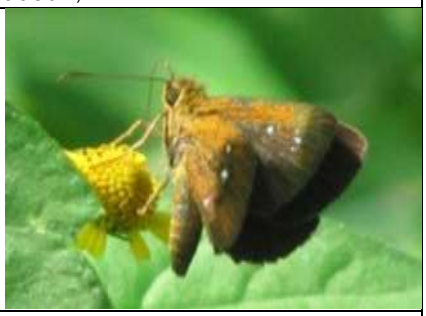


Fig. Insect diversity in Sibsagar College Campus

		
Pic-1: Common Nawab (*Polyura athamas*)	**Pic-2:** Cruiser (*Vindula erota*)	**Pic.-3:** Common Pierrot (*Castalius rosimon*)
		
Pic.-4: Great Archduke (*Lexias cyanipardus*)	**Pic.-5:** Common Grass Yellow (*Eurema brigitta*)	**Pic-6:** Common Jay (*Graphium doson*)
		
Pic-7: Pea Blue (*Lampides boeticus*)	**Pic-8:** Great Mormon (*Papilio memnon*)	**Pic-9:** Chestnut Bob (*Imbrix salsala*)

		
Pic-10: Fulvous Pied Flat (*Pseudocoladenia dan*)	**Pic-11:** Small branded swift (*Pelopidas mathias*)	**Pic-12:** Narrow Spark (*Sinthusa nasaka*)
		
Pic-13: Chocolate Albatros (*Appias lyncida*)	**Pic-14:** Peacock Pansy (*Junonia almanac*)	**Pic-15:** Knight (*Lebadea martha*)

Fig. Some photographic plates of butterflies

Chapter- IV

RECOMMENDATIONS

From the observation during the study carried out by the green audit team, the team recommends the following, which will help the college in making its environment more eco-friendly.

1. The college authority organizes environmental awareness programmes from to time, but it would be more effective if such campaigns can be organized each and every year to aware the new students admitted in the college to be eco-friendly.
2. Scientific project on Vermicompost and solid waste management system should be introduced.
3. The college should take initiative to aware the students, staff and faculty members about the go-green concept. Proper knowledge on bio-degradable and non-biodegradable solid wastes should be given to the students. The existing number of bins for segregating biodegradable and non-biodegradable wastes can be increased.
4. During the construction of buildings care should be taken not to harm the flora and fauna of the college campus.
5. Plants like *Vetiver zizanioides* can be planted on the slopes of the college campus which

will help to protect soil erosion. *Thevetia peruviana,* Margosa and *Azadirachta indica* can be planted to purify the atmosphere.

Chapter- V

CONCLUSION

Environment is the prime concern at the present day context. The college has formed a green audit team in order to assess the overall health of the environment of the college campus. The findings of present green audit reflect a clean and eco-friendly campus of the Sibsagar College, which can be taken for improvement in the campus.

The college campus is located at a site having an original natural beauty with the historic Joysagar tank. A large area of the campus is under green coverage with a rich biodiversity in terms of diverse plant and animal species. The Joysagar tank is the source of water for all purposes of the campus except drinking. However, the college has installed a rain water harvesting unit to minimize the use of electric energy within the college campus.

There are two types of separate waste disposal containers to segregate the biodegradable wastes from the non-biodegradable ones. E- waste are segregated, handled and disposed properly in an eco-friendly manner. Reducing the use of one-time use plastic bottles, cups, folders, pens, bouquets, decorativeitems will be useful to solve the problem of plastic pollution to some extent.

The college fraternity is highly concerned with the need of maintaining a clean and healthy environment, and appropriate measures are being adopted for disposal and management of various waste materials.

It can be concluded that the college is maintaining a healthy environment. For further improvement of the environment and sustainable use of the resources certain measures are recommended.

** ** **