REPORT OF GREEN AUDIT
OF CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT, BOLANGIR CAMPUS, ODISHA (2021-22)

Green audit CUTM Bolangir

2021-22

Preface

Institutional self-inquiry is a natural and necessary outgrowth of quality of higher education. Concern about environmental degradation and realization of values of environment are logical consequences of scholarly research, teaching and learning process. In its pursuit for improving environmental quality and to maintain a pristine environment for the future generation of students, Centurion University has made a self-inquiry on environmental quality of the campus with the following objectives: (i) To establish a baseline of existing environmental conditions with focus on natural and physical environment; (ii) To understand the current practices of sustainability with regard to the floral and faunal diversity inside the campus (iii) To promote environmental awareness through participatory auditing process; and (iv) To create a report that document baseline data of good practices and provide future strategies and action plans towards improving environmental quality for future.

This report is compiled by a committee constituted by IQAC. As there was no standard model for such a green audit of campuses in the state, the committee brainstormed and evolved a questionnaire. With the help of student volunteers and faculties of respective departmrnts the major part of the data was compiled, which the committee analyzed. The remaining part which involved measurement of quality was entrusted with the Department of Botany and Department of Zoology of Centurion University of Technology and Management, Odisha. The committee has made short term and long term suggestions to take environment protection to higher levels and it is hoped that this will receive due attention of University authorities and also all stake-holders of the University.

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CUTM campus Audit aims to address the need for more comprehensive and focused Education Training and Holistic Development of an institution. In the world of advanced researches and globalization an audit programme of the institution provides knowledge about the detailed working of the various campus entities and the scope for betterment in areas of education and environmental action programmes. The outcome of green audit programmes give an insight into better running of the institution and judicious utilization of its available resources, their improvement, quality enhancement and conservation and spreading the information through awareness programmes. Such practices help building holistic personality of pupils and the faculty members and is imperative towards shaping the way of "Action Learning" programme and its successful implementation.

CUTM Bolangir campus is Situated in the western region of Odisha, the campus is spread over 15 acres of land. The CUTM Balangir Campus is located in the heart of the Balangir City which is well connected by rails and roadways. The territory comprising the district of Balangir was part of the erstwhile Patna State. The Patna State was an important State in western Odisha under the Chauhans since 14th century AD. 1st November 1949 the ex-States of Patna and Sonepur were separated and they together formed a new district called Balangir district. The name Balangir is said to have been derived from Balaramgarh, a fort built here in the 16th Century by Balram Deo, the19th Raja of Balangir and founder of Sambalpur kingdom.

Methodology followed

Campus biodiversity study programme was conducted by internal team member The different plants in the campus were identified and recorded. Their medicinal values were identified. Similarly, the avifauna, mammals were studied in the campus. The identification was done following the expert guidance of faculty members and relevant literatures viz. Hooker (1872-97), Bingham (1897, 1903), Prain (1905) and Ali (2003). The photographs were taken in DSLR camera.

Floral and Faunal Biodiversity in the Campus

The Campus although located in the heart of the city maintains its greenery. Survey conducted by the faculty members of Zoology and Botany department identified about 113 plant species of various genera. Most of the recorded species have medicinal importance.

Pictures of some of the floral elements are given. The Campus maintains its own nursery to cultivate various other useful medicinal plants. This floral diversity provides a conducive ambience to wide gamut of faunal elements to be present in the campus. This includes a rich diversity of insects including butterflies, ants, wasps, birds and mammals.

Following sections provide photographs of the recorded floral and faunal diversity in the campus:

Floral diversity:

Bolck 1: Administrative Building

Bolck 2: Academic Building

Table 1: List of Plants found in Centurion University, Bolangir campus

Sl. No.	Botanical Name	Family	Distribution
TREES			
1	*Mangifera indica*	Anacardiaceae	B1
2	*Delonix Regia*	Fabaceae	B1
3	*Dalbergia Sissoo*	Fabaceae	B1
4	*Azadirachta indica*	Meliaceae	B1
5	*Polyalthia longifolia*	Annonaceae	B1
6	*Diospyros melanoxylon*	Ebenaceae	B1
7	*Diospyros malabarica*	Ebenaceae	B1
8	*Phyllanthus emblica*	Phyllanthaceae	B1
9	*Phyllanthus acidus*	Phyllanthaceae	B1
10	*Elaeocarpus*	Elaeocarpaceae	B1
11	*Psidium guajava*	Myrtaceae	B1
12	*Butea monosperma*	Fabaceae	B2
13	*Senna siamea*	Fabaceae	B1, B2
14	*Samanea saman*	Fabaceae	B1
15	*Ficus racemosa*	Moraceae	B2
16	*Ficus benghalensis*	Moraceae	B1
17	*Ficus religiosa*	Moraceae	B1, B2
18	*Millettia pinnata*	Fabaceae	B1
19	*Ziziphus jujube*	Rhamnaceae	B1
20	*Ziziphus mauritiana*	Rhamnaceae	B1, B2

21	*Bougainvillea*	Nyctaginaceae	B2
22	*Ziziphus oenoplia*	Rhamnaceae	B1
23	*Citrus maxima*	Rutaceae	B1
24	*Acacia nilotica*	Mimosaceae	B1
25	*Putranjiva Roxburghii*	Putranjivaceae	B1
26	*Trema orientale*	Cannabaceae	B1
27	*Syzygium samarangense*	Myrtaceae	B1
28	*Syzygium cumini*	Myrtaceae	B1
29	*Malus domestica*	Rosaceae	B1
30	*Nyctanthes arbor-tristis*	Oleaceae	B1, B2
31	*Cinnamomum tamala*	Lauraceae	B1, B2
32	*Cinnamomum verum*	Lauraceae	B1
33	*Manilkara zapota*	Sapotaceae	B1
34	*Anacardium occidentale*	Anacardiaceae	B1
35	*Annona squamosa*	Annonaceae	B1
36	*Mimusops elengi*	Sapotaceae	B1, B2
37	*Murraya koenigii*	Rutaceae	B1, B2
38	*Gmelina arborea*	Verbenaceae	B1
39	*Leucaena leucocephala*	Fabaceae	B1, B2
40	*Peltophorum pterocarpum*	Caesalpiniaceae	B1, B2
41	*Cocos nucifera*	Arecaceae	B1
42	*Terminalia arjuna*	Combretaceae	B1
SHRUBS			
1	*Rosa rubiginosa*	Rosaceae	B2
2	*Coccinia grandis*	Cucurbitaceae	B2
3	*Saccharum officinarum*	Poaceae	B2

4	*Nerium Indicum*	Apocynaceae	B2
5	*Chrysanthemum*	Asteraceae	B2
6	*Solanum melongena*	Solanaceae	B2
7	*Cyamopsis tetragonoloba*	Fabaceae	B2
8	*Bryophyllum inophyllum*	Crassulaceae	B1, B2
9	*Ocimum tenuiflorum*	Lamiaceae	B1, B2
10	*Catharanthus roseus*	Apocynaceae	B1
11	*Mentha spicata*	Lamiaceae	B2
12	*Codiaeum variegatum*	Euphorbiaceae	B2
13	*Zingiber officinale*	Zingiberaceae	B2
14	*Curcuma longa*	Zingiberaceae	B2
15	*Piper betle.*	Betel Pepper	B1
16	*Ocimum kilimandscharicum*	Lamiaceae	B1, B2
17	*Nelumbo nucifera*	Nymphaeaceae	B2
18	*Coffea arabica*	Rubiaceae	B2
19	*Justicia adhatoda*	Acanthaceae	B1, B2
HERBS			
1	*Punica granatum*	Lythraceae	B1, B2
2	*Plumeria alba*	Apocynaceae	B2
3	*Plumeria rubra*	Apocynaceae	B2
4	*Cascabela thevetia*	Apocynaceae	B2
5	*Citrus lemon*	Rutaceae	B1, B2
6	*Citrus reticulate*	Rutaceae	B1, B2
7	*Hyophorbe lagenicaulis*	Arecaceae	B1
8	*Ixora coccinea*	Rubiaceae	B1
9	*Carica papaya*	Caricaceae	B2
10	*Areca palm*	Arecaceae	B2
CLIMBERS			
1	*Cucurbita pepo*	Cucurbitaceae	B1, B2
2	*Passiflora incarnate*	Passifloraceae.	B2

GYMNOSPERM			
1	*Cycas circinalis*	Cycadaceae	B2

Flora of CUTM, Bolangir campus


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Elevation: 205.34±4 m
Accuracy: 14.1 m
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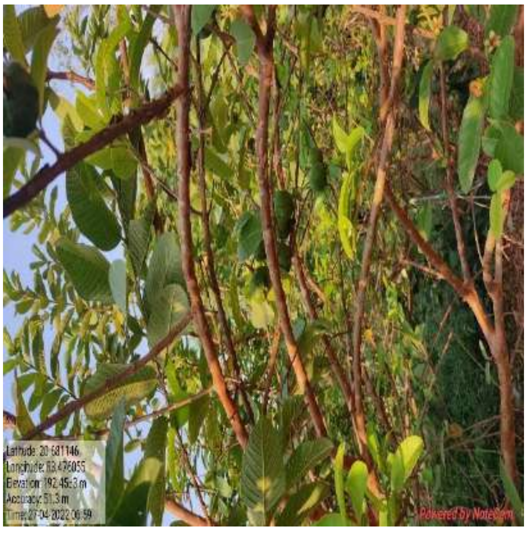
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Longitude: 83.476217
Elevation: 179.35±9 m
Accuracy: 8.4 m
Time: 26-04-2022 18:00
Note: cassia tree






Faunal Diversity

Birds

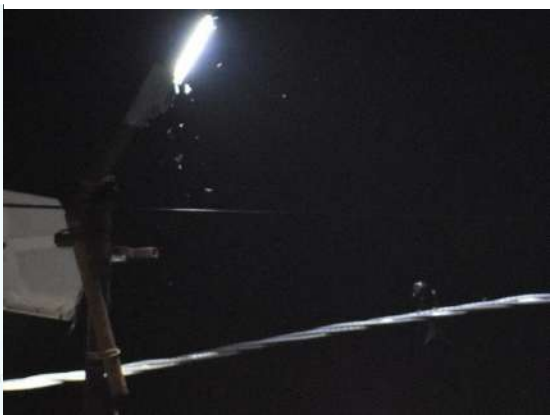
Sl.No	Common name	Zoological name	Conservation status (IUCN)
1	Jungle babbler	*Turdoides striata*	Least Concern
2	Red vented bulbul	*Pycnonotus cafer*	Least Concern
3	Red whiskered bulbul	*Pycnonotus jocosus*	Least Concern
4	Black drongo	*Dicrurus macrocercus*	Least Concern
5	Purple sunbird	*Cinnyris asiaticus*	Least Concern
6	Lesser coucal	*Centropus bengalensis*	Least Concern
7	Little green bee eater	*Merops orientalis*	Least Concern
8	Spotted dove	*Spilopelia chinensis*	Least Concern

9	Indian robin	*Saxicoloides fulicatus*	Least Concern
10	Oriental Magpie robin	*Copsychus saularis*	Least Concern
11	Common tailor bird	*Orthotomus sutorius*	Least Concern
12	Shikra	*Accipiter badius*	Least Concern
13	Alexandrine parakeet	*Psittacula eupatria*	Least Concern
14	Golden oriole	*Oriolus oriolus*	Least Concern
15	Paddy field pipit	*Anthus rufulus*	Least Concern
16	Black kite	*Milvus migrans*	Least Concern
17	Blue rock pigeon	*Columba livia*	Least Concern
18	Pond heron	*Ardeola grayii*	Least Concern
19	Cattle egret	*Bubulcus ibis*	Least Concern
20	Common iora	*Aegithina tiphia*	Least Concern
21	Common crow	*Corvus splendens*	Least Concern
22	Peafowl	*Pavo cristatus*	Least Concern
23	Ashy prinia	*Prinia socialis*	Least Concern
24	Twany flanked prinia	*Prinia subflava*	Least Concern
25	Black hooded oriole	*Oriolus xanthornus*	Least Concern
26	Common hawk-cuckoo	*Hierococcyx varius*	Least Concern

The team

Jungle Babbler

Red vented bulbul



Red whiskered bulbul

Black drongo

Purple sunbird

little green bee eater

Spotted dove

Indian robin

Oriental magpie robin

Common tailor bird

Shikra

Alexandrine parakeet

Golden oriole

Paddy field pipit

Pond heron

Cattle egret

Common iora

Peafowl

Reptiles

Sl no	Common name	Zoological name	Conservation status
1	Rat snake	*Ptyas mucosa*	Least concern
2	Common krait	*Bungarus caeruleus*	Least concern
3	Banded Kukri snake	*Oligodon arnensis*	Least concern
4	Bronze back tree snake	*Dendrelaphis tristis*	Least concern
5	Common garden lizard	*Calotes versicolor*	Least concern
6	Fan throated lizard	*Sitana ponticeriana*	Least concern
7	Bark gecko	*Hemidactylus leschenaultii*	Least concern
8	Spotted house gecko	*Hemidactylus brookii*	Least concern

Fan throated lizard

Bark gecko

Common garden lizard

Bark gecko

Sl no	Common name	Zoological name	Conservation status
1	Skittering frog	*Euphlyctis cyanophlyctis*	Least concern
2	Common Indian toad	*Duttaphrynus melanostictus*	Least concern
3	Indian tree frog	*Polypedates maculatus*	Least concern

Skittering frog

Indian tree frog

Common Indian toad

Mammals

Sl no	Common name	Zoological name	Conservation status
1	Dog	*Canis lupus familiaris*	Data deficient
2	Cat	*Felis catus*	Data deficient

Pub Dog

Vigal dog

Feral cat

Invertebrates

Sl no	Common name	Zoological name	Conservation status
1	Freshwater pearl mussel	*Margaritifera margaritifera*	Endangered
2	Earthworm	*Eisenia fetida*	Data deficient
3	Honey bee	*Apis mellifera*	Data deficient
4	Lemon pansy butterfly	*Junonia lemonias*	Least concern
5	Common grass yellow butterfly	*Eurema hecabe*	Least concern
6	Plain tiger butterfly	*Danaus chrysippus*	Least concern

Pearl mussel

Earthworm

Honey bee

Lemon pansy butterfly

Common grass yellow butterfly

Plain tiger butterfly

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Preface

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Executive Summary

Many departments maintain garden and the campus is greener with fair biodiversity around and gardens maintained by many departments. A detailed study on floral and faunal diversity has been done. There are also one beautiful rose garden, medicinal plant garden and one butterfly park inside the campus mentained by the university. Faunal and floral diversity reports are given below.

FLORAL DIVERSITY OF CUTM, BBSR CAMPUS

Flora and fauna are very important for human existence. The flora liberates oxygen which is consumed by the fauna for respiratory activities and that in turns liberates carbon dioxide consumed by the flora for photosynthesis in a cyclic manner. The exploration of vegetation abundance of an area gives right comprehension of bio-assets for the people. Though diverse forms of plants ranging from lower to higher groups inhabit in the Centurion University Bhubaneswar campus, still some of the rare, endangered and threatened plant (RET) species have been planted in our University's campus premises in the recovery plans of action for restoring the RET (rare/endangered/threatened) category plant species in the plantation programme. It is interesting to note that the campus is having 09 RET category plants. A scientific documentation on floral diversity of the campus has been initiated and completed in a form of book entitled "Floral Diversity" of Centurion University of Technology and Management, Bhubaneswar Campus" in the year 2018. A total of 625 plant species of plant belonging to 430 genera and 152 families were recorded during the survey. Among the families Poaceae is rated as the largest represented by 31 species, followed by Fabaceae with 28 species, Asteraceae and Acanthaceae. Cyperus is considered as the most prominent genus represented. The number of plant species has been increased to 641 in 2021.The location as well as the scintillating beauty of Campus is unique with rare collection of species including ornamental flowering plants. This includes a varieties of roses, hibiscus, bougainvillea along with aquatic species, xerophytic varieties, climbers and also newly introduced and lesser known species with economic and medicinal value. Besides the ornamental flowering plants, other beautiful foliage air purifying plants such as Ficus, Bamboo species, *Aloe vera* L., and *Areca* palm, known to be effective at cleansing airborne formaldehyde, xylene, toluene and benzene are also found. The campus is rich in diverse species composition and these plant species are known for their medicinal values. Few important plant species are such as *Commiphora wightii* (Arn.) Bhandari belonging to family Burseraceae commonly called as

Guggul, Devadhupa in Odia and Indian Bdellium in English. The gum resin of this plant is known as guggul which is used for arthritis, lowering high cholesterol and atherosclerosis, acne and other skin diseases. *Saraca asoca* (Roxb.) de Wilde, belonging to family Fabaceae, known as Ashoka in Odia. The leaf extracts of Ashoka plant is used in treatment of menstrual pain, uterine disorders and diabetics. *Couroupita guianensis* Aubl. belonging to family Lecythidaceae is commonly called as Canon ball tree, nagachampa or naga keshar in Odia. This plant is used to treat various ailments such as common cold, stomachache, skin diseases, malaria and toothache. *Piper longum* L. (Pippali in Odia and Long pepper in english), family Piperaceae, is used to treat chronic bronchitis, constipation, cholera, hepatitis, diarrhea, cholera and respiratory infections. *Thunbergia grandiflora* L. a climbing plant, belonging to family Acanthaceae commonly known as blue sky flower and in Odia is known as neela lata. The leaves of this plant are used as a remedy against snakebite.

Area of study

The entire campus covers an area of about 45 acres including one water body (Fig. 1). The campus has been divided into 4 blocks for extensive survey namely Block - 1, 2, 3 and 4; each block consists of a number of sub sectors.

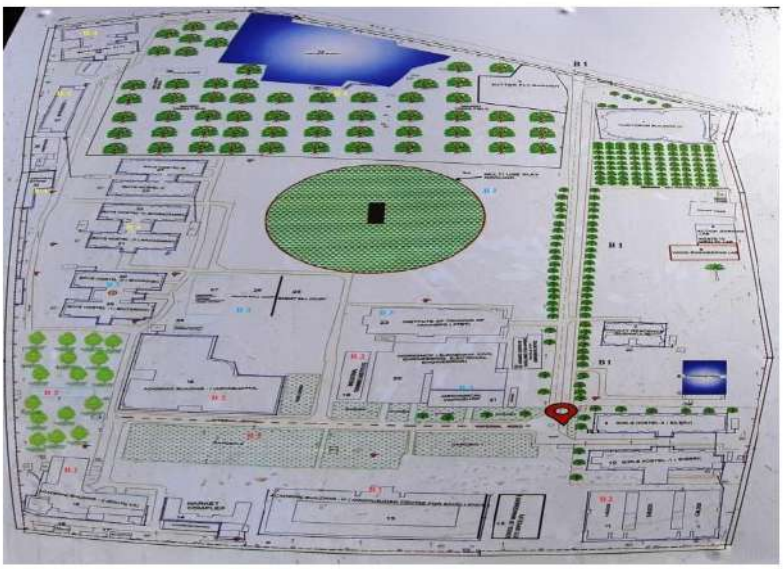


Fig 1: Map of the Centurion University, Bhubaneswar campus

<u>Block wise Area under survey</u>

Block -1 consist of the subunits - 1-10 (excluding butterfly garden) including Gate-

1, Gate-2, Auditorium building, Action learning lab and waste to wealth lab, Wood engineering lab, Faculty residence (Rusikulya), Swimming Pool, Girls hostel-1 and Girls hostel-2.

Block - 2consist of the subunits -11-20 including Girls hostel-3, School of Management & VC‟S office (P), Academic building-3 (Madhusudan centre for excellence), Marketcomplex, Academic building-2 (Koutilya), Bio compost 1, Bio compost 2, Academic building-1 (Aryabhatta), Industrial training centre, Workshop (E- Rikshaw unit, Civil engineering, Electrical engineering).

Block -3 consist of the subunits -21-30 including Mechanical workshop,Advance centre of excellence for apparel textile and GTET corporation office, Institute of training of trainers (GTET), Multi use playground, Basket ball court, Tennis ball court, Consumer facility cum training and learning lab (Diesel outlet), Wheel alignment training centre, Boys hostel-1 (Baitarani) and Boys hostel-2 (Bhargabi).

Block - 4 consist of the subunits - 31-40 including Boys hostel-3 (Brahamni), Boys hostel-4 (Bansadhara), Boys hostel-5, Boys hostel-6, Central store, Power house, Boys hostel-7, Boys hostel-8 (P), Cowshed, Water body and Butterfly garden.

Table 1: List of Plants found in Centurion University, campus

Sl. No.	Botanical name	Family	Distribution
TREES			
1.	*Acacia auriculiformis* A. Cunn. ex Benth.	Mimosaceae	B-2, B-4
2.	*Aegle marmelos* (L.) Corr.	Rutaceae	B-2
3.	*Ailanthus excelsa* Roxb.	Simaroubaceae	B-3
4.	*Albizia lebbeck* (L.) Benth.	Mimosaceae	B-3
5.	*Alstonia scholaris* (L.) R.Br.	Apocynaceae	B-2
6.	*Anacardium occidentale* L.	Anacardiaceae	B-2, B-4
7.	*Annona squamosa* L.	Annonaceae	B-2
8.	*Areca catechu* L.	Arecaceae	B-2
9.	*Artocarpus altilis* (Parkinson) Fosberg	Moraceae	B-2
10.	*Artocarpus heterophyllus* Lam.	Moraceae	B-2
11.	*Averrhoa carambola* L.	Averrhoaceae	B-2

12.	*Azadirachta indica* A. Juss.	Meliaceae	B-2, B-3, B-4
13.	*Bauhinia acuminata* L.	Caesalpiniaceae	B-2
14.	*Bauhinia variegata* L.	Caesalpiniaceae	B-2
15.	*Bixa orellana* L.	Bixaceae	B-2
16.	*Borassus flabellifer* L.	Arecaceae	B-2
17.	*Brya ebenus* (L.) DC.	Fabaceae	B-2
18.	*Cinammomum tamala*(Buch.-Ham.) T.Nees&C.H. Eberm.	Lauraceae	B-2
19.	*Cinammomum verum*J.Presl	Lauraceae	B-2
20	*Clitoria arborea* Benth.	Fabaceae	B-1
21.	*Cocos nucifera* L.	Arecaceae	B-1, B-2
22.	*Coffea arabica* L.	Rubiaceae	B-2
23.	*Commiphora wightii* (Arn.) Bhandari	Burseraceae	B-2
24.	*Couroupita guianensis* Aubl.	Lecythidaceae	B-2
25.	*Crataeva magna* (Lour.) DC	Capparaceae	B-2
26.	*Delonix regia* (Boj. ex Hook.) Raf.	Caesalpiniaceae	B-2, B-4
27.	*Dillenia indica* L.	Dilleniaceae	B-2,
28.	*Diospyros melanoxylon*Roxb.	Ebenaceae	B-2
29.	*Elaeis guineensis* Jacq.	Arecaceae	B-4
30.	*Eucalyptus citrodora* Hook.	Myrtaceae	B-2
31.	*Ficus benghalensis*L. var. *benghalensis*	Moraceae	B-2, B-4
32.	*Ficus elastica* L.	Moraceae	B-2
33.	*Ficus racemosa* L.	Moraceae	B-4
34.	*Ficus religiosa* L.	Moraceae	B-2, B-4
35.	*Gliricidia sepium*(Jacq.)Walp.	Fabaceae	B-2
36.	*Gardeniagummifera* L.f.	Rubiaceae	B-2
37.	*Gmelina arborea* Roxb.	Verbenaceae	B-3
38.	*Haldina cordifolia* (Roxb.) Ridsale	Rubiaceae	B-2
39.	*Helictres isora* L.	Sterculiaceae	B-4
40.	*Hibiscus tiliaceus* L.	Malvaceae	B-2
41.	*Hylandia dockrilliii*Airy Shaw	Euphorbiaceae	B-2
42.	*Lagerstroemia speciosa* (L.)Pers.	Lythraceae	B-1, B-2
43.	*Lannea coromandelica* (Houtt.) Merr.	Anacardiaceae	B-2
44.	*Leucaena leucocephala* (Lam.) de Wit	Fabaceae	B-2,B-3
45.	*Licuala peltata* Rooxb.ex Buch.-Ham.	Arecaceae	B-2

46.	*Limonia acidissima* L.	Rutaceae	B-2
47.	*Livistona chinensis* (Jacq.) R.Br. ex Mart.	Arecaceae	B-2
48.	*Macarnga peltata* (Roxb.)Muell-Arg.	Euphorbiaceae	B-2
49.	*Magnolia champaca* (L.) Baill. ex Pierre	Magnoliaceae	B-2
50.	*Mangifera indica* L.	Anacardiaceae	B-1,B-2,B-3,B-4
51.	*Manilkara zapota* (L.) P.Royen	Sapotaceae	B-1
52.	*Melaleuca citrine* (Curtis) Dum.Cours.	Lythraceae	B-2
53.	*Mesua ferea* L.	Clusiaceae	B-2
54.	*Millettia pinnata* (L.) Panigrahi	Fabaceae	B-2,B-3
55.	*Millingtonia hortensis* L.f.	Bignoniaceae	B-2
56.	*Mimusops elengi* L.	Sapotaceae	B-2,B-3
57.	*Mitragyna parviflora* (Roxb.) Korth	Rubiaceae	B-3
58.	*Morinda pubescens* Sm.	Rubiaceae	B-2,B-3
59.	*Moringa oleifera* Lam.	Moringaceae	B-2
60.	*Muntingia calabura* L.	Muntingiaceae	B-1,B-2
61.	*Murraya koengii* (L.) Sprenge	Rutaceae	B-2
62.	*Murraya paniculata*(L.) Jack	Rutaceae	B-1,B-2,B-3
63.	*Neolamarckia cadamba* (Roxb.) Bosser	Rubiaceae	B-1,B-2
64.	*Nyctanthes arbor-tristis* L.	Oleaceae	B-1,B-2,B-3,B-4
65.	*Olea europaea* L.	Oleaceae	B-2
66.	*Peltophorum pterocarpum* (DC.) K.Heyne	Caesalpiniaceae	B-2,B-4
67.	*Phoenix sylvestris* (L.) Roxb.	Arecaceae	B-3
68.	*Phyllanthus acidus* (L.) Skeels	Euphorbiaceae	B-2
69.	*Phyllanthus emblica* L.	Euphorbiaceae	B-2
70.	*Pimenta dioica* (L.)Merr.	Myrtaceae	B-2
71.	*Plumeria obtuse* L.	Apocynaceae	B-4
72.	*Plumeria rubra* L.	Apocynaceae	B-1,B-2,B-3,B-4
73.	*Polyalthia longifolia* Sonn.	Annonaceae	B-1,B-2,B-3,B-4
74.	*Polyalthia suberosa* (Roxb.) Thwaites	Annonaceae	B-1
75.	*Prosopis cineraria* (L.) Druce	Mimosaceae	B-2
76.	*Psidium guajava* L.	Myrtaceae	B-1,B-2
77.	*Pterocarpus santalinus* L.f.	Fabaceae	B-2
78.	*Pterospermum acerifolium* (L.) Willd.	Sterculiaceae	B-2
79.	*Punica granatum* L.	Punicaceae	B-2
80.	*Radermachera yunanensis* C. Y. Wu	Bignoniaceae	B-2

81.	*Ravenala madagascariensis* Sonn.	Strelitziaceae	B-2
82.	*Roystonea regia* (Kunth) O.F.Cook	Arecaceae	B-1,B-2
83.	*Sambucus canadensis* L.	Adoxaceae	B-2
84.	*Sapindus saponaria* L.	Sapindaceae	B-1
85.	*Santalum album* L.	Santalaceae	B-2
86.	*Saraca asoca* (Roxb.) Willd.	Caesalpiniaceae	B-2
87.	*Senna auricualata* (L.) Roxb.	Caesalpiniaceae	B-2
88.	*Senna siamea* (Lam.) H.S. Irwin & Barneby	Caesalpiniaceae	B-2
89.	*Sesbania grandiflora* (L.) Poiret	Fabaceae	B-2
90.	*Simarouba glauca* DC.	Simaroubaceae	B-4
91.	*Spathodea campanulata* P. Beauv.	Bignoniaceae	B-2,B-4
92.	*Spondias pinnata* (L.f.) Kurz	Anacardiaceae	B-2
93.	*Streblus asper* Lour.	Moraceae	B-2
94.	*Syzygium caryophyllifolium* (Lam.)DC.	Myrtaceae	B-2
95.	*Syzygium cumini* (L.)Skeels	Myrtaceae	B-1,B-2
96.	*Syzygium jambos* (L.)Alston	Myrtaceae	B-2
97.	*Syzygium samarhagense* (Bl.)Merr. &Perr.	Myrtaceae	B-2
98.	*Tamarindus indica* L.	Caesalpiniaceae	B-2
99.	*Tectona grandis* L.f.	Verbenaceae	B-2
100.	*Thespesia populnea* (L.) Sol. ex Corrêa	Malvaceae	B-4
101.	*Terminalia arjuna* (Roxb.) Wight & Arn.	Combretaceae	B-1
102.	*Terminalia bellerica* (Gaertn.) Roxb.	Combretaceae	B-1
103.	*Terminalia catappa* L.	Combretaceae	B-2
104.	*Terminalia chebula* Retz.	Combretaceae	B-1
105.	*Ziziphus mauritiana* Lam.	Rhamnaceae	B-1,B-2,B-3,B-4
SHRUBS			
106.	*Acalypha wilkesiana* Mull. -Arg.	Euphorbiaceae	B-2
107.	*Adenium obesum* (Forssk.) Roem. & Schult.	Apocynaceae	B-2
108.	*Agave Americana* L.	Agavaceae	B-2
109.	*Agave salmiana* Otto ex Salm-Dyck	Asparagaceae	B-2
110.	*Allamanda schottii* Hook.	Apocynaceae	B-2

111.	*Arachnothryx leucophylla* (Kunth) Planch.	Rubiacceae	B-2
112.	*Aucuba japonica* Thunb.	Garryaceae	B-2
113.	*Bougainvillea spectabilis* Willd.	Nyctaginaceae	B-2
114.	*Bougainvillea glabra* var. alba white	Nyctanginaceae	B-2
115.	*Caesalpinia pulcherrima* (L.) Sw.	Caesalpiniaceae	B-2
116.	*Cajanus cajan* (L.) Millsp.	Fabaceae	B-4
117.	*Calliandra haematocephala* Hassk.	Mimosaceae	B-3
118.	*Calotropis gigantea* (Ait.) R.Br	Asclepiadaceae	B-1,B-2,B-3,B-4
119.	*Carica papaya* L.	Caricaceae	B-2,B-3
120.	*Carissa spinarum* L.	Apocynaceae	B-3
121.	*Cascabela thevetia* (L.)Lippold	Apocynaceae	B-2
122.	*Cestrum nocturnum* L.	Solanaceae	B-2
123.	*Chromolaena odorata* (L.) R.King & H.Robins	Asteraceae	B-1,B-2,B-3,B-4
124.	*Citrus aurantifolia* (Christm.) Swingle	Rutaceae	B-2
125.	*Citrus grandis* (L.) Osbeck	Rutaceae	B-2
126.	*Clerodendrum indicum* (L.)Kuntze	Verbenaceae	B-2
127.	*Clerodendrum inerme* (L.) Gaertn.	Verbenaceae	B-2,B-4
128.	*Clerodendrum viscosum* Vent.	Verbenaceae	B-2,B-4
129.	*Codiaeum variegatum* (L.) Juss.	Euphorbiaceae	B-2
130.	*Coprosma repens* A.Rich.	Rubiaceae	B-2
131.	*Cordyline fruticosa* (L.) A.Chev.	Agavaceae	B-2
132.	*Crossandra infundibuliformis* (L.)Nees.	Acanthaceae	B-2
133.	*Crotalaria spectabilis* Roth	Fabaceae	B-2
134.	*Cryptostegia grandiflora* R.Br.	Apocynaceae	B-1
135.	*Cuphea hyssopifolia* Kunth	Lythraceae	B-2
136.	*Desmodium pulchellum* (L.)Benth.	Fabaceae	B-4
137.	*Dracaena marginata* Lam. *'tricolor'*	Agavaceae	B-2
138.	*Dracena reflexa* Lam.	Agavaceae	B-2
139.	*Dracaena sanderiana* Mast.	Asparagaceae	B-2
140.	*Duranta repens* L.	Verbenaceae	B-2
141.	*Dypsis lutescens* (H.Wendl.) Beentje & J.Dransf	Arecaceae	B-2

142.	*Euphorbia milii* Des Moul.	Euphorbiaceae	B-2
143.	*Euphorbia pulcherrima* Willd. ex Klotzsch	Euphorbiaceae	B-2
144.	*Euphorbia tithymiloides* L.	Euphorbiaceae	B-2
145.	*Fargesia stricta* Hsueh & C. M. Hui, Bull.	Poaceae	B-2
146.	*Flacourtia jangomas* (Lour.)Raeusch.	Salicaceae	B-4
147.	*Gardenia carinata* Wall. ex Roxb.	Rubiaceae	B-1
148.	*Gardenia jasminoides* J.Ellis	Rubiaceae	B-2
149.	*Glycosmis pentaphylla* (Retz.) DC.	Rutaceae	B-1,B-4
150.	*Graptophyllum pictum* (L.)Griff.	Acanthaceae	B-2
151.	*Hamelia patens* Jacq.	Rubiaceae	B-2
152.	*Hibiscus mutabilis* L.	Malvaceae	B-1
153.	*Hibiscus rosa-sinensis* L.	Malvaceae	B-1
154.	*Hibiscus schizopetalus* (Mast.)Hook.f.	Malvaceae	B-1,B-2
155.	*Hypoestes phyllostachya* Baker	Acanthaceae	B-2
156.	*Impatiens glandulifera* Royle	Balsaminaceae	B-2
157.	*Ipomoea carnea* Jacq.	Convolvulaceae	B-1,B-4
158.	*Ixora coccinea* L.	Rubiaceae	B-2
159.	*Ixora finlaysoniana* L. var. dwarf white	Rubiaceae	B-1
160.	*Jasminum auriculatum* Vahl	Oleaceae	B-2
161.	*Jasminum sambac* (L.) Ait.	Oleaceae	B-2
162.	*Jatropha gossypifolia* L.	Euphorbiaceae	B-2
163.	*Jatropha integerrima* Jacq.	Euphorbiaceae	B-2
164.	*Justicia adhatoda* L.	Acanthaceae	B-2
165.	*Justicia gendarussa* Brum.f.	Acanthaceae	B-2,B-4
166.	*Kopsia fruticosa* (Roxb.)A.DC.	Apocynaceae	B-2
167.	*Lagerstroemia indica* (L.)Pers.	Lythraceae	B-2
168.	*Lantana camara* L. var. *aculeata* (L.) Mold.	Verbenaceae	B-2
169.	*Lantana involucrata* L.	Verbenaceae	B-1
170.	*Lantana montevidensis* (Spreng.) Briq.	Verbenaceae	B-1
171.	*Lantana camara* L. var. new gold (L.) Mold.	Verbenaceae	B-2
172.	*Lantana urticoides* Hayek	Verbenaceae	B-1

173.	*Lawsonia inermis* L.	Lythraceae	B-2
174.	*Loropetalum chinense* (R.Br.)Oliv. var. *chinense*	Hamamelidaceae	B-2
175.	*Malpighia coccigera* L.	Malpighiaceae	B-2
176.	*Malvaviscus arboreus* Cav.	Malvaceae	B-2
177.	*Melastoma malbathricum* L.	Melastomataceae	B-2
178.	*Mussanda erythrophylla* Schumach. & amp; Thonn.	Rubiaceae	B-2
179.	*Mussaenda frondosa* L.	Rubiaceae	B-2
180.	*Mussaenda phillipica* A.Rich.	Rubiaceae	B-2
181.	*Nerium oleander* L.	Apocynaceae	B-2
182.	*Ocimum basilicum* L.	Lamiaceae	B-2
183.	*Ocimum gratissimum* L.	Lamiaceae	B-2
184.	*Ocimum kilimandscharicum* Guerke	Lamiaceae	B-2
185.	*Ocimum sanctum* L.	Lamiaceae	B-1,B-2
186.	*Opuntia stricta* (Haw.) Haw. var. *dillenii* (Ker-Gawl.) Benson	Cactaceae	B-2
187.	*Pereskia bleo* (Kunth)DC.	Cactaceae	B-2
188.	*Phoenix loureiroi* Kunth	Arecaceae	B-2
189.	*Phyllanthus myrtifolius* (Wight)Muller	Euphorbiaceae	B-2
190.	*Plumbago auriculata* Lam.	Plumbaginaceae	B-2
191.	*Polyscias filicifolia* (C.Moore ex E.Fourn.) L.H.Bailey	Araliaceae	B-2
192.	*Rauvolfia serpentina* (L.) Benth. ex Kurz	Apocynaceae	B-2
193.	*Rauvolfia tetraphylla* L.	Apocynaceae	B-2
194.	*Rhapis excelsa* (Thunb.) A.Henry	Arecaceae	B-2
195.	*Riccinus communis* L.	Euphorbiaceae	B-1,B-2,B-3,B-4
196.	*Rosa alba* L.	Rosaceae	B-2

197.	*Rosa centifolia* L.	Rosaceae	B-2
198.	*Rosa chinenesis* Jacquin	Rosaceae	B-2
199.	*Rosa damascina* Miller	Rosaceae	B-2
200.	*Rosa fortuneana* Lindley	Rosaceae	B-2
201.	*Rosa gallica* L.var.*complicata*	Rosaceae	B-2
202.	*Rosa gallica* var. *officinalis*	Rosaceae	B-2
203.	*Rosa indica* L.	Rosaceae	B-2
204.	*Rosa odorata* (Andr.)Sweet var. odorata	Rosaceae	B-2
205.	*Sauropus androgynus* (L.) Merr.	Euphorbiaceae	B-2
206.	*Solanum torvum* Sw.	Solanaceae	B-2,B-4
207.	*Sterblus taxoides* (Roth)Kurz	Moraceae	B-2
208.	*Tabernaemontana divaricata* (L.) R.Br. ex Roem. & Schult.cv.plena	Apocynaceae	B-2
209.	*Tecoma stans* (L.) Kunth.	Bignoniaceae	B-1,B-2
210.	*Thunbergia erecta* (Benth.)T.Anderson	Acanthaceae	B-1,B-2
211.	*Vitex negundo* L.	Verbenaceae	B-2
212.	*Wrightia antidysenterica* (L.)R.Br.	Apocynaceae	B-2
213.	*Ziziphus oenoplia* (L.) Mill.	Rhamnaceae	B-4
HERBS			
214.	*Abelmoschus esculentus* (L.)Moench	Malvaceae	B-1,B-2
215.	*Abelmoschus manihot* (L.) Medic subsp. *tetraphyllus*	Malvaceae	B-4
216.	*Abelmoschus moschatus* Medic.	Malvaceae	B-1,B-4
217.	*Abutilon indicum* (L.) Sweet	Malvaceae	B-1,B-2,B-3,B-4
218.	*Acalypha indica* L.	Euphorbiaceae	B-1,B-2,B-3,B-4
219.	*Achyranthes aspera* L.	Amaranthacae	B-1,B-2,B-3,B-4
220.	*Acorus calamus* L.	Araceae	B-2

221.	*Aerva javanica* (Burm.f.) Shult.	Amaranthaceae	B-4
222.	*Aerva lanata* (L.) Juss.ex Schultes.	Amaratnhaceae	B-1,B-2,B-3,B-4
223.	*Aerva sanguinolenta* (L.) Bl.	Amaranthaceae	B-2
224.	*Aeschynomene aspera* L.	Fabaceae	B-3,B-4
225.	*Aeschynomene indica* L.	Fabaceae	B-1,B-4
226.	*Ageratum conyzoides* L.	Asteraceae	B-1,B-2,B-3,B-4
227.	*Allmania nodiflora* (L.) R.Br. ex Wt.	Amaranthaceae	B-1,B-3,B-4
228.	*Alocasia macrorrhizos* (L.) G.Don	Araceae	B-4
229.	*Aloe vera* (L.) Burm.f.	Liliaceae	B-1,B-2
230.	*Alpinia galanga* (L.)Willd.	Zingiberaceae	B-2
231.	*Alpinia nutans* K.Schum.	Zingiberaceae	B-2
232.	*Alpinia purpurata* K.Schum.	Zingiberaceae	B-2
233.	*Alternanthera bettzickiana* (Regel) G.Nicholson	Amaranthaceae	B-2
234.	*Alternanthera paronychioides* St.	Amaranthaceae	B-1,B-2,B-3,B-4
235.	*Alternanthera philoxeroides* (C. Martius) Grisebach	Amaranthaceae	B-1,B-2,B-3,B-4
236.	*Alternanthera sessilis* (L.) R.Br. ex DC.	Amaranthaceae	B-1,B-2,B-3,B-4
237.	*Alysicarpus vaginalis* (L.) DC. var. *nummularifolius* Miq.	Fabaceae	B-1,B-2,B-3,B-4
238.	*Amaranthus caudatus* L.	Amaranthaceae	B-2
239.	*Amaranthus spinosus* L.	Amaranthaceae	B-1,B-2,B-3,B-4
240.	*Amaranthus tricolor* L.	Amaranthaceae	B-1,B-4
241.	*Amaranthus viridis* L.	Amaranthaceae	B-1,B-2,B-3,B-4
242.	*Ammannia baccifera* L.	Lythraceae	B-1,B-2,B-3,B-4
243.	*Ammannia multiflora* Roxb.	Lythraceae	B-4

244.	*Ananas comosus* (L.)Merr.	Bromeliaceae	B-2
245.	*Andrographis paniculata* (Brum.f.) Wall. ex Nees	Acanthaceae	B-1,B-2,B-3,B-4
246.	*Angelonia salicarifolia* Humb.&Bonpl.	Scrophulariaceae	B-2
247.	*Anisochilus carnosus* (L.f.) Wall.	Lamiaceae	B-1,B-3
248.	*Anisomeles indica* (L.) Kuntze	Lamiaceae	B-1,B-4
249.	*Argemone mexicana* L.	Papaveraceae	B-1,B-2,B-3,B-4
250.	*Artemisia absinthium* L.	Asteraceae	B-2
251.	*Asparagus densiflorus* (Kunth)Jessop	Asparaceae	B-2
252.	*Aster indamellus* Griers.	Asteraceae	B-2
253.	*Asystasia gangetica* (L.) T. Anderson	Acanthaceae	B-2
254.	*Barleria cristata* L.	Acanthaceae	B-4
255.	*Barleria prionitis* L.	Acanthaceae	B-1,B-3,B-4
256.	*Bassia scoparia* (L.) Schrad.	Amaranthaceae	B-2
257.	*Biophytum sensitivum* (L.) DC.	Oxalidaceae	B-1,B-2,B-3,B-4
258.	*Blepharis maderaspatensis* (L.) Heyne ex Roth	Acanthaceae	B-1,B-2,B-3,B-4
259.	*Blumea lacera* (Burm.f.) DC.	Asteraceae	B-1,B-2,B-3,B-4
260.	*Boerhavia diffusa* L.	Nyctaginaceae	B-1, B-2,B-3,B-4
261.	*Boerhavia erecta* L.	Nyctaginaceae	B-1
262.	*Brassica campestris* L.	Brassicaceae	B-1,B-2,B-3
263.	*Brassica napus* L. var. *glauca* (Roxb.) Schulz	Brassicaceae	B-2
264.	*Brassica oleracea* L. var.*capitata*	Brassicaceae	B-2
265.	*Brassica oleracea* L. var.*oleracea*	Brassicaceae	B-2
266.	*Caladium bicolor* (Aiton) Vent.	Araceae	B-2

267.	*Canna indica* L.	Cannaceae	B-2
268.	*Capsicum annum* L.	Solanaceae	B-2
269.	*Catharanthus roseus* (L.) G.Don	Apocynaceae	B-2
270.	*Celosia argentea* L.	Amaranthaceae	B-1,B-2,B-3,B-4
271.	*Celosia cristata* L.	Amaranthaceae	B-2
272.	*Celosia argentea* var. *plumosa*	Amaranthaceae	B-2
273.	*Centella asiatica* (L.) Urban	Apiaceae	B-2
274.	*Chamaecostus cuspidatus* (Nees & Mart.) C.Specht & D.W. Stev.	Costaceae	B-2
275.	*Chenopodium album* L.	Chenopodiaceae	B-4
276.	*Chrozophora rottleri* (Geisel.) Juss.	Euphorbiaceae	B-3,B-4
277.	*Chrysanthemum cinerariifolium* (Trev.) Vis.	Asteraceae	B-2
278.	*Cleome rutidosperna* DC.	Capparaceae	B-1,B-2,B-3,B-4
279.	*Cleome viscosa* L.	Capparaceae	B-1,B-2,B-3,B-4
280.	*Coldenia procumbens* L.	Boraginaceae	B-1,B-2,B-3,B-4
281.	*Colocasia esculenta* (L.) Schott	Araceae	B-4
282.	*Commelina benghalensis* L.	Commelinaceae	B-1,B-2,B-3,B-4
283.	*Commelina erecta* L.	Commelinaceae	B-1,B-2,B-3,B-4
284.	*Commelina longifolia* Lam.	Commelinaceae	B-4
285.	*Commelina paludosa* Blume	Commelinaceae	B-3
286.	*Coriandrum sativum* L.	Apiaceae	B-2
287.	*Cosmos caudatus* Kunth	Asteraceae	B-3,B-4
288.	*Costus speciosus* (Koenig) Sm.	Costaceae	B-4
289.	*Crinum asiaticum* L.	Liliaceae	B-2
290.	*Crotalaria pallida* Ait.	Fabaceae	B-1,B-2,B-3,B-4

291.	*Crotalaria prostrata* L.	Fabaceae	B-4
292.	*Crotalaria verrucosa* L.	Fabaceae	B-4
293.	*Croton bonplandianus* Baill	Fabaceae	B-1,B-2,B-3,B-4
294.	*Curcuma amada* Roxb.	Zingiberaceae	B-1,B-2,B-3,B-4
295.	*Curcuma longa* L.	Zingiberaceae	B-2
296.	*Curcuma zedoaria* (Christm.)Rosc.	Zingiberaceae	B-2
297.	*Cyanotis cristata* (L.) D.Don	Commelinaceae	B-2,B-4
298.	*Cyanotis tuberosa* (Roxb.)Schult.&Schult.f.	Commelinaceae	B-3,B-4
299.	*Cynodon dactylon* (L.) Pers.	Poaceae	B-1,B-2,B-3,B-4
300.	*Dentella repens* (L.) J.R. & G. Forst. var. *repens*	Rubiaceae	B-1,B-2,B-3,B-4
301.	*Desmodium gangeticum* (L.) DC.	Fabaceae	B-2
302.	*Desmodium triflorum* (L.) DC.	Fabaceae	B-1,B-2,B-3,B-4
303.	*Dianthus caryophyllus* L.	Caryophyllaceae	B-1
304.	*Dicliptera bupleuroides* Nees	Acanthaceae	B-1,B-2,B-3,B-4
305.	*Digera muricata* (L.) Mart	Amaranthaceae	B-1,B-4
306.	*Dipteracanthus prostratus* (Poir.) Nees	Acanthaceae	B-1,B-2,B-3,B-4
307.	*Eclipta prostrata* (L.) L.	Asteraceae	B-1,B-2,B-3,B-4
308.	*Emilia sonchifolia* (L.) DC.	Asteraceae	B-1,B-2,B-3,B-4
309.	*Eranthemum capense* L.	Acanthaceae	B-3,B-4
310.	*Eryngium foetidum* L.	Apiaceae	B-1,B-2,B-3,B-4
311.	*Euphorbia heterophylla* L.	Euphorbiaceae	B-3,B-4
312.	*Euphorbia hirta* L.	Euphorbiaceae	B-1,B-2,B-3,B-4
313.	*Euphorbia indica* Lam.	Euphorbiaceae	B-2

314.	*Euphorbia rosea* Retz.	Euphorbiaceae	B-1,B-3
315.	*Euphorbia serpens* H.B.K	Euphorbiaceae	B-1,B-4
316.	*Euphorbia thymifolia* L.	Euphorbiaceae	B-1,B-2,B-3,B-4
317.	*Evolvulus alsinoides* (L.) L.	Convolvulaceae	B-1,B-3,B-4
318.	*Evolvulus nummularius* (L.) L.	Convolvulaceae	B-1,B-2,B-3,B-4
319.	*Evovulus sericeus* Sw.	Convolvulaceae	B-3
320.	*Foeniculuem vulgare* L.	Apiaceae	B-2,B-3
321.	*Gaillardia aristata* Pursh	Asteraceae	B-2
322.	*Gaillardia grandiflora* Hort	Asteraceae	B-2
323.	*Gerbera jamesonii* Bolus	Asteraceae	B-1
324.	*Glinus oppositifolius* (L.) A.DC.	Molluginaceae	B-1, B-2,B-3,B-4
325.	*Globba marantina* L.	Zingiberaceae	B-2
326.	*Gnaphalium polycaulon* Pers.	Asteraceae	B-1,B-2,B-3,B-4
327.	*Gomphrena celosioides* Mart.	Amaranthaceae	B-1,B-2,B-3,B-4
328.	*Gomphrena globosa* L.	Amaranthaceae	B-2
329.	*Grangea maderaspatana* (L.) Poir.	Asteraceae	B-1,B-2,B-3,B-4
330.	*Hedyotis bracheata* Miq.ex Hook.f.	Rubiaceae	B-1,B-3,B-4
331.	*Hedyotis corymbosa* (L.)Lam.	Rubiaceae	B-1,B-2,B-3,B-4
332.	*Hedyotis puberula* (G.Don)Thw.	Rubiaceae	B-3
333.	*Heliconia latispatha* Benth.	Heliconiaceae	B-2
334.	*Heliconia rostrata* Ruiz & Pavon	Heliconiaceae	B-2
335.	*Heliotropium indicum* L.	Boraginaceae	B-1,B-2,B-3,B-4
336.	*Heliotropium strigosum* Willd.	Boraginaceae	B-1,B-4
337.	*Heliotropium supinum* L.	Boraginaceae	B-1,B-4
338.	*Hibiscus canabinus* L.	Malvaceae	B-1
339.	*Hippeastrum amaryllis* (L.)Herb.	Amaryllidaceae	B-2

340.	*Hippeastrum reginae* (L.)Herb.	Amaryllidaceae	B-2
341.	*Hybanthus enneaspermus* (L.) F.v. Muell.	Violaceae	B-1,B-2,B-3,B-4
342.	*Hygrophila auriculata* Schumach.	Acanthaceae	B-1,B-3,B-4
343.	*Hyptis suaveolens* (L.) Poit.	Lamiaceae	B-1,B-2,B-3,B-4
344.	*Impatiens balsamina* L.	Balsaminaceae	B-2
345.	*Indigofera linnaei* Ali	Fabaceae	B-1,B-2,B-3,B-4
346.	*Indoneesiella echioides* (L.) Sreemadh.	Acanthaceae	B-1,B-2,B-3,B-4
347.	*Justicia betonica* L.	Acanthaceae	B-3,B-4
348.	*Justicia japonica* Thunb.	Acanthaceae	B-2,B-3
349.	*Justicia quinqueangularis* Koen. ex Roxb.	Acanthaceae	B-1,B-4
350.	*Kalanchoe blossfeldiana* Poelln.	Crassulaceae	B-2
351.	*Kalanchoe pinnata* (Lam.) Pers.	Crassulaceae	B-2
352.	*Laportea interrupta* (L.) Chew	Urticaceae	B-1,B-2,B-3,B-4
353.	*Leucas aspera* (Willd.) Link	Lamiaceae	B-3,B-4
354.	*Leucas cephalotes* (Roth) Spreng.	Lamiaceae	B-1,B-4
355.	*Leucas indica* (L.) R.Br.ex Vatke	Lamiaceae	B-4
356.	*Lindernia ciliata* (Colsm.)Pennell	Scrophulariaceae	B-1,B-2,B-3,B-4
357.	*Lindernia crustacea* (L.) F.v. Muell.	Scrophulariaceae	B-1,B-2,B-3,B-4
358.	*Lippia javanica* (Burm.f.)Spreng.	Verbenaceae	B-4
359.	*Lobelia alsinoides* Lam.	Lobeliaceae	B-1,B-4
360.	*Lobularia maritima* (L.)Desv.	Brassicaceae	B-3
361.	*Ludwigia perennis* L.	Onagraceae	B-1,B-3,B-4
362.	*Malachra capitata* (L.)L.	Malvaceae	B-3
363.	*Maranta arundinacea* L.	Marantaceae	B-2
364.	*Martynia annua* L.	Martyniaceae	B-4

365.	*Mazus pumilus* (Brum.f.) Steenis	Scrophulariaceae	B-2,B-4
366.	*Mecardonia procumbens* (Mill.) Small	Scrophulariaceae	B-1,B-3,B-4
367.	*Melochia corchorifolia* L.	Sterculiaceae	B-3,B-4
368.	*Mentha arvensis* L.	Lamiaceae	B-2
369.	*Mentha piperita* L.	Lamiaceae	B-2
370.	*Mentha spicata* L.	Lamiaceae	B-2
371.	*Merremia hederacea* (Burm.f.)Hall.f.	Convolvulaceae	B-4
372.	*Microccocca mercurialis* (L.) Benth.	Euphorbiaceae	B-1,B-2,B-3,B-4
373.	*Mimosa pudica* L.	Mimosaceae	B-1,B-2,B-3,B-4
374.	*Mirabilis jalapa* L.	Nyctaginaceae	B-2
375.	*Mitracarpus villosus* (Sw.) DC.	Rubiaceae	B-1,B-2,B-3,B-4
376.	*Mollugo pentaphylla* L.	Molluginaceae	B-1,B-2,B-3,B-4
377.	*Murdannia nodiflora* (L.)Brenan	Commelinaceae	B-1,B-2,B-3,B-4
378.	*Murdannia spirata* (L.) Brueck.	Commelinaceae	B-1,B-3,B-4
379.	*Musa acuminata* var. *rubra*	Musaceae	B-2
380.	*Musa paradisiaca* L.	Musaceae	B-2
381.	*Ocimum canum* Sims.	Lamiaceae	B-4
382.	*Origanum majorana* L.	Lamiaceae	B-2
383.	*Oxalis corniculata* L.	Oxalidaceae	B-1,B-2,B-3,B-4
384.	*Oxalis debilis* Kunth	Oxalidaceae	B-2
385.	*Oxalis triangularis* A.St.-Hil.	Oxalidaceae	B-2
386.	*Panadnus amarylifolius* Roxb.	Pandanaceae	B-2
387.	*Parthenium hysterophorus* L.	Asteraceae	B-1,B-2,B-3,B-4
388.	*Peperomia pellucida* Kunth	Piperaceae	B-1,B-3,B-4
389.	*Peristrophe paniculata* (Forssk.) Brummitt	Acanthaceae	B-1,B-3,B-4

390.	*Persicaria virginiana* (L.)Gaertn.	Polygonaceae	B-2
391.	*Petunia hybrid* Juss.	Solanaceae	B-2
392.	*Phaulopsis imbricata* (Forssk.) Sw.	Acanthaceae	B-3,B-4
393.	*Phyla nodiflora* (L.)Greene	Verbenaceae	B-4
394.	*Phyllanthus fraternus* Webster	Euphorbiaceae	B-1,B-2,B-3,B-4
395.	*Phyllanthus virgatus* Forst.f.	Euphorbiaceae	B-1,B-3,B-4
396.	*Physalis longifolia* Nutt.var.*longifolia*	Solanaceae	B-3
397.	*Physalis minima* L.	Solanaceae	B-4
398.	*Phlox drummondii* Hook.	Polemoniaceae	B-1
399.	*Pilea microphylla* (L.)Liebm.	Urticaceae	B-1,B-2,B-3,B-4
400.	*Plectranthus amboinicus* (Lour.)Spreng	Lamiaceae	B-2
401.	*Plectranthus barbatus* Andr.	Lamiaceae	B-2
402.	*Plectranthus scutellarioides* (L.) R.Br.	Lamiaceae	B-2
403.	*Plumbago indica* L.	Plumbaginaceae	B-2,B-4
404.	*Polygala arvensis* L.	Polygalaceae	B-3,B-4
405.	*Polygonum barbatum* L.	Polygonaceae	B-3,B-4
406.	*Portulaca oleracea* L. var. *oleracea*	Portulaceae	B-1,B-2,B-3,B-4
407.	*Portulaca pilosa* L. subsp. *grandiflora* (Hook.) Geesink	Portulaceae	B-2
408.	*Portulaca quadrifida* L.	Portulaceae	B-1,B-2,B-3,B-4
409.	*Portulaca umbraticola* Kunth	Portulaceae	B-2
410.	*Ruellia brittoniana* Leonard	Acanthaceae	B-2
411.	*Ruellia tuberosa* L.	Acanthaceae	B-1,B-3
412.	*Rungia pectinata* (L.) Nees	Acanthaceae	B-1,B-2,B-3,B-4
413.	*Sansevieria cylindrica* Bojer	Asparagceae	B-2

414.	*Sansevieria roxburghiana* Schult. & Schult.f.	Asparagceae	B-2
415.	*Sansevieria trifasciata* Prain.	Asparagceae	B-2
416.	*Scadoxus multiflorus* (Martyn) Raf.	Amaryllidaceae	B-2
417.	*Scoparia dulcis* L.	Scrophulariaceae	B-1,B-2,B-3,B-4
418.	*Sebastiania chamalea* (L.) Muell.-Arg.	Euphorbiaceae	B-2,B-4
419.	*Senna occidentalis* (L.) Link	Caesalpiniaceae	B-2,B-4
420.	*Sesamum orientale* L.	Pedaliaceae	B-3,B-4
421.	*Sida acuta* Burm.f.	Malvaceae	B-1,B-2,B-3,B-4
422.	*Sida cordata* (Burm.f.) Borssum	Malvaceae	B-1,B-3,B-4
423.	*Sida cordifolia* L.	Malvaceae	B-3,B-4
424.	*Sida rhombifolia* L. subsp. *rhombifolia* var. *rhombifolia*	Malvaceae	B-4
425.	*Solanum lycopersicon* L.	Solanaceae	B-2
426.	*Solanum melongena* L.	Solanaceae	B-2
427.	*Solanum nigrum* L.	Solanaceae	B-1,B-2,B-3,B-4
428.	*Solanum tuberosum* L.	Solanaceae	B-2
429.	*Solanum virginianum* L.	Solanaceae	B-4
430.	*Spathiphyllum cochlearispathum* (Liebm.)Engl.	Araceae	B-2
431.	*Spermacoce articularis* L.f.	Rubiaceae	B-1,B-2,B-3,B-4
432.	*Spermacocoe exilis* (L.O.Williams)C.D. Adams	Rubiaceae	B-1,B-2,B-3,B-4
433.	*Sphaeranthus indicus* L.	Asteraceae	B-3,B-4
434.	*Spilanthes calva* DC.	Asteraceae	B-3,B-4
435.	*Spilanthes paniculata* Wall. ex DC.	Asteraceae	B-1,B-2,B-3,B-4
436.	*Synedrella nodiflora* (L.) Gaertn.	Asteraceae	B-1,B-2,B-3,B-4

437.	*Tagetes patula* L.	Asteraceae	B-2
438.	*Talinum triangulare* (Jacq.)Willd.	Talinaceae	B-2
439.	*Tephrosia purpurea* (L.) Pers. var. *purpurea*	Fabaceae	B-3,B-4
440.	*Theriophonum minuatum* (Willd.) Bail	Araceae	B-2
440.	*Tithonia diversifolia* (Hemsl) A.Gray	Asteraceae	B-1,B-2
441.	*Tradescantia zebrine* (Schinz) D.R Hunt	Commelinaceae	B-2
442.	*Tribulus terrestris* L.	Zygophyllaceae	B-2,B-4
443.	*Tridax procumbens* L.	Asteraceae	B-1,B-2,B-3,B-4
444.	*Triumfetta pentandra* A.Rich	Sterculiaceae	B-1,B-4
445.	*Triumfetta rhomboidea* Jasq.	Sterculiaceae	B-3,B-4
446.	*Turnera ulmifolia* L.	Turneraceae	B-2
447.	*Uraria picta* (Jacq.) Desv.ex DC.	Fabaceae	B-2
448.	*Urena lobata* L. subsp. *sinuata* (L.) Borssum var. *sinuata*	Malvaceae	B-1,B-3,B-4
449.	*Vernonia cinerea* (L.) Less.	Asteraceae	B-1,B-2,B-3,B-4
450.	*Waltheria indica* L. var. *indica*	Sterculiaceae	B-3,B-4
451.	*Wedelia chinensis* (Osbeck) Merr.	Asteraceae	B-2
452.	*Withania somnifera* (L.)Dunal	Solanaceae	B-2
453.	*Xanthium indicum* Koenig	Asteraceae	B-3,B-4
454.	*Xanthosoma robustum* Schott.	Araceae	B-1
455.	*Zephyranthes candida* (Lindl.)Herb.	Amaryllidaceae	B-2
456.	*Zephyranthes rosea* (Lindl.)	Amaryllidaceae	B-2
457.	*Zinnia elegans* Jack.	Asteraceae	B-2
458.	*Zornia diphylla* (L.) Pers.	Fabaceae	B-3,B-4
459.	*Zornia gibbosa* Spanoghe	Fabaceae	B-3,B-4

HYDROPHYTES (ANGIOSPERMS)			
460.	*Alisma plantago-aquatica* L.	Alismataceae	B-2
461.	*Ceratophyllum demersum* L.	Ceratophyllaccae	B-2
462.	*Eichhornia crassipes* (Mart.) Solms-Laub.	Pontederiaceae	B-4
463.	*Hydrilla verticillata* (L.f.) Royle	Hydrocharitaceae	B-2
464.	*Lemna perpusila* Torr.	Lemnaceae	B-2,B-4
465.	*Monochoria hastata* Solms-Laub.	Pontederiaceae	B-4
466.	*Monochoria vaginalis* (Burm.f.) Presl	Pontederiaceae	B-4
467.	*Nelumbo nucifera* Gaertn.	Nelumbonaceae	B-2
468.	*Nuphar pumila* (Timm) DC.	Nymphaeaceae	B-2
469.	*Nymphaea mexicana* Zucc.	Nymphaeaceae	B-2
470.	*Nymphaea nouchali* Burm.f.	Nymphaeaceae	B-2
471.	*Nymphaea pubescens* Willd.	Nymphaeaceae	B-2
472.	*Nymphoides hydrophila* (Lour.)Kuntze	Menyanthaceae	B-2
473.	*Nymphoides indica* (L.) Kuntze	Menyanthaceae	B-2
474.	*Pistia stratiotes* L.	Araceae	B-4
475.	*Potamogeton nodosus* Poir.	Potamogetonaceae	B-2
476.	*Spirodela polyrhiza* (L.) Schleiden	Lemnaceae	B-4
477.	*Typha angustifolia* L.	Typhaceae	B-2
CLIMBERS			
478.	*Abrus precatorius* L.	Fabaceae	B-4
479.	*Aganosma caryophyllata* (Roxb. ex Sims) G.Don	Apocynaceae	B-2
480.	*Allamanda blanchetti* A.DC.	Apocynaceae	B-2
481.	*Antigonon leptopus* Hook. & Arn.	Polygonaceae	B-4
482.	*Argeyria nervosa* (Burm.f.) Bojer	Convolvulaceae	B-2

483.	*Artabotrys hexapetalus* (L.f.) Bandari	Annonaceae	B-2
484.	*Aristolochia gigantea* Mart. & Zucc.	Aristolochiaceae	B-1
485.	*Asparagus racemosus* Willd.	Asparagaceae	B-2
486.	*Atylosia scarabaeoides* (L.) Benth.	Fabaceae	B-3,B-4
487.	*Basella alba* L.	Basellaceae	B-2
488.	*Campsis radicans* Seem.	Bignoniaceae	B-2
489.	*Cayratia pedata* (Wall.) Gagnep.	Vitaceae	B-3,B-4
490.	*Cayratia trifolia* (L.) Domin	Vitaceae	B-1,B-3,B-4
491.	*Cissampelos pareira* L.	Menispermaceae	B-2
492.	*Cissus quadrangularis* L.	Vitaceae	B-2
493.	*Clerodendrum splendens* G.Don	Verbenaceae	B-2
494.	*Clerodendrum thomsoniae* Balf.	Verbenaceae	B-2
495.	*Clitoria ternatea* L.	Fabaceae	B-2
496.	*Coccinia grandis* (L.) Voigt	Cucurbitaceae	B-3,B-4
497.	*Cocculus hirsutus* (L.) Diels	Cucurbitaceae	B-3,B-4
499.	*Cucumis melo* L.	Cucurbitaceae	B-2
500.	*Cucumis sativus* L.	Cucurbitaceae	B-2
501.	*Cucurbita maxima* Duchesne	Cucurbitaceae	B-2
502.	*Cuscuta reflexa* Roxb.	Cuscutaceae	B-4
503.	*Dioscorea alata* L.	Dioscoreaceae	B-2
504.	*Diplocyclos palmatus* (L.) C.Jeffrey	Cucurbitaceae	B-4
505.	*Epipremnum Aureum* (Linden & André) G.S.Bunting	Araceae	B-2
506.	*Ficus pumila* L.	Moraceae	B-2
507.	*Gymnema sylvestre* R.Br.	Asclepidaceae	B-2

508.	*Hemidesmus indicus* (L.) R.Br. var. *indicus*	Periplocaceae	B-2,B-3,B-4
509.	*Ichnocarpus frutescens* (L.) W.T.Aiton	Apocynaceae	B-2
510.	*Ipomoea obscura* Ker.-Gawl.	Convolvulaceae	B-4
511.	*Ipomoea pes-tigridis* L.	Convolvulaceae	B-1,B-4
512.	*Ipomoea quamoclit* L.	Convolvulaceae	B-3
513.	*Ipomoea sepiaria* Koenig ex Roxb.	Convolvulaceae	B-3,B-4
514.	*Luffa acutangula* (L.) Roxb.	Cucurbitaceae	B-2
515.	*Luffa aegyptiaca* Mill.	Cucurbitaceae	B-4
516.	*Mansoa alliacea* Gentry.	Bignoniaceae	B-2
517.	*Merremia tridentata* (L.) Hall.f. subsp. *hastata* (Hall.f.) Ooststr.	Convolvulaceae	B-3
518.	*Mikania micrantha* Kunth	Asteraceae	B-1,B-3,B-4
519.	*Momordica charantia* L.	Cucurbitaceae	B-2
520.	*Momordica dioica* Roxb. ex Willd.	Cucurbitaceae	B-2
521.	*Mukia maderaspatana* (L.) M.Roem.	Cucurbitaceae	B-3
522.	*Operculina turpethum* (L.)Silva Manso	Convolvulaceae	B-2
523.	*Paederia foetida* L.	Rubiaceae	B-2
524.	*Passiflora foetida* L.	Passifloraceae	B-2, B-3
525.	*Passiflora incarnata* L.	Passifloraceae	B-2
526.	*Passiflora vitifolia* Kunth	Passifloraceae	B-2
527.	*Pentalinon luteum* (L.) B.F.Hansen & Wunderlin	Apocynaceae	B-2
528.	*Pergularia daemia* (Forssk.) Chiov.	Asclepidaceae	B-4
529.	*Petrea volubilis* L.	Verbenaceae	B-2

530.	*Philodendron scandens* K. Koch & Sello	Araceae	B-2
531.	*Piper betel* L.	Piperaceae	B-2
532.	*Piper longum* L.	Piperaceae	B-2
533.	*Podranea ricasoliana* (Tanf.) Sprague	Bignoniaceae	B-2
534.	*Pyrostegia venusta* (Ker.Gawl.)Miers	Bignoniaceae	B-2
535.	*Quisqualis indica* L.	Combretaceae	B-2
536.	*Rhaphidophora decusirva* (Roxb.) Schott	Araceae	B-2
537.	*Stephania japonica* (Thunb.) Miers	Menispermaceae	B-3
538.	*Syngonium podophyllum* Schott	Araceae	B-2
539.	*Thunbergia fragrans* Roxb.	Acanthaceae	B-2
540.	*Thunbergia grandiflora* (Roxb.ex Rottl.)Roxb.	Acanthaceae	B-1,B-2
541.	*Tinospora cordifolia* (Thunb.) Miers	Menispermaceae	B-2
542.	*Trichosanthes cucumerina* L.	Cucurbitaceae	B-2
543.	*Trichosanthes dioica* Roxb.	Cucurbitaceae	B-2
544.	*Trichosanthes tricuspidata* Lour.	Cucurbitaceae	B-4
545.	*Tylophora indica* (Burm. f.) Merr.	Asclepiadaceae	B-2
546.	*Typhonium trilobatum* (L.) Schott	Araceae	B-2
547.	*Vernonia elliptica* DC.	Asteraceae	B-1, B-2
548.	*Vitis vinifera* L.	Vitaceae	B-2
EPIPHYTES			
549.	*Vanda tesselata* (Roxb.)Hook.ex G.Don	Orchidaceae	B-2
550.	*Dendrobium ursula* Strenge	Orchidaceae	B-2
551.	*Selenicereus undatus* D.R. Hunt	Cactaceae	B-1
GRASSES			
552.	*Aristida setacea* Retz.	Poaceae	B-1, B-2,B-3,B-4

553.	*Bambusa arundinacea* (Retz.) Willd.	Poaceae	B-2
554.	*Bambusa vulgaris* Schrad. Ex J.C.Wendl.	Poaceae	B-2
555.	*Bothriochloa pertusa* (L.) A. Camus	Poaceae	B-1, B-2, B-3,B-4
556.	*Brachiaria distachya* (L.) Stapf	Poaceae	B-1, B-2, B-3,B-4
557.	*Brachiaria mutica* (Forssk.) Stapf	Poaceae	B-4
558.	*Brachiaria ramosa* (L.) Stapf	Poaceae	B-1, B-3,B-4
559.	*Chloris barbata* Sw.	Poaceae	B-1,B-2,B-3,B-4
560.	*Chrysopogon aciculatus* (Retz.) Trin.	Poaceae	B-1,B-4
561.	*Cynodon dactylon* (L.) Pers.	Poaceae	B-1,B-2,B-3,B-4
562.	*Cyperus brevifolius* (Rottb.) Hassk.	Cyperaceae	B-1,B-4
563.	*Cyperus compactus* Retz.	Cyperaceae	B-4
564.	*Cyperus difformis* L.	Cyperaceae	B-1,B-3,B-4
565.	*Cyperus halpan* L.	Cyperaceae	B-1,B-3
566.	*Cyperus imbricatus* Retz.	Cyperaceae	B-4
567.	*Cyperus iria* L.	Cyperaceae	B-1,B-4
568.	*Cyperus kyllingia* Endl.	Cyperaceae	B-1,B-3,B-4
569.	*Cyperus paniceus* (Rottb.) Boeck.	Cyperaceae	B-4
570.	*Cyperus pygmaeus* Rottb.	Cyperaceae	B-4
571.	*Cyperus rotundus* L. var. *rotundus* Kern.	Cyperaceae	B-1,B-2,B-3
572.	*Cyperus triceps* Endl.	Cyperaceae	B-4
573.	*Dactyloctenium aegypticum* (L.) P.Beauv.	Poaceae	B-1,B-2,B-3,B-4
574.	*Digitaria abludens* (Roem. & Schult.) Veldk.	Poaceae	B-3
575.	*Digitaria ciliaris* (Retz.) Koeler	Poaceae	B-1,B-2,B-3,B-4
576.	*Echinochloa colona* (L.) Link	Poaceae	B-1,B-2,B-3,B-4

577.	*Eleusine indica* (L.) Gaertn.	Poaceae	B-1,B-2,B-3,B-4
578.	*Elusine coracana* (L.)Gaertn	Poaceae	B-2
579.	*Eragrostis cilliaris* (L.) R.Br.	Poaceae	B-3
580.	*Eragrostis ciliata* Roxb. Nees	Poaceae	B-1,B-2,B-3,B-4
581.	*Eragrostis unioloides* (Retz.) Nees ex Steud.	Poaceae	B-1,B-2,B-3,B-4
582.	*Eriochloa procera* (Retz.)Hubbard	Poaceae	B-1,B-2,B-3,B-4
583.	*Paspalum scrobiculatum* L.	Poaceae	B-2,B-3
584.	*Paspalum vaginatum* Sw.	Poaceae	B-1,B-3
585.	*Pennisetum pedicellatum* Trin.	Poaceae	B-1,B-3,B-4
586.	*Pennisetum purpureum* Schumach	Poaceae	B-3,B-4
587.	*Perotis indica* (L.)Kuntz	Poaceae	B-3,B-4
588.	*Pogonantherum crinitum* (Thunb.)Kunth	Poaceae	B-2
589.	*Sachharum officinarum* L.	Poaceae	B-2
590.	*Setaria pumila* (Poir.) Roem. & Schult.	Poaceae	B-1,B-3,B-4
591.	*Setaria verticillata* (L.) P.Beauv.	Poaceae	B-1,B-4
592.	*Sorghum vulgare* L.	Poaceae	B-2
593.	*Zea mays* L.	Poaceae	B-2
GYMNOSPERMS			
594.	*Araucaria columnaris* (Forst.f.) Hook.	Araucariaceae	B-2
595.	*Cycas revoluta* Thunb.	Cycadaceae	B-2
596.	*Juniperus communis* L.	Cupressaceae	B-2
597.	*Pinus roxburghii* Sargent	Pinaceae	B-2
598.	*Podocarpus nerefolius* D.Don	Podocarpaceae	B-2
599.	*Platycladus orientalis* (L.) Franco	Cupressaceae	B-2
PTERIDOPHYTES			

600.	*Adiantum incisum* Forssk.	Adiantaceae	B-4
601.	*Adiantum phillipense* L.	Adiantaceae	B-1,B-2,B-3,B-4
602.	*Ampelopteris prolifera* (Retz.) Copel.	Thelypteridaceae	B-2,B-4
603.	*Azolla microphylla* Kaulf	Azollaceae	B-4
604.	*Ceratopteris thalictroides* (L.) Brongn	Ceratopteridaceae	B-4
605.	*Dryopteris cochleata* (D.Don) C.Chr.	Dryopteridaceae	B-2,B-4
606.	*Marsilea minuta* L.	Marseliaceae	B-4
607.	*Marsilea quadrifolia* L.	Marseliaceae	B-4
608.	*Nephrolepis exaltata* (L.) Schott	Nephrolepidaceae	B-2
609.	*Phymatosorus membranifolius* (R.Br.)S.G.	Polypodiaceae	B-2
610.	*Pteris vittata* L.	Pteridaceae	B-1,B-2,B-3,B-4
611.	*Salvinia cuculata* Roxb.	Salviniaceae	B-4
612.	*Salvinia molesta* D.S. Mitch.	Salviniaceae	B-4
613.	*Selaginella ciliaris* (Retz.) Spring	Selaginellaceae	B-4
BRYOPHYTES			
614.	*Barbula calycina*Schwägr	Pottiaceae	B-2,B-4
615.	*Marchantia polymorpha* L.	Marchantiaceae	B-1,B-4
616.	*Riccia beyrichiana* Hampe ex Lehm	Ricciaceae	B-3,B-4
617.	*Trichostomum crispulum* Bruch	Pottiaceae	B-2
MUSHROOMS			
618.	*Agaricus bisporous* (J.E.Lange) Emil.J.Imbact	Agaricaceae	B-2
619.	*Agaricus compestris* L.	Agaricaceae	B-4
620.	*Amanita multisquamosa* Peck	Amanitaceae	B-4
621.	*Amylostereum laevigatum* (Fr.) Boidin	Amylostereaceae	B-4
622.	*Bulgaria inquinans* (Pers.) Fr	Bulgariaceae	B-4
623.	*Byssomerulius corium* (Pers.) Parmasto	Irpicaceae	B-4

624.	*Chaetoderma luna* (Romell ex D.P. Rogers & H.S. Jacks.) Parmasto	Stereaceae	B-4
625.	*Clavaria aurea* Schaeff.	Clavariaceae	B-4
626.	*Crinipellis scabella* (Alb. & Schwein.) Murrill	Marasmiaceae	B-4
627.	*Dacryopinax spathularia* Schweien & G.W.Martin	Dacrymycetaceae	B-4
628.	*Deconia coprophila*(Bull.) P. Karst.	Strophariaceae	B-4
629.	*Entoloma unicolar* (Perk) Hesler	Entolomataceae	B-4
630.	*Ganoderma lucidum* (Curtis) P. Carst.	Ganotodermaceae	B-4
631.	*Lactarius alnicola* A.H. Smith	Russulaceae	B-4
632.	*Marasmius rotula*(Scop.) Fr.	Marasmiaceae	B-1
633.	*Protostropharia semiglobata* (Batsch) Redhead, Moncalvo & Vilgays	Strophariaceae	B-4
634.	*Psilocybe cubensis* (Earle) Singer	Hymenogastraceae	B-1
635.	*Terana caerulea* (Lam.) Kuntze	Phanerochaetaceae	B-4
636.	*Termitomyces eurrhizus* (Berk.&Broome) R.Heim	Lyophyllaceae	B-4
637.	*Termitomyces heimii* Natarajan	Lyophyllaceae	B-4
638.	*Xylaria longipes* Nitschke	Xylariaceae	B-4
LICHENS			
639.	*Chrysothrix chlorina* (Ach.) J.R. Laundon	Chrysothricaceae	B-4
640.	*Cryptothecea scripta* G.Thor	Arthoniaceae	B-4
641.	*Graphis scripta* (L.) Ach.	Graphidaceae	B-1,B-2,B-3,B-4

Newly added plants species

Aristolochia gigantea Mart. & Zucc.

Family: Aristolochiaceae

Vernacular name(s):

Odia: Ishwara mula, Sugandha
Hindi: Ishermul

English: Giant Pelican flower, Duck flower

Bougainvillea glabra var. **alba white** Mendes. & Viegas.
Family: Nyctanginaceae

Vernacular name(s):
Odia: Dhala Kagaja phula
Bengali: Booganbel

Hindi: Booganbel

English: Bougainvillea

Boerhavia erecta L.Family: Nyctaginaceae

Vernacular name(s):

Odia: Sweta Puruni

Bengali: Sweta punarnova, Godabani, Kulphasa

Hindi: Swet punarnava

Eng: Desert horse purslane, White Wine flower

Clitoria arborea Benth.

Family: Fabaceae

Odia: Gaccha Aparajita

Eng: Butterfly Pea Tree, Butterfly tree, Orchid tree

Dianthus caryophyllus L.

Family: Caryophyllaceae

Vernacular name(s):

Odia: Dianthus

English: Carnation, Clove pink

Gerbera jamesonii double petal pv. pink

Family: Asteraceae

Odia: Gerbera

Eng: Barberton daisy, Transvaal daisy

Ixora finlaysoniana L. var. **dwarf white**

Family: Rubiaceae

Vernacular name(s):

Odia: Dhala Katharangani, Dhala Kantarangani

Hindi: Rukmini

English: White jungle flame

Lantana involucrata L.

Syn: *Lantana odorata* L.
Family: Verbenaceae

Vernacular name(s):

Odia: Dhala Naguari, Nagaairi

Bengali: Kutus phul

English: Buttonsage

Lantana montevidensis (Spreng.) Briq.

Family: Verbenaceae

Vernacular name(s):

Odia: Nila naguari

Bengali: Kutus phul

Hindi: Raimunyia

English: Trailing lantana

Lantana camara L. **var. new gold** (L.) Mold.

Syn: *Lantana camara* sensu Haines

Family: Verbenaceae

Vernacular name(s):

Odia: Naguari, Nagaairi

Bengali: Kutus phul

Lantana urticoides

Syn:

L. Family: Verbenaceae

Family: Verbenaceae

Vernacular name(s):

Odia: Naguari, Nagaairi

Bengali: Kutus phul

English: Texas Lantana

Mussanda erythrophylla Schumach. & Thonn.

Family: Rubiaceae

Vernacular name(s):

Odia: Lal velvet phula

Bengali: Sada Patta, Mithai phul

Hindi: Bedina Phul

English: Mussaenda, Ashanti blood, red flag bush, tropical dogwood

Phlox drummondii Hook.

Family: Polemoniaceae

Vernacular name(s):

English: Annual Phlox, Phlox Twinkle

Radermachera yunanensis C. Y. Wu

Family: Bignoniaceae

Odia: China kamini

Eng: Dwarf Tree Jasmine, China Doll, Kunming Tree Jasmine

Sapindus saponaria L.

Family: Sapindaceae

Vernacular name(s):

Odia: Ritha phala

Bengali: Ritha

Hindi: Phenil

Eng: Soapberry

Selenicereus undatus (**Haworth) D.R.HuntSyn.:** ***H****ylocereus undatus* **(**Haw.) Britton & Rose

) D.R.HuntSyn.: *Hylocereus undatus* (Haw.) Britton & Rose

Family: Cactaceae

Vernacular name(s):

Odia: Dragon phala

Eng: Dragon-fruit, Red Pitaya, Strawberry Pear, Moonlight cactus

Enumeration of most important medicinal plants of CUTM

Abutilon indicum

Ethnic uses: About 5-10 ml of the leaf juice is prescribed for post-delivery complications specially to get rid of left-over placenta parts and also reduce the pain.

Ageratum conyzoides

Ethnic uses: Plant paste mixed with turmeric paste (in a proportion 1:1) is applied to cure eczema.

Andrographis paniculate

Ethnic uses: About 5 g of leaf paste is given twice a day for three days against acidity and gastric troubles.

Blumea lacera

Ethnic uses: Leaf paste is prepared with cold water and given once in a week against bed-wetting.

Leucas aspera

Ethnic uses: The leaves (10 g) are fried in mustard oil

Mesua ferrea

Ethnic uses: Leaf paste is massaged on head against hemicarnia.

Phyllanthus emblica

Ethnic uses: The juice of the fruit is massaged against the burning sensation of the hands and feet.

Terminalia bellirica

Ethnic uses: Fruit juice is taken with honey (each 10 ml) twice a day for 2 days to check diarrhoea.

Tinospora cordifolia

Ethnic uses: Stem powder (10 g) of this plant and 2-3 g of 'black pepper' powder (Piper nigrum) are prescribed for 7 days to cure urinary tract infection.

Tridax procumbens

Ethnic uses: Leaf paste (2 g) is taken thrice daily for 4 days to check diarrhoea

REPORT ON FAUNAL DIVERSITY OF CUTM, BHUBANESWAR CAMPUS

A team of Faculties, M.Sc. and B.Sc. students of Department of Zoology conducted the survey of faunal diversity (both invertebrates and vertebrates) under the supervision of Dr. Siba PrasadParida, Associate Professor, Department of Zoology..

Biodiversity is the variety and variability of living organisms on the earth. It includes genetic diversity within and between species and of ecosystems. Thus, in essence, biodiversity is in part a function of climate that represents all life. It brings enormous benefits to mankind from direct harvesting of plants and animals for food, medicine, fuel, construction materials and other uses to aesthetic, cultural, recreational and research values.

Fauna refers to the animals present in a certain region, time period or environment. In Romanmythology, "Fauna" was the sister of Faunus, a good spirit of the forest and animals. The faunaof any given region is usually explained in biological terms to include the genus and species ofanimal life, their preferred growing or breeding habits and their connection to one another in the environment as well. The documentation of local fauna means to make an organized collection or record by describing the morphology and number of a particular animal at a givenarea and a particular time. Local fauna study is a study we use to describe the variety of life ina specific area of a country. It refers to the wide variety of ecosystems and living organisms; animals, plants, their habitats and their genes on the selected area.

The present study deals with the documentation of the faunal diversity of the CUTM, Bhubaneswar having quite an impressive amount of animal diversity, including both

invertebrates and vertebrates. Various trees and bushes associated with the field serves as a roosting place of the different species of birds at different times of the day. It also acts as a habitat for variety of insects like odonates, dipterans, orthopterans, lepidopterans and coleopterans. There is a butterfly garden at the right of the entrance gate which supports a widevariety of butterflies and other fauna. The window shades of the building of the university serves as the resting place for the birds like the Common Myna and Indian Rock Pigeon.

Importance of documentation of local fauna

- Preservation and Conservation as well as gaining new biological insights.
- This kind of documentation aims to understand how an organism fits into its environment as the environment, is of supreme importance to an organism and its ability to exist in environment where it lives will determine its success or failure as anindividual.
- This study provides scope to observe how an organism obtain its food, what are the limiting factors for its growth, reproduction, distribution etc.
- Such study imparts training to the students for investigation and research for the sake of wellbeing not only of man but also of its other Eco friends.

Objectives of the field study

- To study the ecology of animals living in the University campus.
- To get practical knowledge regarding methods of collections & preservation of animalscollected by the collector in the course of field work.
- To classify and identify the animals into their respective taxa on the basis of theircharacteristic features.
- To undertake the faunal survey of different ecosystems and to study the wonder ofbiodiversity.

- To study the interactions and interdependence among the organism for the maintenanceof great diversity.

- Lastly, to ignite the light of bio-ethical spirit and sense to justify the protection of biodiversity and to arouse the sense of responsibility to prevent environmental degradation and destruction.

Table 1. The list of the avian fauna observed in the campus

Sl.No	Common name	Odia name	Scientific name
1	Blue rock pigeon	Para	*Columba livia*
2	Spotted Dove	Kapota	*Streptopelia chinensis*
3	Red Vented Bulbul	Bulbul	*Pycnonotus cafer*
4	Red Whiskered Bulbul	Bulbul	*Pycnonotus jocosus*
5	Indian Treepie	Harada chadhei	*Dendrocitta vagabunda*
6	Common Myna	Bani	*Acridotheres tristis*
7	Asian Pied Starling	Gobara bani	*Sturnus contra*
8	White-breasted Kingfisher	Macharanka	*Halcyon smyrnensis*
9	Common Kingfisher	Chota Macharanka	*Alcedo atthis*
10	Small Bee-Eater	Balisua	*Merops orientalis*
11	House Crow	Kau	*Corvus splendens*
12	Jungle Babbler	Kundakhia	*Turdoides striatus*
13	Black-headed Oriole	Haladibasanta	*Oriolus xanthornus*
14	Oriental Magpie Robin	Robin	*Copsychus saularis*
15	Black Kite	Matia chila	*Milvus migrans*
16	Common Hoopoe	Hoopee	*Upupa epops*
17	Rose-ringed Parakeet	Tia	*Psittacula krameri*
18	Asian Koel	Koilo	*Eudynamys scolopacea*
19	Pond heron	Kanti baga	*Ardeola grayii*
20	Little egret	Bada baga	*Egretta garzetta*
21	Bronze winged jacana	Dalakhumpi	*Metopidius indicus*
22	Little cormorant	Panikua	*Microcarbo niger*
23	Indian Roller	Badabhadalia	*Coracias benghalensis*
24	Purple sunbird	Phulachuin	*Cinnyris asiaticus*
25	Domesticated goose	Hansa	*Anser cygnoides domesticus*
26	Domesticated duck	Bataka	*Anas platyrhynchos domesticus*

Table 2. The list of the mammalian fauna observed in the campus

Sl.No	Common name	Odia name	Scientific name
1	Feral dog	Bula Kukura	*Canis familiaris*
2	Feral cat	Bilei	*Felis domesticus*
3	Grey Mongoose	Neula	*Herpestes edwardsii*
4	Five striped Palm Squirrel	Gunduchi	*Funambulus pennantii*
5	Shrew	Chuchundra	*Suncus murinus*
6	Mouse	Musa	*Mus musculus*

Table 3. The list of the reptilian fauna observed in the campus

Sl.No	Common name	Odia name	Scientific name
1	Garden lizard	Endua	*Calotes versicolor*
2	Common skink	Champei neula	*Eutropis carinata*
3	Bark gecko	Jhitipiti	*Hemidactylus leschenaultii*
4	Spotted gecko	Jhitipiti	*Hemidactylus brookii*
5	Supple skinks	Champeineula	*Lygosoma punctata*
6	Indian cobra	Naga	*Naja naja*
7	Rat snake	Dhamana	*Ptyas mucosa*
8	Bronze back tree snake	Kalinchi	*Dendrelaphis tristis*
9	Kukri snake	Kukri	*Oligodon arnensis*
10	Wolf snake	Kaudia chiti	*Lycodon aulicus*
11	Checkerd keelback	Dhanda sapa	*Xenochrophis piscator*

Table 4. The list of the amphibian fauna observed in the campus

Sl.No	Common name	Odia name	Scientific name
1	Indian Toad	Luni benga	*Duttaphrynus melanostictus*
2	Skittering frog	Panibenga	*Euphlyctis cyanophlyctis*
3	Indian Bull frog	Brahmani benga	*Hoplobatrachus tigerinus*
4	Indian tree frog	Dian benga	*Polypedates maculatus*

Table 5. The list of the fish fauna observed in the campus

Sl.No	Common name	Odia name	Scientific name
1	Catla	Bhakura	*Catla catla*
2	Rohu	Rohi	*Labeo rohita*
3	Iridescent sharks	Aquarium macha	*Pangasianodon hypophthalmus*
4	Gold fish	Aquarium macha	*Carassius auratus*
5	Spotted snakehead	Gadisha	*Channa punctata*
6	Grass carp	Carp	*Ctenopharyngodon idella*

Table 6. The list of the invertebrate fauna observed in the campus

Sl.No	Common name	Scientific name
1	Blister beetle	*Mylabris phalerata*
2	European honey bee	*Apis mellifera*
3	garden snail	*Cornu aspersum*
4	Green Jewel Bug	*Chyrsocoris stolli*
5	Leaf roller moth	*Cnaphalocrocis medinalis*
6	Milkweed bug	*Oncopeltus fasciatus*
7	Painted grassopper	*Poekilocerus pictus*
8	Jumping Spider	*Phintella vitata*
9	Pumpkin beetles	*Aulacophora femoralis*

10	Rubber fly	*Neomochtherus sp.*
11	Short-palped cranefly	*Limonia nubeculosa*
12	Soilder fly	*Sargus iridatus*
13	Transverse lady beetle	*Coccinella transversalis*

Table 7. The list of the butterfly fauna observed in the campus

Sl.No	Common name	Scientific name
1	Striped Albatross	*Appias olferna*
2	Angled castor	*Ariadne ariadne*
3	Banded Blue Pierrot	*Discolampa ethion*
4	Blue tiger	*Tirumala limniace*
5	Blue mormon	*Papilio polymnestor*
6	Bushbrown	*Mycalesis perseus*
7	Chocolate pansy	*Junonia iphita*
8	Common baron	*Euthalia aconthea*
9	Common crow	*Euploea core*
10	Common evening brown	*Melanitis leda*
11	Common four rings	*Ypthima huebneri*
12	Common grass yellow	*Eurema hecabe*
13	Common gull	*Cepora Nerissa*
14	Common jay	*Graphium doson*
15	Common jezbel	*Delias eucharis*
16	Common leapord	*Phalanta phalantha*
17	Common mormon	*Papilio polytes*
18	Common pierrot	*Castalius rosimon*
19	Common rose	*Pachliopta aristolochiae*
20	Common sailor	*Neptis hylas*
21	Common silverline	*Spindasis vulcanus*
22	Common wanderer	*Pareronia valeria*
23	Common grass yellow	*Eurema hecabe*
24	Common Redeye	*Matapa aria*
25	Great Eggfly	*Hypolimnas bolina*
28	Twany coaster	*Acraea terpsicore*
29	Dark small branded swift	*Pelopidas mathias*
30	Grass blue	*Zizeeria karsandra*
31	Grass dart	*Taractrocera ceramas*
32	Lemon emigrant	*Catopsilia Pomona*
33	Lemon pansy	*Junonia lemonias*
34	Psyche	*Leptosia nina*
35	Striped tiger	*Danaus genutia*
36	Plain tiger	*Danaus chrysippus*
37	Red tip	*Colotis antevippe*
38	Tailed jay	*Graphium Agamemnon*
39	Three spot grass yellow	*Eurema blanda*
40	Grass demon	*Udaspes folus*
41	Pointed Ciliate Blue	*Anthene lycaenina*
42	Lime butterfly	*Papilio demoleus*
43	Peacock Pansy	*Junonia almanac*

44	Blue pansy	*Junonia orithya*

Interaction with students

Butterfly Garden

Indian cobra

Checkerd keelback

Blister beetle

Butterflies

Garden lizard

Common myna

Common toad

Honey bee

Garden snail

Green Jewelbug

Ladybird beetle

Leaf roller moth

Long legged fly

Milkweed bug

Lime butterfly

Phintella Spider

Pumpkin beetle

Rubber fly

Jumping spider

Shortpalped cranefly

Tadpole in lilypool

Transverse lady beetle

Wood louse

Butterflies

Domestic geese

Domestic duck

Spotted gecko

Skitterng frog

Feral dog and cat

Flock of Blue rock pigeon

REPORT OF
GREEN AUDIT
OF CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT, BBSR CAMPUS, ODISHA (2020-21)

Preface

Institutional self-inquiry is a natural and necessary outgrowth of quality of higher education. Concern about environmental degradation and realization of values of environment are logical consequences of scholarly research, teaching and learning process. In its pursuit for improving environmental quality and to maintain a pristine environment for the future generation of students, Centurion University has made a self-inquiry on environmental quality of the campus with the following objectives: (i) To establish a baseline of existing environmental conditions with focus on natural and physical environment; (ii) To understand the current practices of sustainability with regard to the floral and faunal diversity inside the campus (iii) To promote environmental awareness through participatory auditing process; and (iv) To create a report that document baseline data of good practices and provide future strategies and action plans towards improving environmental quality for future.

This report is compiled by a committee constituted by IQAC. As there was no standard model for such a green audit of campuses in the state, the committee brainstormed and evolved a questionnaire. With the help of student volunteers and faculties of respective departmrnts the major part of the data was compiled, which the committee analyzed. The remaining part which involved measurement of quality was entrusted with the Department of Botany and Department of Zoology of Centurion University of Technology and Management, Odisha. The committee has made short term and long term suggestions to take environment protection to higher levels and it is hoped that this will receive due attention of University authorities and also all stake-holders of the University.

Dr. Yashaswi Nayak

Dr. Sagarika Parida

Dr. Gyanranjan Mahalik

Dr. Siba Prasad Parida

Dr. Atia Arzoo

Dr.Rukmani Mishra

SCHOOL OF APPLIED SCIENCES
CUTM
CENTURION UNIVERSITY OF TECHNOLOGY & MANAGEMENT

Executive Summary

Many departments maintain garden and the campus is greener with fair biodiversity around and gardens maintained by many departments. A detailed study on floral and faunal diversity has been done. There are also one beautiful rose garden, medicinal plant garden and one butterfly park inside the campus mentained by the university. Faunal and floral diversity reports are given below.

REPORT ON FLORAL DIVERSITY

Flora comes from the Latin word "*Flora*", the meaning is Goddess of plants. *Floris* means flower. Floral diversity is the diversity of plants occurring in a particular region during particular time period. It also refers to the diversity of naturally available native or indigenous plants till now a total of 2, 15, 644 species of plants have been catalogued on the earth till date. It is reported that India harbours 46, 824 species including virus/bacteria and fungi species. In India, floral diversity is concentrated in four phytogeographical unique regions like Himalayas, Western Ghats, Northeast India and Andaman and Nicober Islands. Indian flora records for 11.4% of the total recorded plant species. Angiosperms are the largest plant group in India comprising of total of 17, 817 species which constitutes 38.15% of floral diversity of the entire country followed by fungi comprising 14,698 species which is of 31.38%. High level of cryptogram (Bryophytes and Pteridophytes) diversity is also seen in the country. A total of 2,479 species of Pteridophytes and around 1265 of Bryophytes have been recorded in India. Algae and fungi have also been wide spread in India. Lichens are found in Western Ghats, Eastern and Western Himalayas and Andaman and Nicobar Islands. Most of the ferns and gymnosperms are found in cool temperate zones of the Himalayas and in the mountainous regions of southern India, especially in the Western Ghats. Indian flora represents nearly 12% of the global diversity excluding viruses. A diverse number of species of wild relatives of crop plants are also present.

Presently, considerable attention is being addressed to biological diversity of biodiversity statue which refers to the occurrence of diverse biological forms including micro-organisms, plants and animals in a particular geographical area under a set of environmental conditions. Biodiversity is the reflection of genetic variability with which the different hierarchical forms of germplasm (strains, landraces/genotypes/varieties, species, genera etc.) appear in the course of evolution. The genetic variation may exist either within the species (intra specific) to a certain extent or to a larger scale between different species (intra specific) and taxa of higher biological order. In fact, it is the ecosystem

that supports the biological variability. The diverse living forms of the ecosystem are always in a state of change keeping pace with the global environment perturbations. An ecosystem is composed of both biotic and abiotic components which are quite interrelated and influences each other.

Ecosystem diversity encompasses varieties of living forms due to miscellany of niches, tropic levels and ecological processes like nutrient recycling, food chains, food webs, energy flow and role of dominant species. The present campus of Centurion University, in Bhubaneswar spread over 48 acres of land in the foothill of Barunei hills, near Jatni town; the campus is adjacent to National Institute of Science, Education and Research (NISER), Indian Institute of Technology (IIT), All India Institute of Medical Sciences (AIIMS) and Xavier University. The place is being famous as a hot spot of temples, historical monuments and archaeological remains.

Topographically, the area is an undulating lateritic land sloping towards the east. Presently the land area with vegetation cover approximately 20 acres excluding one water body covers 2.5 acres receiving waste water from the University Campus.

Block wise area under survey:

Block-1: consist of subunits – 1-10 (excluding butterfly garden) including Gate-1, Gate-2, Auditorium building, Action learning lab and waste to wealth lab, wood engineering lab, Faculty residence, Swimming pool, Girls hostel-1 and Girls hostel-2.

Block-2: consist of the subunits- 11-20 including Girls hostel-3, Koutilya building, Madhusudan building, Aryabhatta building, Industrial training centre, Workshop (E- Rikshaw unit, Civil engineering, Electrical engineering).

Block-3: consist of the subunits 21-30 including Mechanical workshop, Advance centre of excellence for apparel textile and GTET corporation office, Inatitute of training of trainers (GTET), Multi use play ground, Basket ball court, Tennis ball court, Consumer facility cum training and learning lab (Diesel outlet), Wheel alignment training centre, Boys hostel-1 and Boys hostel-2.

Block-4: consist of subunits 31-40 including Boys hostel-3, Boys hostel-4, Boys hostel-5, Boys hostel-6, Central store, Power house, Cow shed, Water body and Butterfly garden.

LIST OF DIFFERENT KINDS OF FLORA FOUND IN THE CAMPUS

Sl. No.	Botanical name	Family	Distribution
TREES			
1.	*Acacia auriculiformis* A. Cunn. ex Benth.	Mimosaceae	B-2, B-4
2.	*Aegle marmelos* (L.) Corr.	Rutaceae	B-2
3.	*Ailanthus excelsa* Roxb.	Simaroubaceae	B-3
4.	*Albizia lebbeck* (L.) Benth.	Mimosaceae	B-3
5.	*Alstonia scholaris* (L.) R.Br.	Apocynaceae	B-2
6.	*Anacardium occidentale* L.	Anacardiaceae	B-2, B-4
7.	*Annona squamosa* L.	Annonaceae	B-2
8.	*Areca catechu* L.	Arecaceae	B-2
9.	*Artocarpus altilis (Parkinson)* Fosberg	Moraceae	B-2
10.	*Bauhinia variegata* L.	Caesalpiniaceae	B-2
11.	*Bixa orellana* L.	Bixaceae	B-2
12.	*Borassus flabellifer* L.	Arecaceae	B-2
13.	*Brya ebenus* (L.) DC.	Fabaceae	B-2
14.	*Cinammomum tamala*(Buch.-Ham.).Nees&C.H. Eberm.	Lauraceae	B-2
15.	*Cinammomum verum*J.Presl	Lauraceae	B-2
16.	*Commiphora wightii* (Arn.) Bhandari	Burseraceae	B-2
17.	*Couroupita guianensis* Aubl.	Lecythidaceae	B-2
18.	*Crataeva magna (Lour.)* DC	Capparaceae	B-2
19.	*Delonix regia* (Boj. ex Hook.) Raf.	Caesalpiniaceae	B-2, B-4
20.	*Dillenia indica* L.	Dilleniaceae	B-2,
21.	*Diospyros melanoxylon* Roxb.	Ebenaceae	B-2
22.	*Elaeis guineensis* Jacq.	Arecaceae	B-4
23.	*Eucalyptus citrodora* Hook.	Myrtaceae	B-2
24.	*Ficus benghalensis* L. *var.benghalensis*	Moraceae	B-2, B-4
25.	*Ficus elastica* L.	Moraceae	B-2
26	*Ficus racemosa* L.	Moraceae	B-4
27.	*Ficus religiosa* L.	Moraceae	B-2, B-4
28.	*Gliricidia sepium*(Jacq.) Walp.	Fabaceae	B-2
29.	*Gardenia gummifera* L.f.	Rubiaceae	B-2

30.	*Gmelina arborea* Roxb.	Verbenaceae	B-3
31.	*Haldina cordifolia* (Roxb.) Ridsale	Rubiaceae	B-2
32.	*Helictres isora* L.	Sterculiaceae	B-4
33.	*Lagerstroemia speciosa* (L.) Pers.	Lythraceae	B-1, B-2
34.	*Limonia acidissima* L.	Rutaceae	B-2
35.	*Livistona chinensis* (Jacq.) R. Br. ex Mart.	Arecaceae	B-2
36.	*Macarnga peltata* (Roxb.)Muell-Arg.	Euphorbiaceae	B-2
37.	*Magnolia champaca*(L.) Baill. ex Pierre	Magnoliaceae	B-2
38.	*Mangifera indica* L.	Anacardiaceae	B-1, B-2, B-3,B-4
39.	*Murraya paniculata*(L.) Jack	Rutaceae	B-1,B-2,B-3
40.	*Neolamarckia cadamba*(Roxb.) Bosser	Rubiaceae	B-1,B-2
41.	*Nyctanthes arbor-tristis* L.	Oleaceae	B-1, B-2, B-3,B-4
42.	*Olea europaea* L.	Oleaceae	B-2
43.	*Pimenta dioica* (L.)Merr.	Myrtaceae	B-2
44.	*Plumeria obtuse* L.	Apocynaceae	B-4
45.	*Plumeria rubra* L.	Apocynaceae	B-1, B-2, B-3,B-4
46.	*Polyalthia suberosa* (Roxb.) Thwaites	Annonaceae	B-1
47.	*Ravenala madagascariensis* Sonn.	Strelitziaceae	B-2
48.	*Roystonea regia* (Kunth) O.F.Cook	Arecaceae	B-1, B-2
49.	*Sambucus canadensis* L.	Adoxaceae	B-2
50.	*Santalum album* L.	Santalaceae	B-2
51.	*Streblus asper* Lour.	Moraceae	B-2
52.	*Syzygium caryophyllifolium* (Lam.)DC.	Myrtaceae	B-1, B-2
53.	*Syzygium cumini*(L.)Skeels	Myrtaceae	B-2
54.	*Syzygium jambos* (L.)Alston	Myrtaceae	B-2
55.	*Syzygium samarhagense* (Bl.)Merr. &Perr.	Myrtaceae	B-2
56.	*Tamarindus indica* L.	Caesalpiniaceae	B-2
57.	*Tectona grandis* L.f.	Verbenaceae	B-2
58.	*Thespesia populnea*(L.) Sol. ex Corrêa	Malvaceae	B-4
59.	*Terminalia arjuna* ((Roxb.) Wight & Arn.	Combretaceae	B-1
SHRUB			
60.	*Acalypha wilkesiana* Mull.	Euphorbiaceae	B-2
61.	*Adenium obesum*(Forssk.) Roem. & Schult	Apocynaceae	B-2
62.	*Agave Americana* L.	Agavaceae	B-2

63.	*Agave salmiana* Otto ex Salm-Dyck	Asparagaceae	B-2
64.	*Bougainvillea spectabilis* Willd.	Nyctaginaceae	B-2
65.	*Cascabela thevetia* (L.)Lippold	Apocynaceae	B-2
66.	*Cestrum nocturnum* L.	Solanaceae	B-2
67.	*Chromolaena odorata* (L.) R. King & H. Robins	Asteraceae	B-1, B-2, B-3,B-4
68.	*Citrus aurantifolia*(Christm.) Swingle	Rutaceae	B-2
69.	*Citrus grandis*(L.) Osbeck	Rutaceae	B-2
70.	*Cordyline fruticosa*(L.) A.Chev. (L.)Nees.	Agavaceae	B-2
71.	*Crossandra infundibuliformis*	Acanthaceae	B-2
72.	*Crotalaria spectabilis* Roth	Fabaceae	B-2
73.	*Cryptostegia grandiflora* R.Br.	Apocynaceae	B-1
74.	*Cuphea hyssopifolia* Kunth	Lythraceae	B-2
75.	*Desmodium pulchellum* (L.)Benth.	Fabaceae	B-4
76.	*Dracaena marginataLam. 'tricolor'*	Agavaceae	B-2
77.	*Dracena reflexa* Lam.	Agavaceae	B-2
78.	*Dracaena sanderiana* Mast.	Asparagaceae	B-2
79.	*Duranta repens* L.	Verbenaceae	B-2
80.	*Dypsis lutescens* (H.Wendl.) Beentje & J.Dransf	Arecaceae	B-2
81.	*Euphorbia milii* Des Moul.	Euphorbiaceae	B-2
82.	*Euphorbia pulcherrima* Willd. ex Klotzsch	Euphorbiaceae	B-2
83.	*Euphorbia tithymiloides* L.	Euphorbiaceae	B-2
84.	*Fargesia stricta*Hsueh & C. M. Hui, Bull.	Poaceae	B-2
85.	*Flacourtia jangomas* (Lour.)Raeusch.	Salicaceae	B-4
86.	*Gardenia carinata* Wall. ex Roxb.	Rubiaceae	B-1
87.	*Gardenia jasminoides* J.Ellis	Rubiaceae	B-2
88.	*Hamelia patens* Jacq.	Rubiaceae	B-2
89.	*Hibiscus mutabilis* L.	Malvaceae	B-1
90.	*Hibiscus rosa-sinensis* L.	Malvaceae	B-1
91.	*Hibiscus schizopetalus* (Mast.)Hook.f.	Malvaceae	B-1, B-2
92.	*Hypoestes phyllostachya* Baker	Acanthaceae	B-2
93.	*Impatiens glandulifera* Royle	Balsaminaceae	B-2
94.	*Ipomoea carnea* Jacq.	Convolvulaceae	B-1,B-4
95.	*Ixora coccinea* L.	Rubiaceae	B-2

96.	*Jasminum auriculatum* Vahl	Oleaceae	B-2
97.	*Jasminum sambac* (L.) Ait.	Oleaceae	B-2
98.	*Jatropha gossypifolia* L.	Euphorbiaceae	B-2
99.	*Lagerstroemia indica* (L.) Pers.	lythraceae	b-2
100.	*Lantana camara L. var. aculeata* (L.) Mold	verbenaceae	b-2
101.	*Lawsonia inermis* L.	lythraceae	b-2
102.	*Loropetalum chinense*(R.Br.)Oliv. var. chinense	hamamelidaceae	b-2
103.	*Malpighia coccigera* L.	malpighiaceae	B-2
104.	*Malvaviscus arboreus* Cav.	malvaceae	B-2
105.	*Melastoma malbathricum* L.	melastomataceae	B-2
106.	*Ocimum kilimandscharicum* Guerke	lamiaceae	B-2
107.	*Ocimum sanctum* L.	lamiaceae	B-1, B-2
108.	*Opuntia stricta* (Haw.) Haw. var. dillenii (Ker-Gawl.) Benson	cactaceae	B-2
109.	*Pereskia bleo* (Kunth)DC.	cactaceae	B-2
110.	*Phoenix loureiroi* Kunth	arecaceae	B-2
111.	*Phyllanthus myrtifolius* (Wight)Muller	euphorbiaceae	B-2
112.	*Plumbago auriculata* Lam.	plumbaginaceae	B-2
113.	*Polyscias filicifoliam*(C.Moore ex E.Fourn.) L.H.Bailey	araliaceae	B-2
114.	*Rauvolfia serpentina* (L.) Benth. ex Kurz	apocynaceae	B-2
115.	*Rauvolfia tetraphylla* L.	apocynaceae	B-2
116.	*Rhapis excelsa (Thunb.)* A. Henry	arecaceae	B-2
117.	*Riccinus communis* L.	euphorbiaceae	B-2
118.	*Rosa alba* L.	rosaceae	B-2
119.	*Rosa centifolia* L	rosaceae	B-2
120.	*Rosa chinenesis* Jacquin	rosaceae	B-2
121.	*Rosa damascina* Miller	rosaceae	B-2
122.	*Rosa odorata* (Andr.)Sweet var. odorata	rosaceae	B-2
123.	*Sauropus androgynus*(L.) Merr.	euphorbiaceae	B-2
124.	*Solanum torvum* Sw.	solanaceae	B-2, B-4
125.	*Sterblus taxoides* (Roth)Kurz	Moraceae	B-2
126.	*Tabernaemontana divaricata* (L.) R.Br. ex Roem. & Schult.cv.plena	apocynaceae	B-2

127.	*Tecoma stans* (L.) Kunth.	bignoniaceae	B-1, B-2
128.	*Thunbergia erecta* (Benth.)T.Anderson	acanthaceae	B-1, B-2
129.	*Vitex negundo* L.	verbenaceae	B-2
130	*Wrightia antidysenterica* (L.)R.Br.	apocynaceae	B-2
131.	*Ziziphus oenoplia* (L.) Mill.	rhamnaceae	B-4
HERB			
132.	*Abelmoschus esculentus* (L.) Moench	Malvaceae	B-1, B-2
133.	*Abelmoschus manihot* (L.) Medic subsp. Tetraphyllus	malvaceae	B-4
134.	*Aerva lanata* (L.) Juss.ex Schultes.	amaranthacea	B-1.B-2,B-3,B-4
135.	*Aerva sanguinolenta* (L.) BI.	amaranthacea	B-2
136.	*Aeschynomene aspera* L.	fabaceae	B-3,B-4
137.	*Aeschynomene indica* L.	fabaceae	B-1,B-4
138.	*Ageratum conyzoides* L.	asteraceae	B-1,B-2,B-3,B-4
139.	*Allmania nodiflora* (L.) R.Br. ex Wt.	amaranthacea	B-1,B-3,B-4
140.	*Alocasta macrorrhizos* (L.) G.Don	araceae	B-4
141.	*Aloe vera* (L.) Burm.f.	liliaceae	B-1,B-2
142.	*Alpinia galanga* (L.) Willd.	zingiberaceae	B-2
143.	*Alternanthera sessilis* (L.) R.Br. ex DC.	Amaranthacea	B-1,B-2,B-3,B-4
144.	*Alysicarpus vaginalis* (L.) DC. var. nummularifolius Miq.	fabaceae	B-1,B-2,B-3,B-4
145.	*Amaranthus caudatus* L.	amaranthacea	B-2
146.	*Amaranthus spinosus* L	amaranthacea	B-1.B-2,B-3,B-4
147.	*Amaranthus tricolor* L.	amaranthacea	B-1,B-4
148.	*Amaranthus viridis* L.	amaranthacea	B-1,B-2,B-3,B-4
149.	*Asystasia gangetica*(L.) T. Anderson	acanthaceae	B-2
150.	*Barleria cristata* L.	acanthaceae	B-4
151.	*Barleria prionitis* L.	acanthaceae	B-1,B-3,B-4
152.	*Bassia scoparia* (L.) Schrad.	amaranthacea	B-2
153.	*Biophytum sensitivum* (L.) DC.	oxalidaceae	B-1,B-2,B-3,B-4
154.	*Brassica campestris L.*	brassicaceae	B-1,B-2,B-3
155.	*Brassica napus L var. glauca* (Roxb.) Schulz	brassicaceae	B-2
156.	*Brassica oleracea* L. var.capitata	brassicaceae	B-2
157.	*Brassica oleracea* L. var.oleracea	brassicaceae	B-2
158.	*Caladium bicolor* (Aiton) Vent	araceae	B-2

159.	*Canna indica* L.	cannaceae	B-2
160.	*Capsicum annum* L.	solanaceae	B-2
161.	*Catharanthus roseus* (L.) G.Don	apocynaceae	B-1,B-2,B-3,B-4
162.	*Celosia argentea* L.	amaranthacea	B-2
163.	*Celosia cristata* L.	amaranthacea	B-2
164.	*Celosia argentea var.* plumosa	amaranthacea	B-2
165.	*Centella asiatica* (L.) Urban	apiaceae	B-2
166.	*Chamaecostus cuspidatus* (Nees & Mart.) C.Specht & D.W. Stev.	costaceae	B-2
167.	*Chenopodium album* L.	chenopodiaceae	B-4
168.	*Chrozophora rottleri* (Geisel.) Juss.	euphorbiaceae	B-3,B-4
169.	*Chrysanthemum* cinerariifolium (Trev.) Vis.	asteraceae	B-2
170.	*Cleome rutidosperna* DC.	capparaceae	B-1,B-2,B-3,B-4
171.	*Cleome viscosa* L.	capparaceae	B-1,B-2,B-3,B-4
172.	*Coldenia procumbens* L.	boraginaceae	B-1,B-2,B-3,B-4
173.	*Colocasia esculenta* (L.) Schott	araceae	B-4
174.	*Commelina benghalensis* L.	commelinaceae	B-1,B-2,B-3,B-4
175.	*Commelina erecta* L.	commelinaceae	B-1,B-2,B-3,B-4
176.	*Commelina longifolia* Lam.	commelinaceae	B-4
177.	*Commelina paludosaBlume*	commelinaceae	B-3
178.	*Coriandrum sativum* L.	apiaceae	B-2
179.	*Cosmos caudatus* Kunth	asteraceae	B-3,B-4
180.	*Curcuma amada* Roxb.	Zingiberaceae	B-1,B-2,0-3,B-4
181.	*Curcuma longa* L.	Zingiberaceae	B-2
182.	*Curcuma zedoaria* (Christm.)Rose.	Zingiberaceae	B-2
183.	*Cvanotis cristata* (L.) D.Don	Commelinaceae	B-2,B-4
184.	*Cyanotis tuberosa* (Roxb.)Schult.&Schult.f.	Commelinaceae	B-3,B-4
185.	*Cyanotis tuberosa* (Roxb.)Schult.&Schult.f.	Commelinaceae	B-3,B-4
186.	*Dentella repens* (L.) J.R. & G. Forst. var. repens	Fabaceae	B-1,B-2,B-3,B-4
187.	*Desmodium gangeticum* (L.) DC.	Fabaceae	B-2
188.	*Desmodium triflorum* (L.) DC.	Acanthaceae	B-1,B-2,B-3,B-4
189.	*Dicliptera bupleuroides* Nees	Amaranthaceae	B-1, B-2,B-3,B-4

190.	*Digera muricata*(L.) Mart	Acanthaceac	B-1,B-4
191.	*Dipteracanthus prostratus*(Poir.) Nees	Asteraceae	B-1, B-2,B-3,B-4
192.	*Eclipta prostrata* (L.) L.	Asteraceae	B-1,B-2,B-3,B-4
193.	*Emilia sonchifolia* (L.) DC.	Acanthaceae	B-1,B-2,B-3,B-4
194.	*Eranthemum capense* L.	Apiaccac	B-3,B-4
195.	*Euphorbia heterophylla* L.	Euphorbiaceae	B-3,B-4
196.	*Euphorbia hirta* L.	Euphorbiaceae	B-1,B-2,B-3,B-4
197.	*Euphorbia indica* Lam	Euphorbiaceae	B-2
198.	*Euphorbia rosea* Retz.	Euphorbiaceae	B-1,B-3
199.	*Euphorbia serpens* H.B.K	Euphorbiaceae	B-1,B-4
200.	*Euphorbia thymifolia* L.	Euphorbiaceae	B-1, B-2,B-3,B-4
201.	*Evolvulus alsinoides* (L.) L.	Convolvulaceae	B-1,B-3,B-4
202.	*Evolvulus nummularius* (L.) L.	Convolvulaceae	B-1,B-2,B-3,B-4
203.	*Evovulus sericeus* Sw.	Convolvulaceae	B-3
204.	*Foeniculuem vulgare* L.	Apiaceae	B-2,B-3
205.	*Gaillardia aristata* Pursh	Asteraceae	B-2
206.	*Gaillardia grandiflora* Hort	Asteraceae	B-2
207.	*Gomphrena celosioides* Mart,	Amaranthaceae	B-1,B-2,B-3,B-4
208.	*Gomphrena globosa* L.	Amaranthaceae	B-2
209.	*Grangea maderaspatana* (L.) Poir.	Asteraceae	B-1,B-2,B-3,B-4
210.	*Hedyotis bracheata* Miq.ex Hook.f.	Rubiaceae	B-1,B-3,B-4
211.	*Hedvotis corymbosa* (L.)lam.	Rubiaceae	B-1,B-2,B-3,B-4
212.	*Hedyotis puberula* (G.Don)Thw.	Rubiaceae	B-3
213.	*Heliconia latispatha* Benth.	Tlcliconiaceae	B-2
214.	*Heliconia rostrata* Ruiz & Pavon	Heliconiaceae	B-2
215.	*Hibiscus canabinus* L	Malvaceae	B-1
216.	*Hippeastrum amaryllis* (L.)Herb.	Amaryllidaceae	B-2
217.	*Hyptis suaveolens* (L.) Poit.	Lamiaccac	B-1,B-2,B-3,B-4
218.	*Impatiens balsamina* L.	Balsaminaceae	B-2
219.	*Indigofera linnaei* Ali	Fabaceae	B-1,B-2,B-3,B-4
220.	*Indoneesiella echioides* (L.) Sreemadh.	Acanthaceae	B-1,B-2,B-3,B-4
221.	*Justicia betonica* L.	Acanthaceae	B-3,B-4
222.	*Justicia japonica* Thunb.	Acanthaccac	B-2,B-3
223.	*Justicia quinqueangularis* Koen. ex Roxb.	Acanthaceae	B-1,B-4
224.	*Kalanchoe blossfeldiana* Poelln.	Crassulaceae	B-2

225.	*Kalanchoe pinnata* (Lam.) Pers.	Crassulaccae	B-2
226.	*Laportea interrupta* (L.) Chew	Urticaceae	B-1,B-2,B-3,B-4
227.	*Leucas aspera* (Willd.) Link	Lamiaceae	B-3,B-4
228.	*Leucas cephalotes* (Roth) Spreng.	Lamiaceae	B-1,B-4
229.	*Leucas indica* (L.) R.Br.cx Vatke	Lamiaceae	B-4
230.	*Lindernia ciliata* (Colsm.)Pennell	Scrophulariaceae	B-1,B-2,B-3,B-4
231.	*Lindshot.onaviyouero* (L.) F.v.Muell	Scrophulariaceae	B-1,B-2,B-3,B-4
232.	*Lippia javanica* (Burm.f.)Spreng.	Verbenacea	B-4
233.	*Lobelia alsinoides* Lam.	Lobeliaceae	B-1,B-4
234.	*Lobularia maritima* (L.)Desv.	Brassicaceae	B-3
235.	*Ludwigia perennis* L.	Onagraceae	B-1,B-3,B-4
236.	*Malachra capitata* (L.)L.	Malvaceae	B-3
237.	*Maranta arundinacea* L.	Marantaceae	B-2
238.	*Martynia annua* L.	Martyniaceae	B-4
239.	*Mazus pumilus* (Brum.f.) Steenis	Scrophulariaceae	B-2,B-4
240.	*Mecardonia procumbens* (Mill.) Small	Scrophulariaceae	B-1,B-3,B-4
241.	*Melochia corchorifolia* L.	Sterculiaceae	B-3,B-4
242.	*Mentha arvensis* L.	Lamiaceae	B-2
243.	*Mentha piperita* L.	Lamiaceae	B-2
244.	*Mentha spicata* L.	Lamiaceae	B-2
245.	*Merremia hederacea* (Burm.f.)Hall.f.	Convolvulaceae	B-4
246.	*Microccocca mercurialis* (L.) Benth.	Euphorbiaceae	B-1,B-2,B-3,B-4
247.	*Mimosa pudica* L.	Mimosaceae	B-1,B-2,B-3,B-4
248.	*Mirabilis jalapa* L.	Nyctaginaceae	B-2
249.	*Mitracarpus villosus* (Sw.) DC.	Rubiaceae	B-1,B-2,B-3,B-4
250.	*Mollugo pentaphylla* L.	Molluginaceae	B-1,B-2,B-3,B-4
251.	*Murdannia nodiflora* (L.)Brenan	Commelinaceae	B-1,B-2,B-3,B-4
252.	*Murdannia spirata* (L.) Brueck.	Commelinaceae	B-1,B-3,B-4
253.	*Musa acuminata var.* rubra	Musaccae	B-2
254.	*Musa paradisiaca* L.	Musaceae	B-2
255.	*Ocimum canum* Sims.	Lamiaceae	B-4
256.	*Origanum majorana* L.	Lamiaceae	B-2
257.	*Oxalis corniculata* L.	Oxalidaceae	B-1,B-2,B-3,B-4
258.	*Oxalis debilis* Kunth	Oxalidaceae	B-2
259.	*Oxalis triangularis* A.St.-Hil.	Oxalidaceae	B-2

260.	*Panadnus amarylifolius* Roxb.	Pandanaceae	B-2
261.	*Parthenium hysterophorus* L.	Asteraceae	B-1,B-2,B-3,B-4
262.	*Peperomia pellucida* Kunth	Piperaceae	B-1,B-3,B-4
263.	*Peristrophe paniculata* (Forssk.) Brummitt	Acanthaceae	B-1,B-3,B-4
264.	*Persicaria virginiana* (L.)Gaertn.	Polygonaceae	B-2
265.	*Petunia hybrid* Juss.	Solanaceae	B-2
266.	*Phaulopsis imbricata* (Forssk.) Sw.	Acanthaceae	B-3,B-4
267.	*Phyla nodiflora* (L.) Greene	Verbenaceae	B-4
268.	*Phyllanthus fraternus* Webster	Euphorbiaceae	B-1,B-2,B-3,B-4
269.	*Phyllanthus virgatus* Forst.f	Euphorbiaceae	B-1,B-3,B-4
270.	*Physalis longifolia Nutt.* var longifolia	Solanaceae	B-3
271.	*Physalis minima* L.	Solanaceae	B-4
272.	*Polygala arvensis* L.	Polygalaceae	B-3,B-4
273.	*Polygonum barbatum* L.	Polygonaceae	B-3,B-4
274.	*Portulaca oleracea* L. var. oleracea	Portulaceae	B-1,B-2,B-3,B-4
275.	*Portulaca pilosa* L. subsp. grandiflora (Hook.) Geesink	Portulaceae	B-2
276.	*Portulaca quadrifida* L.	Portulaceae	B-1,B-2,B-3,B-4
277.	*Portulaca umbraticola* Kunth	Portulaceae	B-2
278.	*Ruellia brittoniana* Leonard	Acanthaceae	B-2
279.	*Sansevieria trifasciata* Prain.	Asparagceae	B-2
280.	*Scadoxus multiflorus* (Martyn) Raf.	Amaryllidaceae	B-2
281.	*Scoparia dulcis* L.	Scrophulariaceae	B-1,B-2,B-3,B-4
282.	*Sebastiania chamalea* (L.) Muell.-Arg.	Euphorbiaceae	B-2,B-4
283.	*Senna occidentalis* (L.) Link	Caesalpiniaceae	B-2,B-4
284.	*Sesamum orientale* L.	Pedaliaceae	B-3,B-4
285.	*Solanum tuberosum* L.	Solanaceae	B-2
286.	*Solanum virginianum* L.	Solanaceae	B-4
287.	*Spathiphyllum cochlearispathum* (Liebm.) Engl.	Araceae	B-2
288.	*Spermacoce articularis* L.f.	Rubiaceae	B-1,3-2,B-3,B-4
289.	*Spermacocoe exilis* (L.O.Williams)C.D. Adams	Rubiaceae	B-1,B-2,B-3,B-4
290.	*Theriophonum minuatum* (Willd.)Bail	Araceae	B-2
291.	*Tithonia diversifolia* (Hemsl)A.Gray	Asteraceae	B-1,B-2

292.	*Tradescantia zebrine* (Schinz)D.R Hunt	Commelinaceae	B-2
293.	*Tribulus terrestris* L.	Zygophyllaceae	B-2,B-4
294.	*Tridax procumbens* L.	Asteraceae	B-1,B-2,B-3,B-4
295.	*Triumfetta pentandra A.*Rich	Sterculiaceae	B-1,B-4
296.	*Triumfetta rhomboidea* Jasq.	Sterculiaceae	B-3,B-4
297.	*Turnera ulmifolia* L.	Turneraceae	B-2
298.	*Uraria picta* (Jacq.)Desv.ex DC.	Fabaceae	B-2
299.	*Urena lobata L. subsp. sinuata* (L.) Borssum var. sinuate	Malvaceae	B-1,B-3,B-4
300.	*Vernonia cinerea* (L.) Less.	Asteraceae	B-1,B-2,B-3,B-4
301.	*Waltheria indica* L. var. indica	Sterculiaceae	B-3,B-4
302.	*Wedelia chinensis* (Osbeck) Merr.	Asteraceae	B-2
303.	*Withania somnifera* (L.)Dunal	Solanaceae	B-2
304.	*Xanthium indicum* Koenig	Asteraceae	B-3,B-4
305.	*Xanthosoma robustum* Schott.	Araceae	B-1
306.	*Zephyranthes candida* (Lindl.)Herb.	Amaryllidaceae	B-2
307.	*Zephyranthes rosea*(Lindl.)	Amaryllidaceae	B-2
308.	*Zinnia elegans* Jack.	Asteraceae	B-2
309.	*Zornia diphylla* (L.) Pers.	Fabaceae	B-3,B-4
310.	*Zornia gibbosa* Spanoghe	Fabaceae	B-3,B-4
HYDROPHYTES			
311.	*Alisma plantago-aquatica* L.	Alismataceae	B-2
312.	*Ceratophyllum demersum* L.	Ceratophyllaccae	B-2
313.	*Eichhornia crassipes*(Mart.) Solms-Laub.	Pontederiaceae	B-4
314.	*Hydrilla verticillata* (L.f.) Royle	Hydrocharitaceae	B-2
315.	*Lemna perpusila* Tor.	Lemnaecae	B-2,B-4
316.	*Monochoria hastata* Solms-Laub.	Pontederiaceae	B-4
317.	*Monochoria vaginalis* (Burm.f.) Presl	Pontederiaceae	B-4
318.	*Nelumbo nucifera* Gaertn.	Nelumbonaceae	B-2
319.	*Nuphar pumila*(Timm) DC.	Nymphaeaccae	B-2
320.	*Nymphaea mexicana* Zucc.	Nymphaeaccae	B-2
321.	*Nymphaea nouchali* Burm.f.	Nymphaeaceae	B-2
322.	*Nymphaea pubescens* Willd.	Nymphaeaceae	B-2
323.	*Nymphoides hydrophila* (Lour.)Kuntze	Nymphaeaceae	B-2

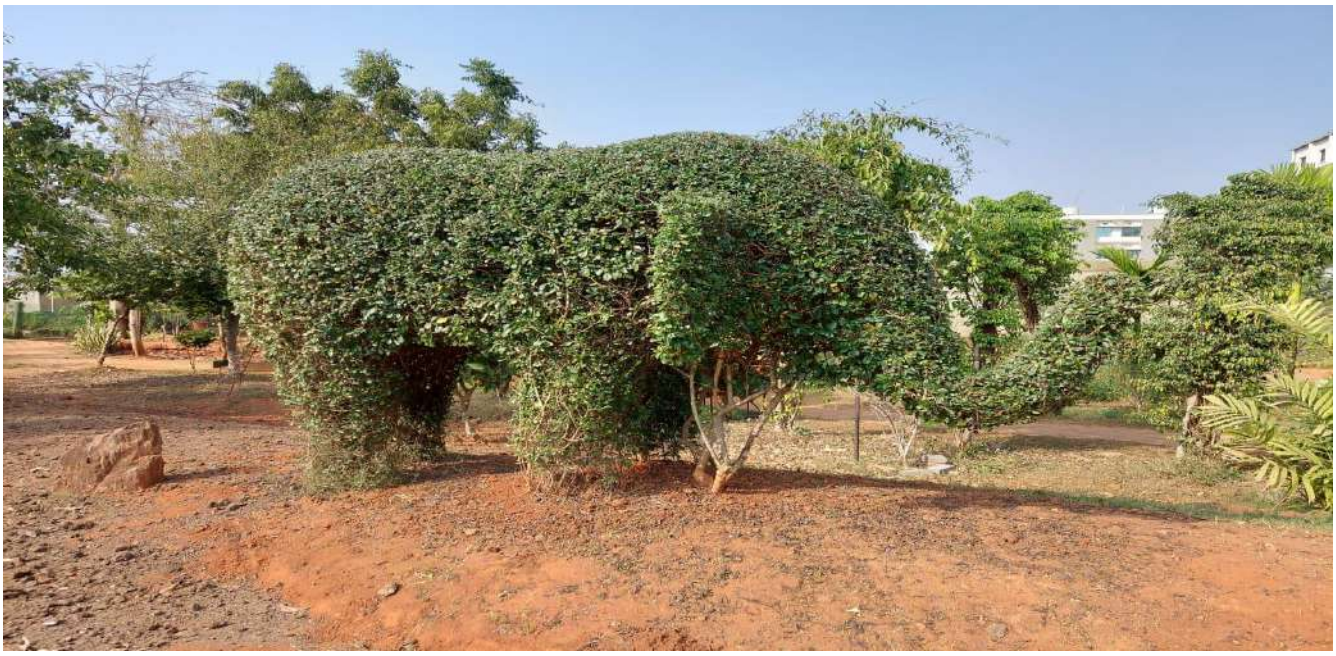
324.	*Nymphoides indica* (L.) Kuntze	Menyanthaceae	B-2
325.	*Pistia stratiotes* L.	Araceae	B-4
326.	*Potamogeton nodosus* Poir.	Potamogetonaceae	B-2
327.	*Spirodela polyrhiza* (L.) Schleiden	Lemnaceae	B-4
328.	*Typha angustifolia* L.	Typhaceae	B-2
CLIMBER			
329.	*Abrus precatorius* L.	Fabaceae	B-4
330.	*Aganosma caryophyllata* (Roxb. ex Sims) G.Don	Apocynaceae	B-2
331.	*Allamanda blanchetti* A.DC.	Apocynaceae	B-2
332.	*Antigonon leptopus* Hook. & Arn.	Polygonaceae	B-4
333.	*Argeyria nervosa*(Burm.f.) Bojer	Convolvulaceae	B-2
334.	*Artabotrys hexapetalus*(L.f) Bandari	Annonaceae	B-2
335.	*Asparagus racemosus* Willd.	Asparagaceae	B-2
336.	*Atylosia scarabaeoides* (L.) Benth.	Fabaceae	B-3,B-4
337.	*Basella alba* L.	Basellaceae	B-2
338.	*Campsis radicans* Seem.	Bignoniaceae	B-2
339.	*Cayratia pedata Wall.)* Gagnep.	Vitaceae	B-3,B-4
340.	*Cayratia trifolia* (L.) Domin	Vitaceae	B-1,B-3,B-4
341.	*Coccinia grandis* (L.) Voigt	Cucurbitaceae	B-3,B-4
342.	*Cocculus hirsutus*(L.) Diels	Cucurbitaceae	B-3,B-4
343.	*Cucumis melo* L.	Cucurbitaceae	B-2
344.	*Cucumis sativus* L.	Cucurbitaceae	B-2
345.	*Cucurbita maxima* Duchesne	Cucurbitaceae	B-2
346.	*Cuscuta reflexa* Roxb.	Cuscutaceae	B-4
347.	*Dioscorea alata* L.	Dioscoreaceae	B-2
348.	*Diplocyclos palmatus*(L.) C.Jeffrey	Cucurbitaceae	B-4
349.	*Epipremnum aureum*(Linden & André) G.S.Bunting	Araceae	B-2
350.	*Ichnocarpus frutescens* (L.) W.T.Aiton	Apocynaceae	B-2
351.	*Ipomoea obscura* Ker.-Gawl.	Convolvulaceae	B-4
352.	*Ipomoea pes-tigridis*L.	Convolvulaceae	B-1,B-4
353.	*Ipomoea quamoclit* L.	Convolvulaceae	B-3
354.	*Ipomoea sepiaria Koenig* ex Roxb.	Convolvulaceae	B-3,B-4
355.	*Luffa acutangula*(L.) Roxb.	Convolvulaceae	B-2

356.	*Luffa aegyptiaca* Mill.	Cucurbitaceae	B-4
357.	*Mansoa alliacea* Gentry	Bignoniaceae	B-2
357.	*Passiflora incarnata* L	Passifloraceae	B-2
358.	*Passiflora vitifolia* Kunth	Passifloraceae	B-2
359.	*Piper betel* L	Piperaceae	B-2
360.	*Piper longum* L.	Piperaceae	B-2
361.	*Podranea ricasoliana*(Tanf.) Sprague	Bignoniaceae	B-2
362.	*Pyrostegia venusta* (Ker.Gawl.)Miers	Bignoniaceae	B-2
363.	*Quisqualis indica* L.	Combretaceac	B-2
364.	*Rhaphidophora decisirva* (Roxb.) Schott	Araceae	B-2
365.	*Stephania japonica* (Thunb.) Miers	Menispermaceae	B-3
366.	*Syngonium podophyllum* Schott	Araceae	B-2
367.	*Thunbergia fragrans* Roxb.	Acanthaceae	B-2
368.	*Thunbergia grandiflora* (Roxb.ex Rottl.)Roxb.	Acanthaceae	B-1,B-2
369.	*Tinospora cordifolia*(Thunb.) Miers	Menispermaceae	B-2
370.	*Trichosanthes cucumerina* L.	Cucurbitaceae	B-2
371.	*Typhonium trilobatum (*L.) Schott	Araceae	B-2
372.	*Vernonia elliptica* DC.	Asteraceae	B-1,B-2
373.	*Vitis vinifera* L.	Vitaceae	B-2
EPIPHYTES			
375.	*Vanda tesselata* (Roxb.) Hook.cx G.Don	Rubiaceae	B-2
376.	*Dendrobium ursula* Strenge	Passifloraceae	B-2
GRASS			
377.	*Aristida setacea* Rctz.	Passifloraceae	B-1,B-2,B-3,B-4
378.	*Bambusa arundinacea* (Retz.) Willd.	Apocynaceae	B-2
379.	*Bambusa vulgaris Schrad.* Ex J.C.Wendl.	Asclepidaceae	B-2
380.	*Bothriochloa pertusa* (L.) A. Camus	Verbenaceae	B-1,B-2,B-3,B-4
381.	*Brachiaria distachya* (L.) Stapf	Araceae	B-1,B-2,B-3,B-4
382.	*Brachiaria mutica* (Forssk.) Stapf	Piperaceae	B-4
383.	*Brachiaria ramosa* (L.) Stapf	Piperaceae	B-1,B-3,B-4
384.	*Chloris barbata* Sw.	Bignoniaceae	B-1,B-2,B-3,B-4
385.	*Chrysopogon aciculatus* (Retz.) Trin.	Bignoniaceae	B-1,B-4
386.	*Cynodon dactylon* (L.) Pers.	Combretaceac	B-1,B-2,B-3,B-4
387.	*Cyperus brevifolius* (Rottb.) Hassk.	Araceae	B-1,B-4

388.	*Cyperus compactus* Retz.	Menispermaceae	B-4
389.	*Cyperus difformis* L.	Araceae	B-1,B-3,B-4
390.	*Cyperus halpan* L.	Acanthaceae	B-1,B-3
391.	*Cyperus imbricatus* Retz.	Acanthaceae	B-4
392.	*Cyperus iria* L.	Menispermaceae	B-1,B-4
393.	*Cyperus triceps* Endl.	Cyperaceae	B-1,B-3,B-4
394.	*Dactyloctenium aegypticum* (L.) P.Beauv.	Poaceae	B-1,B-2,B-3,B-4
395.	*Digitaria abludens* (Roem. & Schult.) Veldk.	Poaceae	B-3
396.	*Digitaria ciliaris* (Retz.) Koeler	Poaceae	B-1,B-2,B-3,B-4
397.	*Echinochloa colona (*L.) Link	Poaceae	B-1,B-2,B-3,B-4
398.	*Eleusine indica (*L.) Gaertn.	Poaceae	B-1,B-2,B-3,B-4
399.	*Elusine coracana (*L.)Gaertn	Poaceae	B-2
400.	*Eragrostis ciliaris* (L.) R.Br.	Poaceae	B-3
401.	*Eragrostis ciliata* Roxb. Nees	Poaceae	B-1,B-2,B-3,B-4
402.	*Eragrostis unioloides* (Retz.) Nees ex Steud.	Poaceae	B-1,B-2,B-3,B-4
403.	*Eriochloa procera* (Retz.)Hubbard	Poaceae	B-1,B-2,B-3,B-4
404.	*Paspalum scrobiculatum* L.	Poaceae	B-2,B-3
405.	*Paspalum vaginatum* Sw.	Poaceae	B-1,B-3
406.	*Pennisetum pedicellatum* Trin.	Poaceae	B-1,B-3,B-4
407.	*Pennisetum purpureum* Schumach	Poaceae	B-3,B-4
408.	*Perotis indica* (L.) Kuntz	Poaceae	B-3,B-4
409.	*Pogonantherum crinitum*(Thunb.) Kunth	Poaceae	B-2
410.	*Sachharum officinarum* L.	Poaceae	B-2
411.	*Setaria pumila* (Poir.) Roem. & Schult.	Poaceae	B-1,B-3,B-4
412.	*Setaria verticillata* (L.) P.Beauv.	Poaceae	B-1,B-4
413.	*Sorghum vulgare* L.	Poaceae	B-2
414.	*Zea mays* L.	Poaceae	B-2
GYMNOSPERM			
415.	*Araucaria columnaris* (Forst.f.) Hook.	Araucariaceae	B-2
416.	*Cycas revoluta* Thunb.	Cycadaceae	B-2
417.	*Juniperus communis* L.	Cupressaceae	B-2
418.	*Pinus roxburghii* Sargent	Pinaceae	B-2
419.	*Podocarpus nerefolius* D.Don	Podocarpaceae	B-2

420.	*Platycladus orientalis* (L.) Franco	Cupressaceae	B-2
PTERIDOPHYTES			
421.	*Adiantum incisum* Forssk.	Adiantaceae	B-4
422.	*Adiantum phillipense* L.	Adiantaceae	B-1,B-2,B-3,B-4
423.	*Ampelopteris prolifera* (Retz.) Copel.	Thelypteridaceae	B-2,B-4
424.	*Nephrolepis exaltata*(L.) Schott	Nephrolepidaceae	B-2
425.	*Phymatosorus membranifolius* (R.Br.)S.G. Lu	Polypodiaceae	B-2
426.	*Pteris vittata* L.	Pteridaceae	B-1,B-2,B-3,B-4
427.	*Salvinia cuculata* Roxb.	Salviniaceae	B-4
428.	*Salvinia molesta* D.S. Mitch	Salviniaceae	B-4
429.	*Selaginella ciliaris*(Retz.) Spring	Selaginellaceae	B-4
BRYOPHYTES			
430.	*Barbula calycinaSchwägr*	Pottiaceae	B-2,B-4
431.	*Marchantia polymorpha* L.	Marchantiaceae	B-1,B-4
432.	*Riccia beyrichiana* Hampe ex Lehm	Ricciaceae	B-3,B-4
433.	*Trichostomum crispulumBruch*	Pottiaceae	B-2
MUSHROOMS			
434.	*Agaricus bisporous* (J.E.Lange) Emil.J.Imbact	Agaricaceae	B-2
435.	*Agaricus compestris* L.	Agaricaceae	B-4
436.	*Amanita multisquamosa* Peck	Amanitaceae	B-4
437.	*Amylostereum laevigatum* (Fr.) Boidin	Amylostereaceae	B-4
438.	*Dacryopinax spathularia* Schweien & G.W.Martin	Dacrymycetaceae	B-4
439.	*Deconia coprophila*(Bull.) P. Karst.	Strophariaceae	B-4
440.	*Entoloma unicolar* (Perk) Hesler	Entolomataceae	B-4
441.	*Ganoderma lucidum* (Curtis) P. Carst.	Ganotodermaceae	B-4
442.	*Lactarius alnicola* A.H. Smith	Russulaceae	B-4
443.	*Marasmius rotula*(Scop.) Fr.	Marasmiaceae	B-1
444.	*Protostropharia semiglobata* (Batsch) Redhead, Moncalvo & Vilgays	Strophariaceae	B-4
445.	*Psilocybe cubensis* (Earle) Singer	Hymenogastraceae	B-1
446.	*Terana caerulea* (Lam.) Kuntze	Phanerochaetaceae	B-4
447.	*Termitomyces eurrhizus* (Berk & Broome)	Lyophyllaceae	B-4
448.	*Termitomyces heimii* Natarajan	Lyophyllaceae	B-4

449.	*Termitomyces microcarpus* (Berk. & Broome) R. Heim	Lyophyllaceae	B-4
450.	*Xylaria longipes Nitschke*	Xylariaceae	B-4
LICHEN			
451.	*Chrysothrix chlorina*(Ach.) J.R. Laundon	Chrysothricaceae	B-4
452.	*Cryptothecea scripta* G. Thor	Arthoniaceae	B-4
453.	*Graphis scripta* (L.) Ach.	Graphidaceae	B-1,B-2,B-3,B-4



FAUNAL DIVERSITY

1. **Scientific name*: Calotes versicolor***
Common name: Oriental garden lizard

CLASSIFICATIONKingdom- Animalia
Phylum- Chordata
Class- Reptilia
Order- Squamata
Suborder- Iguania
Family- Agamidae
Genus- *Calotes*
Species- *versicolor*

LOCATION

Centurion University Of Technology and Management, BBSR Campus.

2. Scientific name: *Gallus gallus domesticus*

Common name: Chicken

CLASSIFICATION

Kingdom- Animalia
Phylum- Chordata
Class- Aves
Order- Galliformes
Family- Phasianidae
Genus- *Gallus*
Species-*gallus*
Subspecies- *G. g. domesticus*

LOCATION

Centurion University Of Technology and Management, BBSR Campus.

3. Scientific name*: Anser cygnoides domesticus*

Common name: Domestic grey goose

CLASSIFICATION

Kingdom- Animalia
Phylum- Chordata
Class- Aves
Order- Anseriformes
Family- Anatidae
Genus- *Anser*
Species- *cygnoides*
Subspecies- *A. c. domesticus*

LOCATION

Centurion University Of Technology and Management, BBSR Campus.

4. Scientific name*: Anser anser domesticus*

Common name: Domestic white goose

CLASSIFICATION

Kingdom-Animalia
Phylum- Chordata
Class- Aves
Order- Anseriformes
Family- Anatidae
Genus- *Anser*
Species- *anser*
Subspecies- *A. a. domesticus*

LOCATION

Centurion University Of Technology and Management, BBSR Campus.

5. Scientific name: *Anas platyrhynchos domesticus*

Common name: Indian runner duck

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Aves
Order- Anseriformes
Family- Anatidae
Genus- *Anas*
Species- *platyrhynchos*
Subspecies- *A. p. domesticus*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

6. Scientific name: *Columba livia*

Common name: Pigeon

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Aves
Order- Columbiformes
Family- Columbidae
Genus- *Columba*
Species- *livia*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

7. Scientific name: *Corvus splendens*

Common name: Crow

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Aves
Order- Passeriformes
Family- Corvidae
Genus- *Corvus*
Species- *splendens*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

8. Scientific name: *Passer domesticus*

Common name: House Sparrow

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Aves
Order-Passeriformes
Family- Passeridae
Genus- *Passer*
Species- *domesticus*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

9. Scientific name: Acritotheres tristisCommon name: Indian myna
Scientific name: Acritotheres tristisCommon name: Indian myna
CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Aves
Order- Passeriformes
Family- Sturnidae
Genus- *Acritotheres*
Species- *tristis*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

10. Scientific name: Ardea albaCommon name: Egret

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Aves
Order- Palecaniformes
Family- Ardeidae
Genus- *Ardea*

Species- *alba*

LOCATION

Centurion University Of Technology and Management, BBSR Campus.

11. Scientific name*: Felis catus*

Common name: Cat

CLASSIFICATION

Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Carnivora
Suborder- Feliformia
Family- Felidae
Subfamily- Felinae
Genus- *Felis*
Species- *catus*

LOCATION

Centurion University Of Technology and Management, BBSR Campus.

12. Scientific name*: Canis lupus familiaris*

Common name: Dog

CLASSIFICATION

Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Carnivora
Family- Canidae
Subfamily- Caninae
Genus- *Canis*
Species- *lupus*
Subspecies- *C. l. familiaris*

LOCATION

Centurion University Of Technology and Management, BBSR Campus.

13. Scientific name: *Bos indicus*

Common name: Co w

CLASSIFICATION

Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Artiodactyla
Family- Bovidae

Subfamily- Bovinae
Genus- *Bos*
Species- *indicus*
LOCATION
Centurion University Of Technology and Management, BBSR Campus.

14. Scientific name: *Capra aegagrus hircus*

Common name: Goat

CLASSIFICATION
Kingdom- Anim alia
Phylum- Chordata
Class- Mammalia
Order- Artiodactyla
Family- Bovidae
Subfamily- Caprinae
Genus- *Capra*
Species- *aegagus*
Subspecies- *C. a. hircus*
LOCATION
Centurion University Of Technology and Management, BBSR Campus.

15. Scientific name: *Oryctolagus cuniculus domesticus*

Common name: Domestic Rabbit

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Lagomorpha
Family- Leporidae
Genus- *Oryctolagus*
Species- *cuniculus*
Subspecies- *O. c. domesticus*
LOCATION
Centurion University Of Technology and Management, BBSR Campus.

16. Scientific name: *Achantina fulica*

CLASSIFICATION
Kingdom: Animalia
Phylum: Mollusca

Class: Gastropoda
Superfamily: Achatinoidea
Family: Achatinidae
Subfamily: Achatininae
Genus: *Achatina*
Species: *fulica*

LOCATION
Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS
The shell has a conical shape, being about twice as high as it is broad. Either clockwise (dextral) or counter-clockwise (sinistral) directions can be observed in the coiling of the shell, although the dextral cone is the more common. Shell colouration is highly variable, and dependent on diet. Typically, brown is the predominant colour and the shell is banded. The shell is particularly tough and has the highest heavy metal content of any snail species.

17. Scientific name: *Papilio demoleus*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Papilionidae
Genus: *Papilio*
Species:. *demoleus*

LOCATION
Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS
Papilio demoleus is a common and widespread swallowtail butterfly. The butterfly is also known as the lime butterfly. The lemon butterfly, lime swallowtail, and chequered swallowtail. These common names refer to their host plants, which are usually citrus species such as the cultivated lime. Unlike most swallowtail butterflies, it does not have a prominent tail. The butterfly is a pest and invasive species, found from Asia to Australia. The butterfly has spread to Hispaniola island (Dominican Republic) in the Western Hemisphere, and to Mahé, Seychelles

18. Scientific name: *Castalius rosimon*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Lycaenidae
Genus: *Castalius*
Species: *rosimon*

LOCATION

Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS

Antennae, head, thorax and abdomen black, the shafts of the antennae ringed with white, the head between the eyes and behind them white; beneath: the palpi, thorax and abdomen white, the last barred broadly with white on the sides. The female is similar to the male but with the black markings on the upper and undersides broader.

19. Scientific name: *Maxates coelataria*

CLASSIFICATION

Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Lepidoptera
Family- Geometridae
Genus-*Maxates*
Species-*coelataria*

LOCATION

Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS

Margins of wings strongly excavate in the spaces. Broadly pale buff costa of forewings and dark speckles. Caterpillar has greenish cylindrical body with small creamy-pink dorsal triangles, where each triangle contains a dark dot. Head with a bifid capsule.

20. Scientific name: *Trabala vishnou*

CLASSIFICATION

Kingdom-Animalia
Phylum- Arthropoda
Class-Insecta
Order- Lepidoptera

Family- Lasiocampidae
Genus- *Trabala*
Species- *vishnou*

LOCATION
Centurion University of technology and management, Bhubaneswar Campus.
GENERAL CHARACTERISTICS
The wingspan is about 67 mm for females and 47 for males. The body colour of the male is apple green. Antennae ochreous brown. The disk of the forewing and the inner margin of the hindwing are whitish. Forewings with a faint pale antemedial line curved below the costa. There is a dark speck at end of cell, and a pale straight oblique postmedial line which becomes medial on the hindwing. Both wings have a series of small submarginal dark spots. The female is yellowish green, which fades to ochreous. Lines and spots of both wings are enlarged and blackish. The spot at the end of the cell of the forewing is large, conspicuous and irrorated (sprinkled) with black scales, and sometimes centered with grey. A reddish-brown patch thickly irrorated with black occupying whole medial inner area from median nervure to inner margin. Cilia of wings are blackish.

21. Scientific name: *Dysdercus cingulatus*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Hemiptera
Family: Pyrrhocoridae
Genus*: Dysdercus*
Species: *cingulatus*

LOCATION
Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS
It is mainly red but has a white collar and three black spots. It is closely related and very similar to *Dysdercus koenigii* but *D. cingulatus* is slightly larger and the femora have varying amounts of black while *D. koenigii* has completely red femora.

22. Scientific name: *Lethe europa*
Common name: Bamboo treebrown

CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order: lepidoptera
Family- Nymphalidae
Genus: *Lethe*
Species: *Europa*
LOCATION
Centurion University of technology and management, Bhubaneswar Campus.
GENERAL CHARACTERISTICS

Inner third of hindwing covered with long brown hairs. Male upper side rich dark brown. Forewing with the oblique short white discal fascia on the underside showing through, two obscure black spots , followed by two prominent white spots, the upper one double, some black markings margined outwardly with pale dusky brown along terminal margins of both forewing and hindwing and an obscure subterminal pale line on the latter. Underside very dark blackish brown; the wings crossed sub-basally by a slender lilacine-white straight line, followed on forewing by an oblique short white discal fascia, and on both forewing and hindwing by a postdiscal series of large black ocelli and a terminal, somewhat ochraceous, narrow band bordered on the inner side by a more or less silvery purple line. The series on both forewing and hindwing margined inwardly and outwardly by silvery purple lunular lines, on the forewing curved inwards, on the hindwing curved outwards; the ocelli on forewing confluent, black, non-pupilled, on the hindwing black with disintegrate silvery-speckled irregular centres on a brown ground.

Female similar: forewing on upperside with an oblique broad white discal band, hindwing with a postdiscal incomplete series of black spots. Underside similar to the underside in the male, markings and ocelli larger.

23. Scientific name: *Melanitis Leda*
Common name: Common evening brown

CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Lepidoptera
Family: Nymphalidae
Genus: *Melanitis*

Species- *leda*

LOCATION

Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS

It is commonly known as evening brown as it flying at dusk. The body is divisible into head, thorax and abdomen and antennae is also present. Forewing with two large subapical black spots. The flight of this species is erratic.

24. Scientific name: *Apis indica*

Common Name:- Indian Honey Bee

CLASSIFICATION

Kingdom:- Animalia
Phylum:- Arthropoda
Class:- Insecta
Family:- Apidae
Genus:- *Apis*
Species:- *Indica*

LOCATION

Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS

They are black in color with four yellow abdominal strips. The distinction between worker bees, queen and drones. It has long, erect hairs that covers the compound eyes and helps in pollen collection.

25. Scientific name: *Euploea core*

Common name: common crow

CLASSIFICATION

Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Lepidoptera
Family: Nymphalidae
Genus: *Euploea*
Species: *core*

LOCATION

Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS

The common crow is a glossy-black butterfly with brown undersides with white markings along the outer margins of both wings.The male has a velvety black brand located near the rear edge on the upperside of the forewing

26. Scientific name: Pelopidas mathias
Common name: Small branded swift

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Hesperiidae
Genus: Pelopidas
Species: mathias

LOCATION
Centurion University of technology and management, Bhubaneswar Campus

GENERAL CHARACTERISTICS
Pelopidas mathias, the dark small-branded swift, small branded swift, lesser millet skipper or black branded swift, is a butterfly belonging to the family Hesperiidae

27. Scientific name: *Brachythemis contaminata*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Odonata
Family: Libellulidae
Genus: *Brachythemis*
Species: *contaminate*

LOCATION
Centurion University of technology and management, Bhubaneswar Campus

GENERAL CHARACTERISTICS
It is a small dragonfly with brown-capped yellowish-green eyes. Its thorax is olivaceous-brown, marked with a reddish-brown humeral stripe and two brownish stripes on each side. Wings are transparent; but with a broad bright orange fascia extending from base to within 2 to 3 cells of reddish pterostigma. Abdomen is ochreous-red, marked with dorsal and sub-dorsal brown stripes. Anal appendages are in reddish-brown. Female is similar

to the male; but in pale yellowish-green color. Wings are transparent, tinted with yellow at extreme base; but the bright orange fascia seen in the male absent.

28. Scientific name: *Amata huebneri*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Superfamily: Noctuoidea
Family: Erebidae
Subfamily: Arctiinae
Genus: *Amata*
Species: *huebneri*

LOCATION

Centurion University of technology and management, Bhubaneswar Campus

GENERAL CHARACTERISTICS

Amata huebneri, the wasp moth, is a moth in the genus Amata of the family Erebidae (subfamily Arctiinae - "woolly bears" or "tiger moths"). Adults are black with yellow bands across the abdomen, and transparent windows in the wings. It is a wasp mimic.

29. Scientific name**: Asota caricae**

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Superfamily: Noctuoidea
Family: Erebidae
Genus: *Asota*
Species: *caricae*

LOCATION

Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS

The common name of this species comes from the presence of red-colored external genitalia visible at the terminal end of the abdomen, though other sarcophagid species may also have this featureThey have large compound eyes and the aristae of the antennae are long and are plumose at the base

30. Scientific name*:* *Coccinella transversalis*
Common name: Transverse ladybird

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Coleoptera
Family: Coccinellidae
Genus: *Coccinella*
Species: *transversalis*

LOCATION
Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS
Coccinella transversalis, commonly known as the transverse ladybird or transverse lady beetle is a species of ladybird beetle found from India across southern and southeastern Asia to Malesia and Australia. Measuring 3.8 to 6.7 millimetres (0.15 to 0.26 in) long and 3.3 to 5.45 millimetres (0.130 to 0.215 in) wide, the transverse ladybird shows little variation across its wide range. It has a black head with predominantly bright red or orange elytra boldly marked with a black band down the midline and two lateral three-lobed markings.

31. Scientific name: *Vespa orientalis*
Common name: Oriental hornet

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Hymenoptera
Family: Vespidae
Genus: *Vespa*
Species: *orientalis*

LOCATION
Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS
The adult hornet has two pairs of wings and a body measuring between 25 and 35 mm long. Drones and workers are smaller in size than the queen. V. orientalis is a reddish-brown color and has distinctive thick yellow bands on the abdomen and yellow patches on the head between the eyes. It has very strong jaws and will bite if provoked. Females

(workers and the queen) have an ovipositor, which is a specialized organ shaped like a tube that is used for laying eggs. The ovipositor extends from the end of the abdomen and is also used as a stinger. Males (drones) can be distinguished from workers by the number of segments on their antenna. Drones have 13 segments, while workers only have 12.

32.

Scientific name: Scutiphora pedicellateCommon name: Jewel bug
Scutiphora pedicellateCommon name: Jewel bug
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Hemiptera
Family: Scutelleridae
Genus: *Scutiphora*
Species: *pedicellate*

LOCATION

Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS

The shield like enlarged last section of thorax (scutellum), completely covers the abdomen and the wings. It has four Membranous wings underneath the Scutellum. The head is triangular, and antennae have 3-5 segments The body is segmented beak like mouth part. (rostrum).

REPORT OF
GREEN AUDIT
OF CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT, BBSR CAMPUS, ODISHA (2019-20)

Preface

Institutional self-inquiry is a natural and necessary outgrowth of quality of higher education. Concern about environmental degradation and realization of values of environment are logical consequences of scholarly research, teaching and learning process. In its pursuit for improving environmental quality and to maintain a pristine environment for the future generation of students, Centurion University has made a self-inquiry on environmental quality of the campus with the following objectives: (i) To establish a baseline of existing environmental conditions with focus on natural and physical environment; (ii) To understand the current practices of sustainability with regard to the floral and faunal diversity inside the campus (iii) To promote environmental awareness through participatory auditing process; and (iv) To create a report that document baseline data of good practices and provide future strategies and action plans towards improving environmental quality for future.

This report is compiled by a committee constituted by IQAC. As there was no standard model for such a green audit of campuses in the state, the committee brainstormed and evolved a questionnaire. With the help of student volunteers and faculties of respective departmrnts the major part of the data was compiled, which the committee analyzed. The remaining part which involved measurement of quality was entrusted with the Department of Botany and Department of Zoology of Centurion University of Technology and Management, Odisha. The committee has made short term and long term suggestions to take environment protection to higher levels and it is hoped that this will receive due attention of University authorities and also all stake-holders of the University.

Dr. Yashaswi Nayak

Dr. Sagarika Parida

Dr. Gyanranjan Mahalik

Dr. Siba Prasad Parida

Dr. Atia Arzoo

Dr.Rukmani Mishra

SCHOOL OF APPLIED SCIENCES
CUTM
CENTURION UNIVERSITY OF TECHNOLOGY & MANAGEMENT

Executive Summary

Many departments maintain garden and the campus is greener with fair biodiversity around and gardens maintained by many departments. A detailed study on floral and faunal diversity has been done. There are also one beautiful rose garden, medicinal plant garden and one butterfly park inside the campus mentained by the university. Faunal and floral diversity reports are given below.

REPORT ON FLORAL DIVERSITY

Flora comes from the Latin word "*Flora*", the meaning is Goddess of plants. *Floris* means flower. Floral diversity is the diversity of plants occurring in a particular region during particular time period. It also refers to the diversity of naturally available native or indigenous plants till now a total of 2, 15, 644 species of plants have been catalogued on the earth till date. It is reported that India harbours 46, 824 species including virus/bacteria and fungi species. In India, floral diversity is concentrated in four phytogeographical unique regions like Himalayas, Western Ghats, Northeast India and Andaman and Nicober Islands. Indian flora records for 11.4% of the total recorded plant species. Angiosperms are the largest plant group in India comprising of total of 17, 817 species which constitutes 38.15% of floral diversity of the entire country followed by fungi comprising 14,698 species which is of 31.38%. High level of cryptogram (Bryophytes and Pteridophytes) diversity is also seen in the country. A total of 2,479 species of Pteridophytes and around 1265 of Bryophytes have been recorded in India. Algae and fungi have also been wide spread in India. Lichens are found in Western Ghats, Eastern and Western Himalayas and Andaman and Nicobar Islands. Most of the ferns and gymnosperms are found in cool temperate zones of the Himalayas and in the mountainous regions of southern India, especially in the Western Ghats. Indian flora represents nearly 12% of the global diversity excluding viruses. A diverse number of species of wild relatives of crop plants are also present.

Presently, considerable attention is being addressed to biological diversity of biodiversity statue which refers to the occurrence of diverse biological forms including micro-organisms, plants and animals in a particular geographical area under a set of environmental conditions. Biodiversity is the reflection of genetic variability with which the different hierarchical forms of germplasm (strains, landraces/genotypes/varieties, species, genera etc.) appear in the course of evolution. The genetic variation may exist either within the species (intra specific) to a certain extent or to a larger scale between different species (intra specific) and taxa of higher biological order. In fact, it is the ecosystem that supports the biological variability. The diverse living forms of the ecosystem are always in a state

of change keeping pace with the global environment perturbations. An ecosystem is composed of both biotic and abiotic components which are quite interrelated and influences each other.

Ecosystem diversity encompasses varieties of living forms due to miscellany of niches, tropic levels and ecological processes like nutrient recycling, food chains, food webs, energy flow and role of dominant species. The present campus of Centurion University, in Bhubaneswar spread over 48 acres of land in the foothill of Barunei hills, near Jatni town; the campus is adjacent to National Institute of Science, Education and Research (NISER), Indian Institute of Technology (IIT), All India Institute of Medical Sciences (AIIMS) and Xavier University. The place is being famous as a hot spot of temples, historical monuments and archaeological remains.

Topographically, the area is an undulating lateritic land sloping towards the east. Presently the land area with vegetation cover approximately 20 acres excluding one water body covers 2.5 acres receiving waste water from the University Campus.

Block wise area under survey:

Block-1: consist of subunits – 1-10 (excluding butterfly garden) including Gate-1, Gate-2, Auditorium building, Action learning lab and waste to wealth lab, wood engineering lab, Faculty residence, Swimming pool, Girls hostel-1 and Girls hostel-2.

Block-2: consist of the subunits- 11-20 including Girls hostel-3, Koutilya building, Madhusudan building, Aryabhatta building, Industrial training centre, Workshop (E- Rikshaw unit, Civil engineering, Electrical engineering).

Block-3: consist of the subunits 21-30 including Mechanical workshop, Advance centre of excellence for apparel textile and GTET corporation office, Inatitute of training of trainers (GTET), Multi use play ground, Basket ball court, Tennis ball court, Consumer facility cum training and learning lab (Diesel outlet), Wheel alignment training centre, Boys hostel-1 and Boys hostel-2.

Block-4: consist of subunits 31-40 including Boys hostel-3, Boys hostel-4, Boys hostel-5, Boys hostel-6, Central store, Power house, Cow shed, Water body and Butterfly garden.

LIST OF DIFFERENT KINDS OF FLORA FOUND IN THE CAMPUS

Sl. No.	Botanical name	Family	Distribution
TREES			
1.	*Acacia auriculiformis* A. Cunn. ex Benth.	Mimosaceae	B-2, B-4
2.	*Aegle marmelos* (L.) Corr.	Rutaceae	B-2
3.	*Ailanthus excelsa* Roxb.	Simaroubaceae	B-3
4.	*Albizia lebbeck* (L.) Benth.	Mimosaceae	B-3
5.	*Alstonia scholaris* (L.) R.Br.	Apocynaceae	B-2
6.	*Anacardium occidentale* L.	Anacardiaceae	B-2, B-4
7.	*Annona* squamosa L.	Annonaceae	B-2
8.	*Areca catechu* L.	Arecaceae	B-2
9.	*Artocarpus altilis* (Parkinson) Fosberg	Moraceae	B-2
10.	*Artocarpus heterophyllus* Lam.	Moraceae	B-2
11.	*Averrhoa carambola* L.	Averrhoaceae	B-2
12.	*Bixa orellana* L.	Bixaceae	B-2
13.	*Borassus flabellifer* L.	Arecaceae	B-2
14.	*Brya ebenus* (L.) DC.	Fabaceae	B-2
15.	*Cinammomum tamala* (Buch.-Ham.) T.Nees&C.H. Eberm.	Lauraceae	B-2
16.	*Couroupita guianensis* Aubl.	Lecythidaceae	B-2
17.	*Crataeva magna* (Lour.) DC	Capparaceae	B-2
18.	*Delonix regia* (Boj. ex Hook.) Raf.	Caesalpiniaceae	B-2, B-4
19.	*Dillenia indica* L.	Dilleniaceae	B-2,
20.	*Diospyros melanoxylon* Roxb.	Ebenaceae	B-2
21.	*Elaeis guineensis* Jacq.	Arecaceae	B-4
22.	*Eucalyptus citrodora* Hook.	Myrtaceae	B-2
23.	*Ficus benghalensis* L. var.*benghalensis*	Moraceae	B-2, B-4
24.	*Macarnga peltata* (Roxb.)Muell-Arg.	Euphorbiaceae	B-2
25.	*Magnolia champaca*(L.) Baill. ex Pierre	Magnoliaceae	B-2
26	*Mangifera indica* L.	Anacardiaceae	B-1, B-2, B-3,B-4
27.	*Manilkara zapota*(L.) P.Royen	Sapotaceae	B-1
28.	*Melaleuca citrine* (Curtis) Dum.Cours.	Lythraceae	B-2
29.	*Mesua ferea* L.	Clusiaceae	B-2
30.	*Millettia pinnata* (L.) Panigrahi	Fabaceae	B-2,B-3

31.	*Millingtonia hortensis* L.f.	Bignoniaceae	B-2
32.	*Mimusops elengi* L.	Sapotaceae	B-2, B-3
33.	*Mitragyna parviflora* (Roxb.) Korth	Rubiaceae	B-3
34.	*Phyllanthus emblica* L.	Euphorbiaceae	B-2
35.	*Pimenta dioica* (L.)Merr.	Myrtaceae	B-2
36.	*Plumeria obtuse* L.	Apocynaceae	B-4
37.	*Plumeria rubra* L.	Apocynaceae	B-1, B-2, B-3,B-4
38.	*Polyalthia longifolia* Sonn.	Annonaceae	B-1, B-2, B-3,B-4
39.	*Polyalthia suberosa* (Roxb.) Thwaites	Annonaceae	B-1
40.	*Prosopis cineraria* (L.) Druce	Mimosaceae	B-2
41.	*Psidium guajava* L.	Myrtaceae	B-1, B-2
42.	*Pterocarpus santalinus* L.f.	Fabaceae	B-2
43.	*Pterospermum acerifolium* (L.) Willd.	Sterculiaceae	B-2
44.	*Punica granatum* L.	Punicaceae	B-2
45.	*Ravenala madagascariensis* Sonn.	Strelitziaceae	B-2
46.	*Roystonea regia* (Kunth) O.F.Cook	Arecaceae	B-1, B-2
47.	*Sambucus canadensis* L.	Adoxaceae	B-2
48.	*Santalum album* L.	Santalaceae	B-2
49.	*Saraca asoca* (Roxb.) Willd.	Caesalpiniaceae	B-2
50.	*Senna auricualata* (L.) Roxb.	Caesalpiniaceae	B-2
51.	*Senna siamea* (Lam.) H.S. Irwin & Barneby	Caesalpiniaceae	B-2
52.	*Sesbania grandiflora* (L.) Poiret	Fabaceae	B-4
53.	*Simarouba glauca* DC.	Simaroubaceae	B-2, B-4
54.	*Terminalia bellerica* (Gaertn.) Roxb.	Combretaceae	B-1
55.	*Terminalia catappa* L.	Combretaceae	B-2
56.	*Terminalia chebula* Retz.	Combretaceae	B-1
57.	*Ziziphus mauritiana* Lam.	Rhamnaceae	B-1, B-2, B-3,B-4
SHRUB			
58.	*Acalypha wilkesiana* Mull.	Euphorbiaceae	B-2
59.	*Adenium obesum* (Forssk.) Roem. & Schult	Apocynaceae	B-2
60.	*Agave Americana* L.	Agavaceae	B-2
61.	*Agave salmiana* Otto ex Salm-Dyck	Asparagaceae	B-2
62.	*Allamanda schottii* Hook.	Apocynaceae	B-2

63.	*Codiaeum variegatum* (L.) Juss. A.Rich.	Euphorbiaceae	B-2
64.	*Coprosma repens*	Rubiaceae	B-2
65.	*Cordyline fruticose* (L.) A.Chev. (L.)Nees.	Agavaceae	B-2
66.	*Crossandra infundibuliformis*	Acanthaceae	B-2
67.	*Crotalaria spectabilis* Roth	Fabaceae	B-2
68.	*Cryptostegia grandiflora* R.Br.	Apocynaceae	B-1
69.	*Cuphea hyssopifolia* Kunth	Lythraceae	B-2
70.	*Desmodium pulchellum* (L.)Benth.	Fabaceae	B-4
71.	*Dracaena marginate* Lam. 'tricolor'	Agavaceae	B-2
72.	*Dracena reflexa* Lam.	Agavaceae	B-2
73.	*Dracaena sanderiana* Mast.	Asparagaceae	B-2
74.	*Duranta repens* L.	Verbenaceae	B-2
75.	*Dypsis lutescens* (H.Wendl.) Beentje & J.Dransf	Arecaceae	B-2
76.	*Euphorbia milii* Des Moul.	Euphorbiaceae	B-2
77.	*Euphorbia pulcherrima* Willd. ex Klotzsch	Euphorbiaceae	B-2
78.	*Hibiscus schizopetalus* (Mast.)Hook.f.	Malvaceae	B-1, B-2
79.	*Hypoestes phyllostachya* Baker	Acanthaceae	B-2
80.	*Impatiens glandulifera* Royle	Balsaminaceae	B-2
81.	*Ipomoea carnea* Jacq.	Convolvulaceae	B-1,B-4
82.	*Ixora coccinea* L.	Rubiaceae	B-2
83.	*Jasminum auriculatum* Vahl	Oleaceae	B-2
84.	*Jasminum sambac* (L.) Ait.	Oleaceae	B-2
85.	*Jatropha gossypifolia* L.	Euphorbiaceae	B-2
86.	*Jatropha integerrima* Jacq.	Euphorbiaceae	B-2
87.	*Justicia adhatoda* L.	Acanthaceae	B-2
88.	*Justicia gendarussa* Brum.f.	Acanthaceae	B-2 , B-4
89.	*Kopsia fruticosa* (Roxb.)A.DC.	apocynaceae	B-2
90.	*Lagerstroemia indica* (L.) Pers.	lythraceae	b-2
91.	*Lantana camara* L. var. aculeata (L.) Mold	verbenaceae	b-2
92.	*Lawsonia inermis* L.	lythraceae	b-2
93.	*Loropetalum chinense* (R.Br.)Oliv. var. chinense	hamamelidaceae	b-2
94.	*Malpighia coccigera* L.	malpighiaceae	B-2
95.	*Malvaviscus arboreus* Cav.	malvaceae	B-2

96.	*Melastoma malbathricum* L.	melastomataceae	B-2
97.	*Mussaenda frondosa* L.	rubiaceae	B-2
98.	*Mussaenda phillipica* A.Rich.	rubiaceae	B-2
99.	*Rosa damascina* Miller	rosaceae	B-2
100.	*Rosa fortuneana* Lindley	rosaceae	B-2
101.	*Rosa gallica* L.var.complicata	rosaceae	B-2
102.	*Rosa gallica* var. officinalis	rosaceae	B-2
103.	*Rosa indica* L.	rosaceae	B-2
104.	*Rosa odorata* (Andr.)Sweet var. odorata	rosaceae	B-2
105.	*Sauropus androgynus* (L.) Merr.	euphorbiaceae	B-2
106.	*Solanum torvum* Sw.	solanaceae	B-2, B-4
107.	*Sterblus taxoides* (Roth)Kurz	Moraceae	B-2
108.	*Tabernaemontana divaricata* (L.) R.Br. ex Roem. & Schult.cv.plena	apocynaceae	B-2
109.	*Tecoma stans* (L.) Kunth.	bignoniaceae	B-1, B-2
110.	*Thunbergia erecta* (Benth.)T.Anderson	acanthaceae	B-1, B-2
111.	*Vitex negundo* L.	verbenaceae	B-2
112.	*Wrightia antidysenterica* (L.)R.Br.	apocynaceae	B-2
113.	*Ziziphus oenoplia* (L.) Mill.	rhamnaceae	B-4
HERB			
114.	*Abelmoschus esculentus* (L.) Moench	Malvaceae	B-1, B-2
115.	*Abelmoschus manihot* (L.) Medic subsp. Tetraphyllus	malvaceae	B-4
116.	*Aerva lanata* (L.) Juss.ex Schultes.	amaranthacea	B-1.B-2,B-3,B-4
117.	*Aerva sanguinolenta* (L.) BI.	amaranthacea	B-2
118.	*Aeschynomene aspera* L.	fabaceae	B-3,B-4
119.	*Aeschynomene indica* L.	fabaceae	B-1,B-4
120.	*Ageratum conyzoides* L.	asteraceae	B-1,B-2,B-3,B-4
121.	*Allmania nodiflora* (L.) R.Br. ex Wt.	amaranthacea	B-1,B-3,B-4
122.	*Alocasta macrorrhizos* (L.) G.Don	araceae	B-4
123.	*Aloe vera* (L.) Burm.f.	liliaceae	B-1,B-2
124.	*Alpinia galanga* (L.) Willd.	zingiberaceae	B-2
125.	*Alternanthera sessilis* (L.) R.Br. ex DC.	Amaranthacea	B-1,B-2,B-3,B-4
126.	*Alysicarpus vaginalis* (L.) DC. var. nummularifolius Miq.	fabaceae	B-1,B-2,B-3,B-4
127.	*Amaranthus caudatus* L.	amaranthacea	B-2

128.	*Amaranthus spinosus* L	amaranthacea	B-1.B-2,B-3,B-4
129.	*Amaranthus tricolor* L.	amaranthacea	B-1,B-4
130.	*Amaranthus viridis* L.	amaranthacea	B-1,B-2,B-3,B-4
131.	*Asystasia gangetica*(L.) T. Anderson	acanthaceae	B-2
132.	*Barleria cristata* L.	acanthaceae	B-4
133.	*Barleria prionitis* L.	acanthaceae	B-1,B-3,B-4
134.	*Bassia scoparia* (L.) Schrad.	amaranthacea	B-2
135.	*Biophytum sensitivum* (L.) DC.	oxalidaceae	B-1,B-2,B-3,B-4
136.	*Brassica campestris L.*	brassicaceae	B-1,B-2,B-3
137.	*Brassica napus L var. glauca* (Roxb.) Schulz	brassicaceae	B-2
138.	*Brassica oleracea* L. var.capitata	brassicaceae	B-2
139.	*Brassica oleracea* L. var.oleracea	brassicaceae	B-2
140.	*Caladium bicolor* (Aiton) Vent	araceae	B-2
141.	*Canna indica* L.	cannaceae	B-2
142.	*Capsicum annum* L.	solanaceae	B-2
143.	*Catharanthus roseus* (L.) G.Don	apocynaceae	B-1,B-2,B-3,B-4
144.	*Celosia argentea* L.	amaranthacea	B-2
145.	*Celosia cristata* L.	amaranthacea	B-2
146.	*Celosia argentea var.* plumosa	amaranthacea	B-2
147.	*Centella asiatica* (L.) Urban	apiaceae	B-2
148.	*Chamaecostus cuspidatus* (Nees & Mart.) C.Specht & D.W. Stev.	costaceae	B-2
149.	*Chenopodium album* L.	chenopodiaceae	B-4
150.	*Chrozophora rottleri* (Geisel.) Juss.	euphorbiaceae	B-3,B-4
151.	*Chrysanthemum* cinerariifolium (Trev.) Vis.	asteraceae	B-2
152.	*Cleome rutidosperna* DC.	capparaceae	B-1,B-2,B-3,B-4
153.	*Cleome viscosa* L.	capparaceae	B-1,B-2,B-3,B-4
154.	*Coldenia procumbens* L.	boraginaceae	B-1,B-2,B-3,B-4
155.	*Colocasia esculenta* (L.) Schott	araceae	B-4
156.	*Commelina benghalensis* L.	commelinaceae	B-1,B-2,B-3,B-4
157.	*Commelina erecta* L.	commelinaceae	B-1,B-2,B-3,B-4
158.	*Commelina longifolia* Lam.	commelinaceae	B-4
159.	*Commelina paludosaBlume*	commelinaceae	B-3
160.	*Coriandrum sativum* L.	apiaceae	B-2

161.	*Evolvulus alsinoides* (L.) L.	Convolvulaceae	B-1,B-3,B-4
162.	*Evolvulus nummularius* (L.) L.	Convolvulaceae	B-1,B-2,B-3,B-4
163.	*Evovulus sericeus* Sw.	Convolvulaceae	B-3
164.	*Foeniculuem vulgare* L.	Apiaceae	B-2,B-3
165.	*Gaillardia aristata* Pursh	Asteraceae	B-2
166.	*Gaillardia grandiflora* Hort	Asteraceae	B-2
167.	*Gomphrena celosioides* Mart,	Amaranthaceae	B-1,B-2,B-3,B-4
168.	*Gomphrena globosa* L.	Amaranthaceae	B-2
169.	*Grangea maderaspatana* (L.) Poir.	Asteraceae	B-1,B-2,B-3,B-4
170.	*Hedyotis bracheata* Miq.ex Hook.f.	Rubiaceae	B-1,B-3,B-4
171.	*Hedvotis corymbosa* (L.)lam.	Rubiaceae	B-1,B-2,B-3,B-4
172.	*Hedyotis puberula* (G.Don)Thw.	Rubiaceae	B-3
173.	*Heliconia latispatha* Benth.	Tlcliconiaceae	B-2
174.	*Heliconia rostrata* Ruiz & Pavon	Heliconiaceae	B-2
175.	*Hibiscus canabinus* L	Malvaceae	B-1
176.	*Hippeastrum amaryllis* (L.)Herb.	Amaryllidaceae	B-2
177.	*Hyptis suaveolens* (L.) Poit.	Lamiaccac	B-1,B-2,B-3,B-4
178.	*Impatiens balsamina* L.	Balsaminaceae	B-2
179.	*Indigofera linnaei* Ali	Fabaceae	B-1,B-2,B-3,B-4
180.	*Indoneesiella echioides* (L.) Sreemadh.	Acanthaceae	B-1,B-2,B-3,B-4
181.	*Justicia betonica* L.	Acanthaceae	B-3,B-4
182.	*Justicia japonica* Thunb.	Acanthaccac	B-2,B-3
183.	*Justicia quinqueangularis* Koen. ex Roxb.	Acanthaceae	B-1,B-4
184.	*Kalanchoe blossfeldiana* Poelln.	Crassulaceae	B-2
185.	*Kalanchoe pinnata* (Lam.) Pers.	Crassulaccae	B-2
186.	*Laportea interrupta* (L.) Chew	Urticaceae	B-1,B-2,B-3,B-4
187.	*Leucas aspera* (Willd.) Link	Lamiaceae	B-3,B-4
188.	*Leucas cephalotes* (Roth) Spreng.	Lamiaceae	B-1,B-4
189.	*Leucas indica* (L.) R.Br.cx Vatke	Lamiaceae	B-4
190.	*Lindernia ciliata* (Colsm.)Pennell	Scrophulariaceae	B-1,B-2,B-3,B-4
191.	*Lindshot.onaviyouero* (L.) F.v.Muell	Scrophulariaceae	B-1,B-2,B-3,B-4
192.	*Lippia javanica* (Burm.f.)Spreng.	Verbenacea	B-4
193.	*Lobelia alsinoides* Lam.	Lobeliaceae	B-1,B-4
194.	*Lobularia maritima* (L.)Desv.	Brassicaceae	B-3
195.	*Ludwigia perennis* L.	Onagraceae	B-1,B-3,B-4

196.	*Malachra capitata* (L.)L.	Malvaceae	B-3
197.	*Maranta arundinacea* L.	Marantaceae	B-2
198.	*Martynia annua* L.	Martyniaceae	B-4
199.	*Mazus pumilus* (Brum.f.) Steenis	Scrophulariaceae	B-2,B-4
200.	*Mecardonia procumbens* (Mill.) Small	Scrophulariaceae	B-1,B-3,B-4
201.	*Melochia corchorifolia* L.	Sterculiaceae	B-3,B-4
202.	*Mentha arvensis* L.	Lamiaceae	B-2
203.	*Mentha piperita* L.	Lamiaceae	B-2
204.	*Mentha spicata* L.	Lamiaceae	B-2
205.	*Merremia hederacea* (Burm.f.)Hall.f.	Convolvulaceae	B-4
206.	*Microccocca mercurialis* (L.) Benth.	Euphorbiaceae	B-1,B-2,B-3,B-4
207.	*Mimosa pudica* L.	Mimosaceae	B-1,B-2,B-3,B-4
208.	*Mirabilis jalapa* L.	Nyctaginaceae	B-2
209.	*Mitracarpus villosus* (Sw.) DC.	Rubiaceae	B-1,B-2,B-3,B-4
210.	*Mollugo pentaphylla* L.	Molluginaceae	B-1,B-2,B-3,B-4
211.	*Murdannia nodiflora* (L.)Brenan	Commelinaceae	B-1,B-2,B-3,B-4
212.	*Murdannia spirata* (L.) Brueck.	Commelinaceae	B-1,B-3,B-4
213.	*Musa acuminata var.* rubra	Musaccae	B-2
214.	*Musa paradisiaca* L.	Musaceae	B-2
215.	*Ocimum canum* Sims.	Lamiaceae	B-4
216.	*Origanum majorana* L.	Lamiaceae	B-2
217.	*Oxalis corniculata* L.	Oxalidaceae	B-1,B-2,B-3,B-4
218.	*Oxalis debilis* Kunth	Oxalidaceae	B-2
219.	*Oxalis triangularis* A.St.-Hil.	Oxalidaceae	B-2
220.	*Panadnus amarylifolius* Roxb.	Pandanaceae	B-2
221.	*Parthenium hysterophorus* L.	Asteraceae	B-1,B-2,B-3,B-4
222.	*Peperomia pellucida* Kunth	Piperaceae	B-1,B-3,B-4
223.	*Peristrophe paniculata* (Forssk.) Brummitt	Acanthaceae	B-1,B-3,B-4
224.	*Persicaria virginiana* (L.)Gaertn.	Polygonaceae	B-2
225.	*Petunia hybrid* Juss.	Solanaceae	B-2
226.	*Phaulopsis imbricata* (Forssk.) Sw.	Acanthaceae	B-3,B-4
227.	*Phyla nodiflora* (L.) Greene	Verbenaceae	B-4
228.	*Phyllanthus fraternus* Webster	Euphorbiaceae	B-1,B-2,B-3,B-4
229.	*Phyllanthus virgatus* Forst.f	Euphorbiaceae	B-1,B-3,B-4

230.	*Physalis longifolia Nutt.* var longifolia	Solanaceae	B-3
231.	*Physalis minima* L.	Solanaceae	B-4
232.	*Polygala arvensis* L.	Polygalaceae	B-3,B-4
233.	*Polygonum barbatum* L.	Polygonaceae	B-3,B-4
234.	*Portulaca oleracea* L. var. oleracea	Portulaceae	B-1,B-2,B-3,B-4
235.	*Portulaca pilosa* L. subsp. grandiflora (Hook.) Geesink	Portulaceae	B-2
236.	*Portulaca quadrifida* L.	Portulaceae	B-1,B-2,B-3,B-4
237.	*Portulaca umbraticola* Kunth	Portulaceae	B-2
238.	*Ruellia brittoniana* Leonard	Acanthaceae	B-2
239.	*Sansevieria trifasciata* Prain.	Asparagceae	B-2
240.	*Scadoxus multiflorus* (Martyn) Raf.	Amaryllidaceae	B-2
241.	*Scoparia dulcis* L.	Scrophulariaceae	B-1,B-2,B-3,B-4
242.	*Sebastiania chamalea* (L.) Muell.-Arg.	Euphorbiaceae	B-2,B-4
243.	*Senna occidentalis* (L.) Link	Caesalpiniaceae	B-2,B-4
244.	*Sesamum orientale* L.	Pedaliaceae	B-3,B-4
245.	*Solanum tuberosum* L.	Solanaceae	B-2
246.	*Solanum virginianum* L.	Solanaceae	B-4
247.	*Spathiphyllum cochlearispathum* (Liebm.) Engl.	Araceae	B-2
248.	*Spermacoce articularis* L.f.	Rubiaceae	B-1,3-2,B-3,B-4
249.	*Spermacocoe exilis* (L.O.Williams)C.D. Adams	Rubiaceae	B-1,B-2,B-3,B-4
250.	*Theriophonum minuatum* (Willd.)Bail	Araceae	B-2
251.	*Tithonia diversifolia* (Hemsl)A.Gray	Asteraceae	B-1,B-2
252.	*Tradescantia zebrine* (Schinz)D.R Hunt	Commelinaceae	B-2
253.	*Tribulus terrestris* L.	Zygophyllaceae	B-2,B-4
254.	*Tridax procumbens* L.	Asteraceae	B-1,B-2,B-3,B-4
255.	*Triumfetta pentandra A.*Rich	Sterculiaceae	B-1,B-4
256.	*Triumfetta rhomboidea* Jasq.	Sterculiaceae	B-3,B-4
257.	*Turnera ulmifolia* L.	Turneraceae	B-2
258.	*Uraria picta* (Jacq.)Desv.ex DC.	Fabaceae	B-2
259.	*Urena lobata L. subsp. sinuata* (L.) Borssum var. sinuate	Malvaceae	B-1,B-3,B-4
HYDROPHYTES			
260.	*Alisma plantago-aquatica* L.	Alismataceae	B-2

261.	*Ceratophyllum demersum* L.	Ceratophyllaccae	B-2
262.	*Eichhornia crassipes*(Mart.) Solms-Laub.	Pontederiaceae	B-4
263.	*Hydrilla verticillata* (L.f.) Royle	Hydrocharitaceae	B-2
264.	*Lemna perpusila* Tor.	Lemnaecae	B-2,B-4
265.	*Monochoria hastata* Solms-Laub.	Pontederiaceae	B-4
266.	*Monochoria vaginalis* (Burm.f.) Presl	Pontederiaceae	B-4
267.	*Nelumbo nucifera* Gaertn.	Nelumbonaceae	B-2
268.	*Nuphar pumila*(Timm) DC.	Nymphaeaccae	B-2
269.	*Nymphaea mexicana* Zucc.	Nymphaeaccae	B-2
270.	*Nymphaea nouchali* Burm.f.	Nymphaeaceae	B-2
271.	*Nymphaea pubescens* Willd.	Nymphaeaceae	B-2
272.	*Nymphoides hydrophila* (Lour.)Kuntze	Nymphaeaceae	B-2
CLIMBER			
273.	*Argeyria nervosa*(Burm.f.) Bojer	Convolvulaceae	B-2
274.	*Artabotrys hexapetalus*(L.f) Bandari	Annonaceae	B-2
275.	*Asparagus racemosus* Willd.	Asparagaceae	B-2
276.	*Atylosia scarabaeoides* (L.) Benth.	Fabaceae	B-3,B-4
277.	*Basella alba* L.	Basellaceae	B-2
278.	*Campsis radicans* Seem.	Bignoniaceae	B-2
279.	*Cayratia pedata Wall.)* Gagnep.	Vitaceae	B-3,B-4
280.	*Cayratia trifolia* (L.) Domin	Vitaceae	B-1,B-3,B-4
281.	*Coccinia grandis* (L.) Voigt	Cucurbitaceae	B-3,B-4
282.	*Cocculus hirsutus*(L.) Diels	Cucurbitaceae	B-3,B-4
283.	*Cucumis melo* L.	Cucurbitaceae	B-2
284.	*Cucumis sativus* L.	Cucurbitaceae	B-2
285.	*Cucurbita maxima* Duchesne	Cucurbitaceae	B-2
286.	*Cuscuta reflexa* Roxb.	Cuscutaceae	B-4
287.	*Dioscorea alata* L.	Dioscoreaceae	B-2
288.	*Diplocyclos palmatus*(L.) C.Jeffrey	Cucurbitaceae	B-4
289.	*Epipremnum aureum*(Linden & André) G.S.Bunting	Araceae	B-2
290.	*Ichnocarpus frutescens* (L.) W.T.Aiton	Apocynaceae	B-2
291.	*Ipomoea obscura* Ker.-Gawl.	Convolvulaceae	B-4
292.	*Ipomoea pes-tigridis*L.	Convolvulaceae	B-1,B-4

293.	*Ipomoea quamoclit* L.	Convolvulaceae	B-3
294.	*Ipomoea sepiaria Koenig* ex Roxb.	Convolvulaceae	B-3,B-4
295.	*Luffa acutangula*(L.) Roxb.	Convolvulaceae	B-2
296.	*Luffa aegyptiaca* Mill.	Cucurbitaceae	B-4
297.	*Mansoa alliacea* Gentry	Bignoniaceae	B-2
297.	*Passiflora incarnata* L	Passifloraceae	B-2
298.	*Passiflora vitifolia* Kunth	Passifloraceae	B-2
299.	*Piper betel* L	Piperaceae	B-2
300.	*Piper longum* L.	Piperaceae	B-2
301.	*Podranea ricasoliana*(Tanf.) Sprague	Bignoniaceae	B-2
302.	*Pyrostegia venusta* (Ker.Gawl.)Miers	Bignoniaceae	B-2
303.	*Quisqualis indica* L.	Combretaceac	B-2
304.	*Rhaphidophora decisirva* (Roxb.) Schott	Araceae	B-2
305.	*Stephania japonica* (Thunb.) Miers	Menispermaceae	B-3
306.	*Syngonium podophyllum* Schott	Araceae	B-2
307.	*Thunbergia fragrans* Roxb.	Acanthaceae	B-2
308.	*Thunbergia grandiflora* (Roxb.ex Rottl.)Roxb.	Acanthaceae	B-1,B-2
309.	*Tinospora cordifolia*(Thunb.) Miers	Menispermaceae	B-2
310.	*Trichosanthes cucumerina* L.	Cucurbitaceae	B-2
311.	*Typhonium trilobatum (*L.) Schott	Araceae	B-2
312.	*Vernonia elliptica* DC.	Asteraceae	B-1,B-2
314.	*Vitis vinifera* L.	Vitaceae	B-2
EPIPHYTES			
315.	*Vanda tesselata* (Roxb.) Hook.cx G.Don	Rubiaceae	B-2
316.	*Dendrobium ursula* Strenge	Passifloraceae	B-2
GRASS			
317.	*Aristida setacea* Rctz.	Passifloraceae	B-1,B-2,B-3,B-4
318.	*Bambusa arundinacea* (Retz.) Willd.	Apocynaceae	B-2
319.	*Bambusa vulgaris Schrad.* Ex J.C.Wendl.	Asclepidaceae	B-2
320.	*Bothriochloa pertusa* (L.) A. Camus	Verbenaceae	B-1,B-2,B-3,B-4
321.	*Brachiaria distachya* (L.) Stapf	Araceae	B-1,B-2,B-3,B-4
322.	*Brachiaria mutica* (Forssk.) Stapf	Piperaceae	B-4
323.	*Brachiaria ramosa* (L.) Stapf	Piperaceae	B-1,B-3,B-4
324.	*Chloris barbata* Sw.	Bignoniaceae	B-1,B-2,B-3,B-4

325.	*Chrysopogon aciculatus* (Retz.) Trin.	Bignoniaceae	B-1,B-4
326.	*Cynodon dactylon* (L.) Pers.	Combretaceac	B-1,B-2,B-3,B-4
327.	*Cyperus brevifolius* (Rottb.) Hassk.	Araceae	B-1,B-4
328.	*Cyperus compactus* Retz.	Menispermaceae	B-4
329.	*Cyperus difformis* L.	Araceae	B-1,B-3,B-4
330.	*Cyperus halpan* L.	Acanthaceae	B-1,B-3
331.	*Cyperus imbricatus* Retz.	Acanthaceae	B-4
332.	*Cyperus iria* L.	Menispermaceae	B-1,B-4
333.	*Cyperus triceps* Endl.	Cyperaceae	B-1,B-3,B-4
334.	*Dactyloctenium aegypticum* (L.) P.Beauv.	Poaceae	B-1,B-2,B-3,B-4
335.	*Digitaria abludens* (Roem. & Schult.) Veldk.	Poaceae	B-3
336.	*Digitaria ciliaris* (Retz.) Koeler	Poaceae	B-1,B-2,B-3,B-4
337.	*Echinochloa colona (*L.) Link	Poaceae	B-1,B-2,B-3,B-4
338.	*Eleusine indica (*L.) Gaertn.	Poaceae	B-1,B-2,B-3,B-4
339.	*Elusine coracana (*L.)Gaertn	Poaceae	B-2
340.	*Eragrostis ciliaris* (L.) R.Br.	Poaceae	B-3
341.	*Eragrostis ciliata* Roxb. Nees	Poaceae	B-1,B-2,B-3,B-4
342.	*Eragrostis unioloides* (Retz.) Nees ex Steud.	Poaceae	B-1,B-2,B-3,B-4
343.	*Eriochloa procera* (Retz.)Hubbard	Poaceae	B-1,B-2,B-3,B-4
344.	*Paspalum scrobiculatum* L.	Poaceae	B-2,B-3
345.	*Paspalum vaginatum* Sw.	Poaceae	B-1,B-3
346.	*Pennisetum pedicellatum* Trin.	Poaceae	B-1,B-3,B-4
347.	*Pennisetum purpureum* Schumach	Poaceae	B-3,B-4
348.	*Perotis indica* (L.) Kuntz	Poaceae	B-3,B-4
349.	*Pogonantherum crinitum*(Thunb.) Kunth	Poaceae	B-2
350.	*Sachharum officinarum* L.	Poaceae	B-2
351.	*Setaria pumila* (Poir.) Roem. & Schult.	Poaceae	B-1,B-3,B-4
352.	*Setaria verticillata* (L.) P.Beauv.	Poaceae	B-1,B-4
353.	*Sorghum vulgare* L.	Poaceae	B-2
354.	*Zea mays* L.	Poaceae	B-2
GYMNOSPERM			
355.	*Araucaria columnaris* (Forst.f.) Hook.	Araucariaceae	B-2
356.	*Cycas revoluta* Thunb.	Cycadaceae	B-2

357.	*Juniperus communis* L.	Cupressaceae	B-2
358.	*Pinus roxburghii* Sargent	Pinaceae	B-2
359.	*Podocarpus nerefolius* D.Don	Podocarpaceae	B-2
360.	*Platycladus orientalis* (L.) Franco	Cupressaceae	B-2
PTERIDOPHYTES			
361.	*Adiantum incisum* Forssk.	Adiantaceae	B-4
362.	*Adiantum phillipense* L.	Adiantaceae	B-1,B-2,B-3,B-4
363.	*Ampelopteris prolifera* (Retz.) Copel.	Thelypteridaceae	B-2,B-4
364.	*Nephrolepis exaltata*(L.) Schott	Nephrolepidaceae	B-2
365.	*Phymatosorus membranifolius* (R.Br.)S.G. Lu	Polypodiaceae	B-2
366.	*Pteris vittata* L.	Pteridaceae	B-1,B-2,B-3,B-4
367.	*Salvinia cuculata* Roxb.	Salviniaceae	B-4
368.	*Salvinia molesta* D.S. Mitch	Salviniaceae	B-4
369.	*Selaginella ciliaris*(Retz.) Spring	Selaginellaceae	B-4
BRYOPHYTES			
370.	*Barbula calycinaSchwägr*	Pottiaceae	B-2,B-4
371.	*Marchantia polymorpha* L.	Marchantiaceae	B-1,B-4
372.	*Riccia beyrichiana* Hampe ex Lehm	Ricciaceae	B-3,B-4
373.	*Trichostomum crispulumBruch*	Pottiaceae	B-2
MUSHROOMS			
374.	*Agaricus bisporous* (J.E.Lange) Emil.J.Imbact	Agaricaceae	B-2
375.	*Agaricus compestris* L.	Agaricaceae	B-4
376.	*Amanita multisquamosa* Peck	Amanitaceae	B-4
377.	*Amylostereum laevigatum* (Fr.) Boidin	Amylostereaceae	B-4
378.	*Dacryopinax spathularia* Schweien & G.W.Martin	Dacrymycetaceae	B-4
379.	*Deconia coprophila*(Bull.) P. Karst.	Strophariaceae	B-4
380.	*Entoloma unicolar* (Perk) Hesler	Entolomataceae	B-4
381.	*Ganoderma lucidum* (Curtis) P. Carst.	Ganotodermaceae	B-4
382.	*Lactarius alnicola* A.H. Smith	Russulaceae	B-4
383.	*Marasmius rotula*(Scop.) Fr.	Marasmiaceae	B-1
384.	*Protostropharia semiglobata* (Batsch) Redhead, Moncalvo & Vilgays	Strophariaceae	B-4
385.	*Psilocybe cubensis* (Earle) Singer	Hymenogastraceae	B-1

386.	*Terana caerulea* (Lam.) Kuntze	Phanerochaetaceae	B-4
387.	*Termitomyces eurrhizus* (Berk & Broome)	Lyophyllaceae	B-4
388.	*Termitomyces heimii* Natarajan	Lyophyllaceae	B-4
389.	*Termitomyces microcarpus* (Berk. & Broome) R. Heim	Lyophyllaceae	B-4
390.	*Xylaria longipes Nitschke*	Xylariaceae	B-4
LICHEN			
391.	*Chrysothrix chlorina*(Ach.) J.R. Laundon	Chrysothricaceae	B-4
392.	*Cryptothecea scripta* G. Thor	Arthoniaceae	B-4
393.	*Graphis scripta* (L.) Ach.	Graphidaceae	B-1,B-2,B-3,B-4

FAUNAL DIVERSITY

A survey on faunal diversity in our BBSR campus of Centurion University of Technology and Management has done from 1st of December 2019 to 25th of December 2019. Based on the survey, we prepared report and hereby the report is submmited to The Department of Zoology , School of Applied Sciences on 30th of December.

ANIMAL	Sl.No.	Common name	Scientific name
Invertebrates	1.	Peacock pansy	*Junonia almana*
	2.	Grey pansy	*Junonia atlites*
	3.	Common mormon	*Papilio polytes*
	4.	Indian crow butterfly	*Euploea core*
	5.	Common evening brown	*Melanitis leda*
	6.	Agathia	*Agathia laetata*
	7.	Striped tiger butterfly	*Danaus genutia*
	8.	Green hairstreak	*Callophrys rubi*
	9.	Little yellow	*Eurema lisa*
	10.	Bamboo treebrown	*Lethe europa*
	11.	Plaster bagworm	*Phereoeca allutella*
	12.	Indian honey bee	*Apis indica*
	13.	Oriental hornet	*Vespa orientalis*
	14.	Mantis	*Hierodula patellifera*
	15.	Carpenter ant	*Camponotus sp.*
	16.	Garden cross spider	*Argiope pulchella*

	17.	Giant Land snail	*Achatina fulica*
Vertebrates	18.	Oriental Garden lizard	*Calotes versi color*
	19.	Chiken	*Gallus gallus domesticus*
	20.	Domestic goose(grey)	*Anser cygnoides domesticus*
	21.	Domestic goose(white)	*Anser anser domesticus*
	22.	Indian runner duck	*Anas platyrhynchos domesticus*
	23.	Pigeon	*Columba livia domestica*
	24.	Crow	*Corvus splendens*
	25.	House sparrow	*Passer domesticus*
	26.	Indian myna	*Acridotheres tristis*
	27.	Egret	*Ardea alba*
	28.	Cat	*Felis catus*
	29.	Dog	*Canis lupus familiaris*
	30.	cow	*Bos indicus*
	31.	Goat	*Capra hircus*
	32.	Domestic Rabbit	*Oryctilagus cuniculus domesticus*
	33.	Rohu	*Labeo rohita*
	34.	Catla	*Catla catla*
	35.	Tilapia	*Oreochromis niloticus*
	36.	Pangasius	*Pangasius pangasius*
	37.	Singhi(Asian stinging catfish)	*Heteropneustes fossilis*

1. **Scientific name*: Junonia almana***

Common name: Peacock pansy

CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Lepidoptera
Family- Nymphalidae
Genus- *Junonia*
Species- *almana*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

2. **Scientific name: *Junonia atlites***

Common name: Grey pansy

CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Lepidoptera
Family- Nymphalidae
Genus- *Junonia*
Species- *atlites*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

3. **Scientific name: *Papilio polytes***

Common name: Common mormon

CLASSIFICATION
Kingdom- Animali
Phylum- Arthropoda
Class- Insecta
Order- Lepidoptera
Family- Papilionidae

Genus- *Papilio*
Species- *polytes*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

4. Scientific name: *Euploea core*

Common name: Indian crow butterfly

CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Lepidoptera
Family- Nymphalidae
Genus- *Euploea*
Species- *core*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

5. Scientific name*: Melanitis leda*

Common name: Common evening brown

CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Lepidoptera
Family- Nymphalidae
Genus- *Melanitis*
Species- *leda*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

6.

Scientific name: Agathia laetataCommon name: Agathia
CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Lepidoptera

Family- Geometridae
Genus- *Agathia*
Species- *laetata*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

7. Scientific name*: Danaus genutia*

Common name: Striped tiger butterfly

CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Lepidoptera
Family- Nymphalidae
Genus- *Danaus*
Species- *genutia*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

8. Scientific name*: Callophrys rubi*

Common name: Green hairstreak

CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Lepidoptera
Family- Lycaenidae
Genus- *Callophris*
Species- *rubi*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

9. Scientific name*: Eurema lisa*

Common name: Little yellow

CLASSIFICATION

Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Lepidoptera
Family- Pieridae
Genus- *Eurema*
Species- *lisa*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

10. Scientific name: *Lethe europa*

Common name: Bamboo tree brown

CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Lepidoptera
Family- Nymphalidae
Genus- *Lethe*
Species- *europa*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

11. Scientific name: *Phereoeca allutella*

Common name: Plaster bagworm

CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Lepidoptera
Family- Tineidae
Genus- *Phereoca*
Species- *allutella*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

12. Scientific name: *Apis cerana indica*

Common name: Indian bee

CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Hymenoptera
Family- Apidae
Genus- *Apis*
Species- *cerana*
Subspecies- *A. c. indica*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

13. Scientific name: *Vespa orientalis*

Common name: Oriental hornet

CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Hymenoptera
Family- Vespidae
Genus- *Vespa*
Species- *orientalis*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

14. Scientific name: *Hierodula patellifera*

Common name: Mantis

CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Mantodea
Family- Mantidae
Genus- *Hierodula*
Species- *patellifera*

LOCATION

Centurion University Of Technology and Management, BBSR Campus.

15. Scientific name: *Camponotus sp.*

Common name: Carpenter ant

CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Hymenoptera
Family- Formicidae
Subfamily- Formicinae
Genus- *Camponotus*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

16. Scientific name: *Argiope pulchella*

Common name: Garden cross spider

CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Subphylum- Chelicerata
Class- Arachnida
Order- Araneae
Family-Araneidae
Genus- *Argiope*
Species- *pulchella*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

17. Scientific name: *Achatina fulica*

Common name: Giant land snail

CLASSIFICATION
Kingdom- Animalia
Phylum- Mollusca
Class- Gastropoda
Superfamily- Achatinoidea
Family- Achatinidae
Subfamily- Achatininae

Genus- *Achatina*
Species- *fulica*
LOCATION
Centurion University Of Technology and Management, BBSR Campus.

18. Scientific name*: Calotes versicolor*

Common name: Oriental garden lizard

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Reptilia
Order- Squamata
Suborder- Iguania
Family- Agamidae
Genus- *Calotes*
Species- *versicolor*
LOCATION
Centurion University Of Technology and Management, BBSR Campus.

19. Scientific name: *Gallus gallus domesticus*

Common name: Chicken

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Aves
Order- Galliformes
Family- Phasianidae
Genus- *Gallus*
Species-*gallus*
Subspecies- *G. g. domesticus*
LOCATION
Centurion University Of Technology and Management, BBSR Campus.

20. Scientific name*: Anser cygnoides domesticus*

Common name: Domestic grey goose

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Aves
Order- Anseriformes
Family- Anatidae
Genus- *Anser*

Species- *cygnoides*
Subspecies- *A. c. domesticus*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

21. Scientific name*: Anser anser domesticus*

Common name: Domestic white goose

CLASSIFICATION
Kingdom-Animalia
Phylum- Chordata
Class- Aves
Order- Anseriformes
Family- Anatidae
Genus- *Anser*
Species- *anser*
Subspecies- *A. a. domesticus*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

22. Scientific name: *Anas platyrhynchos domesticus*

Common name: Indian runner duck

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Aves
Order- Anseriformes
Family- Anatidae
Genus- *Anas*
Species- *platyrhynchos*
Subspecies- *A. p. domesticus*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

23. Scientific name: *Columba livia*

Common name: Pigeon

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Aves

Order- Columbiformes
Family- Columbidae
Genus- *Columba*
Species- *livia*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

24. Scientific name: *Corvus splendens*

Common name: Crow

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Aves
Order- Passeriformes
Family- Corvidae
Genus- *Corvus*
Species- *splendens*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

25. Scientific name: *Passer domesticus*

Common name: House Sparrow

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Aves
Order-Passeriformes
Family- Passeridae
Genus- *Passer*
Species- *domesticus*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

26. Scientific name: *Acritotheres tristis*

Common name: Indian myna

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata

Class- Aves
Order- Passeriformes
Family- Sturnidae
Genus- *Acritotheres*
Species- *tristis*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

27. Scientific name: *Ardea alba*

Common name: Egret

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Aves
Order- Palecaniformes
Family- Ardeidae
Genus- *Ardea*
Species- *alba*
LOCATION
Centurion University Of Technology and Management, BBSR Campus.

28. Scientific name*: Felis catus*

Common name: Cat

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Carnivora
Suborder- Feliformia
Family- Felidae
Subfamily- Felinae
Genus- *Felis*

Species- *catus*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.
29. Scientific name*: Canis lupus familiaris*

Common name: Dog

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Carnivora
Family- Canidae
Subfamily- Caninae
Genus- *Canis*
Species- *lupus*
Subspecies- *C. l. familiaris*
LOCATION
Centurion University Of Technology and Management, BBSR Campus.

30. Scientific name: *Bos indicus*

Common name: Co w

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Artiodactyla
Family- Bovidae
Subfamily- Bovinae
Genus- *Bos*
Species- *indicus*
LOCATION
Centurion University Of Technology and Management, BBSR Campus.

31. Scientific name: *Capra aegagrus hircus*

Common name: Goat

CLASSIFICATION
Kingdom- Anim alia
Phylum- Chordata
Class- Mammalia
Order- Artiodactyla
Family- Bovidae
Subfamily- Caprinae
Genus- *Capra*
Species- *aegagus*
Subspecies- *C. a. hircus*
LOCATION
Centurion University Of Technology and Management, BBSR Campus.

32. Scientific name: ***Oryctolagus cuniculus domesticus***

Common name: Domestic Rabbit

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Lagomorpha
Family- Leporidae
Genus- *Oryctolagus*
Species- *cuniculus*
Subspecies- *O. c. domesticus*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

33. Scientific name: ***Labeo rohita***

Common name: Rohu

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Superclass- Pisce
Class- osteichthyes
Subclass- Actinoptergii
Superorder- Teleostei
Order- Cypriniformes
Family- Cyprinidae
Genus- *Labeo*
Species- *rohita*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

34. Scientific name: *Catla catla*

Common name: Catla

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Superclass- Pisce
Class- osteichthyes
Subclass- Actinoptergii
Superorder- Teleostei
Order- Cypriniformes
Family- Cyprinidae
Subfamily- Labeoninae
Genus- *Catla*
Species- *catla*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

35. Scientific name*: Oreochromis niloticus*

Common name: Tilapia

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Superclass- Pisce
Class- osteichthyes
Subclass- Actinoptergii
Order-Cichliformes
Family- Cichlidae
Genus- *Oreochromis*
Species- *niloticus*

LOCATION
Centurion University Of
Technology and Management, BBSR Campus

36. Scientific name*:Pangasius pangasius*

Common name: Pangasius

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Superclass- Pisce
Class- Osteichthyes
Subclass- Actinoptergii
Order- Siluriformes
Family- Pangasiidae
Genus- *Pangasius*
Species- *pangasius*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

37. Scientific name*:Heteropneustes fossillis*

Common name: Singhi(Asian stinging catfish)

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Superclass- Pisce
Class- Osteichthyes
Subclass- Actinoptergii
Order- Siluriformes
Family- Heteropneustidae
Genus- *Heteropneustes*
Species- *fossillis*

LOCATION
Centurion University Of Technology and Management, BBSR Campus.

REPORT OF
GREEN AUDIT
OF CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT, BBSR CAMPUS, ODISHA (2018-19)

Preface

Institutional self-inquiry is a natural and necessary outgrowth of quality of higher education. Concern about environmental degradation and realization of values of environment are logical consequences of scholarly research, teaching and learning process. In its pursuit for improving environmental quality and to maintain a pristine environment for the future generation of students, Centurion University has made a self-inquiry on environmental quality of the campus with the following objectives: (i) To establish a baseline of existing environmental conditions with focus on natural and physical environment; (ii) To understand the current practices of sustainability with regard to the floral and faunal diversity inside the campus (iii) To promote environmental awareness through participatory auditing process; and (iv) To create a report that document baseline data of good practices and provide future strategies and action plans towards improving environmental quality for future.

This report is compiled by a committee constituted by IQAC. As there was no standard model for such a green audit of campuses in the state, the committee brainstormed and evolved a questionnaire. With the help of student volunteers and faculties of respective departmrnts the major part of the data was compiled, which the committee analyzed. The remaining part which involved measurement of quality was entrusted with the Department of Botany and Department of Zoology of Centurion University of Technology and Management, Odisha. The committee has made short term and long term suggestions to take environment protection to higher levels and it is hoped that this will receive due attention of University authorities and also all stake-holders of the University.

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Dr. Sagarika Parida

Dr. Gyanranjan Mahalik

Dr. Siba Prasad Parida

Dr. Atia Arzoo

Dr.Rukmani Mishra

SCHOOL OF APPLIED SCIENCES
CUTM
CENTURION UNIVERSITY OF TECHNOLOGY & MANAGEMENT

Executive Summary

Many departments maintain garden and the campus is greener with fair biodiversity around and gardens maintained by many departments. A detailed study on floral and faunal diversity has been done. There are also one beautiful rose garden, medicinal plant garden and one butterfly park inside the campus mentained by the university. Faunal and floral diversity reports are given below.

REPORT ON FLORAL DIVERSITY

Flora comes from the Latin word "*Flora*", the meaning is Goddess of plants. *Floris* means flower. Floral diversity is the diversity of plants occurring in a particular region during particular time period. It also refers to the diversity of naturally available native or indigenous plants till now a total of 2, 15, 644 species of plants have been catalogued on the earth till date. It is reported that India harbours 46, 824 species including virus/bacteria and fungi species. In India, floral diversity is concentrated in four phytogeographical unique regions like Himalayas, Western Ghats, Northeast India and Andaman and Nicober Islands. Indian flora records for 11.4% of the total recorded plant species. Angiosperms are the largest plant group in India comprising of total of 17, 817 species which constitutes 38.15% of floral diversity of the entire country followed by fungi comprising 14,698 species which is of 31.38%. High level of cryptogram (Bryophytes and Pteridophytes) diversity is also seen in the country. A total of 2,479 species of Pteridophytes and around 1265 of Bryophytes have been recorded in India. Algae and fungi have also been wide spread in India. Lichens are found in Western Ghats, Eastern and Western Himalayas and Andaman and Nicobar Islands. Most of the ferns and gymnosperms are found in cool temperate zones of the Himalayas and in the mountainous regions of southern India, especially in the Western Ghats. Indian flora represents nearly 12% of the global diversity excluding viruses. A diverse number of species of wild relatives of crop plants are also present.

Presently, considerable attention is being addressed to biological diversity of biodiversity statue which refers to the occurrence of diverse biological forms including micro-organisms, plants and animals in a particular geographical area under a set of environmental conditions. Biodiversity is the reflection of genetic variability with which the different hierarchical forms of germplasm (strains, landraces/genotypes/varieties, species, genera etc.) appear in the course of evolution. The genetic variation may exist either within the species (intra specific) to a certain extent or to a larger scale between different species (intra specific) and taxa of higher biological order. In fact, it is the ecosystem

that supports the biological variability. The diverse living forms of the ecosystem are always in a state of change keeping pace with the global environment perturbations. An ecosystem is composed of both biotic and abiotic components which are quite interrelated and influences each other.

Ecosystem diversity encompasses varieties of living forms due to miscellany of niches, tropic levels and ecological processes like nutrient recycling, food chains, food webs, energy flow and role of dominant species. The present campus of Centurion University, in Bhubaneswar spread over 48 acres of land in the foothill of Barunei hills, near Jatni town; the campus is adjacent to National Institute of Science, Education and Research (NISER), Indian Institute of Technology (IIT), All India Institute of Medical Sciences (AIIMS) and Xavier University. The place is being famous as a hot spot of temples, historical monuments and archaeological remains.

Topographically, the area is an undulating lateritic land sloping towards the east. Presently the land area with vegetation cover approximately 20 acres excluding one water body covers 2.5 acres receiving waste water from the University Campus.

Block wise area under survey:

Block-1: consist of subunits – 1-10 (excluding butterfly garden) including Gate-1, Gate-2, Auditorium building, Action learning lab and waste to wealth lab, wood engineering lab, Faculty residence, Swimming pool, Girls hostel-1 and Girls hostel-2.

Block-2: consist of the subunits- 11-20 including Girls hostel-3, Koutilya building, Madhusudan building, Aryabhatta building, Industrial training centre, Workshop (E- Rikshaw unit, Civil engineering, Electrical engineering).

Block-3: consist of the subunits 21-30 including Mechanical workshop, Advance centre of excellence for apparel textile and GTET corporation office, Inatitute of training of trainers (GTET), Multi use play ground, Basket ball court, Tennis ball court, Consumer facility cum training and learning lab (Diesel outlet), Wheel alignment training centre, Boys hostel-1 and Boys hostel-2.

Block-4: consist of subunits 31-40 including Boys hostel-3, Boys hostel-4, Boys hostel-5, Boys hostel-6, Central store, Power house, Cow shed, Water body and Butterfly garden.

LIST OF DIFFERENT KINDS OF FLORA FOUND IN THE CAMPUS

Sl. No.	Botanical name	Family	Distribution
TREES			
1.	*Acacia auriculiformis* A. Cunn. ex Benth.	Mimosaceae	B-2, B-4
2.	*Aegle marmelos* (L.) Corr.	Rutaceae	B-2
3.	*Ailanthus excelsa* Roxb.	Simaroubaceae	B-3
4.	*Albizia lebbeck* (L.) Benth.	Mimosaceae	B-3
5.	*Alstonia scholaris* (L.) R.Br.	Apocynaceae	B-2
6.	*Anacardium occidentale* L.	Anacardiaceae	B-2, B-4
7.	*Annona* squamosa L.	Annonaceae	B-2
8.	*Areca catechu* L.	Arecaceae	B-2
9.	*Artocarpus altilis* (Parkinson) Fosberg	Moraceae	B-2
10.	*Artocarpus heterophyllus* Lam.	Moraceae	B-2
11.	*Averrhoa carambola* L.	Averrhoaceae	B-2
12.	*Azadirachta indica* A. Juss.	Meliaceae	B-2, B-3, B-4
13.	*Bauhinia acuminata* L.	Caesalpiniaceae	B-2
14.	*Bauhinia variegata* L.	Caesalpiniaceae	B-2
15.	*Bixa orellana* L.	Bixaceae	B-2
16.	*Borassus flabellifer* L.	Arecaceae	B-2
17.	*Brya ebenus* (L.) DC.	Fabaceae	B-2
18.	*Cinammomum tamala* (Buch.-Ham.) T.Nees&C.H. Eberm.	Lauraceae	B-2
19.	*Cinammomum verum* J.Presl	Laurace ae	B-2
20.	*Cocos nucifera* L.	Arecaceae	B-1, B-2
21.	*Coffea arabica* L.	Rubiaceae	B-2
22.	*Commiphora wightii* (Arn.) Bhandari	Burseraceae	B-2
23.	*Couroupita guianensis* Aubl.	Lecythidaceae	B-2
24.	*Crataeva magna* (Lour.) DC	Capparaceae	B-2
25.	*Delonix regia* (Boj. ex Hook.) Raf.	Caesalpiniaceae	B-2, B-4
26	*Dillenia indica* L.	Dilleniaceae	B-2,
27.	*Diospyros melanoxylon* Roxb.	Ebenaceae	B-2
28.	*Elaeis guineensis* Jacq.	Arecaceae	B-4
29.	*Eucalyptus citrodora* Hook.	Myrtaceae	B-2

30.	*Ficus benghalensis* L. var.*benghalensis*	Moraceae	B-2, B-4
31.	*Ficus elastica* L.	Moraceae	B-2
32.	*Ficus racemosa* L.	Moraceae	B-4
33.	*Ficus religiosa* L.	Moraceae	B-2, B-4
34.	*Gliricidia sepium*(Jacq.) Walp.	Fabaceae	B-2
35.	*Gardenia gummifera* L.f.	Rubiaceae	B-2
36.	*Gmelina arborea* Roxb.	Verbenaceae	B-3
37.	*Haldina cordifolia* (Roxb.) Ridsale	Rubiaceae	B-2
38.	*Helictres isora* L.	Sterculiaceae	B-4
39.	*Hibiscus tiliaceus* L.	Malvaceae	B-2
40.	*Hylandia dockrillii*Airy Shaw	Euphorbiaceae	B-2
41.	*Lagerstroemia speciosa* (L.) Pers.	Lythraceae	B-1, B-2
42.	*Lannea coromandelica*(Houtt.) Merr.	Anacardiaceae	B-2
43.	*Leucaena leucocephala* (Lam.) de Wit	Fabaceae	B-2, B-3
44.	*Licuala peltata Rooxb*.ex Buch.-Ham.	Arecaceae	B-2
45.	*Limonia acidissima* L.	Rutaceae	B-2
46.	*Livistona chinensis* (Jacq.) R.Br.ex Mart.	Arecaceae	B-2
47.	*Macarnga peltata* (Roxb.)Muell-Arg.	Euphorbiaceae	B-2
48.	*Magnolia champaca*(L.) Baill. ex Pierre	Magnoliaceae	B-2
49.	*Mangifera indica* L.	Anacardiaceae	B-1, B-2, B-3,B-4
50.	*Manilkara zapota*(L.) P.Royen	Sapotaceae	B-1
51.	*Melaleuca citrine* (Curtis) Dum.Cours.	Lythraceae	B-2
52.	*Mesua ferea* L.	Clusiaceae	B-2
53.	*Millettia pinnata* (L.) Panigrahi	Fabaceae	B-2,B-3
54.	*Millingtonia hortensis* L.f.	Bignoniaceae	B-2
55.	*Mimusops elengi* L.	Sapotaceae	B-2, B-3
56.	*Mitragyna parviflora* (Roxb.) Korth	Rubiaceae	B-3
57.	*Morinda pubescens* Sm.	Rubiaceae	B-2, B-3
58.	*Moringa oleifera* Lam.	Moringaceae	B-2
59.	*Muntingia calabura* L.	Muntingiaceae	B-1, B-2
60.	*Murraya koengii* (L.) Sprenge	Rutaceae	B-2
61.	*Murraya paniculata*(L.) Jack	Rutaceae	B-1,B-2,B-3
62.	*Neolamarckia cadamba* (Roxb.) Bosser	Rubiaceae	B-1,B-2
63.	*Nyctanthes arbor-tristis* L.	Oleaceae	B-1, B-2, B-3,B-4
64.	*Olea europaea* L.	Oleaceae	B-2

65.	*Peltophorum pterocarpum* (DC.) K.Heyne	Caesalpiniaceae	B-2, B-4
66.	*Phoenix sylvestris* (L.) Roxb	Arecaceae	B-3
67.	*Phyllanthus acidus* (L.) Skeels	Euphorbiaceae	B-2
68.	*Phyllanthus emblica* L.	Euphorbiaceae	B-2
69.	*Pimenta dioica* (L.)Merr.	Myrtaceae	B-2
70.	*Plumeria obtuse* L.	Apocynaceae	B-4
71.	*Plumeria rubra* L.	Apocynaceae	B-1, B-2, B-3,B-4
72.	*Polyalthia longifolia* Sonn.	Annonaceae	B-1, B-2, B-3,B-4
73.	*Polyalthia suberosa* (Roxb.) Thwaites	Annonaceae	B-1
74.	*Prosopis cineraria* (L.) Druce	Mimosaceae	B-2
75.	*Psidium guajava* L.	Myrtaceae	B-1, B-2
76.	*Pterocarpus santalinus* L.f.	Fabaceae	B-2
77.	*Pterospermum acerifolium* (L.) Willd.	Sterculiaceae	B-2
78.	*Punica granatum* L.	Punicaceae	B-2
79.	*Ravenala madagascariensis* Sonn.	Strelitziaceae	B-2
80.	*Roystonea regia* (Kunth) O.F.Cook	Arecaceae	B-1, B-2
81.	*Sambucus canadensis* L.	Adoxaceae	B-2
82.	*Santalum album* L.	Santalaceae	B-2
83.	*Saraca asoca* (Roxb.) Willd.	Caesalpiniaceae	B-2
84.	*Senna auricualata* (L.) Roxb.	Caesalpiniaceae	B-2
85.	*Senna siamea* (Lam.) H.S. Irwin & Barneby	Caesalpiniaceae	B-2
86.	*Sesbania grandiflora* (L.) Poiret	Fabaceae	B-4
87.	*Simarouba glauca* DC.	Simaroubaceae	B-2, B-4
88.	*Spathodea campanulata* P. Beauv.	Bignoniaceae	B-2
89.	*Spondias pinnata* (L.f.) Kurz	Anacardiaceae	B-2
90.	*Streblus asper* Lour.	Moraceae	B-2
91.	*Syzygium caryophyllifolium* (Lam.) DC.	Myrtaceae	B-1, B-2
92.	*Syzygium cumini*(L.)Skeels	Myrtaceae	B-2
93.	*Syzygium jambos* (L.) Alston	Myrtaceae	B-2
94.	*Syzygium samarhagense* (Bl.) Merr. &Perr.	Myrtaceae	B-2
95.	*Tamarindus indica* L.	Caesalpiniaceae	B-2
96.	*Tectona grandis* L.f.	Verbenaceae	B-2
97.	*Thespesia populnea* (L.) Sol. ex Corrêa	Malvaceae	B-4

98.	*Terminalia arjuna* (Roxb.) Wight & Arn.	Combretaceae	B-1
99.	*Terminalia bellerica* (Gaertn.) Roxb.	Combretaceae	B-1
100.	*Terminalia catappa* L.	Combretaceae	B-2
101.	*Terminalia chebula* Retz.	Combretaceae	B-1
102.	*Ziziphus mauritiana* Lam.	Rhamnaceae	B-1, B-2, B-3,B-4
SHRUB			
103.	*Acalypha wilkesiana* Mull.	Euphorbiaceae	B-2
104.	*Adenium obesum* (Forssk.) Roem. & Schult	Apocynaceae	B-2
105.	*Agave Americana* L.	Agavaceae	B-2
106.	*Agave salmiana* Otto ex Salm-Dyck	Asparagaceae	B-2
107.	*Allamanda schottii* Hook.	Apocynaceae	B-2
108.	*Arachnothryx leucophylla* (Kunth) Planch	Rubiacceae	B-2
109.	*Aucuba japonica* Thunb.	Garryaceae	B-2
110.	*Bougainvillea spectabilis* Willd.	Nyctaginaceae	B-2
111.	*Caesalpinia pulcherrima* (L.) Sw.	Caesalpiniaceae	B-2
112.	*Cajanus cajan* (L.)Millsp.	Fabaceae	B-4
113.	*Calliandra haematocephala* Hassk.	Mimosaceae	B-3
114.	*Calotropis gigantea* (Ait.) R.Br	Asclepiadaceae	B-1, B-2, B-3,B-4
115.	*Carica papaya* L.	Caricaceae	B-2, B-3
116.	*Carissa spinarum* L.	Apocynaceae	B-3
117.	*Cascabela thevetia* (L.)Lippold	Apocynaceae	B-2
118.	*Cestrum nocturnum* L.	Solanaceae	B-2
119.	*Chromolaena odorata* (L.) R. King & H. Robins	Asteraceae	B-1, B-2, B-3,B-4
120.	*Citrus aurantifolia* (Christm.) Swingle	Rutaceae	B-2
121.	*Citrus grandis*(L.) Osbeck	Rutaceae	B-2
122.	*Clerodendrum indicum* (L.) Kuntze	Verbenaceae	B-2
123.	*Clerodendrum inerme* (L.) Gaertn.	Verbenaceae	B-2,B-4
124.	*Clerodendrum viscosum* Vent.	Verbenaceae	B-2,B-4
125.	*Codiaeum variegatum* (L.) Juss. A.Rich.	Euphorbiaceae	B-2
126.	*Coprosma repens*	Rubiaceae	B-2
127.	*Cordyline fruticose* (L.) A.Chev. (L.)Nees.	Agavaceae	B-2
128.	*Crossandra infundibuliformis*	Acanthaceae	B-2
129.	*Crotalaria spectabilis* Roth	Fabaceae	B-2

130	*Cryptostegia grandiflora* R.Br.	Apocynaceae	B-1
131.	*Cuphea hyssopifolia* Kunth	Lythraceae	B-2
132.	*Desmodium pulchellum* (L.)Benth.	Fabaceae	B-4
133.	*Dracaena marginate* Lam. 'tricolor'	Agavaceae	B-2
134.	*Dracena reflexa* Lam.	Agavaceae	B-2
135.	*Dracaena sanderiana* Mast.	Asparagaceae	B-2
136.	*Duranta repens* L.	Verbenaceae	B-2
137.	*Dypsis lutescens* (H.Wendl.) Beentje & J.Dransf	Arecaceae	B-2
138.	*Euphorbia milii* Des Moul.	Euphorbiaceae	B-2
139.	*Euphorbia pulcherrima* Willd. ex Klotzsch	Euphorbiaceae	B-2
140.	*Euphorbia tithymiloides* L.	Euphorbiaceae	B-2
141.	*Fargesia stricta* Hsueh & C. M. Hui, Bull.	Poaceae	B-2
142.	*Flacourtia jangomas* (Lour.)Raeusch.	Salicaceae	B-4
143.	*Gardenia carinata* Wall. ex Roxb.	Rubiaceae	B-1
144.	*Gardenia jasminoides* J.Ellis	Rubiaceae	B-2
145.	*Glycosmis pentaphylla* (Retz.) DC.	Rutaceae	B-1,B-4
146.	*Graptophyllum pictum* (L.) Griff.	Acanthaceae	B-2
147.	*Hamelia patens* Jacq.	Rubiaceae	B-2
148.	*Hibiscus mutabilis* L.	Malvaceae	B-1
149.	*Hibiscus rosa-sinensis* L.	Malvaceae	B-1
150.	*Hibiscus schizopetalus* (Mast.)Hook.f.	Malvaceae	B-1, B-2
151.	*Hypoestes phyllostachya* Baker	Acanthaceae	B-2
152.	*Impatiens glandulifera* Royle	Balsaminaceae	B-2
153.	*Ipomoea carnea* Jacq.	Convolvulaceae	B-1,B-4
154.	*Ixora coccinea* L.	Rubiaceae	B-2
155.	*Jasminum auriculatum* Vahl	Oleaceae	B-2
156.	*Jasminum sambac* (L.) Ait.	Oleaceae	B-2
157.	*Jatropha gossypifolia* L.	Euphorbiaceae	B-2
158.	*Jatropha integerrima* Jacq.	Euphorbiaceae	B-2
159.	*Justicia adhatoda* L.	Acanthaceae	B-2
160.	*Justicia gendarussa* Brum.f.	Acanthaceae	B-2 , B-4
161.	*Kopsia fruticosa* (Roxb.)A.DC.	apocynaceae	B-2
162.	*Lagerstroemia indica* (L.) Pers.	lythraceae	b-2
163.	*Lantana camara* L. var. aculeata (L.) Mold	verbenaceae	b-2

164.	*Lawsonia inermis* L.	lythraceae	b-2
165.	*Loropetalum chinense* (R.Br.)Oliv. var. chinense	hamamelidaceae	b-2
166.	*Malpighia coccigera* L.	malpighiaceae	B-2
167.	*Malvaviscus arboreus* Cav.	malvaceae	B-2
168.	*Melastoma malbathricum* L.	melastomataceae	B-2
169.	*Mussaenda frondosa* L.	rubiaceae	B-2
170.	*Mussaenda phillipica* A.Rich.	rubiaceae	B-2
171.	*Nerium oleander* L.	apocynaceae	B-2
172.	*Ocimum basilicum* L.	lamiaceae	B-2
173.	*Ocimum gratissimum* L.	lamiaceae	B-2
174.	*Ocimum kilimandscharicum* Guerke	lamiaceae	B-2
175.	*Ocimum sanctum* L.	lamiaceae	B-1, B-2
176.	*Opuntia stricta* (Haw.) Haw. var. dillenii (Ker-Gawl.) Benson	cactaceae	B-2
177.	*Pereskia bleo* (Kunth)DC.	cactaceae	B-2
178.	*Phoenix loureiroi* Kunth	arecaceae	B-2
179.	*Phyllanthus myrtifolius* (Wight)Muller	euphorbiaceae	B-2
180.	*Plumbago auriculata* Lam.	plumbaginaceae	B-2
181.	*Polyscias filicifoliam* (C.Moore ex E.Fourn.) L.H.Bailey	araliaceae	B-2
182.	*Rauvolfia serpentina* (L.) Benth. ex Kurz	apocynaceae	B-2
183.	*Rauvolfia tetraphylla* L.	apocynaceae	B-2
184.	*Rhapis excelsa* (Thunb.) A. Henry	arecaceae	B-2
185.	*Riccinus communis* L.	euphorbiaceae	B-2
186.	*Rosa alba* L.	rosaceae	B-2
187.	*Rosa centifolia* L	rosaceae	B-2
188.	*Rosa chinenesis* Jacquin	rosaceae	B-2
189.	*Rosa damascina* Miller	rosaceae	B-2
190.	*Rosa fortuneana* Lindley	rosaceae	B-2
191.	*Rosa gallica* L.var.complicata	rosaceae	B-2
192.	*Rosa gallica* var. officinalis	rosaceae	B-2
193.	*Rosa indica* L.	rosaceae	B-2
194.	*Rosa odorata* (Andr.)Sweet var. odorata	rosaceae	B-2
195.	*Sauropus androgynus* (L.) Merr.	euphorbiaceae	B-2
196.	*Solanum torvum* Sw.	solanaceae	B-2, B-4

197.	*Sterblus taxoides* (Roth)Kurz	Moraceae	B-2
198.	*Tabernaemontana divaricata* (L.) R.Br. ex Roem. & Schult.cv.plena	apocynaceae	B-2
199.	*Tecoma stans* (L.) Kunth.	bignoniaceae	B-1, B-2
200.	*Thunbergia erecta* (Benth.)T.Anderson	acanthaceae	B-1, B-2
201.	*Vitex negundo* L.	verbenaceae	B-2
202.	*Wrightia antidysenterica* (L.)R.Br.	apocynaceae	B-2
203.	*Ziziphus oenoplia* (L.) Mill.	rhamnaceae	B-4
HERB			
204.	*Abelmoschus esculentus* (L.) Moench	Malvaceae	B-1, B-2
205.	*Abelmoschus manihot* (L.) Medic subsp. tetraphyllus	malvaceae	B-4
206.	*Abelmoschus moschatus* Medic.	malvaceae	B-1, B-4
207.	*Abutilon indicum* (L.) Sweet	malvaceae	B-1, B-2, B-3,B-4
208.	*Acalypha indica* L.	euphorbiaceae	B-1, B-2, B-3,B-44
209.	*Achyranthes aspera* L.	amaranthacea	B-1.B-2,B-3,B-4
210.	*Acorus calamus* L.	araceae	B-2
211.	*Aerva javanica* (Burm.f.) Shult.	amaranthacea	B-4
212.	*Aerva lanata* (L.) Juss.ex Schultes.	amaranthacea	B-1.B-2,B-3,B-4
213.	*Aerva sanguinolenta* (L.) BI.	amaranthacea	B-2
214.	*Aeschynomene aspera* L.	fabaceae	B-3,B-4
215.	*Aeschynomene indica* L.	fabaceae	B-1,B-4
216.	*Ageratum conyzoides* L.	asteraceae	B-1,B-2,B-3,B-4
217.	*Allmania nodiflora* (L.) R.Br. ex Wt.	amaranthacea	B-1,B-3,B-4
218.	*Alocasta macrorrhizos* (L.) G.Don	araceae	B-4
219.	*Aloe vera* (L.) Burm.f.	liliaceae	B-1,B-2
220.	*Alpinia galanga* (L.) Willd.	zingiberaceae	B-2
221.	*Alpinia nutans* K.Schum.	zingiberaceae	B-2
222.	*Alpinia purpurata* K.Schum.	zingiberaceae	B-2
223.	*Alternanthera bettzickiana* (Regel) G. Nicholson	amaranthacea	B-2
224.	*Alternanthera paronychioides* St.	amaranthacea	B-1,B-2,B-3,B-4
225.	*Alternanthera philoxeroides* (C. Martius) Grisebach	amaranthacea	B-1,B-2,B-3,B-4
226.	*Alternanthera sessilis* (L.) R.Br. ex DC.	Amaranthacea	B-1,B-2,B-3,B-4
227.	*Alysicarpus vaginalis* (L.) DC. var.	fabaceae	B-1,B-2,B-3,B-4

	nummularifolius Miq.		
228.	*Amaranthus caudatus* L.	amaranthacea	B-2
229.	*Amaranthus spinosus* L	amaranthacea	B-1.B-2,B-3,B-4
230.	*Amaranthus tricolor* L.	amaranthacea	B-1,B-4
231.	*Amaranthus viridis* L.	amaranthacea	B-1,B-2,B-3,B-4
232.	*Ammannia baccifera* L.	lythraceae	B-1.B-2,B-3,B-4
233.	*Ammannia multiflora* Roxb.	lythraceae	B-4
234.	*Ananas comosus* (L.)Merr.	bromeliaceae	B-2
235.	*Andrographis paniculata* (Brum.f.) Wall. ex Nees	acanthaceae	B-1,B-2,B-3,B-4
236.	*Angelonia salicarifolia* Humb.&Bonpl.	scrophulariaceae	B-2
237.	*Anisochilus carnosus* (L.f.) Wall.	lamiaceae	B-1,B-3
238.	*Anisomeles indica* (L.) Kuntze	lamiaceae	B-1, B-4
239.	*Argemone mexicana* L.	papaveraceae	B-1.B-2,B-3,B-4
240.	*Artemisia absinthium* L.	asparaceae	B-2
241.	*Asparagus densiflorus* (Kunth)Jessop	asparaceae	B-2
242.	*Aster indamellus* Griers.	asteraceae	B-2
243.	*Asystasia gangetica* (L.) T. Anderson	acanthaceae	B-2
244.	*Barleria cristata* L.	acanthaceae	B-4
245.	*Barleria prionitis* L.	acanthaceae	B-1,B-3,B-4
246.	*Bassia scoparia* (L.) Schrad.	amaranthacea	B-2
247.	*Biophytum sensitivum* (L.) DC.	oxalidaceae	B-1,B-2,B-3,B-4
248.	*Blepharts maderaspatensis* (L.) Heyne ex Roth	acanthaceae	B-1,B-2,B-3,B-4
249.	*Blumea lacera* (Burm.f.) DC.	asteraceae	B-1.B-2,B-3,B-4
250.	*Boerhavia diffusa* L.	nyctaginaceae	B-1.B-2,B-3,B-4
251.	*Brassica campestris* L.	brassicaceae	B-1,B-2,B-3
252.	*Brassica napus* L var. glauca (Roxb.) Schulz	brassicaceae	B-2
253.	*Brassica oleracea* L. var.capitata	brassicaceae	B-2
254.	*Brassica oleracea* L. var.oleracea	brassicaceae	B-2
255.	*Caladium bicolor* (Aiton) Vent	araceae	B-2
256.	*Canna indica* L.	cannaceae	B-2
257.	*Capsicum annum* L.	solanaceae	B-2
258.	*Catharanthus roseus* (L.) G.Don	apocynaceae	B-1,B-2,B-3,B-4
259.	*Celosia argentea* L.	amaranthacea	B-2

260.	*Celosia cristata* L.	amaranthacea	B-2
261.	*Celosia argentea* var. plumosa	amaranthacea	B-2
262.	*Centella asiatica* (L.) Urban	apiaceae	B-2
263.	*Chamaecostus cuspidatus* (Nees & Mart.) C.Specht & D.W. Stev.	costaceae	B-2
264.	*Chenopodium album* L.	chenopodiaceae	B-4
265.	*Chrozophora rottleri* (Geisel.) Juss.	euphorbiaceae	B-3,B-4
266.	*Chrysanthemum cinerariifolium* (Trev.) Vis.	asteraceae	B-2
267.	*Cleome rutidosperna* DC.	capparaceae	B-1,B-2,B-3,B-4
268.	*Cleome viscosa* L.	capparaceae	B-1,B-2,B-3,B-4
269.	*Coldenia procumbens* L.	boraginaceae	B-1,B-2,B-3,B-4
270.	*Colocasia esculenta* (L.) Schott	araceae	B-4
271.	*Commelina benghalensis* L.	commelinaceae	B-1,B-2,B-3,B-4
272.	*Commelina erecta* L.	commelinaceae	B-1,B-2,B-3,B-4
273.	*Commelina longifolia* Lam.	commelinaceae	B-4
274.	*Commelina paludosa* Blume	commelinaceae	B-3
275.	*Coriandrum sativum* L.	apiaceae	B-2
276.	*Cosmos caudatus* Kunth	asteraceae	B-3,B-4
277.	*Costus speciosus* (Koenig) Sm.	costaceae	B-4
278.	*Crinum astaticum* L.	liliaceae	B-2
279.	*Crotalaria pallida* Ait.	Fabaceae	B-1,3-2,B-3,B4
280.	*Crotalaria prostrata* L	Fabaceae	B-4
281.	*Crotalaria verrucosa* L.	Fabaceae	B-4
282.	*Croton bonplandianus* Baill	Fabaceae	B-1,B-2.B-3.B-4
283.	*Curcuma amada* Roxb.	Zingiberaceae	B-1,B-2,B-3,B-4
284.	*Curcuma longa* L.	Zingiberaceae	B-2
285.	*Curcuma zedoaria* (Christm.)Rose.	Zingiberaceae	B-2
286.	*Cvanotis cristata* (L.) D.Don	Commelinaceae	B-2,B-4
287.	*Cyanotis tuberosa* (Roxb.)Schult.&Schult.f	Commelinaceae	B-2,B-4
288.	*Dentella repens* (L.) J.R. & G. Forst. var. repens	Rubiaceae	B-1,B-2,B-3,B-4
289.	*Desmodium gangeticum* (L.) DC.	Fabaceae	B-2
290.	*Desmodium triflorum* (L.) DC.	Fabaceae	B-1,B-2,B-3,B-4
291.	*Dicliptera bupleuroides* Nees	Acanthaceae	B-1,B-2,B-3,B-4

292.	*Digera muricata* (L.) Mart	Amaranthaceae	B-1,B-2
293.	*Dipteracanthus prostrates* (Poir.) Nees	Acanthaceac	B-1,B-2,B-3,B-4
294.	*Eclipta prostrata* (L.) L.	Asteraceae	B-1,B-2,B-3,B-4
295.	*Emilia sonchifolia* (L.) DC.	Asteraceae	B-1,B-2,B-3,B-4
296.	*Eranthemum capense* L.	Acanthaceae	B-3,B-4
297.	*Eryngium foetidum* L.	Apiaccac	B-1,B-2,B-3,B-4
298.	*Euphorbia heterophylla* L.	Euphorbiaceae	B-3,B-4
299.	*Euphorbia hirta* L.	Euphorbiaceae	B-1,B-2,B-3,B-4
300.	*Euphorbia indica* Lam	Euphorbiaceae	B-2
301.	*Euphorbia rosea* Retz.	Euphorbiaceae	B-1,B-3
302.	*Euphorbia serpens* H.B.K	Euphorbiaceae	B-1, B-4
303.	*Euphorbia thymifolia* L.	Euphorbiaceae	B-1,B-2,B-3,B-4
304.	*Evolvulus alsinoides* (L.) L.	Convolvulaceae	B-1,B-3,B-4
305.	*Evolvulus nummularius* (L.) L.	Convolvulaceae	B-1,B-2,B-3,B-4
306.	*Evovulus sericeus* Sw.	Convolvulaceae	B-3
307.	*Foeniculuem vulgare* L.	Apiaceae	B-2,B-3
308.	*Gaillardia aristata* Pursh	Asteraceae	B-2
309.	*Gaillardia grandiflora* Hort	Asteraceae	B-2
310.	*Glinus oppositifolius* (L.) A.DC.	Molluginaceae	B-1,B-2,B-3,B-4
311.	*Globba marantina* L.	Zingiberaceae	B-2
312.	*Gnaphalium polycaulon* Pers.	Asteraceae	B-1,B-2,B-3,B-4
313.	*Gomphrena celosioides* Mart,	Amaranthaceae	B-1,B-2,B-3,B-4
314.	*Gomphrena globosa* L.	Amaranthaceae	B-2
315.	*Grangea maderaspatana* (L.) Poir.	Asteraceae	B-1,B-2,B-3,B-4
316.	*Hedyotis bracheata* Miq.ex Hook.f.	Rubiaceae	B-1,B-3,B-4
317.	*Hedvotis corymbosa* (L.) lam.	Rubiaceae	B-1,B-2,B-3,B-4
318.	*Hedyotis puberula* (G.Don)Thw.	Rubiaceae	B-3
319.	*Heliconia latispatha* Benth.	Heliconiaceae	B-2
320.	*Heliconia rostrata* Ruiz & Pavon	Heliconiaceae	B-2
321.	*Heliotropium indicum* L.	Boraginaceae	B-1,B-2,B-3,B-4
322.	*Heliotropium strigosum* Willd.	Boraginaceae	B-1,B-4
323.	*Heliotropium supinum* L.	Boraginaceae	B-1,B-4
324.	*Hibiscus canabinus* L	Malvaceae	B-1
325.	*Hippeastrum amaryllis* (L.)Herb.	Amaryllidaceae	B-2
326.	*Hippeastrum reginae* (L.)Herb.	Amaryllidaceae	B-2

327.	*Ilybanthus enneaspermus* (L.) F.y. Muell.	Violaceae	B-1,B-2,B-3,B-4
328.	*Hygrophila auriculata* Schumach.	Acanthaceae	B-1,B-3,B-4
329.	*Hyptis suaveolens* (L.) Poit.	Lamiaccac	B-1,B-2,B-3,B-4
330.	*Impatiens balsamina* L.	Balsaminaceae	B-2
331.	*Indigofera linnaei* Ali	Fabaceae	B-1,B-2,B-3,B-4
332.	*Indoneesiella echioides* (L.) Sreemadh.	Acanthaceae	B-1,B-2,B-3,B-4
333.	*Justicia betonica* L.	Acanthaceae	B-3,B-4
334.	*Justicia japonica* Thunb.	Acanthaccac	B-2,B-3
335.	*Justicia quinqueangularis* Koen. ex Roxb.	Acanthaceae	B-1, B-4
336.	*Kalanchoe blossfeldiana* Poelln.	Crassulaceae	B-2
337.	*Kalanchoe pinnata* (Lam.) Pers.	Crassulaccae	B-2
338.	*Laportea interrupta* (L.) Chew	Urticaceae	B-1,B-2,B-3,B-4
339.	*Leucas aspera* (Willd.) Link	Lamiaceae	B-3,B-4
340.	*Leucas cephalotes (*Roth) Spreng.	Lamiaceae	B-1,B-4
341.	*Leucas indica* (L.) R.Br.cx Vatke	Lamiaceae	B-4
342.	*Lindernia ciliata* (Colsm.)Pennell	Scrophulariaceae	B-1,B-2,B-3,B-4
343.	*Lindshot.onaviyo* uero	Scrophulariaceae	B-1,B-2,B-3,B-4
344.	*Lippia javanica* (Burm.f.)Spreng.	Verbenacea	B-4
345.	*Lobelia alsinoides* Lam.	Lobeliaceae	B-1,B-4
346.	*Lobularia maritima* (L.)Desv.	Brassicaceae	B-3
347.	*Ludwigia perennis* L.	Onagraceae	B-1,B-3,B-4
348.	*Malachra capitata* (L.)L.	Malvaceae	B-3
349.	*Maranta arundinacea* L.	Marantaceae	B-2
350.	*Martynia annua* L.	Martyniaceae	B-4
351.	*Mazus pumilus* (Brum.f.) Steenis	Scrophulariaceae	B-2,B-4
352.	*Mecardonia procumbens* (Mill.) Small	Scrophulariaceae	B-1,B-3,B-4
353.	*Melochia corchorifolia* L.	Sterculiaceae	B-3,B-4
354.	*Mentha arvensis* L.	Lamiaceae	B-2
355.	*Mentha piperita* L.	Lamiaceae	B-2
356.	*Mentha spicata* L.	Lamiaceae	B-2
357.	*Merremia hederacea* (Burm.f.)Hall.f.	Convolvulaceae	B-4
357.	*Microccocca mercurialis* (L.) Benth.	Euphorbiaceae	B-1,B-2,B-3,B-4
358.	*Mimosa pudica* L.	Mimosaceae	B-1,B-2,B-3,B-4
359.	*Mirabilis jalapa* L.	Nyctaginaceae	B-2

360.	*Mitracarpus villosus* (Sw.) DC.	Rubiaceae	B-1,B-2,B-3,B-4
361.	*Mollugo pentaphylla* L.	Molluginaceae	B-1,B-2,B-3,B-4
362.	*Murdannia nodiflora* (L.) Brenan	Commelinaceae	B-1,B-2,B-3,B-4
363.	*Murdannia spirata* (L.) Brueck.	Commelinaceae	B-1,B-3,B-4
364.	*Musa acuminata* var. rubra	Musaccae	B-2
365.	*Musa paradisiaca* L.	Musaceae	B-2
366.	*Ocimum canum* Sims.	Lamiaceae	B-4
367.	*Origanum majorana* L.	Lamiaceae	B-2
368.	*Oxalis corniculata* L.	Oxalidaceae	B-1,B-2,B-3,B-4
369.	*Oxalis debilis* Kunth	Oxalidaceae	B-2
370.	*Oxalis triangularis* A.St.-Hil.	Oxalidaceae	B-2
371.	*Panadnus amarylifolius* Roxb.	Pandanaceae	B-2
372.	*Parthenium hysterophorus* L.	Asteraceae	B-1,B-2,B-3,B-4
373.	*Peperomia pellucida* Kunth	Piperaceae	B-1,B-3,B-4
375.	*Peristrophe paniculata* (Forssk.) Brummitt	Acanthaceae	B-1,B-3,B-4
376.	*Persicaria virginiana* (L.)Gaertn.	Polygonaceae	B-2
377.	*Petunia hybrid* Juss.	Solanaceae	B-2
378.	*Phaulopsis imbricata* (Forssk.) Sw.	Acanthaceae	B-3,B-4
379.	*Phyla nodiflora* (L.) Greene	Verbenaceae	B-4
380.	*Phyllanthus fraternus* Webster	Euphorbiaceae	B-1,B-2,B-3,B-4
381.	*Phyllanthus virgatus* Forst.f	Euphorbiaceae	B-1,B-3,B-4
382.	*Physalis longifolia* Nutt. var *longifolia*	Solanaceae	B-3
383.	*Physalis minima* L.	Solanaceae	B-4
384.	*Pilea microphylla* (L.) Liebm.	Urticaceae	B-1,B-2,B-3,B-4
385.	*Plectranthus amboinicus* (Lour.)Spreng	Lamiaceae	B-2
386.	*Plectranthus barbatus* Andr.	Lamiaceae	B-2
387.	*Plectranthus scutellarioides* (L.) R.Br.	Lamiaceae	B-2
388.	*Plumbago indica* L.	Plumbaginaceae	B-2,B-4
389.	*Polygala arvensis* L.	Polygalaceae	B-3,B-4
390.	*Polygonum barbatum* L.	Polygonaceae	B-3,B-4
391.	*Portulaca oleracea* L. var. oleracea	Portulaceae	B-1,B-2,B-3,B-4
392.	*Portulaca pilosa* L. subsp. grandiflora (Hook.) Geesink	Portulaceae	B-2
393.	*Portulaca quadrifida* L.	Portulaceae	B-1,B-2,B-3,B-4

394.	*Portulaca umbraticola* Kunth	Portulaceae	B-2
395.	*Ruellia brittoniana* Leonard	Acanthaceae	B-2
396.	*Ruellia tuberosa* L.	Acanthaceae	B-1,B-3
397.	*Rungia pectinata* (L.) Nees	Acanthaceae	B-1,B-2,B-3,B-4
398.	*Sansevieria cylindrica* Bojer	Asparagceae	B-2
399.	*Sansevieria roxburghiana* Schult. & Schult.f.	Asparagceae	B-2
400.	*Sansevieria trifasciata* Prain.	Asparagceae	B-2
401.	*Scadoxus multiflorus* (Martyn) Raf.	Amaryllidaceae	B-2
402.	*Scoparia dulcis* L.	Scrophulariaceae	B-1,B-2,B-3,B-4
403.	*Sebastiania chamalea* (L.) Muell.-Arg.	Euphorbiaceae	B-2,B-4
404.	*Senna occidentalis* (L.) Link	Caesalpiniaceae	B-2,B-4
405.	*Sesamum orientale* L.	Pedaliaceae	B-3,B-4
406.	*Sida acuta* Burm.f.	Malvaceae	B-1,B-2,B-3,B-4
407.	*Sida cordata* (Burm.f.) Borssum	Malvaceae	B-1,B-3,B-4
408.	*Sida cordifolia* L.	Malvaceae	B-3,B-4
409.	*Sida rhombifolia* L. subsp. rhombifolia var. rhombifolia	Malvaceae	B-4
410.	*Solanum lycopersicon* L.	Solanaceae	B-2
411.	*Solanum melongena* L.	Solanaceae	B-2
412.	*Solanum nigrum* L.	Solanaceae	B-1,B-2,B-3,B -4
413.	*Solanum tuberosum* L.	Solanaceae	B-2
414.	*Solanum virginianum* L.	Solanaceae	B-4
415.	*Spathiphyllum cochlearispathum* (Liebm.) Engl.	Araceae	B-2
416.	*Spermacoce articularis* L.f.	Rubiaceae	B-1,3-2,B-3,B-4
417.	*Spermacocoe exilis* (L.O.Williams)C.D. Adams	Rubiaceae	B-1,B-2,B-3,B-4
418.	*Sphaeranthus indicus* L.	Asteraceae	B-3,B-4
419.	*Spilanthes calva* DC.	Asteraceae	B-3,B-4
420.	*Spilanthes paniculata* Wall. ex DC.	Asteraceae	B-1,B-2.B-3,B-4
421.	*Synedrella nodiflora* (L.) Gaertn.	Asteraceae	B-1,B-2.B-3,B-4
422.	*Tagetes patula* L.	Asteraceae	B-2
423.	*Talinum triangulare* (Jacq.) Willd.	Talinaceae	B-2
424.	*Tephrosia purpurea* (L.) Pers. var. purpurea	Fabaceae	B-3,B-4

425.	*Theriophonum minuatum* (Willd.)Bail	Araceae	B-2
426.	*Tithonia diversifolia* (Hemsl)A.Gray	Asteraceae	B-1,B-2
427.	*Tradescantia zebrine* (Schinz)D.R Hunt	Commelinaceae	B-2
428.	*Tribulus terrestris* L.	Zygophyllaceae	B-2,B-4
429.	*Tridax procumbens* L.	Asteraceae	B-1,B-2,B-3,B-4
430.	*Triumfetta pentandra* A.Rich	Sterculiaceae	B-1,B-4
431.	*Triumfetta rhomboidea* Jasq.	Sterculiaceae	B-3,B-4
432.	*Turnera ulmifolia* L.	Turneraceae	B-2
433.	*Uraria picta* (Jacq.)Desv.ex DC.	Fabaceae	B-2
434.	*Urena lobata* L. subsp. sinuata (L.) Borssum var. sinuata	Malvaceae	B-1,B-3,B-4
435.	*Vernonia cinerea* (L.) Less.	Asteraceae	B-1,B-2,B-3,B-4
436.	*Waltheria indica* L. var. indica	Sterculiaceae	B-3,B-4
437.	*Wedelia chinensis* (Osbeck) Merr.	Asteraceae	B-2
438.	*Withania somnifera* (L.)Dunal	Solanaceae	B-2
439.	*Xanthium indicum* Koenig	Asteraceae	B-3,B-4
440.	*Xanthosoma robustum* Schott.	Araceae	B-1
441.	*Zephyranthes candida* (Lindl.)Herb.	Amaryllidaceae	B-2
442.	*Zephyranthes rosea* (Lindl.)	Amaryllidaceae	B-2
443.	*Zinnia elegans* Jack.	Asteraceae	B-2
444.	*Zornia diphylla* (L.) Pers.	Fabaceae	B-3,B-4
445.	*Zornia gibbosa* Spanoghe	Fabaceae	B-3,B-4
HYDROPHYTES			
446.	*Alisma plantago-aquatica* L.	Alismataceae	B-2
447.	*Ceratophyllum demersum* L.	Ceratophyllaccae	B-2
448.	*Eichhornia crassipes* (Mart.) Solms-Laub.	Pontederiaceae	B-4
449.	*Hydrilla verticillata* (L.f.) Royle	Hydrocharitaceae	B-2
450.	*Lemna perpusila* Tor.	Lemnaecae	B-2,B-4
451.	*Monochoria hastata* Solms-Laub.	Pontederiaceae	B-4
452.	*Monochoria vaginalis* (Burm.f.) Presl	Pontederiaceae	B-4
453.	*Nelumbo nucifera* Gaertn.	Nelumbonaceae	B-2
454	*Nuphar pumila* (Timm) DC.	Nymphaeaccae	B-2
455	*Nymphaea mexicana* Zucc.	Nymphaeaccae	B-2
456	*Nymphaea nouchali* Burm.f.	Nymphaeaceae	B-2

457	*Nymphaea pubescens* Willd.	Nymphaeaceae	B-2
458	*Nymphoides hydrophila* (Lour.)Kuntze	Nymphaeaceae	B-2
459	*Nymphoides indica* (L.) Kuntze	Menyanthaceae	B-2
460	*Pistia stratiotes* L.	Araceae	B-4
461	*Potamogeton nodosus* Poir.	Potamogetonaceae	B-2
462	*Spirodela polyrhiza* (L.) Schleiden	Lemnaceae	B-4
463	*Typha angustifolia* L.	Typhaceae	B-2
CLIMBER			
464	*Abrus precatorius* L.	Fabaceae	B-4
465	*Aganosma caryophyllata* (Roxb. ex Sims) G.Don	Apocynaceae	B-2
466	*Allamanda blanchetti* A.DC.	Apocynaceae	B-2
467	*Antigonon leptopus* Hook. & Arn.	Polygonaceae	B-4
468	*Argeyria nervosa* (Burm.f.) Bojer	Convolvulaceae	B-2
469	*Artabotrys hexapetalus* (L.f) Bandari	Annonaceae	B-2
470	*Asparagus racemosus* Willd.	Asparagaceae	B-2
471	*Atylosia scarabaeoides* (L.) Benth.	Fabaceae	B-3, B-4
472	*Basella alba* L.	Basellaceae	B-2
473	*Campsis radicans* Seem.	Bignoniaceae	B-2
474	*Cayratia pedata* Wall.) Gagnep.	Vitaceae	B-3, B-4
475	*Cayratia trifolia* (L.) Domin	Vitaceae	B-1,B-3,B-4
476	*Cissampelos pareira* L.	Menispermaceae	B-2
477	*Cissus quadrangularis* L.	Vitaceae	B-2
478	*Clerodendrum splendens* G.DoN	Verbenaceae	B-2
479	*Clerodendrum thomsoniae* Balf.	Verbenaceae	B-2
480	*Clitoria ternatea* L.	Fabaceac	B-2
481	*Coccinia grandis* (L.) Voigt	Cucurbitaceae	B-3,B-4
482	*Cocculus hirsutus* (L.) Diels	Cucurbitaceae	B-3,B-4
483	*Cucumis melo* L.	Cucurbitaceae	B-2
482	*Cucumis sativus* L.	Cucurbitaceae	B-2
483	*Cucurbita maxima* Duchesne	Cucurbitaceae	B-2
484	*Cuscuta reflexa* Roxb.	Cuscutaceae	B-4
485	*Dioscorea alata* L.	Dioscoreaceae	B-2
486	*Diplocyclos palmatus* (L.) C.Jeffrey	Cucurbitaceae	B-4
487	*Epipremnum aureum* (Linden & André)	Araceae	B-2

	G.S.Bunting		
488	*Ficus pumila* L.	Moraceae	B-2
489	*Gymnema sylvestre* R.Br.	Asclepidaceae	B-2
490	*Hemidesmus indicus* (L.) R.Br. var. indicus	Periplocaceae	B-2,B-3,B-4
491	*Ichnocarpus frutescens* (L.) W.T.Aiton	Apocynaceae	B-2
492	*Ipomoea obscura* Ker.-Gawl.	Convolvulaceae	B-4
493	*Ipomoea pes-tigridis* L.	Convolvulaceae	B-1,B-4
494	*Ipomoea quamoclit* L.	Convolvulaceae	B-3
495	*Ipomoea sepiaria* Koenig ex Roxb.	Convolvulaceae	B-3,B-4
496	*Luffa acutangular* (L.) Roxb.	Cucurbitaceae	B-2
497	*Luffa aegyptiaca* Mill.	Cucurbitaceae	B-4
498	*Mansoa alliacea* Gentry	Bignoniaceae	B-2
499	*Merremia tridentata* (L.) Hall.f. subsp. hastata (Hall.f.) Ooststr.	Convolvulaceae	B-3
500	*Mikania micrantha* Kunth	Asteraceae	B-1,B-3,B-4
501	*Momordica charantia* L.	Cucurbitaceae	B-2
502	*Momordica dioica* Roxb. ex Willd M.Roem.	Cucurbitaceae	B-2
503	*Mukia maderaspatana* (L.)	Cucurbitaceae	B-2
504	*Operculina turpethum* (L.) Silva Manso	Convolvulaceae	B-2
505	*Paederia foetida* L.	Rubiaceae	B-2
506	*Passiflora foetida* L.	Passifloraceae	B-2,B-3
507	*Passiflora incarnata* L	Passifloraceae	B-2
508	*Passiflora vitifolia* Kunth	Passifloraceae	B-2
509	*Pentalinon lutcum* (L.) B.F.Hansen & Wunderlin	Apocynaceae	B-2
510	*Pergularia daemia* (Forssk.) Chiov.	Asclepidaceae	B-4
511	*Petrea volubilis* L.	Verbenaceae	B-2
512	*Philodendron scandens* K. Koch & Sello	Araceae	B-2
513	*Piper betel* L	Piperaceae	B-2
514	*Piper longum* L.	Piperaceae	B-2
515	*Podranea ricasoliana* (Tanf.) Sprague	Bignoniaceae	B-2
516	*Pyrostegia venusta* (Ker.Gawl.)Miers	Bignoniaceae	B-2
517	*Quisqualis indica* L.	Combretaceac	B-2

518	*Rhaphidophora decisirva* (Roxb.) Schott	Araceae	B-2
519	*Stephania japonica* (Thunb.) Miers	Menispermaceae	B-3
520	*Syngonium podophyllum* Schott	Araceae	B-2
521	*Thunbergia fragrans* Roxb.	Acanthaceae	B-1,B-2
522	*Thunbergia grandiflora* (Roxb.ex Rottl.)Roxb.	Acanthaceae	B-2
523	*Tinospora cordifolia* (Thunb.) Miers	Menispermaceae	B-2
524	*Trichosanthes cucumerina* L.	Cucurbitaceae	B-2
525	*Trichosanthes dioica* Roxb.	Cucurbitaceae	B-2
526	*Trichosanthes tricuspidata* Lour.	Cucurbitaceae	B-4
527	*Tylophora indica* (Burm.f.) Merr.	Asclepiadaceae	B-2
528	*Typhonium trilobatum* (L.) Schott	Araceae	B-2
529	*Vernonia elliptica* DC.	Asteraceae	B-1,B-2
530	*Vitis vinifera* L.	Vitaceae	B-2
EPIPHYTES			
531	*Vanda tesselata (*Roxb.) Hook.cx G.Don	Orchidaceae	B-2
532	*Dendrobium ursula* Strenge	Orchidaceae	B-2
GRASS			
533	*Aristida setacea* Rctz.	Poaceae	B-1,B-2,B-3,B -4
534	*Bambusa arundinacea* (Retz.) Willd.	Poaceae	B-2
535	*Bambusa vulgaris* Schrad. Ex J.C.Wendl.	Poaceae	B-2
536	*Bothriochloa pertusa* (L.) A. Camus	Poaceae	B-1,B-2,B-3,B -4
537	*Brachiaria distachya* (L.) Stapf	Poaceae	B-1,B-2,B-3,B -4
538	*Brachiaria mutica* (Forssk.) Stapf	Poaceae	B-4
539	*Brachiaria ramosa* (L.) Stapf	Poaceae	B-1,B-3,B -4
540	*Chloris barbata* Sw.	Poaceae	B-1,B-2,B-3,B -4
541	*Chrysopogon aciculatus* (Retz.) Trin.	Poaceae	B-1,B -4
542	*Cynodon dactylon* (L.) Pers.	Poaceae	B-1,B-2,B-3,B -4
543	*Cyperus brevifolius* (Rottb.) Hassk.	Cyperaceae	B-1,B -4
544	*Cyperus compactus* Retz.	Cyperaceae	B-4
545	*Cyperus difformis* L.	Cyperaceae	B-1,B-3,B -4
546	*Cyperus halpan* L.	Cyperaceae	B-1,B-3
547	*Cyperus imbricatus* Retz.	Cyperaceae	B-4
548	*Cyperus iria* L.	Cyperaceae	B-1,B-4
549	*Cyperus kyllingia* Endl.	Cyperaceae	B-1,B-3,B -4

550	*Cyperus paniceus* (Rottb.) Boeck.	Cyperaceae	B-4
551	*Cyperus pygmaeus* Rotth.	Cyperaceae	B-4
552	*Cyperus rotundus* L. var. rotundus Kem.	Cyperaceae	B-1,B-2,B-3
553	*Cyperus triceps* Endl.	Cyperaceae	B-4
554	*Dactyloctenium aegypticum* (L.) P.Beauv.	Poaceae	B-1,B-2,B-3,B -4
555	*Digitaria abludens* (Roem. & Schult.) Veldk.	Poaceae	B-3
556	*Digitaria ciliaris* (Retz.) Koeler	Poaceae	B-1,B-2,B-3,B -4
557	*Echinochloa colona* (L.) Link	Poaceae	B-1,B-2,B-3,B -4
558	*Eleusine indica (*L.) Gaertn.	Poaceae	B-1,B-2,B-3,B -4
559	*Elusine coracana* (L.)Gaertn	Poaceae	B-2
560	*Eragrostis ciliaris* (L.) R.Br.	Poaceae	B-3
561	*Eragrostis ciliata* Roxb. Nees	Poaceae	B-1,B-2,B-3,B -4
562	*Eragrostis unioloides* (Retz.) Nees ex Steud.	Poaceae	B-1,B-2,B-3,B -4
563	*Eriochloa procera* (Retz.) Hubbard	Poaceae	B-1,B-2,B-3,B -4
564	*Paspalum scrobiculatum* L.	Poaceae	B-2,B-3
565	*Paspalum vaginatum* Sw.	Poaceae	B-1,B-3
567	*Pennisetum pedicellatum* Trin.	Poaceae	B-1,B-3,B -4
568	*Pennisetum purpureum* Schumach	Poaceae	B-3, B-4
569	*Perotis indica* (L.) Kuntz	Poaceae	B-3,B-4
570	*Pogonantherum crinitum* (Thunb.) Kunth	Poaceae	B-2
571	*Sachharum officinarum* L.	Poaceae	B-2
572	*Setaria pumila* (Poir.) Roem. & Schult.	Poaceae	B-1,B-3,B -4
573	*Setaria verticillata (*L.) P.Beauv.	Poaceae	B-1,B -4
574	*Sorghum vulgare* L.	Poaceae	B-2
575	*Zea mays* L.	Poaceae	B-2
GYMNOSPERM			
576	*Araucaria columnaris* (Forst.f.) Hook.	Araucariaceae	B-2
577	*Cycas revoluta* Thunb.	Cycadaceae	B-2
578	*Juniperus communis* L.	Cupressaceae	B-2
579	*Pinus roxburghii* Sargent	Pinaceae	B-2
580	*Podocarpus nerefolius* D.Don	Podocarpaceae	B-2
581	*Platycladus orientalis* (L.) Franco	Cupressaceae	B-2
PTERIDOPHYTES			

582	*Adiantum incisum* Forssk.	Adiantaceae	B-4
583	*Adiantum phillipense* L.	Adiantaceae	B-1,B-2,B-3,B-4
584	*Ampelopteris prolifera* (Retz.) Copel.	Thelypteridaceae	B-2,B-4
585	*Azolla microphylla* Kaulf	Azollaceae	B-4
586	*Ceratopteris thalictroides* (L.) Brongn	Ceratopteridaceae	B-4
587	*Dryopteris cochleata* (D.Don) C.Chr.	Dryopteridaceae	B-2,B-4
588	*Marsilea minuta* L.	Marseliaceae	B-4
589	*Marsilea quadrifolia* L.	Marseliaceae	B-4
590	*Nephrolepis exaltata* (L.) Schott	Nephrolepidaceae	B-2
591	*Phymatosorus membranifolius* (R.Br.)S.G. Lu	Polypodiaceae	B-2
592	*Pteris vittata L.*	Pteridaceae	B-1,B-2,B-3,B-4
593	*Salvinia cuculata Roxb.*	Salviniaceae	B-4
594	*Salvinia molesta D.S. Mitch*	Salviniaceae	B-4
595	*Selaginella ciliaris(Retz.) Spring*	Selaginellaceae	B-4
BRYOPHYTES			
596	*Barbula calycina* Schwägr	Pottiaceae	B-2,B-4
597	*Marchantia polymorpha* L.	Marchantiaceae	B-1,B-4
598	*Riccia beyrichiana* Hampe ex Lehm	Ricciaceae	B-3,B-4
599	*Trichostomum crispulum* Bruch	Pottiaceae	B-2
MUSHROOMS			
600	*Agaricus bisporous* (J.E.Lange) Emil.J.Imbact	Agaricaceae	B-2
601	*Agaricus compestris* L.	Agaricaceae	B-4
602	*Amanita multisquamosa* Peck	Amanitaceae	B-4
603	*Amylostereum laevigatum* (Fr.) Boidin	Amylostereaceae	B-4
604	*Bulgaria inquinans* (Pers.) Fr	Bulgariaceae	B-4
605	*Byssomerulius corium* (Pers.) Parmasto	Irpicaceae	B-4
606	*Chaetoderma luna* (Romell ex D.P. Rogers & H.S. Jacks.) Parmasto	Stereaceae	B-4
607	*Clavaria aurea* Schaeff.	Clavariaceae	B-4
608	*Crinipellis scabella* (Alb. & Schwein.) Murrill	Marasmiaceae	B-4
609	*Dacryopinax spathularia* Schweien & G.W.Martin	Dacrymycetaceae	B-4
610	*Deconia coprophila*(Bull.) P. Karst.	Strophariaceae	B-4

611	*Entoloma unicolar* (Perk) Hesler	Entolomataceae	B-4
612	*Ganoderma lucidum* (Curtis) P. Carst.	Ganotodermaceae	B-4
613	*Lactarius alnicola* A.H. Smith	Russulaceae	B-4
614	*Marasmius rotula* (Scop.) Fr.	Marasmiaceae	B-1
615	*Protostropharia semiglobata* (Batsch) Redhead, Moncalvo & Vilgays	Strophariaceae	B-4
616	*Psilocybe cubensis (*Earle) Singer	Hymenogastraceae	B-1
617	*Terana caerulea* (Lam.) Kuntze R.Heim	Phanerochaetaceae	B-4
618	*Termitomyces eurrhizus* (Berk & Broome)	Lyophyllaceae	B-4
619	*Termitomyces heimii* Natarajan	Lyophyllaceae	B-4
620	*Termitomyces microcarpus* (Berk. & Broome) R. Heim	Lyophyllaceae	B-4
621	*Xylaria longipes* Nitschke	Xylariaceae	B-4
LICHEN			
622	*Chrysothrix chlorina* (Ach.) J.R. Laundon	Chrysothricaceae	B-4
623	*Cryptothecea scripta* G. Thor	Arthoniaceae	B-4
624	*Graphis scripta* (L.) Ach.	Graphidaceae	B-1,B-2,B-3,B-4

REPORT ON FAUNAL DIVERSITY

Our planet has a vast diversity of fauna. They may vary based on symmetry, development, body plans and multitude of other morphological, anatomical characteristics. Based on this, we also did a survey on animal diversity in our own campus of Centurion University of technology and management from 1st December,2020 to 20th December,2020. So, hereby the report of the survey is submitted to the Department of Zoology on 30th December,2020. Following species has been found during survey:

Scientific name: *Canis lupus*
CLASSIFICATION
Kingdom- Animalia
Phylum-Chordata
Class-Mammalia
Order-Carnivora
Family- Canidae
Genus- *Canis*
Species- *lupus*
LOCATION
Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICSThey have powerful muscles, a cardiovascular system that supports both sprinting , endurance and teeth for catching , holding and tearing. Terminal end of the limb supporting the body is formed of various articulated bones and end in a claw

Scientific name: *Capra aegagrus*
CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Artiodactyla
Family- Bovidae
Genus- *Capra*
Species- *aegagrus*
LOCATION
Centurion University of technology and management, Bhubaneswar Campus.
GENERAL CHARACTERISTICS
The body is white, red, brown, black or grey. The domestic goat Capra hircus is an important livestock species in India and other developing countries. Because it provides a good source of meat, milk, fiber, and skin, it is popularly known as the “poor man's cow”. Female goats are referred to as does or nannies, intact males are called bucks or billies, and juvenile goats of both sexes are called kids. Most goats naturally have two horns, of various shapes and sizes depending on the breed. Their horns are made of living bone surrounded by keratin and other proteins, and are used for defense, dominance, and territoriality. Goats have horizontal, slit-shaped pupils. Because goats' irises are usually pale. Both male and female goats have beards.

Scientific name: *Oryctolagus cuniculus*
CLASSIFICATION
Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Lagomorpha
Family: Leporidae
Genus: *Oryctolagus*
Species: *cuniculus*
LOCATION
Centurion University of technology and management, Bhubaneswar Campus.
GENERAL CHARACTERISTICS

These are small furry mammals with short fluffy tail, strong large hind limbs and a pair of long ears. The body is pointed anteriorly and broad posteriorly.They have 4 toes on each hind feat which are long and webbed . They have 2 pairs of sharp incisors , one at the top and another at the bottom.Scientific name: *Branta canadensis*
CLASSIFICATION
Kingdom: Animalia
Phylum: Chordata
Subphylum: Vertebrata
Class : Aves
Order: Anseriformes
Family: Anatidae
Subfamily: Anserinae
Genus: *Branta*
Species*: canadensis*
LOCATION
Centurion University of technology and management, Bhubaneswar Campus
GENERAL CHARACTERISTICS
The goose has a long black neck and head with a white band on its cheeks that runs under its chin like a strap. It has black feet and a light tan body with lighter brown or white under its tail. Canada GooseIts black bill has lamellae, or teeth, around the outside edges that are used as a cutting tool. Males and females look alike, although females are usually a little smaller than the males.

Scientific name- *Felis catus*

CLASSIFICATION

Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Carnivora
Suborder: Feliformia
Family: Felidae
Subfamily: Felinae
Genus*: Felis*
Species- *catus*

LOCATION

Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS

It has a strong flexible body, quick reflexes, sharp teeth and retractable claws adapted to killing small prey. The cat is digitigrade. It walks on the toes, with the bones of the feet making up the lower part of the visible leg.

Scientific name: *Bubulcus ibis*

CLASSIFICATION

Kingdom: Animalia
Phylum: Chordata
Class: Aves
Order: Pelecaniformes
Family: Ardeidae
Genus: *Bubulcus*
Species: *ibis*

LOCATION

Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS

It has a relatively short, thick neck, a sturdy bill, and a hunched posture. The nonbreeding adult has mainly white plumage, a yellow bill, and greyish-yellow legs. During the breeding season, adults of the nominate western subspecies develop orange-buff plumes on the back, breast, and crown and the bill, legs, and irises become bright red for a brief period prior to pairing. The sexes are similar, but the male is marginally larger and has slightly longer breeding plumes than the female; juvenile birds lack coloured plumes and have a black bill.

Scientific name: Argiope aurantia
CLASSIFICATION
Kingdom-Animalia
Phylum- Arthropoda
Class- Arachnida
Order- Araneae
Family-Araneidae
Genus- *Argiope*
Species-*aurantia*
LOCATION
Centurion University of technology and management, Bhubaneswar Campus.
GENERAL CHARACTERISTICS

The spiders bear distinctive black and yellow markings on the abdomen. The yellow garden spider's carapace is lined with silvery hairs and legs are black with varied bands of red orange even yellow. It does not have strong eyesight, so she relies on her ability to sense vibration and changes in air current to detect possible threat. It usually rested on her web facing head down, waiting for a flying insect to become insnared in the sticky silk threads.

Scientific name: *Cornu aspersum*
CLASSIFICATION
Kingdom- Animalia
Phylum- Mollusca
Class- Gastropoda
Family- Helicidae
Genus- *Cornu*
Species- *aspersum*

LOCATION
Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS

The shell is variable in coloring and shade of color, but generally it has a reticulated pattern of dark brown, brownish-golden, or chestnut with yellow stripes, flecks, or streaks (characteristically interrupted brown colour bands). The aperture is large and characteristically oblique, its margin in adults is whitish and reflected.

The body is soft and slimy, brownish-grey, and able to be retracted entirely into the shell, which the animal does when inactive or threatened. When injured or badly irritated the snail produces a defensive froth of mucus that might repel some enemies or

overwhelm aggressive small ants and the like. It has no operculum; during dry or cold weather it seals the aperture of the shell with a thin membrane of dried mucus; the term for such a membrane is *epiphragm*. The epiphragm helps the snail retain moisture and protects it from small predators such as some ants.

Scientific name: *Achantina fulica*

CLASSIFICATION
Kingdom: Animalia
Phylum: Mollusca
Class: Gastropoda
Superfamily: Achatinoidea
Family: Achatinidae
Subfamily: Achatininae
Genus: *Achatina*
Species: *fulica*

LOCATION
Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS
The shell has a conical shape, being about twice as high as it is broad. Either clockwise (dextral) or counter-clockwise (sinistral) directions can be observed in the coiling of the shell, although the dextral cone is the more common. Shell colouration is highly variable, and dependent on diet. Typically, brown is the predominant colour and the shell is banded. The shell is particularly tough and has the highest heavy metal content of any snail species.

Scientific name: *Papilio demoleus*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Papilionidae
Genus: *Papilio*
Species:. *demoleus*

LOCATION
Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS

Papilio demoleus is a common and widespread swallowtail butterfly. The butterfly is also known as the lime butterfly. The lemon butterfly, lime swallowtail, and chequered swallowtail. These common names refer to their host plants, which are usually citrus species such as the cultivated lime. Unlike most swallowtail butterflies, it does not have a prominent tail. The butterfly is a pest and invasive species, found from Asia to Australia. The butterfly has spread to Hispaniola island (Dominican Republic) in the Western Hemisphere, and to Mahé, Seychelles

Scientific name: *Castalius rosimon*
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Lycaenidae
Genus: *Castalius*
Species: *rosimon*

LOCATION
Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS
Antennae, head, thorax and abdomen black, the shafts of the antennae ringed with white, the head between the eyes and behind them white; beneath: the palpi, thorax and abdomen white, the last barred broadly with white on the sides. The female is similar to the male but with the black markings on the upper and undersides broader.

Scientific name: *Maxates coelataria*
CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Lepidoptera
Family- Geometridae
Genus-*Maxates*
Species-*coelataria*
LOCATION
Centurion University of technology and management, Bhubaneswar Campus.
GENERAL CHARACTERISTICS
Margins of wings strongly excavate in the spaces. Broadly pale buff costa of forewings and dark speckles. Caterpillar has greenish cylindrical body with small creamy-pink

dorsal triangles, where each triangle contains a dark dot. Head with a bifid capsule.

Scientific name: *Trabala vishnou*

CLASSIFICATION

Kingdom-Animalia
Phylum- Arthropoda
Class-Insecta
Order- Lepidoptera
Family- Lasiocampidae
Genus- *Trabala*
Species- *vishnou*

LOCATION

Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS

The wingspan is about 67 mm for females and 47 for males. The body colour of the male is apple green. Antennae ochreous brown. The disk of the forewing and the inner margin of the hindwing are whitish. Forewings with a faint pale antemedial line curved below the costa. There is a dark speck at end of cell, and a pale straight oblique postmedial line which becomes medial on the hindwing. Both wings have a series of small submarginal dark spots. The female is yellowish green, which fades to ochreous. Lines and spots of both wings are enlarged and blackish. The spot at the end of the cell of the forewing is large, conspicuous and irrorated (sprinkled) with black scales, and sometimes centered with grey. A reddish-brown patch thickly irrorated with black occupying whole medial inner area from median nervure to inner margin. Cilia of wings are blackish.

Scientific name: *Dysdercus cingulatus*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Hemiptera
Family: Pyrrhocoridae
Genus*: Dysdercus*
Species: *cingulatus*

LOCATION

Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS

It is mainly red but has a white collar and three black spots. It is closely related and very similar to *Dysdercus koenigii* but *D. cingulatus* is slightly larger and the femora have varying amounts of black while *D. koenigii* has completely red femora.

Scientific name: *Lethe europa*
Common name: Bamboo treebrown

CLASSIFICATION

Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order: lepidoptera
Family- Nymphalidae
Genus: *Lethe*
Species: *Europa*

LOCATION

Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS

Inner third of hindwing covered with long brown hairs. Male upper side rich dark brown. Forewing with the oblique short white discal fascia on the underside showing through, two obscure black spots , followed by two prominent white spots, the upper one double, some black markings margined outwardly with pale dusky brown along terminal margins of both forewing and hindwing and an obscure subterminal pale line on the latter. Underside very dark blackish brown; the wings crossed sub-basally by a slender lilacine-white straight line, followed on forewing by an oblique short white discal fascia, and on both forewing and hindwing by a postdiscal series of large black ocelli and a terminal, somewhat ochraceous, narrow band bordered on the inner side by a more or less silvery purple line. The series on both forewing and hindwing margined inwardly and outwardly by silvery purple lunular lines, on the forewing curved inwards, on the hindwing curved outwards; the ocelli on forewing confluent, black, non-pupilled, on the hindwing black with disintegrate silvery-speckled irregular centres on a brown ground.

Female similar: forewing on upperside with an oblique broad white discal band, hindwing with a postdiscal incomplete series of black spots. Underside similar to the underside in the male, markings and ocelli larger.

Scientific name: *Melanitis Leda*
Common name: Common evening brown

CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Lepidoptera
Family: Nymphalidae
Genus: *Melanitis*
Species- *leda*
LOCATION
Centurion University of technology and management, Bhubaneswar Campus.
GENERAL CHARACTERISTICS
It is commonly known as evening brown as it flying at dusk. The body is divisible into head, thorax and abdomen and antennae is also present. Forewing with two large subapical black spots. The flight of this species is erratic.

Scientific name: *Apis indica*
Common Name:- Indian Honey Bee

CLASSIFICATION
Kingdom:- Animalia
Phylum:- Arthropoda
Class:- Insecta
Family:- Apidae
Genus:- *Apis*
Species:- *Indica*
LOCATION
Centurion University of technology and management, Bhubaneswar Campus.
GENERAL CHARACTERISTICS
They are black in color with four yellow abdominal strips. The distinction between worker bees, queen and drones. It has long, erect hairs that covers the compound eyes and helps in pollen collection.

Scientific name: *Euploea core*
Common name: common crow

CLASSIFICATION
Kingdom- Animalia
Phylum- Arthropoda
Class- Insecta
Order- Lepidoptera
Family: Nymphalidae
Genus: *Euploea*
Species: *core*
LOCATION

Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS

The common crow is a glossy-black butterfly with brown undersides with white markings along the outer margins of both wings.The male has a velvety black brand located near the rear edge on the upperside of the forewing

Scientific name: Pelopidas mathias
Common name: Small branded swift

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Hesperiidae
Genus: Pelopidas
Species: mathias

LOCATION

Centurion University of technology and management, Bhubaneswar Campus

GENERAL CHARACTERISTICS

Pelopidas mathias, the dark small-branded swift, small branded swift, lesser millet skipper or black branded swift, is a butterfly belonging to the family Hesperiidae

Scientific name: *Brachythemis contaminata*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Odonata
Family: Libellulidae
Genus: *Brachythemis*
Species: *contaminate*

LOCATION

Centurion University of technology and management, Bhubaneswar Campus

GENERAL CHARACTERISTICS

It is a small dragonfly with brown-capped yellowish-green eyes. Its thorax is olivaceous-brown, marked with a reddish-brown humeral stripe and two brownish stripes on each

side. Wings are transparent; but with a broad bright orange fascia extending from base to within 2 to 3 cells of reddish pterostigma. Abdomen is ochreous-red, marked with dorsal and sub-dorsal brown stripes. Anal appendages are in reddish-brown. Female is similar to the male; but in pale yellowish-green color. Wings are transparent, tinted with yellow at extreme base; but the bright orange fascia seen in the male absent.

Scientific name: *Amata huebneri*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Superfamily: Noctuoidea
Family: Erebidae
Subfamily: Arctiinae
Genus: *Amata*
Species: *huebneri*

LOCATION
Centurion University of technology and management, Bhubaneswar Campus
GENERAL CHARACTERISTICS
Amata huebneri, the wasp moth, is a moth in the genus Amata of the family Erebidae (subfamily Arctiinae - "woolly bears" or "tiger moths"). Adults are black with yellow bands across the abdomen, and transparent windows in the wings. It is a wasp mimic.

Scientific name: Asota caricae

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Superfamily: Noctuoidea
Family: Erebidae
Genus: *Asota*
Species: *caricae*
LOCATION
Centurion University of technology and management, Bhubaneswar Campus.
GENERAL CHARACTERISTICS
The common name of this species comes from the presence of red-colored external genitalia visible at the terminal end of the abdomen, though other sarcophagid species

may also have this featureThey have large compound eyes and the aristae of the antennae are long and are plumose at the base

Scientific name*:* *Coccinella transversalis*
Common name: Transverse ladybird
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Coleoptera
Family: Coccinellidae
Genus: *Coccinella*
Species: *transversalis*
LOCATION
Centurion University of technology and management, Bhubaneswar Campus.
GENERAL CHARACTERISTICS
Coccinella transversalis, commonly known as the transverse ladybird or transverse lady beetle is a species of ladybird beetle found from India across southern and southeastern Asia to Malesia and Australia. Measuring 3.8 to 6.7 millimetres (0.15 to 0.26 in) long and 3.3 to 5.45 millimetres (0.130 to 0.215 in) wide, the transverse ladybird shows little variation across its wide range. It has a black head with predominantly bright red or orange elytra boldly marked with a black band down the midline and two lateral three-lobed markings.

Scientific name: *Vespa orientalis*
Common name: Oriental hornet
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Hymenoptera
Family: Vespidae
Genus: *Vespa*
Species: *orientalis*

LOCATION
Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS

The adult hornet has two pairs of wings and a body measuring between 25 and 35 mm long. Drones and workers are smaller in size than the queen. V. orientalis is a reddish-brown color and has distinctive thick yellow bands on the abdomen and yellow patches on the head between the eyes. It has very strong jaws and will bite if provoked. Females (workers and the queen) have an ovipositor, which is a specialized organ shaped like a tube that is used for laying eggs. The ovipositor extends from the end of the abdomen and is also used as a stinger. Males (drones) can be distinguished from workers by the number of segments on their antenna. Drones have 13 segments, while workers only have 12.

Scientific name: *Scutiphora pedicellate*
Common name: Jewel bug
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Hemiptera
Family: Scutelleridae
Genus: *Scutiphora*
Species: *pedicellate*

LOCATION
Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS
The shield like enlarged last section of thorax (scutellum), completely covers the abdomen and the wings. It has four Membranous wings underneath the Scutellum. The head is triangular, and antennae have 3-5 segments The body is segmented beak like mouth part. (rostrum).

Scientific name: Sacrophaga
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Diptera
Family: Sarcophagidae
Subfamily: Sarcophaginae
Genus: *Sarcophaga*

LOCATION
Centurion University of technology and management, Bhubaneswar Campus.

Scientific name: *Calotes versicolor*

Common name: Garden lizard
CLASSIFICATION
Kingdom: Animalia
Phylum: Chordata
Class: Reptilia
Order: Squamata
Suborder: Iguania
Family: Agamidae
Subfamily: Draconinae
Genus: *Calotes*
Species*: versicolor*
LOCATION
Centurion University of technology and management, Bhubaneswar Campus
GENERAL CHARACTERISTICS
Two small groups of spines, perfectly separated from each other, above each tympanum. Dorsal crest moderately elevated on the neck and anterior part of the trunk, extending on to the root of the tail in large individuals, and gradually disappearing on the middle of the trunk in younger During the breeding season, the male's head and shoulders turns bright orange to crimson and his throat black. Males also turn red-headed after a successful battle with rivals. Both males and females have a crest from the head to nearly the tail, hence their other common name "Crested Tree Lizard".

Scientific name: *Tirumala limniace*
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Nymphalidae
Genus*: Tirumala*
Species: *limniace*
LOCATION
Centurion University of technology and management, Bhubaneswar Campus.
GENERAL CHARACTERISTICS
This is a typical Tiger butterfly -- large showy and slow flying. The flight is fluttering wih intermittent spells of sailing. It is fond of wet soil and nectar. It relishes nectar from exotics such as Cosmos, Tagetus and Lantana and visits gardens for these plants. At the forest edges, tall herbs such as Adelocaryum attract this butterfly and dozens of individuals gather on it. Males of this butterfly attracted to the plants Crotalaria,

Heliotropium, Ageratum which contained the alcahloids for to restore their pheromones which using to attract females.

Scientific name*:* *Papilio polytes*
Common name: Common mormon

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Papilionidae
Genus: *Papilio*
Species*: polytes*

LOCATION
Centurion University of technology and management, Bhubaneswar Campus.

GENERAL CHARACTERISTICS
The common Mormon is a common species of swallowtail butterfly widely distributed across Asia. This butterfly is known for the mimicry displayed. The common Mormon is present everywhere and high up into the hills. .It is a regular visitor to gardens, being especially abundant in orchards of its foodplants—oranges and limes. It is most common in the monsoon and post-monsoon months.

REPORT OF
GREEN AUDIT
OF CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT, BBSR CAMPUS, ODISHA (2017-18)

Preface

Institutional self-inquiry is a natural and necessary outgrowth of quality of higher education. Concern about environmental degradation and realization of values of environment are logical consequences of scholarly research, teaching and learning process. In its pursuit for improving environmental quality and to maintain a pristine environment for the future generation of students, Centurion University has made a self-inquiry on environmental quality of the campus with the following objectives: (i) To establish a baseline of existing environmental conditions with focus on natural and physical environment; (ii) To understand the current practices of sustainability with regard to the floral and faunal diversity inside the campus (iii) To promote environmental awareness through participatory auditing process; and (iv) To create a report that document baseline data of good practices and provide future strategies and action plans towards improving environmental quality for future.

This report is compiled by a committee constituted by IQAC. As there was no standard model for such a green audit of campuses in the state, the committee brainstormed and evolved a questionnaire. With the help of student volunteers and faculties of respective departmrnts the major part of the data was compiled, which the committee analyzed. The remaining part which involved measurement of quality was entrusted with the Department of Botany and Department of Zoology of Centurion University of Technology and Management, Odisha. The committee has made short term and long term suggestions to take environment protection to higher levels and it is hoped that this will receive due attention of University authorities and also all stake-holders of the University.

Dr. Yashaswi Nayak

Dr. Sagarika Parida

Dr. Gyanranjan Mahalik

Dr. Siba Prasad Parida

SCHOOL OF APPLIED SCIENCES
CUTM
CENTURION UNIVERSITY OF TECHNOLOGY & MANAGEMENT

Executive Summary

Many departments maintain garden and the campus is greener with fair biodiversity around and gardens maintained by many departments. A detailed study on floral and faunal diversity has been done. There are also one beautiful rose garden, medicinal plant garden and cultured hydrophytes in ponds as well as tanks inside the campus mentained by the university. Faunal and floral diversity reports are given below.

REPORT ON FLORAL DIVERSITY

Flora comes from the Latin word "*Flora*", the meaning is Goddess of plants. *Floris* means flower. Floral diversity is the diversity of plants occurring in a particular region during particular time period. It also refers to the diversity of naturally available native or indigenous plants till now a total of 2, 15, 644 species of plants have been catalogued on the earth till date. It is reported that India harbours 46, 824 species including virus/bacteria and fungi species. In India, floral diversity is concentrated in four phytogeographical unique regions like Himalayas, Western Ghats, Northeast India and Andaman and Nicober Islands.

Presently, considerable attention is being addressed to biological diversity of biodiversity statue which refers to the occurrence of diverse biological forms including micro-organisms, plants and animals in a particular geographical area under a set of environmental conditions. Biodiversity is the reflection of genetic variability with which the different hierarchical forms of germplasm (strains, landraces/genotypes/varieties, species, genera etc.) appear in the course of evolution. The genetic variation may exist either within the species (intra specific) to a certain extent or to a larger scale between different species (intra specific) and taxa of higher biological order. In fact, it is the ecosystem that supports the biological variability. The diverse living forms of the ecosystem are always in a state of change keeping pace with the global environment perturbations. An ecosystem is composed of both biotic and abiotic components which are quite interrelated and influences each other.

Ecosystem diversity encompasses varieties of living forms due to miscellany of niches, tropic levels and ecological processes like nutrient recycling, food chains, food webs, energy flow and role of dominant species. The present campus of Centurion University, in Bhubaneswar spread over 48 acres of land in the foothill of Barunei hills, near Jatni town; the campus is adjacent to National Institute of Science, Education and Research (NISER), Indian Institute of Technology (IIT), All India Institute of

Medical Sciences (AIIMS) and Xavier University. The place is being famous as a hot spot of temples, historical monuments and archaeological remains.

Topographically, the area is an undulating lateritic land sloping towards the east. Presently the land area with vegetation cover approximately 20 acres excluding one water body covers 2.5 acres receiving waste water from the University Campus.

Block wise area under survey:

Block-1: consist of subunits – 1-10 (excluding butterfly garden) including Gate-1, Gate-2, Auditorium building, Action learning lab and waste to wealth lab, wood engineering lab, Faculty residence, Swimming pool, Girls hostel-1 and Girls hostel-2.

Block-2: consist of the subunits- 11-20 including Girls hostel-3, Koutilya building, Madhusudan building, Aryabhatta building, Industrial training centre, Workshop (E- Rikshaw unit, Civil engineering, Electrical engineering).

Block-3: consist of the subunits 21-30 including Mechanical workshop, Advance centre of excellence for apparel textile and GTET corporation office, Inatitute of training of trainers (GTET), Multi use play ground, Basket ball court, Tennis ball court, Consumer facility cum training and learning lab (Diesel outlet), Wheel alignment training centre, Boys hostel-1 and Boys hostel-2.

Block-4: consist of subunits 31-40 including Boys hostel-3, Boys hostel-4, Boys hostel-5, Boys hostel-6, Central store, Power house, Cow shed, Water body and Butterfly garden.

LIST OF DIFFERENT KINDS OF FLORA FOUND IN THE CAMPUS

Sl. No.	Botanical name	Family	Distribution
TREES			
1.	*Acacia auriculiformis* A. Cunn. ex Benth.	Mimosaceae	B-2, B-4
2.	*Aegle marmelos* (L.) Corr.	Rutaceae	B-2
3.	*Ailanthus excelsa* Roxb.	Simaroubaceae	B-3
4.	*Albizia lebbeck* (L.) Benth.	Mimosaceae	B-3

5.	*Alstonia scholaris* (L.) R.Br.	Apocynaceae	B-2
6.	*Anacardium occidentale* L.	Anacardiaceae	B-2, B-4
7.	*Annona* squamosa L.	Annonaceae	B-2
8.	*Areca catechu* L.	Arecaceae	B-2
9.	*Artocarpus altilis* (Parkinson) Fosberg	Moraceae	B-2
10.	*Artocarpus heterophyllus* Lam.	Moraceae	B-2
11.	*Averrhoa carambola* L.	Averrhoaceae	B-2
12.	*Bixa orellana* L.	Bixaceae	B-2
13.	*Borassus flabellifer* L.	Arecaceae	B-2
14.	*Brya ebenus* (L.) DC.	Fabaceae	B-2
15.	*Cinammomum tamala* (Buch.-Ham.) T.Nees&C.H. Eberm.	Lauraceae	B-2
16.	*Couroupita guianensis* Aubl.	Lecythidaceae	B-2
17.	*Crataeva magna* (Lour.) DC	Capparaceae	B-2
18.	*Delonix regia* (Boj. ex Hook.) Raf.	Caesalpiniaceae	B-2, B-4
19.	*Dillenia indica* L.	Dilleniaceae	B-2,
20.	*Diospyros melanoxylon* Roxb.	Ebenaceae	B-2
21.	*Elaeis guineensis* Jacq.	Arecaceae	B-4
22.	*Eucalyptus citrodora* Hook.	Myrtaceae	B-2
23.	*Ficus benghalensis* L. var.*benghalensis*	Moraceae	B-2, B-4
24.	*Magnolia champaca*(L.) Baill. ex Pierre	Magnoliaceae	B-2
25	*Mangifera indica* L.	Anacardiaceae	B-1, B-2, B-3,B-4
26.	*Manilkara zapota*(L.) P.Royen	Sapotaceae	B-1
27.	*Melaleuca citrine* (Curtis) Dum.Cours.	Lythraceae	B-2
28.	*Millettia pinnata* (L.) Panigrahi	Fabaceae	B-2,B-3
29.	*Millingtonia hortensis* L.f.	Bignoniaceae	B-2
30.	*Mitragyna parviflora* (Roxb.) Korth	Rubiaceae	B-3
31.	*Phyllanthus emblica* L.	Euphorbiaceae	B-2
32.	*Pimenta dioica* (L.)Merr.	Myrtaceae	B-2
33.	*Plumeria obtuse* L.	Apocynaceae	B-4
34.	*Polyalthia suberosa* (Roxb.) Thwaites	Annonaceae	B-1
35.	*Prosopis cineraria* (L.) Druce	Mimosaceae	B-2
36.	*Pterocarpus santalinus* L.f.	Fabaceae	B-2
37.	*Pterospermum acerifolium* (L.) Willd.	Sterculiaceae	B-2
38.	*Punica granatum* L.	Punicaceae	B-2

39.	*Ravenala madagascariensis* Sonn.	Strelitziaceae	B-2
40.	*Santalum album* L.	Santalaceae	B-2
41.	*Saraca asoca* (Roxb.) Willd.	Caesalpiniaceae	B-2
42.	*Senna auricualata* (L.) Roxb.	Caesalpiniaceae	B-2
43.	*Senna siamea* (Lam.) H.S. Irwin & Barneby	Caesalpiniaceae	B-2
44.	*Sesbania grandiflora* (L.) Poiret	Fabaceae	B-4
45.	*Simarouba glauca* DC.	Simaroubaceae	B-2, B-4
46.	*Terminalia bellerica* (Gaertn.) Roxb.	Combretaceae	B-1
47.	*Terminalia catappa* L.	Combretaceae	B-2
48.	*Terminalia chebula* Retz.	Combretaceae	B-1
49.	*Ziziphus mauritiana* Lam.	Rhamnaceae	B-1, B-2, B-3,B-4
SHRUB			
1.	*Acalypha wilkesiana* Mull.	Euphorbiaceae	B-2
2.	*Agave Americana* L.	Agavaceae	B-2
3.	*Allamanda schottii* Hook.	Apocynaceae	B-2
4.	*Codiaeum variegatum* (L.) Juss. A.Rich.	Euphorbiaceae	B-2
5.	*Coprosma repens*	Rubiaceae	B-2
6.	*Crossandra infundibuliformis*	Acanthaceae	B-2
7.	*Crotalaria spectabilis* Roth	Fabaceae	B-2
8.	*Cryptostegia grandiflora* R.Br.	Apocynaceae	B-1
9.	*Desmodium pulchellum* (L.)Benth.	Fabaceae	B-4
10.	*Dracaena marginate* Lam. 'tricolor'	Agavaceae	B-2
11.	*Dracena reflexa* Lam.	Agavaceae	B-2
12.	*Dracaena sanderiana* Mast.	Asparagaceae	B-2
13.	*Duranta repens* L.	Verbenaceae	B-2
14.	*Euphorbia milii* Des Moul.	Euphorbiaceae	B-2
15.	*Euphorbia pulcherrima* Willd. ex Klotzsch	Euphorbiaceae	B-2
16.	*Hibiscus schizopetalus* (Mast.)Hook.f.	Malvaceae	B-1, B-2
17.	*Hypoestes phyllostachya* Baker	Acanthaceae	B-2
18.	*Impatiens glandulifera* Royle	Balsaminaceae	B-2
19.	*Ipomoea carnea* Jacq.	Convolvulaceae	B-1,B-4
20.	*Jasminum auriculatum* Vahl	Oleaceae	B-2
21.	*Jatropha gossypifolia* L.	Euphorbiaceae	B-2
22.	*Jatropha integerrima* Jacq.	Euphorbiaceae	B-2

23.	*Justicia adhatoda* L.	Acanthaceae	B-2
24.	*Lantana camara* L. var. aculeata (L.) Mold	verbenaceae	B-2
25.	*Lawsonia inermis* L.	lythraceae	B-2
26.	*Malvaviscus arboreus* Cav.	malvaceae	B-2
27.	*Mussaenda phillipica* A.Rich.	rubiaceae	B-2
28.	*Rosa damascina* Miller	rosaceae	B-2
29.	*Rosa fortuneana* Lindley	rosaceae	B-2
30.	*Rosa gallica* L.var.complicata	rosaceae	B-2
31.	*Rosa gallica* var. officinalis	rosaceae	B-2
32.	*Rosa indica* L.	rosaceae	B-2
33.	*Sauropus androgynus* (L.) Merr.	euphorbiaceae	B-2
34.	*Sterblus taxoides* (Roth)Kurz	Moraceae	B-235
35.	*Tabernaemontana divaricata* (L.) R.Br. ex Roem. & Schult.cv.plena	apocynaceae	B-2
36.	*Vitex negundo* L.	verbenaceae	B-2
37.	*Wrightia antidysenterica* (L.)R.Br.	apocynaceae	B-2
HERB			
1.	*Abelmoschus esculentus* (L.) Moench	Malvaceae	B-1, B-2
2.	*Aeschynomene aspera* L.	fabaceae	B-3,B-4
3.	*Aeschynomene indica* L.	fabaceae	B-1,B-4
4.	*Alocasta macrorrhizos* (L.) G.Don	araceae	B-4
5.	*Aloe vera* (L.) Burm.f.	liliaceae	B-1,B-2
6.	*Alpinia galanga* (L.) Willd.	zingiberaceae	B-2
7.	*Amaranthus caudatus* L.	amaranthacea	B-2
8.	*Asystasia gangetica*(L.) T. Anderson	acanthaceae	B-2
9.	*Barleria cristata* L.	acanthaceae	B-4
10.	*Barleria prionitis* L.	acanthaceae	B-1,B-3,B-4
11.	*Bassia scoparia* (L.) Schrad.	amaranthacea	B-2
12.	*Biophytum sensitivum* (L.) DC.	oxalidaceae	B-2,B-3
13.	*Brassica campestris L.*	brassicaceae	B-1
14.	*Brassica oleracea* L. var.capitata	brassicaceae	B-2
15.	*Canna indica* L.	cannaceae	B-2
16.	*Capsicum annum* L.	solanaceae	B-2
17.	*Celosia argentea* L.	amaranthacea	B-2
18.	*Celosia cristata* L.	amaranthacea	B-2

19.	*Celosia argentea var.* plumosa	amaranthacea	B-2
20.	*Centella asiatica* (L.) Urban	apiaceae	B-2
21.	*Chenopodium album* L.	chenopodiaceae	B-4
22.	*Chrozophora rottleri* (Geisel.) Juss.	euphorbiaceae	B-3,B-4
23.	*Colocasia esculenta* (L.) Schott	araceae	B-4
24.	*Commelina longifolia* Lam.	commelinaceae	B-4
25.	*Commelina paludosaBlume*	commelinaceae	B-3
26.	*Coriandrum sativum* L.	apiaceae	B-2
27.	*Evovulus sericeus* Sw.	Convolvulaceae	B-3
28.	*Foeniculuem vulgare* L.	Apiaceae	B-2,B-3
29.	*Gaillardia aristata* Pursh	Asteraceae	B-2
30.	*Gaillardia grandiflora* Hort	Asteraceae	B-2
31.	*Gomphrena globosa* L.	Amaranthaceae	B-2
32.	*Hedyotis puberula* (G.Don)Thw.	Rubiaceae	B-3
33.	*Heliconia latispatha* Benth.	Tlcliconiaceae	B-2
34.	*Heliconia rostrata* Ruiz & Pavon	Heliconiaceae	B-2
35.	*Hibiscus canabinus* L	Malvaceae	B-1
36.	*Hippeastrum amaryllis* (L.)Herb.	Amaryllidaceae	B-2
37.	*Hyptis suaveolens* (L.) Poit.	Lamiaccac	B-2,B-3,B-4
38.	*Impatiens balsamina* L.	Balsaminaceae	B-2
39.	*Indigofera linnaei* Ali	Fabaceae	B-3,B-4
40.	*Justicia japonica* Thunb.	Acanthaccac	B-2,B-3
41.	*Justicia quinqueangularis* Koen. ex Roxb.	Acanthaceae	B-1,B-4
42.	*Kalanchoe blossfeldiana* Poelln.	Crassulaceae	B-2
43.	*Kalanchoe pinnata* (Lam.) Pers.	Crassulaccae	B-2
44.	*Laportea interrupta* (L.) Chew	Urticaceae	B-1,B-2
45.	*Leucas aspera* (Willd.) Link	Lamiaceae	B-3,B-4
46.	*Leucas cephalotes* (Roth) Spreng.	Lamiaceae	B-1,B-4
47.	*Leucas indica* (L.) R.Br.cx Vatke	Lamiaceae	B-4
48.	*Lindshot.onaviyouero* (L.) F.v.Muell	Scrophulariaceae	B-1,B-2,B-3
49.	*Lippia javanica* (Burm.f.)Spreng.	Verbenacea	B-4
50.	*Lobelia alsinoides* Lam.	Lobeliaceae	B-1,B-4
51.	*Lobularia maritima* (L.)Desv.	Brassicaceae	B-3
52.	*Ludwigia perennis* L.	Onagraceae	B-1,B-3,B-4
53.	*Malachra capitata* (L.)L.	Malvaceae	B-3

54.	*Maranta arundinacea* L.	Marantaceae	B-2
55.	*Melochia corchorifolia* L.	Sterculiaceae	B-3,B-4
56.	*Mentha arvensis* L.	Lamiaceae	B-2
57.	*Mentha piperita* L.	Lamiaceae	B-2
58.	*Mentha spicata* L.	Lamiaceae	B-2
59.	*Merremia hederacea* (Burm.f.)Hall.f.	Convolvulaceae	B-4
60.	*Mimosa pudica* L.	Mimosaceae	B-1,B-2,B-3,B-4
61.	*Mirabilis jalapa* L.	Nyctaginaceae	B-2
62.	*Murdannia nodiflora* (L.)Brenan	Commelinaceae	B-3,B-4
63.	*Murdannia spirata* (L.) Brueck.	Commelinaceae	B-1,B-3
64.	*Musa acuminata var.* rubra	Musaccae	B-2
65.	*Musa paradisiaca* L.	Musaceae	B-2
66.	*Ocimum canum* Sims.	Lamiaceae	B-4
67.	*Oxalis corniculata* L.	Oxalidaceae	B-2,B-3,B-4
68.	*Oxalis debilis* Kunth	Oxalidaceae	B-2
69.	*Oxalis triangularis* A.St.-Hil.	Oxalidaceae	B-2
70.	*Parthenium hysterophorus* L.	Asteraceae	B-1,B-2,B-3,B-4
71.	*Persicaria virginiana* (L.)Gaertn.	Polygonaceae	B-2
72.	*Petunia hybrid* Juss.	Solanaceae	B-2
73.	*Phaulopsis imbricata* (Forssk.) Sw.	Acanthaceae	B-3,B-4
74.	*Phyla nodiflora* (L.) Greene	Verbenaceae	B-4
75.	*Phyllanthus fraternus* Webster	Euphorbiaceae	B-1,B-2,B-3,B-4
76.	*Phyllanthus virgatus* Forst.f	Euphorbiaceae	B-1,B-3,B-4
77.	*Physalis longifolia Nutt.* var longifolia	Solanaceae	B-3
78.	*Physalis minima* L.	Solanaceae	B-4
79.	*Polygala arvensis* L.	Polygalaceae	B-3,B-4
80.	*Polygonum barbatum* L.	Polygonaceae	B-3,B-4
81.	*Portulaca oleracea* L. var. oleracea	Portulaceae	B-1,B-2,B-3,B-4
82.	*Portulaca quadrifida* L.	Portulaceae	B-1,B-2,B-3,B-4
83.	*Portulaca umbraticola* Kunth	Portulaceae	B-2
84.	*Ruellia brittoniana* Leonard	Acanthaceae	B-2
85.	*Sansevieria trifasciata* Prain.	Asparagceae	B-2
86.	*Scadoxus multiflorus* (Martyn) Raf.	Amaryllidaceae	B-2
87.	*Scoparia dulcis* L.	Scrophulariaceae	B-1,B-2,B-3,B-4
88.	*Sesamum orientale* L.	Pedaliaceae	B-3,B-4

89.	*Solanum tuberosum* L.	Solanaceae	B-2
90.	*Solanum virginianum* L.	Solanaceae	B-4
91.	*Spermacoce articularis* L.f.	Rubiaceae	B-1,3-2,B-3,B-4
92.	*Theriophonum minuatum* (Willd.)Bail	Araceae	B-2
93.	*Tithonia diversifolia* (Hemsl)A.Gray	Asteraceae	B-1,B-2
94.	*Tradescantia zebrine* (Schinz)D.R Hunt	Commelinaceae	B-2
95.	*Tribulus terrestris* L.	Zygophyllaceae	B-2,B-4
96.	*Tridax procumbens* L.	Asteraceae	B-1,B-2,B-3,B-4
97.	*Triumfetta pentandra A.*Rich	Sterculiaceae	B-1,B-4
98.	*Triumfetta rhomboidea* Jasq.	Sterculiaceae	B-3,B-4
99.	*Turnera ulmifolia* L.	Turneraceae	B-2
HYDROPHYTES			
1.	*Alisma plantago-aquatica* L.	Alismataceae	B-2
2.	*Ceratophyllum demersum* L.	Ceratophyllaccae	B-2
3.	*Eichhornia crassipes*(Mart.) Solms-Laub.	Pontederiaceae	B-4
4.	*Hydrilla verticillata* (L.f.) Royle	Hydrocharitaceae	B-2
5.	*Lemna perpusila* Tor.	Lemnaecae	B-2,B-4
6.	*Monochoria hastata* Solms-Laub.	Pontederiaceae	B-4
7.	*Monochoria vaginalis* (Burm.f.) Presl	Pontederiaceae	B-4
8.	*Nelumbo nucifera* Gaertn.	Nelumbonaceae	B-2
9.	*Nuphar pumila*(Timm) DC.	Nymphaeaccae	B-2
10.	*Nymphaea mexicana* Zucc.	Nymphaeaccae	B-2
11.	*Nymphaea nouchali* Burm.f.	Nymphaeaceae	B-2
12.	*Nymphaea pubescens* Willd.	Nymphaeaceae	B-2
13.	*Nymphoides hydrophila* (Lour.)Kuntze	Nymphaeaceae	B-2
CLIMBER			
1.	*Argeyria nervosa*(Burm.f.) Bojer	Convolvulaceae	B-2
2.	*Artabotrys hexapetalus*(L.f) Bandari	Annonaceae	B-2
3.	*Asparagus racemosus* Willd.	Asparagaceae	B-2
4.	*Atylosia scarabaeoides* (L.) Benth.	Fabaceae	B-3,B-4
5.	*Cayratia pedata Wall.)* Gagnep.	Vitaceae	B-3,B-4
6.	*Cayratia trifolia* (L.) Domin	Vitaceae	B-1,B-3,B-4
7.	*Coccinia grandis* (L.) Voigt	Cucurbitaceae	B-3,B-4
8.	*Cocculus hirsutus*(L.) Diels	Cucurbitaceae	B-3,B-4

9.	*Ipomoea quamoclit* L.	Convolvulaceae	B-3
10.	*Ipomoea sepiaria Koenig* ex Roxb.	Convolvulaceae	B-3,B-4
11.	*Luffa aegyptiaca* Mill.	Cucurbitaceae	B-4
12.	*Mansoa alliacea* Gentry	Bignoniaceae	B-2
13.	*Passiflora incarnata* L	Passifloraceae	B-2
14.	*Passiflora vitifolia* Kunth	Passifloraceae	B-2
15.	*Piper betel* L	Piperaceae	B-2
16.	*Piper longum* L.	Piperaceae	B-2
17.	*Podranea ricasoliana*(Tanf.) Sprague	Bignoniaceae	B-2
18.	*Pyrostegia venusta* (Ker.Gawl.)Miers	Bignoniaceae	B-2
19.	*Quisqualis indica* L.	Combretaceac	B-2
20.	*Syngonium podophyllum* Schott	Araceae	B-2
21.	*Thunbergia fragrans* Roxb.	Acanthaceae	B-2
22.	*Trichosanthes cucumerina* L.	Cucurbitaceae	B-2
23.	*Vitis vinifera* L.	Vitaceae	B-2
EPIPHYTES			
1.	*Vanda tesselata* (Roxb.) Hook.cx G.Don	Rubiaceae	B-2
GRASS			
1.	*Aristida setacea* Rctz.	Passifloraceae	B-1,B-2,B-3,B-4
2.	*Bambusa arundinacea* (Retz.) Willd.	Apocynaceae	B-2
3.	*Bambusa vulgaris Schrad.* Ex J.C.Wendl.	Asclepidaceae	B-2
4.	*Brachiaria ramosa* (L.) Stapf	Piperaceae	B-1,B-3,B-4
5.	*Chloris barbata* Sw.	Bignoniaceae	B-1,B-2,B-3,B-4
6.	*Chrysopogon aciculatus* (Retz.) Trin.	Bignoniaceae	B-1,B-4
7.	*Cynodon dactylon* (L.) Pers.	Combretaceac	B-1,B-2,B-3,B-4
8.	*Cyperus brevifolius* (Rottb.) Hassk.	Araceae	B-1,B-4
9.	*Cyperus compactus* Retz.	Menispermaceae	B-4
10.	*Cyperus difformis* L.	Araceae	B-1,B-3,B-4
11.	*Cyperus halpan* L.	Acanthaceae	B-1,B-3
12.	*Cyperus imbricatus* Retz.	Acanthaceae	B-4
13.	*Dactyloctenium aegypticum* (L.) P.Beauv.	Poaceae	B-1,B-2,B-3,B-4
14.	*Digitaria ciliaris* (Retz.) Koeler	Poaceae	B-1,B-2,B-3,B-4
15.	*Eragrostis ciliaris* (L.) R.Br.	Poaceae	B-3
16.	*Eragrostis ciliata* Roxb. Nees	Poaceae	B-1,B-2,B-3,B-4
17.	*Eriochloa procera* (Retz.)Hubbard	Poaceae	B-1,B-2,B-3,B-4

18.	*Paspalum scrobiculatum* L.	Poaceae	B-2,B-3
19.	*Paspalum vaginatum* Sw.	Poaceae	B-1,B-3
20.	*Pennisetum pedicellatum* Trin.	Poaceae	B-1,B-3,B-4
21.	*Pennisetum purpureum* Schumach	Poaceae	B-3,B-4
22.	*Perotis indica* (L.) Kuntz	Poaceae	B-3,B-4
23.	*Pogonantherum crinitum*(Thunb.) Kunth	Poaceae	B-2
24.	*Sachharum officinarum* L.	Poaceae	B-2
25.	*Setaria pumila* (Poir.) Roem. & Schult.	Poaceae	B-1,B-3,B-4
26.	*Setaria verticillata* (L.) P.Beauv.	Poaceae	B-1,B-4
GYMNOSPERM			
1.	*Pinus roxburghii* Sargent	Pinaceae	B-2
2.	*Podocarpus nerefolius* D.Don	Podocarpaceae	B-2
3.	*Platycladus orientalis* (L.) Franco	Cupressaceae	B-2
PTERIDOPHYTES			
1.	*Pteris vittata* L.	Pteridaceae	B-1,B-2,B-3,B-4
2.	*Salvinia cuculata* Roxb.	Salviniaceae	B-4
3.	*Salvinia molesta* D.S. Mitch	Salviniaceae	B-4
4.	*Selaginella ciliaris*(Retz.) Spring	Selaginellaceae	B-4
BRYOPHYTES			
1.	*Barbula calycinaSchwägr*	Pottiaceae	B-2,B-4
2.	*Marchantia polymorpha* L.	Marchantiaceae	B-1,B-4
3.	*Riccia beyrichiana* Hampe ex Lehm	Ricciaceae	B-3,B-4
4.	*Trichostomum crispulumBruch*	Pottiaceae	B-2
MUSHROOMS			
1.	*Agaricus bisporous* (J.E.Lange) Emil.J.Imbact	Agaricaceae	B-2
2.	*Agaricus compestris* L.	Agaricaceae	B-4
3.	*Amanita multisquamosa* Peck	Amanitaceae	B-4
4.	*Amylostereum laevigatum* (Fr.) Boidin	Amylostereaceae	B-4
5.	*Entoloma unicolar* (Perk) Hesler	Entolomataceae	B-4
6.	*Ganoderma lucidum* (Curtis) P. Carst.	Ganotodermaceae	B-4
7.	*Lactarius alnicola* A.H. Smith	Russulaceae	B-4
8.	*Marasmius rotula*(Scop.) Fr.	Marasmiaceae	B-1
9.	*Protostropharia semiglobata* (Batsch) Redhead, Moncalvo & Vilgays	Strophariaceae	B-4

10.	*Termitomyces heimii* Natarajan	Lyophyllaceae	B-4
11.	*Termitomyces microcarpus* (Berk. & Broome) R. Heim	Lyophyllaceae	B-4
12.	*Xylaria longipes Nitschke*	Xylariaceae	B-4
LICHEN			
1.	*Graphis scripta* (L.) Ach.	Graphidaceae	B-2,B-3,B-4

FAUNAS DIVERSITY

A survey on faunal diversity in our BBSR campus of Centurion University of Technology and Management has done from 1st of November 2017 to 15th of March 2018. Based on the survey, we prepared report and hereby the report is submmited to The Department of Zoology , School of Applied Sciences on 30th of March.

ANIMAL	Sl.No.	Common name	Scientific name
Vertibrates	1.	Grey pansy	*Junonia atlites*
	2.	Indian crow butterfly	*Euploea core*
	3.	Common evening brown	*Melanitis leda*
	4.	Agathia	*Agathia laetata*
	5.	Striped tiger butterfly	*Danaus genutia*
	6.	Green hairstreak	*Callophrys rubi*
	7.	Bamboo treebrown	*Lethe europa*
	8.	Indian honey bee	*Apis indica*
	9.	Oriental hornet	*Vespa orientalis*
	10.	Mantis	*Hierodula patellifera*
	11.	Carpenter ant	*Camponotus sp.*
	12.	Garden cross spider	*Argiope pulchella*

	13.	Giant Land snail	*Achatina fulica*
Invertibrates	14.	Chiken	*Gallus gallus domesticus*
	15.	Domestic goose(grey)	*Anser cygnoides domesticus*
	16.	Indian runner duck	*Anas platyrhynchos domesticus*
	17.	Pigeon	*Columba livia domestica*
	18.	Crow	*Corvus splendens*
	19.	House sparrow	*Passer domesticus*
	20.	Indian myna	*Acridotheres tristis*
	21.	Egret	*Ardea alba*
	22.	Cat	*Felis catus*
	23.	Dog	*Canis lupus familiaris*
	24.	cow	*Bos indicus*
	25.	Goat	*Capra hircus*
	26.	Domestic Rabbit	*Oryctilagus cuniculus domesticus*
	27.	Rohu	*Labeo rohita*
	28.	Catla	*Catla catla*
	29.	Tilapia	*Oreochromis niloticus*
	30.	Pangasius	*Pangasius pangasius*

REPORT OF GREEN AUDIT OF CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT, PARALAKHEMUNDI, ODISHA (2021-22)

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Shaping Lives... Empowering Communities...

Centurion University of Technology and Management
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2021-2022

Preface

Institutional self-inquiry is a natural and necessary outgrowth of quality of higher education. Concern about environmental degradation and realization of values of environment are logical consequences of scholarly research, teaching and learning process. In its pursuit for improving environmental quality and to maintain a pristine environment for the future generation of students, Centurion University has made a self-inquiry on environmental quality of the campus with the following objectives: (i) To establish a baseline of existing environmental conditions with focus on natural and physical environment; (ii) To understand the current practices of sustainability with regard to the floral and faunal diversity inside the campus (iii) To promote environmental awareness through participatory auditing process; and (iv) To create a report that document baseline data of good practices and provide future strategies and action plans towards improving environmental quality for future.

This report is compiled by a committee constituted by IQAC. As there was no standard model for such a green audit of campuses in the state, the committee brainstormed and evolved a questionnaire. With the help of student volunteers and faculties of respective departmrnts the major part of the data was compiled, which the committee analyzed. The remaining part which involved measurement of quality was entrusted with the Department of Botany and Department of Zoology of Centurion University of Technology and Management, Odisha. The committee has made short term and long term suggestions to take environment protection to higher levels and it is hoped that this will receive due attention of University authorities and also all stake-holders of the University.

Dr. Yashaswi Nayak

Dr. Sagarika Parida

Dr. Gyanranjan Mahalik

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SCHOOL OF APPLIED SCIENCES
CUTM
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Institutional self-inquiry is a natural and necessary outgrowth of quality of higher education. Concern about environmental degradation and realization of values of environment are logical consequences of scholarly research, teaching and learning process. In its pursuit for improving environmental quality and to maintain a pristine environment for the future generation of students, Centurion University has made a self-inquiry on environmental quality of the campus with the following objectives: (i) To establish a baseline of existing environmental conditions with focus on natural and physical environment; (ii) To understand the current practices of sustainability with regard to the floral and faunal diversity inside the campus (iii) To promote environmental awareness through participatory auditing process; and (iv) To create a report that document baseline data of good practices and provide future strategies and action plans towards improving environmental quality for future.

This report is compiled by a committee constituted by IQAC. As there was no standard model for such a green audit of campuses in the state, the committee brainstormed and evolved a questionnaire. With the help of student volunteers and faculties of respective departmrnts the major part of the data was compiled, which the committee analyzed. The remaining part which involved measurement of quality was entrusted with the Department of Environmental Sciences, Department of Botany and Department of Zoology of Centurion University of Technology and Management, Odisha. The committee has made short term and long term suggestions to take environment protection to higher levels and it is hoped that this will receive due attention of University authorities and also all stake-holders of the University.

Dr. S. P. Nanda

Executive Summary

Many departments maintain garden and the campus is greener with fair biodiversity around and gardens maintained by many departments. A detailed study on floral and faunal diversity has been done. There are also one beautiful rose garden, medicinal plant garden and natural resources for butterfly inside the campus mentained by the university. Faunal and floral diversity reports are given below.

REPORT ON FLORAL DIVERSITY

Flora comes from the Latin word "*Flora*", the meaning is Goddess of plants. *Floris* means flower. Floral diversity is the diversity of plants occurring in a particular region during particular time period. It also refers to the diversity of naturally available native or indigenous plants till now a total of 2, 15, 644 species of plants have been catalogued on the earth till date. It is reported that India harbours 46, 824 species including virus/bacteria and fungi species. In India, floral diversity is concentrated in four phytogeographical unique regions like Himalayas, Western Ghats, Northeast India and Andaman and Nicober Islands. Indian flora records for 11.4% of the total recorded plant species. Angiosperms are the largest plant group in India comprising of total of 17, 817 species which constitutes 38.15% of floral diversity of the entire country followed by fungi comprising 14,698 species which is of 31.38%. High level of cryptogram (Bryophytes and Pteridophytes) diversity is also seen in the country. A total of 2,479 species of Pteridophytes and around 1265 of Bryophytes have been recorded in India. Algae and fungi have also been wide spread in India. Lichens are found in Western Ghats, Eastern and Western Himalayas and Andaman and Nicobar Islands. Most of the ferns and gymnosperms are found in cool temperate zones of the Himalayas and in the mountainous regions of southern India, especially in the Western Ghats. Indian flora represents nearly 12% of the global diversity excluding viruses. A diverse number of species of wild relatives of crop plants are also present.

Presently, considerable attention is being addressed to biological diversity of biodiversity statue which refers to the occurrence of diverse biological forms including micro-organisms, plants and animals in a particular geographical area under a set of environmental conditions. Biodiversity is the reflection of genetic variability with which the different hierarchical forms of germplasm (strains, landraces/genotypes/varieties, species, genera etc.) appear in the course of evolution. The genetic variation may exist either within the species (intra specific) to a certain extent or to a larger scale

between different species (intra specific) and taxa of higher biological order. In fact, it is the ecosystem that supports the biological variability. The diverse living forms of the ecosystem are always in a state of change keeping pace with the global environment perturbations. An ecosystem is composed of both biotic and abiotic components which are quite interrelated and influences each other.

Ecosystem diversity encompasses varieties of living forms due to miscellany of niches, tropic levels and ecological processes like nutrient recycling, food chains, food webs, energy flow and role of dominant species. The present campus of Centurion University, in Paralakhemundi Spread over 120 acres on the foothills of the Eastern ghats in a serene environment lies the main campus of Centurion University in Paralakhemundi. It is the only technological University in South Odisha.

Block wise area under survey:

Block-1: consist of subunits – 1-9 including Main gate, Playground, Tribal mess, Baitarani hostel, MBA building, protected cultivation, Banana farm and 4th gate.

Block-2: consist of the subunits- 10-18 including Hydroponics unit, Banana orchard, Temple area, CPS school, CRC1, CRC2, Pond area, Eicher lab, and Bus parking.

Block-3: consist of the subunits 19-26 including New C type quarters, Indravati hostel and Student fields, Agro-forestry field, Mango fields, Organic farm, Pond, STP 3 and STP 2.

Block-4: consist of subunits 27-34 including Central mess 1 and 2, Boy's hostel 1,2,3, A, B, C type quarters, Gram tarang blocks, Welding lab, Hill top, Dhaba, Gram tarang ground, Guest house.

Block-5: consist of subunits 35-41 Horticulture fields, Fishery Pond, Farm machinery lab, Vasco tank, Tribal village, Dairy unit and Forest side.

LIST OF DIFFERENT KINDS OF FLORA FOUND IN THE CAMPUS

SI NO	TREE SPECIES	FAMILY	BLOCK
Timber Trees			
1	*Acacia auriculoformis A. Cunn. ex Benth.*	Fabaceae	B1, B2
2	*Acacia mangium Willd.*	Fabaceae	B1, B3, B5
3	*Alstonia scholaris (L.) R.Br.*	Apocynaceae	B1, B2, B3, B4, B5
4	*Anacardium occidentale L.*	Anacardiaceae	B4, B5
5	*Araucaria heterophylla (Salisb.) Franco*	Araucariaceae	B3, B4
6	*Artocarpus heterophyllus Lam.*	Moraceae	B2, B3, B5
7	*Asparagus racemosus Wild.*		
8	*Azadirachta indica A. Juss.*	Meliaceae	B4, B5
9	*Bambusa vulgaris*	Poaceae	B3
10	*Bauhinia variegate L.*	Fabaceae	B1, B3
11	*Bombax ceiba L.*	Malvaceae	B5
12	*Buchanania lanzan spreng.*	Anacardiaceae	B4, B5
13	*Butea monosperma Lam.*	Fabaceae	B1, B2
14	*Callophylum innophylum L.*	Calophyllaceae	B1, B2, B3, B4, B5
15	*Calotropis gigantea (L.) Dryand.*	Apocyanaceae	B1, B2
16	*Casia seamea Lam.*	Fabaceae	B1, B2, B3, B4, B5
17	*Cocos nucifera L.*	Arecaceae	B1, B2, B3, B4, B5
18	*Dalbergia sissoo Roxb.*	Fabaceae	B1, B3
19	*Delonix regia (Boj. ex Hook.) Raf.*	Fabaceae	B1, B3, B4
20	*Embellica officinalis*	Phyllanthaceae	B5
21	*Ficus benghalensis L.*	Moraceae	B1, B2, B5
22	*Ficus religiosa L.*	Moraceae	B1
23	*Gliricidia seepium (Jacq.) Walp.*	Fabaceae	B1, B2, B3
24	*Gmelina arborea Roxb.*	Lamiaceae	B3, B4, B5
25	*Holarrhaena antidysenterica*	Apocyanacea	B5
26	*Leucaena leucocephala (Lam.) de Wit*	Fabaceae	B2, B3
27	*Mangifera indica L.*	Anacardiaceae	B1, B2, B3, B4, B5
28	*Melia azadirach L.*	Meliaceae	B5
29	*Mimusops elengi L.*	Sapotaceae	B3, B4

30	*Moringa oleifera Lam.*	Moringaceae	B1, B2, B3, B4, B5
31	*Murraya koengii (L.) Sprengel*	Rutaceae	B5
32	*Neolamarckia cadamba (Roxb.) Bosser*	Rubiaceae	B1, B2
33	*Plumeria alba L.*	Apocynaceae	B2, B3
34	*Polyalthia longifolia (Sonn.) Thwaites*	Annonaceae	B1, B2, B4
35	*Pongamia pinnata*	Fabaceae	B1, B2, B3
36	*Psidium guajava L.*	Myrtaceae	B3, B4
37	*Pterocarpus marsupium Roxburgh.*	Fabaceae	B1, B5
38	*Pterospermum xylocarpum*	Sterculiaceae	B4, B5
39	*Samanea samman*	Fabaceae	B1, B2, B3, B4
40	*Saraca asoca (Roxb.) Willd.*	Fabaceae	B3, B5
41	*Schleichera oleosa (Lour.) Oken*	Sapindaceae	B4, B5
42	*Shorea robusta Roth.*	Dipterocarpaceae	B4
43	*Sterospermum colais*	Bignoniaceae	B1, B2
44	*Swietenia macrophyla King.*	Meliaceae	B2, B5
45	*Syzygium cumini L.*	Myrtaceae	B2
46	*Tamarindus indica L.*	Caesalpiniaceae	B4, B5
47	*Taminalia arjuna ((Roxb.) Wight & Arn.*	Combretaceae	B5
48	*Tectona grandis L.*	Lamiaceae	B1, B2, B3, B4, B5
49	*Terminalia catapa L.*	Combretaceae	B5
50	*Ziziphus jojoba Mill.*	Rhamnaceae	B4, B5
CROP SPECIES			
51.	*Anthurium*	Araceae	B2,B1
52.	*Arachis hypogea*	Fabaceae	B2,B3
53.	*Brassica Juncea*	Brassicaceae	B2,B3
54.	*Brassica rapa subsp. chinensis*	Brassicaceae	B1,B2
55.	*Brassica rapa subsp. pekinensis*	Brassicaceae	B3,B4
56.	*Cajanus cajan*	Fabaceae	B2,B3
57.	*Carthamus tinctorius*	Asteraceae	B3
58.	*Cicer arietinum*	Fabaceae	B2
59.	*Corchorus capsularis*	Malvaceae	B2
60.	*Crotalaria juncea*	Fabaceae	B2,B3
61.	*Dendrobium spp*	Orchidaceae	B2,
62.	*Elausine coracana*	Poaceae	B2,B3

63.	*Gerbera jamesonii*	Asteraceae	B1
64.	*Gossypium spp*	Malvaceae	B2,B3
65.	*Helianthus annuus*	Asteraceae	B4,B3
66.	*Lactuca sativa*	Asteraceae	B1,B2,B3
67.	*Lens culinaris*	Fabaceae	B2,B3
68.	*Oryza sativa*	Poaceae	B2,B3
69.	*Pennisetum glaucum*	Poaceae	B2
70.	*Pisum sativum*	Fabaceae	B2,B3
71.	*Saccharum officinarum*	Poaceae	B4,B5,B3
72.	*Sesamum indicum*	Pedaliaceae	B3
73.	*Setaria italica*	Poaceae	B2,B3
74.	*Sorghum bicolar*	Poaceae	B2,B3
75.	*Vigna mungo*	Fabaceae	B2,B3
76.	*Vigna radiata*	Fabaceae	B4,B3
77.	*Zea mays*	Poaceae	B2
FRUIT AND PLANTATION TREES			
78.	*Aegle marmelos* (L.) Corr.	Rutaceae	B-1,B-5
79.	*Anacardium occidentale* L.	Anacardiaceae	B-1, B-2, B-4, B-5
80.	*Annanas comosus* L.	Bromiliaceae	B-1,B-2,B-5
81.	*Annona reticulata L.*	Annonaceae	B-1
82.	*Annona squamosa L.*	Annonaceae	B-1, B-2, B-3,B-5
83.	*Areca catechu L.*	Arecaceae	B-2, B-5
84.	*Artocarpus heterophyllus* L.	Moraceae	B-1, B-2, B-3, B-4, B-5
85.	*Averrhoea carambola L*	Oxalidaceae	B-3, B-4
86.	*Borasus flabellifer L.*	Arecaceae	B-2,B-3,B-5
87.	*Camelia sinensis* L..	Theaceae	B-4
88.	*Canthium parviflorum*	Rubiaceae	B-3, B-5
89.	*Carica papaya* L.	Caricaceae	B-1,B-2,B-3, B-4, B-5
90.	*Carissa carandas L.*	Apocynaceae	B-3, B-2, B-5
91.	*Cinnamomum verum L.*	Myrtaceae	B-2
92.	*Citrus aurantifolia L*	Rutaceae	B-2
93.	*Citrus reticulata L.*	Rutaceae	B-2,B-5
94.	*Cocus nucifera*	Arecaceae	B-1.B-2,B-3,B-4, B-5
95.	*Coffea robusta L.*	Rubiaceae	B-4

96.	*Emblica officinale L.*	Euphorbiaceae	B-2
97.	*Ficus carica L.*	Moraceae	B-2, B-4
98.	*Garcinia mangostana L.*	guttiferae	B-5
99.	*Litchi chinensis L.*	Sapindaceae	B-1
100.	*Mangifera indica L*	Anacardiaceae	B-1,B-2,B-3,B-4, B-5
101.	*Manilkara achras L.*	Sapotaceae	B-2,B-4
102.	*Morinda citrifolia*	Rubiaceae	B-2, B-3, B-4, B-5
103.	*Musa paradisica L.*	Musaceae	B-1, B-2,B-3, B-5
104.	*Nephelium longan* L	Sapindaceae	B-2
105.	*Phoenix regia L*	Arecaceae	B-2,B-3, B-5
106.	*Phoenix sylvestris L*	Arecaceae	B-2,B-3,B-5,
107.	*Prunus cerasus L*	Rosaceae	B-3
108.	*Prunus communis L.*	Rosaceae	B-1
109.	*Psidium gujava L.*	Myrtaceae	B-1, B-2, B-3
110.	*Punica granatum L.*	Punicaceae	B-1
111.	*Selenicereus undatus*	Cactaceae	B-4
112.	*Tamarindus indica L.*	Leguminaceae	B-3, B-4, B-5
113.	*Ziziphus oenoplia L*	Rhamanaceae	B-3, B-5
114.	*Zizyphus mauritiana* L.	Rhamnaceae	B-2, B-3,B-5
VEGETABLES			
115.	*Abelmoschus esculentus L.*	Malvaceae	B-2, B-5
116.	*Abelmoschus manihot* (L.) subsp. T*etraphyllus*	Malvaceae	B-2
117.	*Allium cepa L*	Amaryllidaceae	B-1, B-2, B-5
118.	*Alocasia macrorrhiza L*	Araceae	B-3
119.	*Alternanthera sessillis*	Amaranthaceae	B-1, B-2, B-5
120.	*Amaranthus blitum L.*	Amaranthaceae	B-2, B-5
121.	*Amaranthus tricolor*	Amaranthaceae	B-2
122.	*Apium graveolens L.*	Umbelliferae	B-2
123.	*Basella alba L.*	Basillaceae	B-2
124.	*Basella rubra L.*	Basillaceae	B-2, B-5
125.	*Brassica chinensis*	Cruciferae	B-2, B-5
126.	*Brassica oleracea var. acephala*	Cruciferae	B-2, B-5
127.	*Brassica oleracea var. botrytis*	Cruciferae	B-2, B-5
128.	*Brassica oleracea var. gemmifera*	Cruciferae	B-2, B-5

129.	*Brassica oleracea var. gongylodes*	Cruciferae	B-2, B-5
130.	*Brassica oleracea var. italica*	Cruciferae	B-2, B-5
131.	*Brassica oleracea var.capitata*	Cruciferae	B-2,B-5
132.	*Brassica pekinensis var rubra*	Cruciferae	B-2, B-5
133.	*Brassica rapa* L.	Cruciferae	B-2
134.	*Capsicum annuam var. grossum L.*	Solanaceae	B-1
135.	*Capsicum annum var longum L.*	Solanaceae	B-2, B-5
136.	*Citrullus lanatus L*	Cucurbitaceae	B-1
137.	*Coccinia indica L*	Cucurbitaceae	B-1, B-2,B-3, B-4,B-5
138.	*Coriandrum sativum L*	Umbelliferae	B-1, B-2,B-5
139.	*Cucumis sativus L.*	Cucurbitaceae	B-1, B-2, B-5
140.	*Cucurbita moschata L*	Cucurbitaceae	B-5
141.	*Cucurbita pepo L*	Cucurbitaceae	B-2,B-5
142.	*Cyamopsis tetragonolobus L*	Leguminaceae	B-2, B-5
143.	*Cynara scolymus L*	Compositae	B-2
144.	*Daucus carota L.*	Umbelliferae	B-5
145.	*Ipomea aquatica L*	Convolvulaceae	B-1, B-2
146.	*Lablab purpureus L*	Leguminaceae	B-2,B-3,B-5
147.	*Lactuca sativa L.*	Compositae	B-2, B-4
148.	*Luffa acutangular L*	Cucurbitaceae	B-2, B-3, B-5
149.	*Mentha arvens L.*	Piperaceae	B-2
150.	*Momordica chanrantia L.*	Cucurbitaceae	B-1,B-2,B-3,B-5
151.	*Moringa oleifera L.*	Moringaceae	B-2, B-5
152.	*Murraya koenigii L*	Rutaceae	B-2, B-3, B-4
153.	*Phaseolus vulgaris L.*	Leguminaceae	B-5
154.	*Portilaca sps.*	Portulaceaceae	B-2,B-3,B-5
155.	*Raphanus sativus L.*	Cruciferae	B-2, B-5
156.	Rumex vesicarius L.	Polygonaceae	B-2
157.	*Sesbania grandiflora L*	Leguminaceae	B-2
158.	*Solanum indicum L.*	Solanaceae	B-2, B-5
159.	*Solanum lycopersicum L*	Solanaceae	B-2, B-5
160.	*Solanum lycopersicum var. cerasiforme*	Solanaceae	B-2
161.	*Solanum melongena L.*	Solanaceae	B-1, B-2, B-5
162.	*Solanum tuberosum L*	Solanaceae	B-1

163.	*Vigna unguiculata L.*	Leguminaceae	B-5
164.	*Zea mays var. rugosa L.*	Poaceae	B-3, B-5
MEDICINAL AND AROMATIC CROPS			
165.	*Acacia longifolia*	Leguminaceae	B-2
166.	*Adenanthera pavonine*	Fabaceae	B-2
167.	*Allamanda purpurea*	Acanthaceae	B-2
168.	*Bixa ollerana*	Bixaceae	B-2
169.	*Bombax ceiba*	Malvaceae	B-2
170.	*Butea monosperma*	Leguminaceae	B-2
171.	*Callistemon lanceolatus*	Myrtaceae	B-2
172.	*Citharexylum spinosum*	Verbenaceae	B-2
173.	*Clerodendrum indicum*	Lamiaceae	B-2
174.	*Cymbopogon sp*	Gramineae	B-2
175.	*Endospermum diadenum*	Euphorbiaceae	B-2
176.	*Gardenia jasminoides*	Rubiaceae	B-2
177.	*Gmelina arborea*	Verbenaceae	B-2
178.	*Grewia asiatica*	Tiliaceae	B-2
179.	*Hamelia patens*	Rubiaceae	B-2
180.	*Juglans regia*	Juglandaceae	B-2
181.	*Kaempferia parviflora*	Zingeberaceae	B-2
182.	*Kigelia Africana*	Bignoniaceae	B-2
183.	*Lagerstroemia flos-reginae*	*Lythraceae*	B-2
184.	*Lawsonia inermis*	*Lythraceae*	B-2
185.	*Leucophyllum frutescens*	Scrophulariaceae	B-2
186.	*Ligustrum sinense*	Oleaceae	B-2
187.	*Limonia acidissima*	Rutaceae	B-2
188.	*Manilkara hexandra*	Sapotaceae	B-2
189.	*Melia azaderach*	Meliaceae	B-2
190.	*Mimusops elengii*	Sapotaceae	B-2
191.	*Murraya exotica*	Rutaceae	B-2
192.	*Nyctanthes arbor-tristis*	Nyctanthaceae	B-2
193.	*Oroxylum indicum*	Bignoniaceae	B-2
194.	*Phyllanthus Emblica*	Phyllanthaceae	B-2
195.	*Pimenta dioica*	Myrtaceae	B-2

196.	*Plantanus racemose*	Platanaceae	B-2
197.	*Plumeria pudica*	Apocynaceae	B-2
198.	*Prunus serotina*	Rosaceae	B-2
199.	*Psoropis cineraria*	Fabaceae	B-2
200.	*Pterocarpus santalinus*	Leguminaceae	B-2
201.	*Pterocarya rhoifolia*	Juglandaceae	B-2
202.	*Putranjiva roxburghii*	Euphorbiaceae	B-2
203.	*Quercus cestaneifolia*	Fagaceae	B-2
204.	*Rhus glabra*	Anacardiaceae	B-2
205.	*Salix sp*	Salicaceae	B-2
206.	*Santalum album*	*Santalaceae*	B-2
207.	*Sapindus mukorossi*	Sapindaceae	B-2
208.	*Spathodea campanulate*	Bignoniaceae	B-2
209.	*Stachytarpheta jamaicensis*	Verbenaceae	B-2
210.	*Strychnos spinosa*	Loganiaceae	B-2
211.	*Swietenia macrophylla*	Meliaceae	B-2
212.	*Syzigium sp*	Myrtaceae	B-2
213.	*Terminalia catappa*	Combretaceae	B-2
214.	*Thespesia populnea*	Malvaceae	B-2
CLIMBERS			
215.	*Allamanda blanchetti* A.DC.	Apocynaceae	B-2
216.	*Allamanda cathartica var grandiflora*	Apocynaceae	B-2
217.	*Artabotrys odoratissimus*	Annonaceae	B-2
218.	*Asparagus racemosus* Willd.	Asparagaceae	B-2
219.	*Bougainvillea spp.*	Nyctaginaceae	B-2
220.	Cardiospermum halicacabum	Sapindaceae	
221.	Cissus nodosa	Vitaceae	B-3, B-5
222.	Cissus striata	Vitaceae	B-5
223.	*Clerodendron splendens*	Verbanaceae	B-1
224.	*Clitoria ternatea L*	Leguminaceae	B-1,B-2,B-5
225.	*Coccinia grandis* (L.)	Cucurbitaceae	B-3,B-4
226.	*Cuscuta reflexa* Roxb.	Cuscutaceae	B-4
227.	Epipremum aureum L	Araceae	B-2,B-3,B-5
228.	Gloriosa superba	Colchicaceae	B-5,B-3

229.	*Ipomea cairica*	Convolvulaceae	B-2,B-5
230.	*Ipomoea obscura* Ker.-Gawl.	Convolvulaceae	B-4
231.	*Ipomoea quamoclit* L.	Convolvulaceae	B-3
232.	*Ipomoea sepiaria Koenig* ex Roxb.	Convolvulaceae	B-3,B-4
233.	*Jacquemontia pentantha L.*	Convolvulaceae	B-1,B-4
234.	*Jasminum nitidum L.*	Oleaceae	B-2
235.	Nastrucium	Tropaeolaceae	B-5
236.	*Piper betel* L	Piperaceae	B-2
237.	*Piper longum* L.	Piperaceae	B-2
238.	*Pyrostegia venusta*	Bignoniaceae	B-2
239.	*Quisqualis indica* L.	Combretaceac	B-2
240.	Sarcopetalum harveyanum L.	Menispermaceae	B-5, B-3
241.	Sicyos angulatus L.	Cucurbitaceae	B-5,B-3
242.	*Syngonium podophyllum* Schott	Araceae	B-2
243.	*Tinospora cordifolia*(Thunb.) Miers	Menispermaceae	B-2
SHRUBS			
244.	*Acalypha hispida L*	Euphorbiaceae	B-1,B-2
245.	*Allamanda grandiflora L.*	Apocynaceae	B-1, B-2, B-3
246.	*Aralia*	Araliaceae	B-1,B-2,B-3,B-4, B-5
247.	*Artabotrys odoratissimus L*	Annonaceae	B-2, B-5
248.	*Barleria cristata L.*	Acanthaceae	B-1, B-2,B-3,B-4,B-5
249.	*Bauhinia tomentosa L*	Leguminaceae	B-1, B-2,B-3,B-5
250.	*Beloperone guttata L.*	Acanthaceae	B-2
251.	*Caesalpinia pulcherrima L.*	Leguminaceae	B-1,B-2,B-3, B-5
252.	*Calotropis gigantia L.*	Apocynaceae	B-5
253.	*Calotropis procera L.*	Apocynaceae	B-4, B-5
254.	*Clerodendron inerme L.*	Verbenaceae	B-1
255.	*Crossandra*	Acanthaceae	B-2,B-3,B-5
256.	*Duranta plumieri*	Verbenaceae	B-1,B-2,B-3,B-4,B-5
257.	*Hibiscus mutabilis*	Malvaceae	B-1,B-2, B-3,B-4, B-5
258.	*Hibiscus rosasinensis*	Malvaceae	B-2,B-5
259.	*Ixora*	Rubiaceae	B-1,B-2,B-3, B-4,B-5
260.	*Lantana camera*	Verbenaceae	B-2,B-3, B-4, B-5
261.	*Mimosa pudica L.*	Fabaceae	B-1,B-2,B-3,B-4,B-5

262.	*Poinsettia pulcherrima*	Euphorbiaceae	B-1,B-2,B-3,B-4,B-5
FOLIAGE PLANTS			
263.	*Acalypha hispida*	Euphorbiaceae	B-1, B-2,B-4,B-5
264.	*Acalypha wilkesiana Mull.*	Euphorbiaceae	B-2,B-4,B-5
265.	*Agave americana*	Amaryllidaceae	B-2,B-4
266.	*Agave salmiana Otto ex Salm-Dyck*	Asparagaceae	B-2
267.	*Agloanema spp.*	Araceae	B-2
268.	*Aglonemma nitidum*	Araceae	B-2
269.	*Alternanthera bicolour*	Amaranthaceae	B-2
270.	*Araucaria spp.*	Coniferae	B-2,B-1
271.	*Asparagus spp.*	Lilaceae	B-2
272.	*Begonia spp.*	Bignoniaceae	B-1,B-2,B-4,B-5
273.	*Bryophyllum sp.*	Crassulaceae	B-2
274.	*Caladium bicolour*	Araceae	B-2
275.	*Calathea spp*	Maranthaceae	B-2
276.	*Callisia repens*	Commelinaceae	B-2
277.	*Chlorophytm comosum variegate*	Liliaceae	B-2,B-1
278.	*Codiaeum variegatum*	Euphorbiaceae	B-1,B-2,B-3,B-4,B-5
279.	*Coleus spp.*	Lamiaceae	B-1,B-2,B-3,B-4,B-5
280.	*Cordyline fruticosa(L.) A.Chev. (L.)Nees.*	Agavaceae	B-1,B-2,B-3,B-4,B-5
281.	*Crassula ovata*	Crassulaceae	B-2
282.	*Ctenanthe lubbersiana*	Marantaceae	B-2
283.	*Cycas revoluta*	Cycadaceae	B-1,B-2,B-3,B-4,B-5
284.	*Dieffenbachia maculate*	Araceae	B-1,B-2,B-3,,B-5
285.	*Dracaena marginata*	Asparagaceae	B-1,B-2,B-3,,B-5
286.	*Dracaena marginataLam. 'tricolor'*	Agavaceae	B-2,B-3
287.	*Dracaena sanderiana Mast.*	Asparagaceae	B-2,B-3,B-5
288.	*Dracena reflexa*	Asparagaceae	B-2,B-3
289.	*Duranta erecta*	Verbenaceae	B-1,B-2,B-3,B-4,B-5
290.	*Duranta goldiana*	Verbenaceae	B-1,B-2,B-3,B-4,B-5
291.	*Duranta repens L.*	Verbenaceae	B-1,B-2,B-3,B-4,B-5
292.	*Ficus elastioca*	Moraceae	B-2
293.	*Juniperus chinensis*	Cupressaceae	B-2
294.	*Pedilanthus tithymaloides*	Euphorbiaceae	B-2,B-3,B-4,B-5

295.	*Philodendron spp.*	Araceae	B-1,B-2,B-5
296.	*Ravenala madagascariensis*	Strelitziaceae	B-1,B-2
297.	*Roheo bicolor*	Commelinaceae	B-2
298.	*Sansevieria trifasicata*	Aspargaceae	B-1,B-2
299.	*Scindapsus aureus*	Araceae	B-2,B-5
300.	*Syngonium podophyllum*	Araceae	B-1,B-2,B-3,B-4,B-5
301.	*Tradescantia pallida*	Commelinaceae	B-1,B-2,B-3,B-4,B-5
302.	*Tradescantia spatheca*	Commenlinaceae	B-1,B-2,B-3,B-4,B-5
303.	*Tradescantia zebrina*	Commelinaceae	B-2
304.	*Zamia furcarea*	Asparagaceae	B-2
FLOWERING PLANTS			
305.	*Adenium obesum*	Apocynaceae	B-1,B-2,B-4,B-5
306.	*Alyssum maritimum*	Compositeae	B-2
307.	*Barleria cristata L.*	acanthaceae	B-2
308.	*Barleria prionitis L.*	acanthaceae	B-2
309.	*Caesalpinia pulcherrima*	Fabaceae	B-1,B-2,B-4,B-5
310.	*Canna indica*	Cannaceae	B-2
311.	*Celosia argentia*	Amranthaceae	B-2
312.	*Chrysanthemum cinerariifolium*	asteraceae	B-2,B-3
313.	*Chrysanthemum grandiflorum*	Compositeae	B-2,B-3
314.	*Cosmos bipinnatus*	Compositeae	B-2
315.	*Cosmos caudatus Kunth*	asteraceae	B-2
316.	*Crossandra infundibuliformis*	Acanthaceae	B-1,B-2,B-5
317.	*Cuphea hyssopifolia Kunth*	Lythraceae	B-2
318.	*Euphorbia heterophylla L.*	Euphorbiaceae	B-2
319.	*Euphorbia hirta L.*	Euphorbiaceae	B-2
320.	*Euphorbia indica Lam*	Euphorbiaceae	B-2
321.	*Euphorbia mili*	Euphorbiaceae	B-2,B-5
322.	*Euphorbia pulcherrima Willd. ex Klotzsch*	Euphorbiaceae	B-2
323.	*Euphorbia tithymiloides L.*	Euphorbiaceae	B-1,B-2
324.	*Gardenia carinata Wall. ex Roxb.*	Rubiaceae	B-2,
325.	*Gardenia jasminoides J.Ellis*	Rubiaceae	B-2
326.	*Gerbera jamesonii*	Compositeae	B-1,B-2
327.	*Gomphrena globosa L.*	Amaranthaceae	B-2

328.	*Hamelia patens Jacq.*	Rubiaceae	B-1
329.	*Helianthus annus*	Compositeae	B-2,B-3
330.	*Hibiscus canabinus L*	Malvaceae	B-1.B-2,B-3,B-4,B-5
331.	*Hibiscus mutabilis L.*	Malvaceae	B-1.B-2,B-3,B-4,B-5
332.	*Hibiscus rosa-sinensis L.*	Malvaceae	B-1.B-2,B-3,B-4,B-5
333.	*Hymenocallis litterolis*	Amaryllidaceae	B-2
334.	*Impatiens balsamina L.*	Balsaminaceae	B-2
335.	*Impatiens glandulifera Royle*	Balsaminaceae	B-2
336.	*Ipomoea carnea Jacq.*	Convolvulaceae	B-1,B-2
337.	*Ixora coccinea*	Rutaceae	B-1.B-2,B-3,B-4,B-5
338.	*Jasminium auriculatum*	Oleaceae	B-1,B-2,B-5
339.	*Jasminium sambac*	Oleaceae	B-1,B-2,B-5
340.	*Jatropha gossypifolia L.*	Euphorbiaceae	B-2,B-5
341.	*Lilium spp*	Lilliaceae	B-2
341.	*Malvaviscus arboreus Cav.*	malvaceae	B-1.B-2,B-3,B-4,B-5
342.	*Mimosa pudica L.*	Mimosaceae	B-1,B-2,B-5
343.	*Mirabilis jalapa L.*	Nyctaginaceae	B-2
344.	*Orchid spp.*	Orchidaceae	B-2
345.	*Polianthus tuberosa*	Amaryllidaceae	B-2,B-3
346.	*Portulaca grandiflora*	Portulaceae	B-1.B-2,B-3,B-4,B-5
347.	*Portulaca oleracea L. var. oleracea*	Portulaceae	B-1.B-2,B-3,B-4,B-5
348.	*Portulaca pilosa L. subsp. grandiflora (Hook.) Geesink*	Portulaceae	B-1.B-2,B-3,B-4,B-5
349.	*Rosa alba L.*	Rosaceae	B-2
350.	*Rosa centifolia L*	Rosaceae	B-2
350.	*Rosa chinenesis Jacquin*	Rosaceae	B-2
351.	*Rosa damascina Miller*	Rosaceae	B-2
352.	*Rosa indica L.*	Rosaceae	B-1,B-2
353.	*Rosa odorata (Andr.)Sweet var. odorata*	Rosaceae	B-2
354.	*Ruellia brittoniana* Leonard	Acanthaceae	B-2
355.	*Strelitzia reginae*	Strelitziaceae	B-2
356.	*Tagetes erecta*	Compositeae	B-1.B-2,B-3,B-4,B-5
357.	*Tagetes patula*	Compositeae	B-1.B-2,B-3,B-4,B-5
358.	*Tecoma stans (L.) Kunth.*	bignoniaceae	B-2,B-5
359.	*Zephyranthes candida*	Amaryllidaceae	B-2

360.	*Zephyranthes candida (Lindl.)Herb.*	Amaryllidaceae	B-2
361.	*Zephyranthes rosea(Lindl.)*	Amaryllidaceae	B-2
362.	*Zinnia elegans Jack.*	Asteraceae	B-2
PALMS, FERNS, CACTUS AND GROUND COVERS			
363.	*Alternanthera ficodea*	Amranthaceae	B-2
364.	*Beaucarnea recurvata*	Arecaceae	B-2
365.	*Cactus spp.*	Cactaceae	B-1,B-2
366.	*Crysalidocarpus lutesens*	Arecaceae	B-1,B-2
367.	*Cuphea gerlonica*	Lythraceae	B-1,B-2
368.	*Cycas revoluta*	Arecaceae	B-1.B-2,B-3,B-4,B-5
369.	*Dypsis leptocheilos*	Arecaceae	B-1,B-2
370.	*Hyophorbe legenicaulis*	Arecaceae	B-1,B-2
371.	*Iresine lindenii*	Amranthaceae	B-2
372.	*Livingstonia rotundifolia*	Arecaceae	B-1,B-2
373.	*Phoenix roebelenii*	Arecaceae	B-5
374.	*Raphis excelsa*	Arecaceae	B-1,B-2
375.	*Roystonea regia*	Arecaceae	B-1,B-2
376.	*Tridax procumbens*	Asteraceae	B-2
GRASSES			
377.	*Aristida setacea* Rctz.	Passifloraceae	B-1,B-2,B-3,B-4
378.	*Bambusa vulgaris Schrad.* Ex J.C.Wendl.	Asclepidaceae	B-2, B-5
379.	*Bothriochloa pertusa* (L.) A. Camus	Verbenaceae	B-1,B-2,B-3,B-4, B-5
380	*Brachiaria distachya* (L.) Stapf	Araceae	B-1,B-2,B-3,B-4, B-5
381.	*Brachiaria mutica* (Forssk.) Stapf	Piperaceae	B-2
382.	*Brachiaria ramosa* (L.) Stapf	Piperaceae	B-1,B-5
383.	*Chloris barbata* Sw.	Bignoniaceae	B-1,B-5
384.	*Chrysopogon aciculatus* (Retz.) Trin.	Bignoniaceae	B-1,B-2,B-3,B-4, B-5
385.	*Cynodon dactylon* (L.) Pers.	Combretaceac	B-1,B-2, B-3, B-4,B-5
386.	*Cyperus brevifolius* (Rottb.) Hassk.	Araceae	B-3, B-5
387.	*Cyperus compactus* Retz.	Menispermaceae	B-1,B-3
388.	*Cyperus difformis* L.	Araceae	B-1,B-3
389.	*Cyperus halpan* L.	Acanthaceae	B-2
390.	*Cyperus imbricatus* Retz.	Acanthaceae	B-1,,B-2, B-3, B-4
391.	*Cyperus iria* L.	Menispermaceae	B-1,B-3,B-4

392.	*Cyperus triceps* Endl.	Cyperaceae	B-1,B-3,B-4
393.	*Dactyloctenium aegypticum* (L.) P.Beauv.	Poaceae	B-1,B-2,B-3
394.	*Digitaria abludens* (Roem. & Schult.) Veldk.	Poaceae	B-3
395.	*Digitaria ciliaris* (Retz.) Koeler	Poaceae	B-1,B-2,B-3
396.	*Echinochloa colona (*L.) Link	Poaceae	B-1,B-2,B-3
397.	*Eleusine indica (*L.) Gaertn.	Poaceae	B-1,B-2,B-3,B-4
398.	*Elusine coracana (*L.)Gaertn	Poaceae	B-2
399.	*Eragrostis ciliaris* (L.) R.Br.	Poaceae	B-3
400.	*Eragrostis ciliata* Roxb. Nees	Poaceae	B-1,B-2,B-3,B-4
401.	*Eragrostis unioloides* (Retz.) Nees ex Steud.	Poaceae	B-1,B-2,B-3,B-4
402.	*Eriochloa procera* (Retz.)Hubbard	Poaceae	B-1,B-2,B-3,B-4
403.	*Paspalum scrobiculatum* L.	Poaceae	B-2,B-3
404.	*Paspalum vaginatum* Sw.	Poaceae	B-1,B-3
399.	*Pennisetum pedicellatum* Trin.	Poaceae	B-1,B-3,B-4
400.	*Pennisetum purpureum* Schumach	Poaceae	B-3,B-4
401.	*Perotis indica* (L.) Kuntz	Poaceae	B-3,B-4
402.	*Pogonantherum crinitum*(Thunb.) Kunth	Poaceae	B-2
404.	*Setaria pumila* (Poir.) Roem. & Schult.	Poaceae	B-1,B-3,B-4
405.	*Setaria verticillata* (L.) P.Beauv.	Poaceae	B-1,B-4

Pic: Rose garden, CUTM, Paralakhemundi.

Pic: Fish pond, CUTM, Paralakhemundi.

Pic: Fish pond, CUTM, Paralakhemundi.

FAUNAL DIVERSITY

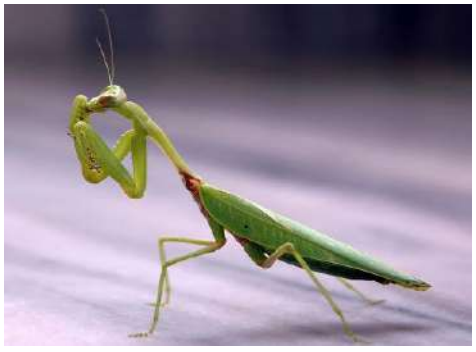
A survey on faunal diversity in our Paralakhemundi campus of Centurion University of Technology and Management has done from 1st of December 2020 to 25th of December 2020. Based on the survey, we prepared report and hereby the report is submmited to the Department of Entomology, MSSSOA, CUTM, Paralakhemundi on 30th of December.

ANIMAL	Sl.No.	Common name	Scientific name
Invertebrates	**1.**	Preying mantid	*Mantis religiosa*
	2.	Two-spotted assassin bug	*Platymeris biguttatus*
	3.	Scarlet skimmer	*Crocothemis servilia*
	4.	Globe skimmer	*Pantala flavescens*
	5.	Slender skimmer	*Orthetrum sabina*
	6.	Great spreadwing	*Archilestes grandis*
	7.	Coconut rhinoceros beetle	*Oryctes rhinoceros*
	8.	Dung beetle	*Dichotomius carolinus*
	9.	Six-spot ground beetle	*Anthia sexguttata*
	10.	Dark grass blue	*Zizeeria knysna*
	11.	Tussock moth	*Lymantria sp.*
	12.	Swallowtail butterfly	*Papilio demoleus*
	13.	Rosy gypsy moth	*Lymantria mathura*
	14.	Indian honey bee	*Apis cerana indica*
	15.	Rock bee	*Apis dorsata*
	16.	Beet webworm moth	*Spoladea recurvalis*
	17.	Quaker butterfly	*Neopithecops zalmora*
	18.	Chocolate pansy	*Junonia iphita*
	19.	The Tiny grass blue	*Zizula hylax*
	20.	Silverline	*Cigaritis vulcanus*
	21.	Cucumber moth	*Diaphania indica*
	22.	Sugarcane looper	*Mocis frugalis*
	23.	The common evening brown	*Melanitis leda*
	24.	Green silk moth	*Thrlocha varians*
	25.	Peacock pansy	*Junonia almosa*

	26.	Common Pierrot	*Castaleus rosimon*
	27.	Common Branded Redeye	*Matapa aria*
Vertebrates	**28.**	Chicken bird	*Gallus gallus domesticus*
	29.	Dog	*Canis lupus familiaris*
	30.	Cat	*Felis catus*
	31.	Cattle	*Bos indicus*
	32.	Domestic water buffalo	*Bubalus bubalis*
	33.	Catla fish	*Labeo catla*
	34.	Rohu fish	*Labeo rohita*
	35.	Mrigal carp	*cirrhinus mrigala*
	36.	*Cyprinus rubrofuscus*	Cyprinidae
	37.	*Cyprinus carpio*	Cyprinidae
	38.	*Poecilia reticulata*	Poeciliidae
	39.	*Poecilia sphenops*	Poeciliidae
	40.	*Danio rerio*	Cyprinidae
	41.	*Pterophyllum scalare*	Cichlidae
	42.	*Carassius auratus*	Cyprinidae
	43.	*Cyprinus rubrofuscus var koi*	Cyprinidae

FAUNAL DIVERSITY

1. Scientific name: *Mantis religiosa*
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Dictyoptera
Family: mantidae
Genus: *Mantis*
Species: *religiosa*
LOCATION



Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

Mantises are distributed worldwide in temperate and tropical habitats. They have triangular heads with bulging eyes supported on flexible necks. Their elongated bodies may or may not have wings, but all Mantidea have forelegs that are greatly enlarged and adapted for catching and gripping prey; their upright posture, while remaining stationary with forearms folded, has led to the common name praying mantis.

2. **Scientific name:** *Poekilocerus pictus*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Orthoptera
Family: Pyrgomorphidae
Genus: ***Poekilocerus***
Species: ***pictus***

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

Poekilocerus pictus is a large brightly coloured grasshopper found in the Indian subcontinent. Nymphs of the species are notorious for squirting a jet of liquid up to several inches away when grasped. The half-grown immature form is greenish-yellow with fine black markings and small crimson spots. The mature grasshopper has canary yellow and turquoise stripes on its body, green tegmina with yellow spots, and pale red hind wings. It changes its outward appearance by molting. The grasshopper feeds on the poisonous plant *Calotropis gigantea*.Upon slight pinching of the head or abdomen, the half-grown immature form ejects liquid in a sharp and sudden jet, with a range of two inches or more, from a dorsal opening between the first and second abdominal segments. The discharge is directed towards the pinched area and may be repeated several times. The liquid is pale and milky, slightly viscous and bad-tasting, containing cardiac glycosides that the insect obtains from the plant it feeds upon.

3. **Scientific name:** *Platymeris biguttatus*

CLASSIFICATION

Kingdom: Animalia

Phylum: Arthropoda

Class: Insecta

Order: Hemiptera

Family: Reduviidae

Genus: *Platymeris*

Species: *biguttatus*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

Platymeris biguttatus or two-spotted assassin bug is a venomous predatory true bug of west and southwest African origin ranging in size from 10–40 mm. As a true bug of the order hemiptera, it has needle like mouth parts designed for sucking juices out of plants or other insects instead of chewing. *P. biguttatus* has sharp stylets in its proboscis or rostrum used to pierce the exoskeleton of its prey. Saliva is then injected into the prey which liquifies its tissues, and the rostrum is then used to suck out the digested fluids. If disturbed, it is capable of a defensive bite considered to be more painful than a bee sting. It is also known to spit venom that can cause temporary blindness in humans

4. **Scientific name:** *Crocothemis servilia*

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Odonata
Infraorder: Anisoptera
Family: Libellulidae
Genus: *Crocothemis*
Species: *servilia*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

It is a medium sized blood-red dragonfly with a thin black line along the mid-dorsal abdomen. Its eyes are blood-red above, purple laterally. Thorax is bright ferruginous, often blood-red on dorsum. Abdomen is blood-red, with a narrow black mid-dorsal carina. Anal appendages are blood-red. Female is similar to the male; but with olivaceous-brown thorax and abdomen. The black mid-dorsal carina is rather broad. It breeds in ponds, ditches, marshes, open swamps and rice fields.

5. **Scientific name:** *Pantala flavescens*

CLASSIFICATION

Kingdom:Animalia
Phylum:Arthropoda
Class: Insecta
Order: Odonata
Infraorder: Anisoptera
Family: Libellulidae
Genus: *Pantala*
Species: *flavescens*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The dragonfly is up to 4.5 cm long, reaching wingspans between 7.2 cm and 8.4 cm. The front side of the head is yellowish to reddish. The thorax is usually yellow to golden coloured with a dark and hairy line. There were also specimens with a brown or olive thorax. The abdomen has a similar colour as the thorax. The wings are clear and very broad at the base. There, too, there are some specimens with olive, brown and yellow wings. On Easter Island there are wandering gliders with black wings

6. Scientific name: *Orhtetrum sabina*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Odonata
Infraorder: Anisoptera
Family: Libellulidae
Genus: *Orthetrum*
Species: *sabina*

LOCATION
Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS
It is a medium-sized dragonfly with a wingspan of 60-85mm. Adults are grayish to greenish yellow with black and pale markings and green eyes. Its abdomen is greenish-yellow, marked with black. It is very similar to Orthetrum serapia in appearance, with both species appearing in northern Australia. Pale markings on segment four of the abdomen do not extend into the posterior section when viewed from above on Orthetrum sabina. Females are similar to males in shape, color and size; differing only in sexual characteristics. This dragonfly perches motionless on shrubs and dry twigs for long periods. It voraciously preys on smaller butterflies and dragonflies

7. **Scientific name:** *Archelestes grandis*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Odonata
Suborder: Zygoptera
Family: Lestidae
Genus: *Archilestes*
Species: *grandis*

LOCATION
Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS
The great spreadwing is one of the largest North American spreadwings, with a length of 2-2.4 inches and a wingspan of 3 inches. The thorax of the male is dull greenish bronze above it is a broad diagonal yellow stripe on sides. It is also the only species with a broad yellow racing stripe on the sides of thorax. The abdomen is dark with a blue-gray tip. Its eyes and face are blue. Females are similar to males but are more brown on the body. Her eyes are more of a paler blue than the male. The yellow stripe also occurs on the female great spreadwing. When females are laying eggs they may appear in a putty-color. It is much the same color as the withered leaves in which they lay eggs.

8. Scientific name: *Oryctes rhinoceros*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Coleoptera
Family: Scarabaeidae

Subfamily: Dynastinae
Tribe: Oryctini
Genus: *Oryctes*
Species: *rhinoceros*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The Asiatic rhinoceros beetle, coconut rhinoceros beetle or coconut palm rhinoceros beetle, (Oryctes rhinoceros) is a species of rhinoceros beetle of the family Scarabaeidae. O. rhinoceros attacks the developing fronds of raffia, coconut, oil, and other palms in tropical Asia and a number of Pacific islands. Damaged fronds show typical triangular cuts. The beetle kills the palms (particularly newly planted ones) when the growing point is destroyed during feeding. They also infest dead trunk debris.

9. **Scientific name:** *Dichotpmius carlolinus*

CLASSIFICATION

Kingdom: Animalia
Subphylum: Hexapoda
Class: Insecta
Order: Coleoptera
Suborder: Polyphaga
Superfamily: Scarabaeoidea
Subfamily: Scarabaeinae
Genus: *Dichotomius*
Species: *carolinus*

LOCATION

Centurion University of technology and mana

GENERAL CHARACTERISTICS

Dichotomius carolinus are commonly know as Dung Beetles. They are approximately 3/8" - 3/4" in size. The Dung Beetle gets it's name from it primary source of food, animal waste. There are three types of Dung Beetles which are classified by their behaviors. Tunnelers, dig through the manner and create elaborate shafts with different chambers for living, storage of dung, and for incubating larvae. Dwellers lay eggs inside the dung pats or just under dung pats. The last group, Rollers, are what Dichotomius carolinus belong to. Rollers, collect dung and compact it into a sphere. These beetles then roll the ball away from the and burry it to consume later, and as a source of food for eggs. Dichotomius carolinus are know to feed on other food sources, such as fungi, when fresh dung cannot be found. Dung Beetles exhibit bilateral symmetry, have six legs, and a specialized adaptations called elytra, which are hard covering which protect their delicate wings. Dung Beetles exhibit typical insect segmentation and have a head, thorax, and abdomen.

10. Scientific name: ***Anthia sexguttata***

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Coleoptera

Family: Carabidae
Genus: *Anthia*
Species: *sexguttata*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

Adults measure approximately 4 cm (1.5 inches), are black with six relatively large, white, dorsal spots (four over the elytra and two on the thorax). Other patterns are possible although the pattern is always symmetrical. The larva has a flattened form, a large head capsule, and prominent mandibles.

11. Scientific name: *Zizeeria knysna*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Lycaenidae
Genus: *Zizeeria*
Species: *knysna*

LOCATION

Centurion University of Technology and Management, Paralakhemundi Campus.

GENERAL CHARACTERISTICS

These are the blue butterfly which are major nectar feeders.

12. Scientific name: *Lymantria* sp.

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Erebidae
Genus: *Lymantria*
Species: not sure

LOCATION

Centurion University of Technology and Management, Paralakhemundi Campus.

GENERAL CHARACTERISTICS

Attractive moths belonging to super family Noctuoidiae.

13. Scientific name: *Papilio demoleus*

CLASSIFICATION

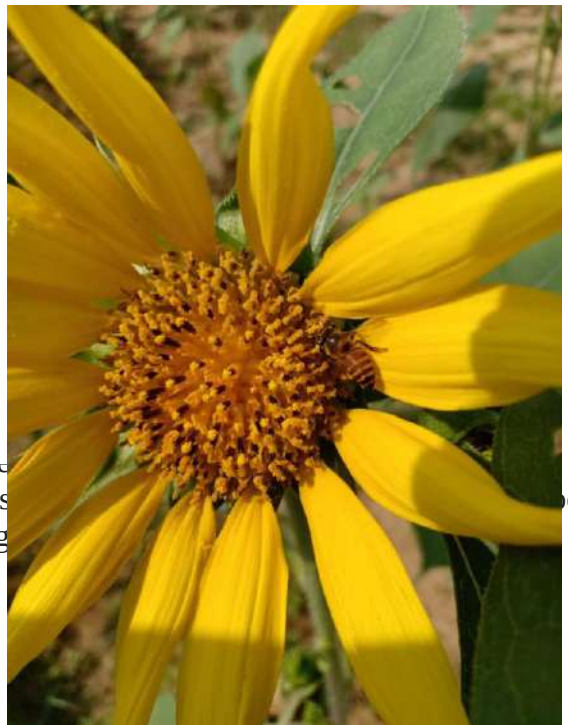
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Papilionidae
Genus: Papilio
Species: P. demoleus

LOCATION
Centurion University of technology and management, Parlakhemundi Campus.
GENERAL CHARACTERISTICS
Papilio demoleus is a common and widespread swallowtail butterfly. The butterfly is also known as the lime butterfly lemon butterfly, lime swallowtail, and chequered swallowtail. These common names refer to their host plants, which are usually citrus species such as the cultivated lime. Unlike most swallowtail butterflies, it does not have a prominent tail. The butterfly is a pest and invasive species, found from Asia to Australia.

14. Scientific name: *Lymantria mathura*
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Erebidae
Genus: *Lymantria*
Species: *mathura*

LOCATION
Centurion University of Technology and Man
GENERAL CHARACTERISTICS
The wingspan is 40–50 mm for males and 70- ling on *Terminalia*, *Shorea*, *Quercus*, *Mangifera*, *Eugenia* and *Mitragyna*. It is considered a pest, since it is a major defoliator of deciduous trees.

15. Scientific name: *Apis cerana indica*



CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Hymenoptera
Family: Apidae
Genus: *Apis*
Species: *cerana indica*
LOCATION
Centurion University of Technology and Manage
GENERAL CHARACTERISTICS
They usually build multiple combed nests in tre bees can adapt to living in purpose-made hives and cavities otentially colonize temperate or mountain areas with prolong

16. Scientific name: *Apis dorsata*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Hymenoptera
Family: Apidae
Genus: *Apis*
Species: *dorsata*

LOCATION
Centurion University of Technology and Manage

GENERAL CHARACTERISTICS
Highly ferocious rock bees with comparatively n

17. Scientific name: *Spoladea recurvalis*

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Crambidae
Genus: *Spoladea*
Species: *recurvalis*

LOCATION
Centurion University of Technology and Manage

GENERAL CHARACTERISTICS

Spoladea recurvalis, the **beet webworm moth** or **Hawaiian beet webworm**, is a species of moth of the family Crambidae. It is found worldwide, but mainly in the tropics. The wingspan is 22–24 mm. The moth flies from May to September depending on the location. The larvae feed on spinach, beet, cotton, maize and soybean. They feed on the underside of the leaves protected by a slight web.

18. Scientific name: *Neopithecops zalmora*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Lycaenidae
Genus: *Neopithecops*
Species: *zalmora*

LOCATION
Centurion University of Technology and Manag

GENERAL CHARACTERISTICS
It is also known as Quaker. The larvae are known to feed on *Diospyros* (Ebenaceae) and many species of *Glycosmis* (Rutaceae) including *G. arborea*, *G. parviflora* and *G. pentaphylla*.

19. Scientific name: *Junonia iphita*
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Nymphalidae
Genus: *Junonia*
Species: *iphita*
LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS

It is a medium-sized lepidopteran which is also known as Chocolate pansy or Chocolate soldier. The wingspan is about 5–6 cm (2.0–2.4 in) and the female can be told apart from the male by white markings on the oblique line on the underside of the hindwing. The wavy lines on the underside of the wings vary from wet- to dry-season forms. Individuals maintain a territory and are usually found close to the ground level and often bask in the sun.

20. Scientific name: *Zizula hylax*
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Lycaenidae
Genus: *Zizula*
Species: *hylax*

LOCATION
Centurion University of Technology and Manag
GENERAL CHARACTERISTICS
The wingspan of the adults is about 1.5 centime nd flattened, with a diameter of about 0.5 millimetres (0.020 in). They are laid singly on buds and flowers of a food plant. The caterpillars are 0.7 centimetres (0.28 in) long, green with a dark red line along the back, and light and dark lines partway along the sides. The sides are hairy, and the head is pale brown. The pupa is 0.7 cm long, hairy and green, and is attached to a stem or the underside of a leaf of a food plant.

21. Scientific name: *Cigaritis vulcanus*
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta

Order: Lepidoptera
Family: Lycaenidae
Genus: *Cigaritis*
Species: *vulcanus*

LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS
It is also known as Common Silvering. Their numbers peak during the south-west and north-east monsoons. It inhabits scrub land with sparse vegetation, hedge rows, scrub jungles and secondary forest.

22. Scientific name: *Diaphania indica*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Crambidae
Genus: *Cigaritis*
Species: *vulcanus*

LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS
The wingspan is about 30 mm. Adults have translucent whitish wings with broad dark brown borders. The body is whitish below, and brown on top of head and thorax as well as the end of the abdomen. There is a tuft of light brown "hairs" on the tip of the abdomen, vestigial in the male but well developed in the female. It is formed by long scales which are carried in a pocket on each side of the 7th abdominal segment, from where they can be everted to form the tufts. Unfertilized females are often seen sitting around with the tuft fully spread, forming two flower-like clumps of scales, which move slowly to spread their pheromones.

23. Scientific name: *Mocis frugalis*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Erebidae
Genus: *Mocis*
Species: *frugalis*
LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS
It is also known as Visitor. Its wingspan is 36–50 millimetres (1.4–2.0 in). Male with the hind tibia and tarsi clothed with long thick pile. It has a grey-brown body. Forewing with a diffused dark mark above the centre of vein 1; an oblique postmedial line pale inwardly, red brown outwardly; a submarginal

series of black specks. Hindwing with postmedial and diffused submarginal lines. Some specimens have a black spot above inner margin of forewing before the middle.

24. Scientific name: *Melantis leda*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Nymphalidae
Genus: *Melanitis*
Species: *leda*

LOCATION

Centurion University of Technology and Management, Paralakhemundi Campus.

GENERAL CHARACTERISTICS

It is known as "Common Evening Brown". Resident butterflies are known to fight off visitors to the area during dusk hours. This chase behaviour is elicited even by pebbles thrown nearby. The caterpillars feed on a wide variety of grasses including rice (*Oryza sativa*), bamboos, *Andropogon*, *Rotboellia cochinchinensis*, *Brachiaria mutica*, *Cynodon*, *Imperata*, and millets such as *Oplismenus compositus*, *Panicum* and *Eleusine indica*

25. Scientific name: *Trilocha varians*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Bombycidae
Genus: Trilocha
Species: varians

LOCATION

Centurion University of Technology and Mar

GENERAL CHARACTERISTICS

The wingspan is 25–27 mm. There are two colour varieties in the species; *albicollis* is the greyish form and *varians* is the reddish form. Head, thorax and abdomen of males are pale or dark reddish brown. Forewings are pale reddish brown or greyish, with two antemedial curved waved lines. There is a dark patch on the outer margin below the apex. The costal edge is paler with cilia being dark reddish brown. Hindwings are pale or dark reddish brown or with greyish with outer reddish brown area. The postmedial line is indistinct. Ventral surface is paler with some dark red stripes.

26. Scientific name: *Junonia almana*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera

Family: Nymphalidae
Genus: *Junonia*
Species: *almana*

LOCATION

Centurion University of Technology and Management, Paralakhemundi Campus.

GENERAL CHARACTERISTICS

The caterpillars of *Junonia almana* feed on a variety of plants, including *Hygrophila auriculata*, *Phyla nodiflora* and species in the genera *Acanthus*, *Barleria* and *Gloxinia.*

27. Scientific name: *Castaleus rosimon*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Lycaenidae
Genus: *Castaleus*
Species: *rosimon*

LOCATION

Centurion University of Technology and Management, Paralakhemundi Campus.

GENERAL CHARACTERISTICS

It is also known as "Common pierrot". Feeds on *Zizyphus jujuba* and is of a rough texture as if shagreened all over. It is of the usual woodlouse form, much flattened towards the anal segment which is very broad; head concealed; colour bright green with a double, dorsal, yellow line and the sides powdered with small yellow spots

28. Scientific name: *Matapa aria*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Heperiidae
Genus: *Matapa*
Species: *aria*

LOCATION

Centurion University of Technology and Mar

GENERAL CHARACTERISTICS

It is also known as "Common Red eye".

29. Scientific name: ***Gallus gallus domesticus***

Common name: Chicken

CLASSIFICATION

Kingdom- Animalia

Phylum- Chordata
Class- Aves
Order- Galliformes
Family- Phasianidae
Genus- *Gallus*
Species-*gallus*
Subspecies- *G. g. domesticus*

LOCATION

Centurion University Of Technology and Management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

These are domesticated subspecies of the red junglefowl originally from Southeastern Asia.

30. Scientific name*: Canis lupus familiaris*

Common name: Dog

CLASSIFICATION

Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Carnivora
Family- Canidae
Subfamily- Caninae
Genus- *Canis*
Species- *lupus*
Subspecies- *C. l. familiaris*

LOCATION

Centurion University Of Technology and Management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The dogs are domesticated descendant of the wolf which is characterized by an upturning tail.

31. Scientific name*: Felis catus*

Common name: Cat

CLASSIFICATION

Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Carnivora
Suborder- Feliformia
Family- Felidae
Subfamily- Felinae
Genus- *Felis*
Species- *catus*

LOCATION

Centurion University Of Technology and Management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The cats are domestic species of small carnivorous mammals.

32. Scientific name: *Bos indicus*

Common name: Cow

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Artiodactyla
Family- Bovidae
Subfamily- Bovinae
Genus- *Bos*
Species- *indicus*

LOCATION
Centurion University Of Technology and Management, Parlakhemundi Campus.
GENERAL CHARACTERISTICS
The zebu cattle / indicine cattle / humped cattle, is a species or subspecies of domestic cattle originating in the Indian sub-continent.

33. Scientific name: *Bubalus bubalis*

Common name: Buffalo (Water buffalo)

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Artiodactyla
Family- Bovidae
Subfamily- Bovinae
Genus- *Bubalus*
Species- *bubalis*

LOCATION
Centurion University Of Technology and Management, Parlakhemundi Campus.
GENERAL CHARACTERISTICS
The water buffalo (Bubalus bubalis), also called as domestic water buffalo / Asian water buffalo, is a large bovid originating in the Indian subcontinent and Southeast Asia.

34. *Labeo catla* (Hamilton, 1822)

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata

Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Labeo
Species: *L. catla*
Common name: Catla

General Characteristics

- Adults occur in rivers, lakes and culture ponds. Mature individuals breed in rivers. Surface and mid-water feeders, mainly omnivorous with juveniles feeding on aquatic and terrestrial insects, detritus and phytoplankton.
- Dorsal soft rays (total): 17; Anal spines: 0; Anal soft rays: 7 - 8. Body deep, with depth 2.5 to 3 times in standard length. Has a large, upturned mouth, with a prominent protruding lower jaw. Pectoral fins long, extending to pelvic fins; scales conspicuously large

35. *Labeo rohita* (Hamilton, 1822)

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Labeo
Species: *L. rohita*
Common name: Rohu

General characteristics

- Adults inhabit rivers. A diurnal species and usually solitary. They burrow occasionally. Feed on plants. Spawning season generally coincides with the southwest monsoon. Spawning occurs in

flooded rivers. Fecundity varies from 226,000 to 2,794,000 depending upon the length and weight of the fish and weight of the ovary. Widely introduced outside its native range for stocking reservoirs and aquaculture.

- Dorsal fin with 12-14 1/2 branched rays; lower profile of head conspicuously arched; short dorsal fin with anterior branched rays shorter than head; 12-16 predorsal scales ; snout without lateral lobe.

***36. Cirrhinus mrigala* (Hamilton, 1822)**

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Cirrhinus
Species: *C. mrigala*
Common name: Mrigal

General characteristics:

- It is endemic to Indo-Gangetic riverine systems, is one of the three Indian major carp species cultivated widely in Southeast Asian countries.
- Body bilaterally symmetrical and streamlined, its depth about equal to length of head; body with cycloid scales, head without scales; snout blunt, often with pores; mouth broad, transverse; upper lip entire and not continuous with lower lip, lower lip most indistinct; single pair of short rostral barbels

37. Cyprinus rubrofuscus Lacepède, 1803

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Cyprinus
Species: ***C. rubrofuscus***
Common name: Amur carp

General characteristics:

- Body silvery with red pelvic, anal and lower caudal lobe or grey. Last simple anal ray bony and serrated posteriorly; with 4 barbels; branched dorsal rays 18-22.5.

38. *Cyprinus carpio* Linnaeus, 1758

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes

Family: Cyprinidae
Genus: Cyprinus
Species: ***C. carpio***
Common name: Common carp

General characteristics:

- Europe to Asia: Black, Caspian and Aral Sea basins. Introduced throughout the world. Wild stocks are only present naturally in rivers draining to the Black, Caspian and Aral Sea.
- Dorsal spines (total): 3 - 4; Dorsal soft rays (total): 17-23; Anal spines: 2-3; Anal soft rays: 5 - 6; Vertebrae: 36 - 37. Diagnosed from other cyprinid species in Europe by having the following characters: 2 pairs of barbels; dorsal fin with 15-20½ branched rays; caudal fin deeply emarginated.

39. *Poecilia reticulata* Peters, 1859

Kingdom: Animalia
Phylum: Chordata Actinopterygii
Order: Cyprinodontiformes
Family: Poecilidae
Genus: Poecilia
Species: *P. reticulata*
Common name: Guppy

General characteristics:

- Native to South America: Venezuela, Barbados, Trinidad, northern Brazil and the Guyanas.
- Found in various habitats, ranging from highly turbid water in ponds, canals and ditches at low elevations to pristine mountain streams at high elevations
- Males are about half the size of females with colorful tail and caudal fin; the anal fin is transformed into a gonopodium for internal fertilization
- No parental care is exercised and parents may even prey on their young.

40. *Poecilia sphenops* Valenciennes, 1846

Kingdom: Animalia

Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cyprinodontiformes
Family: Poecilidae
Genus: *Poecilia*
Species: *P. sphenops*
Common name: Molly

General Characteristics

- Native to Central and South America: Mexico to Colombia.
- Feeds on worms, crustaceans, insects, plant matter. The black variety (Black molly) is a very popular aquarium fish and is marketed throughout the world. In the aquarium it feeds on green algae and also readily accepts dried food

41. *Danio rerio* (Hamilton, 1822)

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cyprinodontiformes
Family: Poecilidae
Genus: *Danio*
Species: ***D. rerio***
Common name: Zebra fish

General Characteristics

- Native to Asia: Pakistan, India, Bangladesh, Nepal and Myanmar.

- Five uniformly, pigmented, horizontal stripes on the side of the body, all extending onto the end of caudal fin rays. Anal fin distinctively striped. Lateral line absent. Rostral barbels extend to anterior margin of orbit; maxillary barbels end at about middle of opercle. Branched anal fin rays 10-12. Vertebrae 31-32.
- Used as a model system (=organism) for developmental biology.

42. *Pterophyllum scalare* (Schultze, 1823)

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cyprinodontiformes
Family: Poecilidae
Genus: *Pterophyllum*
Species: ***P. scalare***
Common name: Freshwater Angel Fish

General Characteristics

- Native to South America: Amazon River basin, in Peru, Colombia, and Brazil, along the Ucayali, Solimões and Amazon rivers.
- Body compressed and disc-shaped; dorsal and anal spiny rays increasing in length from anterior to posterior part of the fin; first branched rays also very long; body height at anal fin level 1.07 to 1.29 times in SL; body color silvery with dark vertical bars.
- Both male and female guard the eggs which are attached to the surface of aquatic vegetation in a nest area.

43. *Carassius auratus* (Linnaeus, 1758)

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cyprinodontiformes
Family: Poecilidae
Genus: *Carassius*
Species: ***C. auratus***
Common name: Gold fish

General Characteristics:

- Native to Asia: central Asia and China
- Dorsal spines (total): 3 - 4; Dorsal soft rays (total): 14-20; Anal spines: 2-3; Anal soft rays: 4 - 7; Vertebrae: 30. Body stout, thick-set, caudal peduncle thick and short. Head without scales (Ref. 39167, 1998), broadly triangular, interorbital space broad, snout longer than eye diameter, maxillary reaching posterior nostril or not quite to eye.

44. *Cyprinus rubrofuscus* var *koi* Lacépède, 1803

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Cyprinus
Species: ***C. rubrofuscus***
Variety: ***C. rubrofuscus* var *Koi***
Common Name: Koi carp

General characteristics:

- Amur carp (Cyprinus rubrofuscus) is a member of the cyprinid family species complex native to East Asia.

- Body silvery with red pelvic, anal and lower caudal lobe or grey. Last simple anal ray bony and serrated posteriorly; with 4 barbels; branched dorsal rays 18-22.5.

REPORT OF
GREEN AUDIT
OF CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT, PARALAKHEMUNDI, ODISHA (2020-21)

Preface

Institutional self-inquiry is a natural and necessary outgrowth of quality of higher education. Concern about environmental degradation and realization of values of environment are logical consequences of scholarly research, teaching and learning process. In its pursuit for improving environmental quality and to maintain a pristine environment for the future generation of students, Centurion University has made a self-inquiry on environmental quality of the campus with the following objectives: (i) To establish a baseline of existing environmental conditions with focus on natural and physical environment; (ii) To understand the current practices of sustainability with regard to the floral and faunal diversity inside the campus (iii) To promote environmental awareness through participatory auditing process; and (iv) To create a report that document baseline data of good practices and provide future strategies and action plans towards improving environmental quality for future.

This report is compiled by a committee constituted by IQAC. As there was no standard model for such a green audit of campuses in the state, the committee brainstormed and evolved a questionnaire. With the help of student volunteers and faculties of respective departmrnts the major part of the data was compiled, which the committee analyzed. The remaining part which involved measurement of quality was entrusted with the Department of Botany and Department of Zoology of Centurion University of Technology and Management, Odisha. The committee has made short term and long term suggestions to take environment protection to higher levels and it is hoped that this will receive due attention of University authorities and also all stake-holders of the University.

Dr. Yashaswi Nayak

Dr. Sagarika Parida

Dr. Gyanranjan Mahalik

Dr. Siba Prasad Parida

Dr. Atia Arzoo

Dr.Rukmani Mishra

SCHOOL OF APPLIED SCIENCES
CUTM
CENTURION UNIVERSITY OF TECHNOLOGY & MANAGEMENT

Executive Summary

Many departments maintain garden and the campus is greener with fair biodiversity around and gardens maintained by many departments. A detailed study on floral and faunal diversity has been done. There are also one beautiful rose garden, medicinal plant garden and natural resources for butterfly inside the campus mentained by the university. Faunal and floral diversity reports are given below.

REPORT ON FLORAL DIVERSITY

Flora comes from the Latin word "*Flora*", the meaning is Goddess of plants. *Floris* means flower. Floral diversity is the diversity of plants occurring in a particular region during particular time period. It also refers to the diversity of naturally available native or indigenous plants till now a total of 2, 15, 644 species of plants have been catalogued on the earth till date. It is reported that India harbours 46, 824 species including virus/bacteria and fungi species. In India, floral diversity is concentrated in four phytogeographical unique regions like Himalayas, Western Ghats, Northeast India and Andaman and Nicober Islands. Indian flora records for 11.4% of the total recorded plant species. Angiosperms are the largest plant group in India comprising of total of 17, 817 species which constitutes 38.15% of floral diversity of the entire country followed by fungi comprising 14,698 species which is of 31.38%. High level of cryptogram (Bryophytes and Pteridophytes) diversity is also seen in the country. A total of 2,479 species of Pteridophytes and around 1265 of Bryophytes have been recorded in India. Algae and fungi have also been wide spread in India. Lichens are found in Western Ghats, Eastern and Western Himalayas and Andaman and Nicobar Islands. Most of the ferns and gymnosperms are found in cool temperate zones of the Himalayas and in the mountainous regions of southern India, especially in the Western Ghats. Indian flora represents nearly 12% of the global diversity excluding viruses. A diverse number of species of wild relatives of crop plants are also present.

Presently, considerable attention is being addressed to biological diversity of biodiversity statue which refers to the occurrence of diverse biological forms including micro-organisms, plants and animals in a particular geographical area under a set of environmental conditions. Biodiversity is the reflection of genetic variability with which the different hierarchical forms of germplasm (strains, landraces/genotypes/varieties, species, genera etc.) appear in the course of evolution. The genetic variation may exist either within the species (intra specific) to a certain extent or to a larger scale

between different species (intra specific) and taxa of higher biological order. In fact, it is the ecosystem that supports the biological variability. The diverse living forms of the ecosystem are always in a state of change keeping pace with the global environment perturbations. An ecosystem is composed of both biotic and abiotic components which are quite interrelated and influences each other.

Ecosystem diversity encompasses varieties of living forms due to miscellany of niches, tropic levels and ecological processes like nutrient recycling, food chains, food webs, energy flow and role of dominant species. The present campus of Centurion University, in Paralakhemundi Spread over 120 acres on the foothills of the Eastern ghats in a serene environment lies the main campus of Centurion University in Paralakhemundi. It is the only technological University in South Odisha.

Block wise area under survey:

Block-1: consist of subunits – 1-9 including Main gate, Playground, Tribal mess, Baitarani hostel, MBA building, protected cultivation, Banana farm and 4th gate.

Block-2: consist of the subunits- 10-18 including Hydroponics unit, Banana orchard, Temple area, CPS school, CRC1, CRC2, Pond area, Eicher lab, and Bus parking.

Block-3: consist of the subunits 19-26 including New C type quarters, Indravati hostel and Student fields, Agro-forestry field, Mango fields, Organic farm, Pond, STP 3 and STP 2.

Block-4: consist of subunits 27-34 including Central mess 1 and 2, Boy's hostel 1,2,3, A, B, C type quarters, Gram tarang blocks, Welding lab, Hill top, Dhaba, Gram tarang ground, Guest house.

Block-5: consist of subunits 35-41 Horticulture fields, Fishery Pond, Farm machinery lab, Vasco tank, Tribal village, Dairy unit and Forest side.

LIST OF DIFFERENT KINDS OF FLORA FOUND IN THE CAMPUS

SI NO	TREE SPECIES	FAMILY	BLOCK
Timber Trees			
1	*Acacia auriculoformis A. Cunn. ex Benth.*	Fabaceae	B1, B2
2	*Acacia mangium Willd.*	Fabaceae	B1, B3, B5
3	*Alstonia scholaris (L.) R.Br.*	Apocynaceae	B1, B2, B3, B4, B5
4	*Anacardium occidentale L.*	Anacardiaceae	B4, B5
5	*Araucaria heterophylla (Salisb.) Franco*	Araucariaceae	B3, B4
6	*Artocarpus heterophyllus Lam.*	Moraceae	B2, B3, B5
7	*Asparagus racemosus Wild.*		
8	*Azadirachta indica A. Juss.*	Meliaceae	B4, B5
9	*Bambusa vulgaris*	Poaceae	B3
10	*Bauhinia variegate L.*	Fabaceae	B1, B3
11	*Bombax ceiba L.*	Malvaceae	B5
12	*Buchanania lanzan spreng.*	Anacardiaceae	B4, B5
13	*Butea monosperma Lam.*	Fabaceae	B1, B2
14	*Callophylum innophylum L.*	Calophyllaceae	B1, B2, B3, B4, B5
15	*Calotropis gigantea (L.) Dryand.*	Apocyanaceae	B1, B2
16	*Casia seamea Lam.*	Fabaceae	B1, B2, B3, B4, B5
17	*Cocos nucifera L.*	Arecaceae	B1, B2, B3, B4, B5
18	*Dalbergia sissoo Roxb.*	Fabaceae	B1, B3
19	*Delonix regia (Boj. ex Hook.) Raf.*	Fabaceae	B1, B3, B4
20	*Embellica officinalis*	Phyllanthaceae	B5
21	*Ficus benghalensis L.*	Moraceae	B1, B2, B5
22	*Ficus religiosa L.*	Moraceae	B1
23	*Gliricidia seepium (Jacq.) Walp.*	Fabaceae	B1, B2, B3
24	*Gmelina arborea Roxb.*	Lamiaceae	B3, B4, B5
25	*Holarrhaena antidysenterica*	Apocyanacea	B5
26	*Leucaena leucocephala (Lam.) de Wit*	Fabaceae	B2, B3
27	*Mangifera indica L.*	Anacardiaceae	B1, B2, B3, B4, B5
28	*Melia azadirach L.*	Meliaceae	B5
29	*Mimusops elengi L.*	Sapotaceae	B3, B4
30	*Moringa oleifera Lam.*	Moringaceae	B1, B2, B3, B4, B5
31	*Murraya koengii (L.) Sprengel*	Rutaceae	B5

32	*Neolamarckia cadamba (Roxb.) Bosser*	Rubiaceae	B1, B2
33	*Plumeria alba L.*	Apocynaceae	B2, B3
34	*Polyalthia longifolia (Sonn.) Thwaites*	Annonaceae	B1, B2, B4
35	*Pongamia pinnata*	Fabaceae	B1, B2, B3
36	*Psidium guajava L.*	Myrtaceae	B3, B4
37	*Pterocarpus marsupium Roxburgh.*	Fabaceae	B1, B5
38	*Pterospermum xylocarpum*	Sterculiaceae	B4, B5
39	*Samanea samman*	Fabaceae	B1, B2, B3, B4
40	*Saraca asoca (Roxb.) Willd.*	Fabaceae	B3, B5
41	*Schleichera oleosa (Lour.) Oken*	Sapindaceae	B4, B5
42	*Shorea robusta Roth.*	Dipterocarpaceae	B4
43	*Sterospermum colais*	Bignoniaceae	B1, B2
44	*Swietenia macrophyla King.*	Meliaceae	B2, B5
45	*Syzygium cumini L.*	Myrtaceae	B2
46	*Tamarindus indica L.*	Caesalpiniaceae	B4, B5
47	*Taminalia arjuna ((Roxb.) Wight & Arn.*	Combretaceae	B5
48	*Tectona grandis L.*	Lamiaceae	B1, B2, B3, B4, B5
49	*Terminalia catapa L.*	Combretaceae	B5
50	*Ziziphus jojoba Mill.*	Rhamnaceae	B4, B5
CROP SPECIES			
51.	*Anthurium*	Araceae	B2,B1
52.	*Arachis hypogea*	Fabaceae	B2,B3
53.	*Brassica Juncea*	Brassicaceae	B2,B3
54.	*Brassica rapa subsp. chinensis*	Brassicaceae	B1,B2
55.	*Brassica rapa subsp. pekinensis*	Brassicaceae	B3,B4
56.	*Cajanus cajan*	Fabaceae	B2,B3
57.	*Carthamus tinctorius*	Asteraceae	B3
58.	*Cicer arietinum*	Fabaceae	B2
59.	*Corchorus capsularis*	Malvaceae	B2
60.	*Crotalaria juncea*	Fabaceae	B2,B3
61.	*Dendrobium spp*	Orchidaceae	B2,
62.	*Elausine coracana*	Poaceae	B2,B3
63.	*Gerbera jamesonii*	Asteraceae	B1
64.	*Gossypium spp*	Malvaceae	B2,B3

65.	*Helianthus annuus*	Asteraceae	B4,B3
66.	*Lactuca sativa*	Asteraceae	B1,B2,B3
67.	*Lens culinaris*	Fabaceae	B2,B3
68.	*Oryza sativa*	Poaceae	B2,B3
69.	*Pennisetum glaucum*	Poaceae	B2
70.	*Pisum sativum*	Fabaceae	B2,B3
71.	*Saccharum officinarum*	Poaceae	B4,B5,B3
72.	*Sesamum indicum*	Pedaliaceae	B3
73.	*Setaria italica*	Poaceae	B2,B3
74.	*Sorghum bicolar*	Poaceae	B2,B3
75.	*Vigna mungo*	Fabaceae	B2,B3
76.	*Vigna radiata*	Fabaceae	B4,B3
77.	*Zea mays*	Poaceae	B2
FRUIT AND PLANTATION TREES			
78.	*Aegle marmelos* (L.) Corr.	Rutaceae	B-1,B-5
79.	*Anacardium occidentale* L.	Anacardiaceae	B-1, B-2, B-4, B-5
80.	*Annanas comosus* L.	Bromiliaceae	B-1,B-2,B-5
81.	*Annona reticulata L.*	Annonaceae	B-1
82.	*Annona squamosa L.*	Annonaceae	B-1, B-2, B-3,B-5
83.	*Areca catechu L.*	Arecaceae	B-2, B-5
84.	*Artocarpus heterophyllus* L.	Moraceae	B-1, B-2, B-3, B-4, B-5
85.	*Averrhoea carambola L*	Oxalidaceae	B-3, B-4
86.	*Borasus flabellifer L.*	Arecaceae	B-2,B-3,B-5
87.	*Camelia sinensis* L..	Theaceae	B-4
88.	*Canthium parviflorum*	Rubiaceae	B-3, B-5
89.	*Carica papaya* L.	Caricaceae	B-1,B-2,B-3, B-4, B-5
90.	*Carissa carandas L.*	Apocynaceae	B-3, B-2, B-5
91.	*Cinnamomum verum L.*	Myrtaceae	B-2
92.	*Citrus aurantifolia L*	Rutaceae	B-2
93.	*Citrus reticulata L.*	Rutaceae	B-2,B-5
94.	*Cocus nucifera*	Arecaceae	B-1.B-2,B-3,B-4, B-5
95.	*Coffea robusta L.*	Rubiaceae	B-4
96.	*Emblica officinale L.*	Euphorbiaceae	B-2
97.	*Ficus carica L.*	Moraceae	B-2, B-4
98.	*Garcinia mangostana L.*	guttiferae	B-5

99.	*Litchi chinensis L.*	Sapindaceae	B-1
100.	*Mangifera indica L*	Anacardiaceae	B-1,B-2,B-3,B-4, B-5
101.	*Manilkara achras L.*	Sapotaceae	B-2,B-4
102.	*Morinda citrifolia*	Rubiaceae	B-2, B-3, B-4, B-5
103.	*Musa paradisica L.*	Musaceae	B-1, B-2,B-3, B-5
104.	*Nephelium longan* L	Sapindaceae	B-2
105.	*Phoenix regia L*	Arecaceae	B-2,B-3, B-5
106.	*Phoenix sylvestris L*	Arecaceae	B-2,B-3,B-5,
107.	*Prunus cerasus L*	Rosaceae	B-3
108.	*Prunus communis L.*	Rosaceae	B-1
109.	*Psidium gujava L.*	Myrtaceae	B-1, B-2, B-3
110.	*Punica granatum L.*	Punicaceae	B-1
111.	*Selenicereus undatus*	Cactaceae	B-4
112.	*Tamarindus indica L.*	Leguminaceae	B-3, B-4, B-5
113.	*Ziziphus oenoplia L*	Rhamanaceae	B-3, B-5
114.	*Zizyphus mauritiana* L.	Rhamnaceae	B-2, B-3,B-5
VEGETABLES			
115.	*Abelmoschus esculentus L.*	Malvaceae	B-2, B-5
116.	*Abelmoschus manihot* (L.) subsp. T*etraphyllus*	Malvaceae	B-2
117.	*Allium cepa L*	Amaryllidaceae	B-1, B-2, B-5
118.	*Alocasia macrorrhiza L*	Araceae	B-3
119.	*Alternanthera sessillis*	Amaranthaceae	B-1, B-2, B-5
120.	*Amaranthus blitum L.*	Amaranthaceae	B-2, B-5
121.	*Amaranthus tricolor*	Amaranthaceae	B-2
122.	*Apium graveolens L.*	Umbelliferae	B-2
123.	*Basella alba L.*	Basillaceae	B-2
124.	*Basella rubra L.*	Basillaceae	B-2, B-5
125.	*Brassica chinensis*	Cruciferae	B-2, B-5
126.	*Brassica oleracea var. acephala*	Cruciferae	B-2, B-5
127.	*Brassica oleracea var. botrytis*	Cruciferae	B-2, B-5
128.	*Brassica oleracea var. gemmifera*	Cruciferae	B-2, B-5
129.	*Brassica oleracea var. gongylodes*	Cruciferae	B-2, B-5
130.	*Brassica oleracea var. italica*	Cruciferae	B-2, B-5
131.	*Brassica oleracea var.capitata*	Cruciferae	B-2,B-5

132.	*Brassica pekinensis var rubra*	Cruciferae	B-2, B-5
133.	*Brassica rapa* L.	Cruciferae	B-2
134.	*Capsicum annuam var. grossum L.*	Solanaceae	B-1
135.	*Capsicum annum var longum L.*	Solanaceae	B-2, B-5
136.	*Citrullus lanatus L*	Cucurbitaceae	B-1
137.	*Coccinia indica L*	Cucurbitaceae	B-1, B-2,B-3, B-4,B-5
138.	*Coriandrum sativum L*	Umbelliferae	B-1, B-2,B-5
139.	*Cucumis sativus L.*	Cucurbitaceae	B-1, B-2, B-5
140.	*Cucurbita moschata L*	Cucurbitaceae	B-5
141.	*Cucurbita pepo L*	Cucurbitaceae	B-2,B-5
142.	*Cyamopsis tetragonolobus L*	Leguminaceae	B-2, B-5
143.	*Cynara scolymus L*	Compositae	B-2
144.	*Daucus carota L.*	Umbelliferae	B-5
145.	*Ipomea aquatica L*	Convolvulaceae	B-1, B-2
146.	*Lablab purpureus L*	Leguminaceae	B-2,B-3,B-5
147.	*Lactuca sativa L.*	Compositae	B-2, B-4
148.	*Luffa acutangular L*	Cucurbitaceae	B-2, B-3, B-5
149.	*Mentha arvens L.*	Piperaceae	B-2
150.	*Momordica chanrantia L.*	Cucurbitaceae	B-1,B-2,B-3,B-5
151.	*Moringa oleifera L.*	Moringaceae	B-2, B-5
152.	*Murraya koenigii L*	Rutaceae	B-2, B-3, B-4
153.	*Phaseolus vulgaris L.*	Leguminaceae	B-5
154.	*Portilaca sps.*	Portulaceaceae	B-2,B-3,B-5
155.	*Raphanus sativus L.*	Cruciferae	B-2, B-5
156.	Rumex vesicarius L.	Polygonaceae	B-2
157.	*Sesbania grandiflora L*	Leguminaceae	B-2
158.	*Solanum indicum L.*	Solanaceae	B-2, B-5
159.	*Solanum lycopersicum L*	Solanaceae	B-2, B-5
160.	*Solanum lycopersicum var. cerasiforme*	Solanaceae	B-2
161.	*Solanum melongena L.*	Solanaceae	B-1, B-2, B-5
162.	*Solanum tuberosum L*	Solanaceae	B-1
163.	*Vigna unguiculata L.*	Leguminaceae	B-5
164.	*Zea mays var. rugosa L.*	Poaceae	B-3, B-5
MEDICINAL AND AROMATIC CROPS			
165.	*Acacia longifolia*	Leguminaceae	B-2

166.	*Adenanthera pavonine*	Fabaceae	B-2
167.	*Allamanda purpurea*	Acanthaceae	B-2
168.	*Bixa ollerana*	Bixaceae	B-2
169.	*Bombax ceiba*	Malvaceae	B-2
170.	*Butea monosperma*	Leguminaceae	B-2
171.	*Callistemon lanceolatus*	Myrtaceae	B-2
172.	*Citharexylum spinosum*	Verbenaceae	B-2
173.	*Clerodendrum indicum*	Lamiaceae	B-2
174.	*Cymbopogon sp*	Gramineae	B-2
175.	*Endospermum diadenum*	Euphorbiaceae	B-2
176.	*Gardenia jasminoides*	Rubiaceae	B-2
177.	*Gmelina arborea*	Verbenaceae	B-2
178.	*Grewia asiatica*	Tiliaceae	B-2
179.	*Hamelia patens*	Rubiaceae	B-2
180.	*Juglans regia*	Juglandaceae	B-2
181.	*Kaempferia parviflora*	Zingeberaceae	B-2
182.	*Kigelia Africana*	Bignoniaceae	B-2
183.	*Lagerstroemia flos-reginae*	*Lythraceae*	B-2
184.	*Lawsonia inermis*	*Lythraceae*	B-2
185.	*Leucophyllum frutescens*	Scrophulariaceae	B-2
186.	*Ligustrum sinense*	Oleaceae	B-2
187.	*Limonia acidissima*	Rutaceae	B-2
188.	*Manilkara hexandra*	Sapotaceae	B-2
189.	*Melia azaderach*	Meliaceae	B-2
190.	*Mimusops elengii*	Sapotaceae	B-2
191.	*Murraya exotica*	Rutaceae	B-2
192.	*Nyctanthes arbor-tristis*	Nyctanthaceae	B-2
193.	*Oroxylum indicum*	Bignoniaceae	B-2
194.	*Phyllanthus Emblica*	Phyllanthaceae	B-2
195.	*Pimenta dioica*	Myrtaceae	B-2
196.	*Plantanus racemose*	Platanaceae	B-2
197.	*Plumeria pudica*	Apocynaceae	B-2
198.	*Prunus serotina*	Rosaceae	B-2
199.	*Psoropis cineraria*	Fabaceae	B-2
200.	*Pterocarpus santalinus*	Leguminaceae	B-2

201.	*Pterocarya rhoifolia*	Juglandaceae	B-2
202.	*Putranjiva roxburghii*	Euphorbiaceae	B-2
203.	*Quercus cestaneifolia*	Fagaceae	B-2
204.	*Rhus glabra*	Anacardiaceae	B-2
205.	*Salix sp*	Salicaceae	B-2
206.	*Santalum album*	*Santalaceae*	B-2
207.	*Sapindus mukorossi*	Sapindaceae	B-2
208.	*Spathodea campanulate*	Bignoniaceae	B-2
209.	*Stachytarpheta jamaicensis*	Verbenaceae	B-2
210.	*Strychnos spinosa*	Loganiaceae	B-2
211.	*Swietenia macrophylla*	Meliaceae	B-2
212.	*Syzigium sp*	Myrtaceae	B-2
213.	*Terminalia catappa*	Combretaceae	B-2
214.	*Thespesia populnea*	Malvaceae	B-2
CLIMBERS			
215.	*Allamanda blanchetti* A.DC.	Apocynaceae	B-2
216.	*Allamanda cathartica var grandiflora*	Apocynaceae	B-2
217.	*Artabotrys odoratissimus*	Annonaceae	B-2
218.	*Asparagus racemosus* Willd.	Asparagaceae	B-2
219.	*Bougainvillea spp.*	Nyctaginaceae	B-2
220.	Cardiospermum halicacabum	Sapindaceae	
221.	Cissus nodosa	Vitaceae	B-3, B-5
222.	Cissus striata	Vitaceae	B-5
223.	*Clerodendron splendens*	Verbanaceae	B-1
224.	*Clitoria ternatea L*	Leguminaceae	B-1,B-2,B-5
225.	*Coccinia grandis* (L.)	Cucurbitaceae	B-3,B-4
226.	*Cuscuta reflexa* Roxb.	Cuscutaceae	B-4
227.	Epipremum aureum L	Araceae	B-2,B-3,B-5
228.	Gloriosa superba	Colchicaceae	B-5,B-3
229.	*Ipomea cairica*	Convolvulaceae	B-2,B-5
230.	*Ipomoea obscura* Ker.-Gawl.	Convolvulaceae	B-4
231.	*Ipomoea quamoclit* L.	Convolvulaceae	B-3
232.	*Ipomoea sepiaria Koenig* ex Roxb.	Convolvulaceae	B-3,B-4
233.	*Jacquemontia pentantha L.*	Convolvulaceae	B-1,B-4
234.	*Jasminum nitidum L.*	Oleaceae	B-2

235.	Nastrucium	Tropaeolaceae	B-5
236.	*Piper betel* L	Piperaceae	B-2
237.	*Piper longum* L.	Piperaceae	B-2
238.	*Pyrostegia venusta*	Bignoniaceae	B-2
239.	*Quisqualis indica* L.	Combretaceac	B-2
240.	Sarcopetalum harveyanum L.	Menispermaceae	B-5, B-3
241.	Sicyos angulatus L.	Cucurbitaceae	B-5,B-3
242.	*Syngonium podophyllum* Schott	Araceae	B-2
243.	*Tinospora cordifolia*(Thunb.) Miers	Menispermaceae	B-2
SHRUBS			
244.	*Acalypha hispida L*	Euphorbiaceae	B-1,B-2
245.	*Allamanda grandiflora L.*	Apocynaceae	B-1, B-2, B-3
246.	*Aralia*	Araliaceae	B-1,B-2,B-3,B-4, B-5
247.	*Artabotrys odoratissimus L*	Annonaceae	B-2, B-5
248.	*Barleria cristata L.*	Acanthaceae	B-1, B-2,B-3,B-4,B-5
249.	*Bauhinia tomentosa L*	Leguminaceae	B-1, B-2,B-3,B-5
250.	*Beloperone guttata L.*	Acanthaceae	B-2
251.	*Caesalpinia pulcherrima L.*	Leguminaceae	B-1,B-2,B-3, B-5
252.	*Calotropis gigantia L.*	Apocynaceae	B-5
253.	*Calotropis procera L.*	Apocynaceae	B-4, B-5
254.	*Clerodendron inerme L.*	Verbenaceae	B-1
255.	*Crossandra*	Acanthaceae	B-2,B-3,B-5
256.	*Duranta plumieri*	Verbenaceae	B-1,B-2,B-3,B-4,B-5
257.	*Hibiscus mutabilis*	Malvaceae	B-1,B-2, B-3,B-4, B-5
258.	*Hibiscus rosasinensis*	Malvaceae	B-2,B-5
259.	*Ixora*	Rubiaceae	B-1,B-2,B-3, B-4,B-5
260.	*Lantana camera*	Verbenaceae	B-2,B-3, B-4, B-5
261.	*Mimosa pudica L.*	Fabaceae	B-1,B-2,B-3,B-4,B-5
262.	*Poinsettia pulcherrima*	Euphorbiaceae	B-1,B-2,B-3,B-4,B-5
FOLIAGE PLANTS			
263.	*Acalypha hispida*	Euphorbiaceae	B-1, B-2,B-4,B-5
264.	*Acalypha wilkesiana Mull.*	Euphorbiaceae	B-2,B-4,B-5
265.	*Agave americana*	Amaryllidaceae	B-2,B-4
266.	*Agave salmiana Otto ex Salm-Dyck*	Asparagaceae	B-2
267.	*Agloanema spp.*	Araceae	B-2

268.	*Aglonemma nitidum*	Araceae	B-2
269.	*Alternanthera bicolour*	Amaranthaceae	B-2
270.	*Araucaria spp.*	Coniferae	B-2,B-1
271.	*Asparagus spp.*	Lilaceae	B-2
272.	*Begonia spp.*	Bignoniaceae	B-1,B-2,B-4,B-5
273.	*Bryophyllum sp.*	Crassulaceae	B-2
274.	*Caladium bicolour*	Araceae	B-2
275.	*Calathea spp*	Maranthaceae	B-2
276.	*Callisia repens*	Commelinaceae	B-2
277.	*Chlorophytm comosum variegate*	Liliaceae	B-2,B-1
278.	*Codiaeum variegatum*	Euphorbiaceae	B-1,B-2,B-3,B-4,B-5
279.	*Coleus spp.*	Lamiaceae	B-1,B-2,B-3,B-4,B-5
280.	*Cordyline fruticosa(L.) A.Chev. (L.)Nees.*	Agavaceae	B-1,B-2,B-3,B-4,B-5
281.	*Crassula ovata*	Crassulaceae	B-2
282.	*Ctenanthe lubbersiana*	Marantaceae	B-2
283.	*Cycas revoluta*	Cycadaceae	B-1,B-2,B-3,B-4,B-5
284.	*Dieffenbachia maculate*	Araceae	B-1,B-2,B-3,,B-5
285.	*Dracaena marginata*	Asparagaceae	B-1,B-2,B-3,,B-5
286.	*Dracaena marginataLam. 'tricolor'*	Agavaceae	B-2,B-3
287.	*Dracaena sanderiana Mast.*	Asparagaceae	B-2,B-3,B-5
288.	*Dracena reflexa*	Asparagaceae	B-2,B-3
289.	*Duranta erecta*	Verbenaceae	B-1,B-2,B-3,B-4,B-5
290.	*Duranta goldiana*	Verbenaceae	B-1,B-2,B-3,B-4,B-5
291.	*Duranta repens L.*	Verbenaceae	B-1,B-2,B-3,B-4,B-5
292.	*Ficus elastioca*	Moraceae	B-2
293.	*Juniperus chinensis*	Cupressaceae	B-2
294.	*Pedilanthus tithymaloides*	Euphorbiaceae	B-2,B-3,B-4,B-5
295.	*Philodendron spp.*	Araceae	B-1,B-2,B-5
296.	*Ravenala madagascariensis*	Strelitziaceae	B-1,B-2
297.	*Roheo bicolor*	Commelinaceae	B-2
298.	*Sansevieria trifasicata*	Aspargaceae	B-1,B-2
299.	*Scindapsus aureus*	Araceae	B-2,B-5
300.	*Syngonium podophyllum*	Araceae	B-1,B-2,B-3,B-4,B-5
301.	*Tradescantia pallida*	Commelinaceae	B-1,B-2,B-3,B-4,B-5
302.	*Tradescantia spatheca*	Commenlinaceae	B-1,B-2,B-3,B-4,B-5

303.	*Tradescantia zebrina*	Commelinaceae	B-2
304.	*Zamia furcarea*	Asparagaceae	B-2
FLOWERING PLANTS			
305.	*Adenium obesum*	Apocynaceae	B-1,B-2,B-4,B-5
306.	*Alyssum maritimum*	Compositeae	B-2
307.	*Barleria cristata L.*	acanthaceae	B-2
308.	*Barleria prionitis L.*	acanthaceae	B-2
309.	*Caesalpinia pulcherrima*	Fabaceae	B-1,B-2,B-4,B-5
310.	*Canna indica*	Cannaceae	B-2
311.	*Celosia argentia*	Amranthaceae	B-2
312.	*Chrysanthemum cinerariifolium*	asteraceae	B-2,B-3
313.	*Chrysanthemum grandiflorum*	Compositeae	B-2,B-3
314.	*Cosmos bipinnatus*	Compositeae	B-2
315.	*Cosmos caudatus Kunth*	asteraceae	B-2
316.	*Crossandra infundibuliformis*	Acanthaceae	B-1,B-2,B-5
317.	*Cuphea hyssopifolia Kunth*	Lythraceae	B-2
318.	*Euphorbia heterophylla L.*	Euphorbiaceae	B-2
319.	*Euphorbia hirta L.*	Euphorbiaceae	B-2
320.	*Euphorbia indica Lam*	Euphorbiaceae	B-2
321.	*Euphorbia mili*	Euphorbiaceae	B-2,B-5
322.	*Euphorbia pulcherrima Willd. ex Klotzsch*	Euphorbiaceae	B-2
323.	*Euphorbia tithymiloides L.*	Euphorbiaceae	B-1,B-2
324.	*Gardenia carinata Wall. ex Roxb.*	Rubiaceae	B-2,
325.	*Gardenia jasminoides J.Ellis*	Rubiaceae	B-2
326.	*Gerbera jamesonii*	Compositeae	B-1,B-2
327.	*Gomphrena globosa L.*	Amaranthaceae	B-2
328.	*Hamelia patens Jacq.*	Rubiaceae	B-1
329.	*Helianthus annus*	Compositeae	B-2,B-3
330.	*Hibiscus canabinus L*	Malvaceae	B-1.B-2,B-3,B-4,B-5
331.	*Hibiscus mutabilis L.*	Malvaceae	B-1.B-2,B-3,B-4,B-5
332.	*Hibiscus rosa-sinensis L.*	Malvaceae	B-1.B-2,B-3,B-4,B-5
333.	*Hymenocallis litterolis*	Amaryllidaceae	B-2
334.	*Impatiens balsamina L.*	Balsaminaceae	B-2
335.	*Impatiens glandulifera Royle*	Balsaminaceae	B-2
336.	*Ipomoea carnea Jacq.*	Convolvulaceae	B-1,B-2

337.	*Ixora coccinea*	Rutaceae	B-1.B-2,B-3,B-4,B-5
338.	*Jasminium auriculatum*	Oleaceae	B-1,B-2,B-5
339.	*Jasminium sambac*	Oleaceae	B-1,B-2,B-5
340.	*Jatropha gossypifolia L.*	Euphorbiaceae	B-2,B-5
341.	*Lilium spp*	Lilliaceae	B-2
341.	*Malvaviscus arboreus Cav.*	malvaceae	B-1.B-2,B-3,B-4,B-5
342.	*Mimosa pudica L.*	Mimosaceae	B-1,B-2,B-5
343.	*Mirabilis jalapa L.*	Nyctaginaceae	B-2
344.	*Orchid spp.*	Orchidaceae	B-2
345.	*Polianthus tuberosa*	Amaryllidaceae	B-2,B-3
346.	*Portulaca grandiflora*	Portulaceae	B-1.B-2,B-3,B-4,B-5
347.	*Portulaca oleracea L. var. oleracea*	Portulaceae	B-1.B-2,B-3,B-4,B-5
348.	*Portulaca pilosa L. subsp. grandiflora (Hook.) Geesink*	Portulaceae	B-1.B-2,B-3,B-4,B-5
349.	*Rosa alba L.*	Rosaceae	B-2
350.	*Rosa centifolia L*	Rosaceae	B-2
350.	*Rosa chinenesis Jacquin*	Rosaceae	B-2
351.	*Rosa damascina Miller*	Rosaceae	B-2
352.	*Rosa indica L.*	Rosaceae	B-1,B-2
353.	*Rosa odorata (Andr.)Sweet var. odorata*	Rosaceae	B-2
354.	*Ruellia brittoniana* Leonard	Acanthaceae	B-2
355.	*Strelitzia reginae*	Strelitziaceae	B-2
356.	*Tagetes erecta*	Compositeae	B-1.B-2,B-3,B-4,B-5
357.	*Tagetes patula*	Compositeae	B-1.B-2,B-3,B-4,B-5
358.	*Tecoma stans (L.) Kunth.*	bignoniaceae	B-2,B-5
359.	*Zephyranthes candida*	Amaryllidaceae	B-2
360.	*Zephyranthes candida (Lindl.)Herb.*	Amaryllidaceae	B-2
361.	*Zephyranthes rosea(Lindl.)*	Amaryllidaceae	B-2
362.	*Zinnia elegans Jack.*	Asteraceae	B-2
PALMS, FERNS, CACTUS AND GROUND COVERS			
363.	*Alternanthera ficodea*	Amranthaceae	B-2
364.	*Beaucarnea recurvata*	Arecaceae	B-2
365.	*Cactus spp.*	Cactaceae	B-1,B-2
366.	*Crysalidocarpus lutesens*	Arecaceae	B-1,B-2
367.	*Cuphea gerlonica*	Lythraceae	B-1,B-2

368.	*Cycas revoluta*	Arecaceae	B-1.B-2,B-3,B-4,B-5
369.	*Dypsis leptocheilos*	Arecaceae	B-1,B-2
370.	*Hyophorbe legenicaulis*	Arecaceae	B-1,B-2
371.	*Iresine lindenii*	Amranthaceae	B-2
372.	*Livingstonia rotundifolia*	Arecaceae	B-1,B-2
373.	*Phoenix roebelenii*	Arecaceae	B-5
374.	*Raphis excelsa*	Arecaceae	B-1,B-2
375.	*Roystonea regia*	Arecaceae	B-1,B-2
376.	*Tridax procumbens*	Asteraceae	B-2
GRASSES			
377.	*Aristida setacea* Rctz.	Passifloraceae	B-1,B-2,B-3,B-4
378.	*Bambusa vulgaris Schrad.* Ex J.C.Wendl.	Asclepidaceae	B-2, B-5
379.	*Bothriochloa pertusa* (L.) A. Camus	Verbenaceae	B-1,B-2,B-3,B-4, B-5
380	*Brachiaria distachya* (L.) Stapf	Araceae	B-1,B-2,B-3,B-4, B-5
381.	*Brachiaria mutica* (Forssk.) Stapf	Piperaceae	B-2
382.	*Brachiaria ramosa* (L.) Stapf	Piperaceae	B-1,B-5
383.	*Chloris barbata* Sw.	Bignoniaceae	B-1,B-5
384.	*Chrysopogon aciculatus* (Retz.) Trin.	Bignoniaceae	B-1,B-2,B-3,B-4, B-5
385.	*Cynodon dactylon* (L.) Pers.	Combretaceac	B-1,B-2, B-3, B-4,B-5
386.	*Cyperus brevifolius* (Rottb.) Hassk.	Araceae	B-3, B-5
387.	*Cyperus compactus* Retz.	Menispermaceae	B-1,B-3
388.	*Cyperus difformis* L.	Araceae	B-1,B-3
389.	*Cyperus halpan* L.	Acanthaceae	B-2
390.	*Cyperus imbricatus* Retz.	Acanthaceae	B-1,,B-2, B-3, B-4
391.	*Cyperus iria* L.	Menispermaceae	B-1,B-3,B-4
392.	*Cyperus triceps* Endl.	Cyperaceae	B-1,B-3,B-4
393.	*Dactyloctenium aegypticum* (L.) P.Beauv.	Poaceae	B-1,B-2,B-3
394.	*Digitaria abludens* (Roem. & Schult.) Veldk.	Poaceae	B-3
395.	*Digitaria ciliaris* (Retz.) Koeler	Poaceae	B-1,B-2,B-3
396.	*Echinochloa colona (*L.) Link	Poaceae	B-1,B-2,B-3
397.	*Eleusine indica (*L.) Gaertn.	Poaceae	B-1,B-2,B-3,B-4
398.	*Elusine coracana (*L.)Gaertn	Poaceae	B-2
399.	*Eragrostis ciliaris* (L.) R.Br.	Poaceae	B-3
400.	*Eragrostis ciliata* Roxb. Nees	Poaceae	B-1,B-2,B-3,B-4

401.	*Eragrostis unioloides* (Retz.) Nees ex Steud.	Poaceae	B-1,B-2,B-3,B-4
402.	*Eriochloa procera* (Retz.)Hubbard	Poaceae	B-1,B-2,B-3,B-4
403.	*Paspalum scrobiculatum* L.	Poaceae	B-2,B-3
404.	*Paspalum vaginatum* Sw.	Poaceae	B-1,B-3
399.	*Pennisetum pedicellatum* Trin.	Poaceae	B-1,B-3,B-4
400.	*Pennisetum purpureum* Schumach	Poaceae	B-3,B-4
401.	*Perotis indica* (L.) Kuntz	Poaceae	B-3,B-4
402.	*Pogonantherum crinitum*(Thunb.) Kunth	Poaceae	B-2
404.	*Setaria pumila* (Poir.) Roem. & Schult.	Poaceae	B-1,B-3,B-4
405.	*Setaria verticillata* (L.) P.Beauv.	Poaceae	B-1,B-4

Pic: Rose garden, CUTM, Paralakhemundi.

Pic: Fish pond, CUTM, Paralakhemundi.

Pic: Fish pond, CUTM, Paralakhemundi.

FAUNAL DIVERSITY

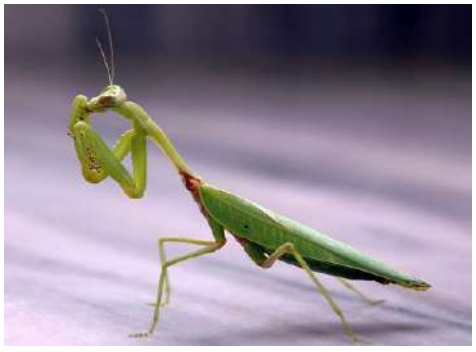
A survey on faunal diversity in our Paralakhemundi campus of Centurion University of Technology and Management has done from 1st of December 2020 to 25th of December 2020. Based on the survey, we prepared report and hereby the report is submmited to the Department of Entomology, MSSSOA, CUTM, Paralakhemundi on 30th of December.

ANIMAL	Sl.No.	Common name	Scientific name
Invertebrates	**1.**	Preying mantid	*Mantis religiosa*
	2.	Two-spotted assassin bug	*Platymeris biguttatus*
	3.	Scarlet skimmer	*Crocothemis servilia*
	4.	Globe skimmer	*Pantala flavescens*
	5.	Slender skimmer	*Orthetrum sabina*
	6.	Great spreadwing	*Archilestes grandis*
	7.	Coconut rhinoceros beetle	*Oryctes rhinoceros*
	8.	Dung beetle	*Dichotomius carolinus*
	9.	Six-spot ground beetle	*Anthia sexguttata*
	10.	Dark grass blue	*Zizeeria knysna*
	11.	Tussock moth	*Lymantria sp.*
	12.	Swallowtail butterfly	*Papilio demoleus*
	13.	Rosy gypsy moth	*Lymantria mathura*
	14.	Indian honey bee	*Apis cerana indica*
	15.	Rock bee	*Apis dorsata*
	16.	Beet webworm moth	*Spoladea recurvalis*
	17.	Quaker butterfly	*Neopithecops zalmora*
	18.	Chocolate pansy	*Junonia iphita*
	19.	The Tiny grass blue	*Zizula hylax*
	20.	Silverline	*Cigaritis vulcanus*
	21.	Cucumber moth	*Diaphania indica*
	22.	Sugarcane looper	*Mocis frugalis*
	23.	The common evening brown	*Melanitis leda*
	24.	Green silk moth	*Thrlocha varians*
	25.	Peacock pansy	*Junonia almosa*

	26.	Common Pierrot	*Castaleus rosimon*
	27.	Common Branded Redeye	*Matapa aria*
Vertebrates	**28.**	Chicken bird	*Gallus gallus domesticus*
	29.	Dog	*Canis lupus familiaris*
	30.	Cat	*Felis catus*
	31.	Cattle	*Bos indicus*
	32.	Domestic water buffalo	*Bubalus bubalis*
	33.	Catla fish	*Labeo catla*
	34.	Rohu fish	*Labeo rohita*
	35.	Mrigal carp	*cirrhinus mrigala*
	36.	*Cyprinus rubrofuscus*	Cyprinidae
	37.	*Cyprinus carpio*	Cyprinidae
	38.	*Poecilia reticulata*	Poeciliidae
	39.	*Poecilia sphenops*	Poeciliidae
	40.	*Danio rerio*	Cyprinidae
	41.	*Pterophyllum scalare*	Cichlidae
	42.	*Carassius auratus*	Cyprinidae
	43.	*Cyprinus rubrofuscus var koi*	Cyprinidae

FAUNAL DIVERSITY

1. Scientific name: *Mantis religiosa*



CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Dictyoptera
Family: mantidae
Genus: *Mantis*
Species: *religiosa*
LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

Mantises are distributed worldwide in temperate and tropical habitats. They have triangular heads with bulging eyes supported on flexible necks. Their elongated bodies may or may not have wings, but all Mantidea have forelegs that are greatly enlarged and adapted for catching and gripping prey; their upright posture, while remaining stationary with forearms folded, has led to the common name praying mantis.

2. **Scientific name:** *Poekilocerus pictus*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Orthoptera
Family: Pyrgomorphidae
Genus: ***Poekilocerus***
Species: ***pictus***

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

Poekilocerus pictus is a large brightly coloured grasshopper found in the Indian subcontinent. Nymphs of the species are notorious for squirting a jet of liquid up to several inches away when grasped. The half-grown immature form is greenish-yellow with fine black markings and small crimson spots. The mature grasshopper has canary yellow and turquoise stripes on its body, green tegmina with yellow spots, and pale red hind wings. It changes its outward appearance by molting. The grasshopper feeds on the poisonous plant *Calotropis gigantea*.Upon slight pinching of the head or abdomen, the half-grown immature form ejects liquid in a sharp and sudden jet, with a range of two inches or more, from a dorsal opening between the first and second abdominal segments. The discharge is directed towards the pinched area and may be repeated several times. The liquid is pale and milky, slightly viscous and bad-tasting, containing cardiac glycosides that the insect obtains from the plant it feeds upon.

3. **Scientific name:** *Platymeris biguttatus*

CLASSIFICATION

Kingdom: Animalia

Phylum: Arthropoda

Class: Insecta

Order: Hemiptera

Family: Reduviidae

Genus: *Platymeris*

Species: *biguttatus*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

Platymeris biguttatus or two-spotted assassin bug is a venomous predatory true bug of west and southwest African origin ranging in size from 10–40 mm. As a true bug of the order hemiptera, it has needle like mouth parts designed for sucking juices out of plants or other insects instead of chewing. *P. biguttatus* has sharp stylets in its proboscis or rostrum used to pierce the exoskeleton of its prey. Saliva is then injected into the prey which liquifies its tissues, and the rostrum is then used to suck out the digested fluids. If disturbed, it is capable of a defensive bite considered to be more painful than a bee sting. It is also known to spit venom that can cause temporary blindness in humans

4. **Scientific name:** *Crocothemis servilia*

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Odonata
Infraorder: Anisoptera
Family: Libellulidae
Genus: *Crocothemis*
Species: *servilia*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

It is a medium sized blood-red dragonfly with a thin black line along the mid-dorsal abdomen. Its eyes are blood-red above, purple laterally. Thorax is bright ferruginous, often blood-red on dorsum. Abdomen is blood-red, with a narrow black mid-dorsal carina. Anal appendages are blood-red. Female is similar to the male; but with olivaceous-brown thorax and abdomen. The black mid-dorsal carina is rather broad. It breeds in ponds, ditches, marshes, open swamps and rice fields.

5. **Scientific name:** *Pantala flavescens*

CLASSIFICATION

Kingdom:Animalia
Phylum:Arthropoda
Class: Insecta
Order: Odonata
Infraorder: Anisoptera
Family: Libellulidae
Genus: *Pantala*
Species: *flavescens*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The dragonfly is up to 4.5 cm long, reaching wingspans between 7.2 cm and 8.4 cm. The front side of the head is yellowish to reddish. The thorax is usually yellow to golden coloured with a dark and hairy line. There were also specimens with a brown or olive thorax. The abdomen has a similar colour as the thorax. The wings are clear and very broad at the base. There, too, there are some specimens with olive, brown and yellow wings. On Easter Island there are wandering gliders with black wings

6. Scientific name: *Orhtetrum sabina*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Odonata
Infraorder: Anisoptera
Family: Libellulidae
Genus: *Orthetrum*
Species: *sabina*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

It is a medium-sized dragonfly with a wingspan of 60-85mm. Adults are grayish to greenish yellow with black and pale markings and green eyes. Its abdomen is greenish-yellow, marked with black. It is very similar to Orthetrum serapia in appearance, with both species appearing in northern Australia. Pale markings on segment four of the abdomen do not extend into the posterior section when viewed from above on Orthetrum sabina. Females are similar to males in shape, color and size; differing only in sexual characteristics. This dragonfly perches motionless on shrubs and dry twigs for long periods. It voraciously preys on smaller butterflies and dragonflies

7. **Scientific name:** *Archelestes grandis*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Odonata
Suborder: Zygoptera
Family: Lestidae
Genus: *Archilestes*
Species: *grandis*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The great spreadwing is one of the largest North American spreadwings, with a length of 2-2.4 inches and a wingspan of 3 inches. The thorax of the male is dull greenish bronze above it is a broad diagonal yellow stripe on sides. It is also the only species with a broad yellow racing stripe on the sides of thorax. The abdomen is dark with a blue-gray tip. Its eyes and face are blue. Females are similar to males but are more brown on the body. Her eyes are more of a paler blue than the male. The yellow stripe also occurs on the female great spreadwing. When females are laying eggs they may appear in a putty-color. It is much the same color as the withered leaves in which they lay eggs.

8. Scientific name: *Oryctes rhinoceros*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Coleoptera
Family: Scarabaeidae
Subfamily: Dynastinae
Tribe: Oryctini

Genus: *Oryctes*
Species: *rhinoceros*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The Asiatic rhinoceros beetle, coconut rhinoceros beetle or coconut palm rhinoceros beetle, (Oryctes rhinoceros) is a species of rhinoceros beetle of the family Scarabaeidae. O. rhinoceros attacks the developing fronds of raffia, coconut, oil, and other palms in tropical Asia and a number of Pacific islands. Damaged fronds show typical triangular cuts. The beetle kills the palms (particularly newly planted ones) when the growing point is destroyed during feeding. They also infest dead trunk debris.

9. **Scientific name:** *Dichotpmius carlolinus*

CLASSIFICATION

Kingdom: Animalia
Subphylum: Hexapoda
Class: Insecta
Order: Coleoptera
Suborder: Polyphaga
Superfamily: Scarabaeoidea
Subfamily: Scarabaeinae
Genus: *Dichotomius*
Species: *carolinus*

LOCATION

Centurion University of technology and mana

GENERAL CHARACTERISTICS

Dichotomius carolinus are commonly know as Dung Beetles. They are approximately 3/8" - 3/4" in size. The Dung Beetle gets it's name from it primary source of food, animal waste. There are three types of Dung Beetles which are classified by their behaviors. Tunnelers, dig through the manner and create elaborate shafts with different chambers for living, storage of dung, and for incubating larvae. Dwellers lay eggs inside the dung pats or just under dung pats. The last group, Rollers, are what Dichotomius carolinus belong to. Rollers, collect dung and compact it into a sphere. These beetles then roll the ball away from the and burry it to consume later, and as a source of food for eggs. Dichotomius carolinus are know to feed on other food sources, such as fungi, when fresh dung cannot be found. Dung Beetles exhibit bilateral symmetry, have six legs, and a specialized adaptations called elytra, which are hard covering which protect their delicate wings. Dung Beetles exhibit typical insect segmentation and have a head, thorax, and abdomen.

10. Scientific name: ***Anthia sexguttata***

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Coleoptera
Family: Carabidae
Genus: *Anthia*
Species: *sexguttata*

LOCATION
Centurion University of technology and management, Parlakhemundi Campus.
GENERAL CHARACTERISTICS
Adults measure approximately 4 cm (1.5 inches), are black with six relatively large, white, dorsal spots (four over the elytra and two on the thorax). Other patterns are possible although the pattern is always symmetrical. The larva has a flattened form, a large head capsule, and prominent mandibles.

11. Scientific name: *Zizeeria knysna*
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Lycaenidae
Genus: *Zizeeria*
Species: *knysna*
LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS
These are the blue butterfly which are major nectar feeders.

12. Scientific name: *Lymantria* sp.
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Erebidae
Genus: *Lymantria*
Species: not sure
LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS
Attractive moths belonging to super family Noctuoidiae.

13. Scientific name: *Papilio demoleus*
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Papilionidae
Genus: Papilio
Species: P. demoleus
LOCATION
Centurion University of technology and manag
GENERAL CHARACTERISTICS

Papilio demoleus is a common and widespread swallowtail butterfly. The butterfly is also known as the lime butterfly lemon butterfly, lime swallowtail, and chequered swallowtail. These common names refer to their host plants, which are usually citrus species such as the cultivated lime. Unlike most swallowtail butterflies, it does not have a prominent tail. The butterfly is a pest and invasive species, found from Asia to Australia.

14. Scientific name: *Lymantria mathura*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Erebidae
Genus: *Lymantria*
Species: *mathura*

LOCATION

Centurion University of Technology and Man

GENERAL CHARACTERISTICS

The wingspan is 40–50 mm for males and 70- ling on *Terminalia*, *Shorea*, *Quercus*, *Mangifera*, *Eugenia* and *Mitragyna*. It is considered a pest, since it is a major defoliator of deciduous trees.

15. Scientific name: *Apis cerana indica*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Hymenoptera
Family: Apidae
Genus: *Apis*
Species: *cerana indica*

LOCATION

Centurion University of Technology and Manage

GENERAL CHARACTERISTICS

They usually build multiple combed nests in tre bees can adapt to living in purpose-made hives and cavities otentially colonize temperate or mountain areas with prolong

16. Scientific name: *Apis dorsata*

CLASSIFICATION

Kingdom: Animalia

Phylum: Arthropoda
Class: Insecta
Order: Hymenoptera
Family: Apidae
Genus: *Apis*
Species: *dorsata*

LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS
Highly ferocious rock bees with comparatively more honey production capacity.

17. Scientific name: *Spoladea recurvalis*
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Crambidae
Genus: *Spoladea*
Species: *recurvalis*

LOCATION
Centurion University of Technology and Manage
GENERAL CHARACTERISTICS

Spoladea recurvalis, the **beet webworm moth** or **Hawaiian beet webworm**, is a species of moth of the family Crambidae. It is found worldwide, but mainly in the tropics. The wingspan is 22–24 mm. The moth flies from May to September depending on the location. The larvae feed on spinach, beet, cotton, maize and soybean. They feed on the underside of the leaves protected by a slight web.

18. Scientific name: *Neopithecops zalmora*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Lycaenidae
Genus: *Neopithecops*
Species: *zalmora*

LOCATION
Centurion University of Technology and Manag
GENERAL CHARACTERISTICS
It is also known as Quaker. The larvae are known to feed on *Diospyros* (Ebenaceae) and many species of *Glycosmis* (Rutaceae) including *G. arborea*, *G. parviflora* and *G. pentaphylla*.

19. Scientific name: *Junonia iphita*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Nymphalidae
Genus: *Junonia*
Species: *iphita*

LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.

GENERAL CHARACTERISTICS

It is a medium-sized lepidopteran which is also known as Chocolate pansy or Chocolate soldier. The wingspan is about 5–6 cm (2.0–2.4 in) and the female can be told apart from the male by white markings on the oblique line on the underside of the hindwing. The wavy lines on the underside of the wings vary from wet- to dry-season forms. Individuals maintain a territory and are usually found close to the ground level and often bask in the sun.

20. Scientific name: *Zizula hylax*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Lycaenidae
Genus: *Zizula*
Species: *hylax*

LOCATION
Centurion University of Technology and Manag

GENERAL CHARACTERISTICS
The wingspan of the adults is about 1.5 centime ınd flattened, with a diameter of about 0.5 millimetres (0.020 in). They are laid singly on buds and flowers of a food plant. The caterpillars are 0.7 centimetres (0.28 in) long, green with a dark red line along the back, and light and dark lines partway along the sides. The sides are hairy, and the head is pale brown. The pupa is 0.7 cm long, hairy and green, and is attached to a stem or the underside of a leaf of a food plant.

21. Scientific name: *Cigaritis vulcanus*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Lycaenidae
Genus: *Cigaritis*
Species: *vulcanus*

LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS
It is also known as Common Silvering. Their numbers peak during the south-west and north-east monsoons. It inhabits scrub land with sparse vegetation, hedge rows, scrub jungles and secondary forest.

22. Scientific name: *Diaphania indica*
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Crambidae
Genus: *Cigaritis*
Species: *vulcanus*

LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS
The wingspan is about 30 mm. Adults have translucent whitish wings with broad dark brown borders. The body is whitish below, and brown on top of head and thorax as well as the end of the abdomen. There is a tuft of light brown "hairs" on the tip of the abdomen, vestigial in the male but well developed in the female. It is formed by long scales which are carried in a pocket on each side of the 7th abdominal segment, from where they can be everted to form the tufts. Unfertilized females are often seen sitting around with the tuft fully spread, forming two flower-like clumps of scales, which move slowly to spread their pheromones.

23. Scientific name: *Mocis frugalis*
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Erebidae
Genus: *Mocis*
Species: *frugalis*

LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS
It is also known as Visitor. Its wingspan is 36–50 millimetres (1.4–2.0 in). Male with the hind tibia and tarsi clothed with long thick pile. It has a grey-brown body. Forewing with a diffused dark mark above the centre of vein 1; an oblique postmedial line pale inwardly, red brown outwardly; a submarginal series of black specks. Hindwing with postmedial and diffused submarginal lines. Some specimens have a black spot above inner margin of forewing before the middle.

24. Scientific name: *Melantis leda*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Nymphalidae
Genus: *Melanitis*
Species: *leda*

LOCATION

Centurion University of Technology and Management, Paralakhemundi Campus.

GENERAL CHARACTERISTICS

It is known as "Common Evening Brown". Resident butterflies are known to fight off visitors to the area during dusk hours. This chase behaviour is elicited even by pebbles thrown nearby. The caterpillars feed on a wide variety of grasses including rice (*Oryza sativa*), bamboos, *Andropogon*, *Rotboellia cochinchinensis*, *Brachiaria mutica*, *Cynodon*, *Imperata*, and millets such as *Oplismenus compositus*, *Panicum* and *Eleusine indica*

25. Scientific name: *Trilocha varians*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Bombycidae
Genus: Trilocha
Species: varians

LOCATION

Centurion University of Technology and Mar

GENERAL CHARACTERISTICS

The wingspan is 25–27 mm. There are two colour varieties in the species; *albicollis* is the greyish form and *varians* is the reddish form. Head, thorax and abdomen of males are pale or dark reddish brown. Forewings are pale reddish brown or greyish, with two antemedial curved waved lines. There is a dark patch on the outer margin below the apex. The costal edge is paler with cilia being dark reddish brown. Hindwings are pale or dark reddish brown or with greyish with outer reddish brown area. The postmedial line is indistinct. Ventral surface is paler with some dark red stripes.

26. Scientific name: *Junonia almana*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Nymphalidae
Genus: *Junonia*
Species: *almana*

LOCATION

Centurion University of Technology and Management, Paralakhemundi Campus.

GENERAL CHARACTERISTICS

The caterpillars of *Junonia almana* feed on a variety of plants, including *Hygrophila auriculata*, *Phyla nodiflora* and species in the genera *Acanthus*, *Barleria* and *Gloxinia.*

27. Scientific name: *Castaleus rosimon*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Lycaenidae
Genus: *Castaleus*
Species: *rosimon*

LOCATION

Centurion University of Technology and Management, Paralakhemundi Campus.

GENERAL CHARACTERISTICS

It is also known as "Common pierrot". Feeds on *Zizyphus jujuba* and is of a rough texture as if shagreened all over. It is of the usual woodlouse form, much flattened towards the anal segment which is very broad; head concealed; colour bright green with a double, dorsal, yellow line and the sides powdered with small yellow spots

28. Scientific name: *Matapa aria*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Heperiidae
Genus: *Matapa*
Species: *aria*

LOCATION

Centurion University of Technology and Mar

GENERAL CHARACTERISTICS

It is also known as "Common Red eye".

29. Scientific name: ***Gallus gallus domesticus***

Common name: Chicken

CLASSIFICATION

Kingdom- Animalia
Phylum- Chordata
Class- Aves
Order- Galliformes
Family- Phasianidae
Genus- *Gallus*
Species-*gallus*

Subspecies- *G. g. domesticus*

LOCATION

Centurion University Of Technology and Management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

These are domesticated subspecies of the red junglefowl originally from Southeastern Asia.

30. Scientific name*: Canis lupus familiaris*

Common name: Dog

CLASSIFICATION

Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Carnivora
Family- Canidae
Subfamily- Caninae
Genus- *Canis*
Species- *lupus*
Subspecies- *C. l. familiaris*

LOCATION

Centurion University Of Technology and Management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The dogs are domesticated descendant of the wolf which is characterized by an upturning tail.

31. Scientific name*: Felis catus*

Common name: Cat

CLASSIFICATION

Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Carnivora
Suborder- Feliformia
Family- Felidae
Subfamily- Felinae
Genus- *Felis*
Species- *catus*

LOCATION

Centurion University Of Technology and Management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The cats are domestic species of small carnivorous mammals.

32. Scientific name: *Bos indicus*

Common name: Cow

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Artiodactyla
Family- Bovidae
Subfamily- Bovinae
Genus- *Bos*
Species- *indicus*

LOCATION
Centurion University Of Technology and Management, Parlakhemundi Campus.
GENERAL CHARACTERISTICS
The zebu cattle / indicine cattle / humped cattle, is a species or subspecies of domestic cattle originating in the Indian sub-continent.

33. Scientific name: *Bubalus bubalis*

Common name: Buffalo (Water buffalo)

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Artiodactyla
Family- Bovidae
Subfamily- Bovinae
Genus- *Bubalus*
Species- *bubalis*

LOCATION
Centurion University Of Technology and Management, Parlakhemundi Campus.
GENERAL CHARACTERISTICS
The water buffalo (Bubalus bubalis), also called as domestic water buffalo / Asian water buffalo, is a large bovid originating in the Indian subcontinent and Southeast Asia.

34. *Labeo catla* (Hamilton, 1822)

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Labeo
Species: *L. catla*
Common name: Catla

General Characteristics

- Adults occur in rivers, lakes and culture ponds. Mature individuals breed in rivers. Surface and mid-water feeders, mainly omnivorous with juveniles feeding on aquatic and terrestrial insects, detritus and phytoplankton.
- Dorsal soft rays (total): 17; Anal spines: 0; Anal soft rays: 7 - 8. Body deep, with depth 2.5 to 3 times in standard length. Has a large, upturned mouth, with a prominent protruding lower jaw. Pectoral fins long, extending to pelvic fins; scales conspicuously large

35. ***Labeo rohita*** (Hamilton, 1822)

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Labeo
Species: *L. rohita*
Common name: Rohu

General characteristics

- Adults inhabit rivers. A diurnal species and usually solitary. They burrow occasionally. Feed on plants. Spawning season generally coincides with the southwest monsoon. Spawning occurs in flooded rivers. Fecundity varies from 226,000 to 2,794,000 depending upon the length and weight of the fish and weight of the ovary. Widely introduced outside its native range for stocking reservoirs and aquaculture.
- Dorsal fin with 12-14 1/2 branched rays; lower profile of head conspicuously arched; short dorsal fin with anterior branched rays shorter than head; 12-16 predorsal scales ; snout without lateral lobe.

***36. Cirrhinus mrigala* (Hamilton, 1822)**

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Cirrhinus
Species: *C. mrigala*
Common name: Mrigal

General characteristics:

- It is endemic to Indo-Gangetic riverine systems, is one of the three Indian major carp species cultivated widely in Southeast Asian countries.
- Body bilaterally symmetrical and streamlined, its depth about equal to length of head; body with cycloid scales, head without scales; snout blunt, often with pores; mouth broad, transverse; upper lip entire and not continuous with lower lip, lower lip most indistinct; single pair of short rostral barbels

***37. Cyprinus rubrofuscus* Lacepède, 1803**

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Cyprinus
Species: ***C. rubrofuscus***
Common name: Amur carp

General characteristics:

- Body silvery with red pelvic, anal and lower caudal lobe or grey. Last simple anal ray bony and serrated posteriorly; with 4 barbels; branched dorsal rays 18-22.5.

38. *Cyprinus carpio* Linnaeus, 1758

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Cyprinus
Species: ***C. carpio***
Common name: Common carp

General characteristics:

- Europe to Asia: Black, Caspian and Aral Sea basins. Introduced throughout the world. Wild stocks are only present naturally in rivers draining to the Black, Caspian and Aral Sea.

- Dorsal spines (total): 3 - 4; Dorsal soft rays (total): 17-23; Anal spines: 2-3; Anal soft rays: 5 - 6; Vertebrae: 36 - 37. Diagnosed from other cyprinid species in Europe by having the following characters: 2 pairs of barbels; dorsal fin with 15-20½ branched rays; caudal fin deeply emarginated.

39. *Poecilia reticulata* Peters, 1859

Kingdom: Animalia
Phylum: Chordata Actinopterygii
Order: Cyprinodontiformes
Family: Poecilidae
Genus: Poecilia
Species: *P. reticulata*
Common name: Guppy

General characteristics:

- Native to South America: Venezuela, Barbados, Trinidad, northern Brazil and the Guyanas.
- Found in various habitats, ranging from highly turbid water in ponds, canals and ditches at low elevations to pristine mountain streams at high elevations
- Males are about half the size of females with colorful tail and caudal fin; the anal fin is transformed into a gonopodium for internal fertilization
- No parental care is exercised and parents may even prey on their young.

40. *Poecilia sphenops* Valenciennes, 1846

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cyprinodontiformes
Family: Poecilidae
Genus: *Poecilia*
Species: *P. sphenops*
Common name: Molly

General Characteristics

- Native to Central and South America: Mexico to Colombia.
- Feeds on worms, crustaceans, insects, plant matter. The black variety (Black molly) is a very popular aquarium fish and is marketed throughout the world. In the aquarium it feeds on green algae and also readily accepts dried food

41. *Danio rerio* (Hamilton, 1822)

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cyprinodontiformes
Family: Poecilidae
Genus: *Danio*
Species: ***D. rerio***
Common name: Zebra fish

General Characteristics

- Native to Asia: Pakistan, India, Bangladesh, Nepal and Myanmar.
- Five uniformly, pigmented, horizontal stripes on the side of the body, all extending onto the end of caudal fin rays. Anal fin distinctively striped. Lateral line absent. Rostral barbels extend to anterior margin of orbit; maxillary barbels end at about middle of opercle. Branched anal fin rays 10-12. Vertebrae 31-32.
- Used as a model system (=organism) for developmental biology.

42. *Pterophyllum scalare* (Schultze, 1823)

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cyprinodontiformes
Family: Poecilidae
Genus: *Pterophyllum*
Species: ***P. scalare***
Common name: Freshwater Angel Fish

General Characteristics

- Native to South America: Amazon River basin, in Peru, Colombia, and Brazil, along the Ucayali, Solimões and Amazon rivers.
- Body compressed and disc-shaped; dorsal and anal spiny rays increasing in length from anterior to posterior part of the fin; first branched rays also very long; body height at anal fin level 1.07 to 1.29 times in SL; body color silvery with dark vertical bars.
- Both male and female guard the eggs which are attached to the surface of aquatic vegetation in a nest area.

43. *Carassius auratus* (Linnaeus, 1758)

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cyprinodontiformes

Family: Poecilidae
Genus: *Carassius*
Species: ***C. auratus***
Common name: Gold fish

General Characteristics:

- Native to Asia: central Asia and China
- Dorsal spines (total): 3 - 4; Dorsal soft rays (total): 14-20; Anal spines: 2-3; Anal soft rays: 4 - 7; Vertebrae: 30. Body stout, thick-set, caudal peduncle thick and short. Head without scales (Ref. 39167, 1998), broadly triangular, interorbital space broad, snout longer than eye diameter, maxillary reaching posterior nostril or not quite to eye.

44. *Cyprinus rubrofuscus* var *koi* Lacépède, 1803

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Cyprinus
Species: ***C. rubrofuscus***
Variety: ***C. rubrofuscus* var *Koi***
Common Name: Koi carp

General characteristics:

- Amur carp (Cyprinus rubrofuscus) is a member of the cyprinid family species complex native to East Asia.
- Body silvery with red pelvic, anal and lower caudal lobe or grey. Last simple anal ray bony and serrated posteriorly; with 4 barbels; branched dorsal rays 18-22.5.

REPORT OF
GREEN AUDIT
OF CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT, PARALAKHEMUNDI, ODISHA (2019-20)

Preface

Institutional self-inquiry is a natural and necessary outgrowth of quality of higher education. Concern about environmental degradation and realization of values of environment are logical consequences of scholarly research, teaching and learning process. In its pursuit for improving environmental quality and to maintain a pristine environment for the future generation of students, Centurion University has made a self-inquiry on environmental quality of the campus with the following objectives: (i) To establish a baseline of existing environmental conditions with focus on natural and physical environment; (ii) To understand the current practices of sustainability with regard to the floral and faunal diversity inside the campus (iii) To promote environmental awareness through participatory auditing process; and (iv) To create a report that document baseline data of good practices and provide future strategies and action plans towards improving environmental quality for future.

This report is compiled by a committee constituted by IQAC. As there was no standard model for such a green audit of campuses in the state, the committee brainstormed and evolved a questionnaire. With the help of student volunteers and faculties of respective departmrnts the major part of the data was compiled, which the committee analyzed. The remaining part which involved measurement of quality was entrusted with the Department of Botany and Department of Zoology of Centurion University of Technology and Management, Odisha. The committee has made short term and long term suggestions to take environment protection to higher levels and it is hoped that this will receive due attention of University authorities and also all stake-holders of the University.

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Dr. Sagarika Parida

Dr. Gyanranjan Mahalik

Dr. Siba Prasad Parida

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SCHOOL OF APPLIED SCIENCES
CUTM
CENTURION UNIVERSITY OF TECHNOLOGY & MANAGEMENT

Executive Summary

Many departments maintain garden and the campus is greener with fair biodiversity around and gardens maintained by many departments. A detailed study on floral and faunal diversity has been done. There are also one beautiful rose garden, medicinal plant garden and natural resources for butterfly inside the campus mentained by the university. Faunal and floral diversity reports are given below.

REPORT ON FLORAL DIVERSITY

Flora comes from the Latin word "*Flora*", the meaning is Goddess of plants. *Floris* means flower. Floral diversity is the diversity of plants occurring in a particular region during particular time period. It also refers to the diversity of naturally available native or indigenous plants till now a total of 2, 15, 644 species of plants have been catalogued on the earth till date. It is reported that India harbours 46, 824 species including virus/bacteria and fungi species. In India, floral diversity is concentrated in four phytogeographical unique regions like Himalayas, Western Ghats, Northeast India and Andaman and Nicober Islands. Indian flora records for 11.4% of the total recorded plant species. Angiosperms are the largest plant group in India comprising of total of 17, 817 species which constitutes 38.15% of floral diversity of the entire country followed by fungi comprising 14,698 species which is of 31.38%. High level of cryptogram (Bryophytes and Pteridophytes) diversity is also seen in the country. A total of 2,479 species of Pteridophytes and around 1265 of Bryophytes have been recorded in India. Algae and fungi have also been wide spread in India. Lichens are found in Western Ghats, Eastern and Western Himalayas and Andaman and Nicobar Islands. Most of the ferns and gymnosperms are found in cool temperate zones of the Himalayas and in the mountainous regions of southern India, especially in the Western Ghats. Indian flora represents nearly 12% of the global diversity excluding viruses. A diverse number of species of wild relatives of crop plants are also present.

Presently, considerable attention is being addressed to biological diversity of biodiversity statue which refers to the occurrence of diverse biological forms including micro-organisms, plants and animals in a particular geographical area under a set of environmental conditions. Biodiversity is the reflection of genetic variability with which the different hierarchical forms of germplasm (strains, landraces/genotypes/varieties, species, genera etc.) appear in the course of evolution. The genetic variation may exist either within the species (intra specific) to a certain extent or to a larger scale

between different species (intra specific) and taxa of higher biological order. In fact, it is the ecosystem that supports the biological variability. The diverse living forms of the ecosystem are always in a state of change keeping pace with the global environment perturbations. An ecosystem is composed of both biotic and abiotic components which are quite interrelated and influences each other.

Ecosystem diversity encompasses varieties of living forms due to miscellany of niches, tropic levels and ecological processes like nutrient recycling, food chains, food webs, energy flow and role of dominant species. The present campus of Centurion University, in Paralakhemundi Spread over 120 acres on the foothills of the Eastern ghats in a serene environment lies the main campus of Centurion University in Paralakhemundi. It is the only technological University in South Odisha.

Block wise area under survey:

Block-1: consist of subunits – 1-9 including Main gate, Playground, Tribal mess, Baitarani hostel, MBA building, protected cultivation, Banana farm and 4th gate.

Block-2: consist of the subunits- 10-18 including Hydroponics unit, Banana orchard, Temple area, CPS school, CRC1, CRC2, Pond area, Eicher lab, and Bus parking.

Block-3: consist of the subunits 19-26 including New C type quarters, Indravati hostel and Student fields, Agro-forestry field, Mango fields, Organic farm, Pond, STP 3 and STP 2.

Block-4: consist of subunits 27-34 including Central mess 1 and 2, Boy's hostel 1,2,3, A, B, C type quarters, Gram tarang blocks, Welding lab, Hill top, Dhaba, Gram tarang ground, Guest house.

Block-5: consist of subunits 35-41 Horticulture fields, Fishery Pond, Farm machinery lab, Vasco tank, Tribal village, Dairy unit and Forest side.

LIST OF DIFFERENT KINDS OF FLORA FOUND IN THE CAMPUS

SI NO	TREE SPECIES	FAMILY	BLOCK
Timber Trees			
1	*Acacia auriculoformis A. Cunn. ex Benth.*	Fabaceae	B1, B2
2	*Acacia mangium Willd.*	Fabaceae	B1, B3,
3	*Aegle marmelous L.*	Rutaceae	B3
4	*Albizia lebbeck L. Benth.*	Mimosaseae	B2, B3
5	*Alstonia scholaris (L.) R.Br.*	Apocynaceae	B1, B2, B3, B4, B5
6	*Anacardium occidentale L.*	Anacardiaceae	B4, B5
7	*Araucaria heterophylla (Salisb.) Franco*	Araucariaceae	B3
8	*Artocarpus heterophyllus Lam.*	Moraceae	B2, B3, B5
9	*Azadirachta indica A. Juss.*	Meliaceae	B4, B5
10	*Bauhinia variegate L.*	Fabaceae	B1, B3
11	*Bombax ceiba L.*	Malvaceae	B5
12	*Buchanania lanzan spreng.*	Anacardiaceae	B4, B5
13	*Butea monosperma Lam.*	Fabaceae	B1, B2
14	*Callophylum innophylum L.*	Calophyllaceae	B1, B2, B3, B4, B5
15	*Casia seamea Lam.*	Fabaceae	B1, B2, B3, B4, B5
16	*Cocos nucifera L.*	Arecaceae	B1, B2, B3, B4, B5
17	*Dalbergia sissoo Roxb.*	Fabaceae	B1, B3
18	*Delonix regia (Boj. ex Hook.) Raf.*	Fabaceae	B1, B3, B4
19	*Ficus religiosa L.*	Moraceae	B1
20	*Ficus benghalensis L.*	Moraceae	B2, B3
21	*Gliricidia seepium (Jacq.) Walp.*	Fabaceae	B1, B2, B3
22	*Gmelina arborea Roxb.*	Lamiaceae	B3, B4, B5
23	*Mangifera indica L.*	Anacardiaceae	B1, B2, B3, B4, B5
24	*Neolamarckia cadamba (Roxb.) Bosser*	Rubiaceae	B1, B2
25	*Plumeria alba L.*	Apocynaceae	B1, B3, B4
26	*Polyalthia longifolia (Sonn.) Thwaites*	Annonaceae	B1, B2, B4
27	*Pongamia pinnata*	Fabaceae	B1, B2, B3
28	*Pterocarpus marsupium Roxburgh.*	Fabaceae	B1, B5
29	*Samanea samman (Jacq.) Merr.*	Fabaceae	B1, B2, B3, B4
30	*Shorea robusta Roth.*	Dipterocarpaceae	B4
31	*Swietenia macrophyla King.*	Meliaceae	B2, B5

32	*Syzygium cumini L.*	Myrtaceae	B2
33	*Tamarindus indica L.*	Caesalpiniaceae	B4, B5
34	*Taminalia arjuna ((Roxb.) Wight & Arn.*	Combretaceae	B5
35	*Tectona grandis L.*	Lamiaceae	B1, B2, B3, B4, B5
36	*Terminalia catapa L.*	Combretaceae	B5
37	*Ziziphus jojoba Mill.*	Rhamnaceae	B4, B5
CROP SPECIES			
38	*Corchorus capsularis*	Malvaceae	B2
39	*Carthamus tinctorius*	Asteraceae	B3
40	*Lens culinaris*	Fabaceae	B2,B3
41	*Saccharum officinarum*	Poaceae	B4,B5,B3
42	*Gerbera jamesonii*	Asteraceae	B1
43	*Dendrobium spp*	Orchidaceae	B2,
44	*Anthurium*	Araceae	B2,B1
45	*Brassica rapa subsp. chinensis*	Brassicaceae	B1,B2
46	*Brassica Juncea*	Brassicaceae	B2,B3
47	*Brassica rapa subsp. pekinensis*	Brassicaceae	B3,B4
48	*Lactuca sativa*	Asteraceae	B1,B2,B3
49	*Oryza sativa*	Poaceae	B2,B3
50	*Zea mays*	Poaceae	B2
51	*Sorghum bicolar*	Poaceae	B2,B3
52	*Elausine coracana*	Poaceae	B2,B3
53	*Gossypium spp*	Malvaceae	B2,B3
54	*Pennisetum glaucum*	Poaceae	B2
55	*Cajanus cajan*	Fabaceae	B2,B3
56	*Vigna mungo*	Fabaceae	B2,B3
57	*Vigna radiata*	Fabaceae	B4,B3
58	*Pisum sativum*	Fabaceae	B2,B3
59	*Cicer arietinum*	Fabaceae	B2
60	*Arachis hypogea*	Fabaceae	B2,B3
61	*Helianthus annuus*	Asteraceae	B4,B3
62	*Sesamum indicum*	Pedaliaceae	B3
63	*Crotalaria juncea*	Fabaceae	B2,B3
FRUIT AND PLANTATION TREES			

64.	*Annona reticulata L.*	Annonaceae	B-1
65.	*Annona squamosa L.*	Annonaceae	B-1, B-2, B-3,B-5
66.	*Annanas comosus* L.	Bromiliaceae	B-1,B-2,B-5
67.	*Anacardium occidentale* L.	Anacardiaceae	B-1, B-2, B-4, B-5
68.	*Artocarpus heterophyllus* L.	Moraceae	B-1, B-2, B-3, B-4, B-5
69.	*Areca catechu L.*	Arecaceae	B-2, B-5
70.	*Averrhoea carambola L*	Oxalidaceae	B-3, B-4
71.	*Borasus flabellifer L.*	Arecaceae	B-2,B-3,B-5
72.	*Camelia sinensis* L..	Theaceae	B-4
73.	*Carica papaya* L.	Caricaceae	B-1,B-2,B-3
74.	*Carissa carandas L.*	Apocynaceae	B-3, B-2, B-5
75.	*Canthium parviflorum*	Rubiaceae	B-3, B-5
76.	*Citrus aurantifolia L*	Rutaceae	B-2
77.	*Citrus reticulata L.*	Rutaceae	B-2,B-5
78.	*Cinnamomum verum L.*	Myrtaceae	B-2
79.	*Coffea robusta L.*	Rubiaceae	B-4
80.	*Ficus carica L.*	Moraceae	B-2, B-4
81.	*Garcinia mangostana L.*	Guttiferae	B-5
82.	*Litchi chinensis L.*	Sapindaceae	B-1
83.	*Manilkara achras L.*	Sapotaceae	B-2,B-4
84.	*Morinda citrifolia*	Rubiaceae	B-2, B-3
85.	*Musa paradisica L.*	Musaceae	B-1, B-2,B-3, B-5
86.	*Nephelium longan* L	Sapindaceae	B-2
87.	*Phoenix sylvestris L*	Arecaceae	B-2,B-3,B-5,
88.	*Phoenix regia .L*	Arecaceae	B-2, B-5,B-3
89.	*Psidium gujava L.*	Myrtaceae	B-1, B-2, B-3
90.	*Punica granatum L.*	Punicaceae	B-1
91.	*Prunus cerasus L*	Rosaceae	B-3
92.	*Zizyphus mauritiana* L.	Rhamnaceae	B-2, B-3,B-5
93.	*Ziziphus oenoplia L*	Rhamanaceae	B-3, B-5
VEGETABLES			
94.	*Abelmoschus esculentus L.*	Malvaceae	B-2, B-5
95.	*Allium cepa L*	Amaryllidaceae	B-1, B-2, B-5
96.	*Alocasia macrorrhiza L*	Araceae	B-3
97.	*Alternanthera sessillis*	Amaranthaceae	B-1, B-2, B-5

98.	*Brassica oleracea var.capitata*	Cruciferae	B-2,B-5
99.	*Brassica oleracea var. botrytis*	Cruciferae	B-2, B-5
100.	*Brassica oleracea var. gongylodes*	Cruciferae	B-2, B-5
101.	*Raphanus sativus L.*	Cruciferae	B-2, B-5
102.	*Capsicum annuam var. grossum L.*	Solanaceae	B-1
103.	*Capsicum annum var longum L.*	Solanaceae	B-2, B-5
104.	*Cucumis sativus L.*	Cucurbitaceae	B-1, B-2, B-5
105.	*Coccinia indica L*	Cucurbitaceae	B-1, B-2,B-3, B-4,B-5
106.	*Cucurbita pepo L*	Cucurbitaceae	B-2,B-5
107.	*Cyamopsis tetragonolobus L*	Leguminaceae	B-2, B-5
108.	*Coriandrum sativum L*	Umbelliferae	B-1, B-2,B-5
109.	*Lablab purpureus L*	Leguminaceae	B-2,B-3,B-5
110.	*Luffa acutangular L*	Cucurbitaceae	B-2, B-3, B-5
111.	*Momordica chanrantia L.*	Cucurbitaceae	B-1,B-2,B-3,B-5
112.	*Murraya koenigii L*	Rutaceae	B-2, B-3, B-4
113.	*Solanum melongena L.*	Solanaceae	B-1, B-2, B-5
114.	*Solanum indicum L.*	Solanaceae	B-2, B-5
115.	*Solanum lycopersicum L*	Solanaceae	B-2, B-5
116.	*Vigna unguiculata L.*	Leguminaceae	B-5
MEDICINAL AND AROMATIC CROPS			
117.	*Acacia longifolia*	Leguminaceae	B-2
118.	*Adenanthera pavonine*	Fabaceae	B-2
119.	*Allamanda purpurea*	Acanthaceae	B-2
120.	*Bixa ollerana*	Bixaceae	B-2
121.	*Bombax ceiba*	Malvaceae	B-2
122.	*Butea monosperma*	Leguminaceae	B-2
123.	*Callistemon lanceolatus*	Myrtaceae	B-2
124.	*Citharexylum spinosum*	Verbenaceae	B-2
125.	*Clerodendrum indicum*	Lamiaceae	B-2
126.	*Cymbopogon sp*	Gramineae	B-2
127.	*Endospermum diadenum*	Euphorbiaceae	B-2
128.	*Gardenia jasminoides*	Rubiaceae	B-2
129.	*Gmelina arborea*	Verbenaceae	B-2
130.	*Grewia asiatica*	Tiliaceae	B-2
131.	*Hamelia patens*	Rubiaceae	B-2

132.	*Juglans regia*	Juglandaceae	B-2
133.	*Kaempferia parviflora*	Zingeberaceae	B-2
134.	*Kigelia Africana*	Bignoniaceae	B-2
135.	*Lagerstroemia flos-reginae*	*Lythraceae*	B-2
136.	*Leucophyllum frutescens*	Scrophulariaceae	B-2
137.	*Ligustrum sinense*	Oleaceae	B-2
138.	*Limonia acidissima*	Rutaceae	B-2
139.	*Manilkara hexandra*	Sapotaceae	B-2
140.	*Melia azaderach*	Meliaceae	B-2
141.	*Mimusops elengii*	Sapotaceae	B-2
142.	*Murraya exotica*	Rutaceae	B-2
143.	*Nyctanthes arbor-tristis*	Nyctanthaceae	B-2
145.	*Oroxylum indicum*	Bignoniaceae	B-2
146.	*Phyllanthus Emblica*	Phyllanthaceae	B-2
147.	*Pimenta dioica*	Myrtaceae	B-2
148.	*Plantanus racemose*	Platanaceae	B-2
149.	*Plumeria pudica*	Apocynaceae	B-2
150.	*Prunus serotina*	Rosaceae	B-2
151.	*Psoropis cineraria*	Fabaceae	B-2
152.	*Pterocarpus santalinus*	Leguminaceae	B-2
153.	*Pterocarya rhoifolia*	Juglandaceae	B-2
154.	*Putranjiva roxburghii*	Euphorbiaceae	B-2
155.	*Quercus cestaneifolia*	Fagaceae	B-2
156.	*Rhus glabra*	Anacardiaceae	B-2
157.	*Salix sp*	Salicaceae	B-2
158.	*Santalum album*	*Santalaceae*	B-2
159.	*Sapindus mukorossi*	Sapindaceae	B-2
160.	*Spathodea campanulate*	Bignoniaceae	B-2
161.	*Stachytarpheta jamaicensis*	Verbenaceae	B-2
162.	*Strychnos spinosa*	Loganiaceae	B-2
163.	*Swietenia macrophylla*	Meliaceae	B-2
164.	*Syzigium sp*	Myrtaceae	B-2
165.	*Tectona grandis*	Lamiaceae	B-2
166.	*Terminalia catappa*	Combretaceae	B-2
167.	*Thespesia populnea*	Malvaceae	B-2

CLIMBERS			
168.	*Allamanda blanchetti* A.DC.	Apocynaceae	B-2
169.	*Allamanda cathartica var grandiflora*	Apocynaceae	B-2
170.	*Artabotrys odoratissimus*	Annonaceae	B-2
171.	*Asparagus racemosus Willd.*	Asparagaceae	B-2
172.	*Bougainvillea spp.*	Nyctaginaceae	B-2
173.	*Cissus striata*	Vitaceae	B-5
174.	*Cissus nodosa*	Vitaceae	B-3, B-5
175.	*Clerodendron splendens*	Verbanaceae	B-1
176.	*Clitoria ternatea L*	Leguminaceae	B-1,B-2,B-5
177.	*Cuscuta reflexa Roxb.*	Cuscutaceae	B-4
178.	*Gloriosa superba*	Colchicaceae	B-5,B-3
179.	*Ipomoea obscura Ker.-Gawl.*	Convolvulaceae	B-4
180.	*Jacquemontia pentantha L.*	Convolvulaceae	B-1,B-4
181.	*Ipomea cairica*	Convolvulaceae	B-2,B-5
182.	*Jasminum nitidum L.*	Oleaceae	B-2
183.	*Piper betel L*	Piperaceae	B-2
184.	*Pyrostegia venusta*	Bignoniaceae	B-2
185.	*Quisqualis indica L.*	Combretaceac	B-2
186.	*Tinospora cordifolia(Thunb.) Miers*	Menispermaceae	B-2
SHRUBS			
187.	*Acalypha hispida L*	Euphorbiaceae	B-1,B-2
188.	*Allamanda grandiflora L.*	Apocynaceae	B-1, B-2, B-3
189.	*Aralia*	Araliaceae	B-1,B-2,B-3,B-4, B-5
190.	*Artabotrys odoratissimus L*	Annonaceae	B-2, B-5
191.	*Barleria cristata L.*	Acanthaceae	B-1, B-2,B-3,B-4,B-5
192.	*Bauhinia tomentosa L*	Leguminaceae	B-1, B-2,B-3,B-5
193.	*Beloperone guttata L.*	Acanthaceae	B-2
194.	*Caesalpinia pulcherrima L.*	Leguminaceae	B-1,B-2,B-3, B-5
195.	*Calotropis gigantia L.*	Apocynaceae	B-5
196.	*Calotropis procera L.*	Apocynaceae	B-4, B-5
197.	*Clerodendron inerme L.*	Verbenaceae	B-1
198.	*Crossandra*	Acanthaceae	B-2,B-3,B-5
199.	*Duranta plumieri*	Verbenaceae	B-1,B-2,B-3,B-4,B-5
200.	*Hibiscus mutabilis*	Malvaceae	B-1,B-2, B-3,B-4, B-5

201.	*Hibiscus rosasinensis*	Malvaceae	B-2,B-5
202.	*Ixora*	Rubiaceae	B-1,B-2,B-3, B-4,B-5
203.	*Lantana camera*	Verbenaceae	B-2,B-3, B-4, B-5
204.	*Mimosa pudica L.*	Fabaceae	B-1,B-2,B-3,B-4,B-5
FOLIAGE PLANTS			
205.	*Acalypha hispida*	Euphorbiaceae	B-1, B-2,B-4,B-5
206.	*Acalypha wilkesiana Mull.*	Euphorbiaceae	B-2,B-4,B-5
207.	*Agave americana*	Amaryllidaceae	B-2,B-4
208.	*Agave salmiana Otto ex Salm-Dyck*	Asparagaceae	B-2
209.	*Agloanema spp.*	Araceae	B-2
210.	*Aglonemma nitidum*	Araceae	B-2
211.	*Alternanthera bicolour*	Amaranthaceae	B-2
212.	*Araucaria spp.*	Coniferae	B-2,B-1
213.	*Asparagus spp.*	Lilaceae	B-2
214.	*Begonia spp.*	Bignoniaceae	B-1,B-2,B-4,B-5
215.	*Bryophyllum sp.*	Crassulaceae	B-2
216.	*Caladium bicolour*	Araceae	B-2
217.	*Calathea spp*	Maranthaceae	B-2
218.	*Callisia repens*	Commelinaceae	B-2
219.	*Chlorophytm comosum variegata*	Liliaceae	B-2,B-1
220.	*Codiaeum variegatum*	Euphorbiaceae	B-1,B-2,B-3,B-4,B-5
221.	*Coleus spp.*	Lamiaceae	B-1,B-2,B-3,B-4,B-5
222.	*Cordyline fruticosa(L.) A.Chev. (L.)Nees.*	Agavaceae	B-1,B-2,B-3,B-4,B-5
223.	*Crassula ovata*	Crassulaceae	B-2
224.	*Ctenanthe lubbersiana*	Marantaceae	B-2
225.	*Cycas revoluta*	Cycadaceae	B-1,B-2,B-3,B-4,B-5
226.	*Dieffenbachia maculata*	Araceae	B-1,B-2,B-3,,B-5
227.	*Dracaena marginata*	Asparagaceae	B-1,B-2,B-3,,B-5
228.	*Dracaena marginataLam. 'tricolor'*	Agavaceae	B-2,B-3
229.	*Dracaena sanderiana Mast.*	Asparagaceae	B-2,B-3,B-5
230.	*Dracena reflexa*	Asparagaceae	B-2,B-3
231.	*Duranta erecta*	Verbenaceae	B-1,B-2,B-3,B-4,B-5
232.	*Duranta goldiana*	Verbenaceae	B-1,B-2,B-3,B-4,B-5
233.	*Duranta repens L.*	Verbenaceae	B-1,B-2,B-3,B-4,B-5
234.	*Ficus elastioca*	Moraceae	B-2

235.	*Juniperus chinensis*	Cupressaceae	B-2
236.	*Pedilanthus tithymaloides*	Euphorbiaceae	B-2,B-3,B-4,B-5
237.	*Philodendron spp.*	Araceae	B-1,B-2,B-5
238.	*Ravenala madagascariensis*	Strelitziaceae	B-1,B-2
239.	*Roheo bicolor*	Commelinaceae	B-2
240.	*Sansevieria trifasicata*	Aspargaceae	B-1,B-2
241.	*Scindapsus aureus*	Araceae	B-2,B-5
242.	*Syngonium podophyllum*	Araceae	B-1,B-2,B-3,B-4,B-5
243.	*Tradescantia pallida*	Commelinaceae	B-1,B-2,B-3,B-4,B-5
244.	*Tradescantia spatheca*	Commenlinaceae	B-1,B-2,B-3,B-4,B-5
245.	*Tradescantia zebrina*	Commelinaceae	B-2
246.	*Zamia furcarea*	Asparagaceae	B-2
FLOWERING PLANTS			
247.	*Adenium obesum*	Apocynaceae	B-1,B-2,B-4,B-5
248.	*Caesalpinia pulcherrima*	Fabaceae	B-1,B-2,B-4,B-5
249.	*Canna indica*	Cannaceae	B-2
250.	*Chrysanthemum cinerariifolium*	Asteraceae	B-2,B-3
251.	*Chrysanthemum grandiflorum*	Compositeae	B-2,B-3
252.	*Crossandra infundibuliformis*	Acanthaceae	B-1,B-2,B-5
253.	*Euphorbia heterophylla L.*	Euphorbiaceae	B-2
254.	*Euphorbia hirta L.*	Euphorbiaceae	B-2
255.	*Euphorbia indica Lam*	Euphorbiaceae	B-2
256.	*Euphorbia mili*	Euphorbiaceae	B-2,B-5
257.	*Euphorbia pulcherrima Willd. ex Klotzsch*	Euphorbiaceae	B-2
258.	*Gardenia carinata Wall. ex Roxb.*	Rubiaceae	B-2,
259.	*Gardenia jasminoides J.Ellis*	Rubiaceae	B-2
260.	*Gerbera jamesonii*	Compositeae	B-1,B-2
261.	*Helianthus annus*	Compositeae	B-2,B-3
262.	*Hibiscus canabinus L*	Malvaceae	B-1.B-2,B-3,B-4,B-5
263.	*Hibiscus mutabilis L.*	Malvaceae	B-1.B-2,B-3,B-4,B-5
264.	*Hibiscus rosa-sinensis L.*	Malvaceae	B-1.B-2,B-3,B-4,B-5
265.	*Impatiens balsamina L.*	Balsaminaceae	B-2
266.	*Ipomoea carnea Jacq.*	Convolvulaceae	B-1,B-2
267.	*Ixora coccinea*	Rutaceae	B-1.B-2,B-3,B-4,B-5
268.	*Jasminium auriculatum*	Oleaceae	B-1,B-2,B-5

269.	*Jasminium sambac*	Oleaceae	B-1,B-2,B-5
270.	*Jatropha gossypifolia L.*	Euphorbiaceae	B-2,B-5
271.	*Lilium spp*	Lilliaceae	B-2
272.	*Malvaviscus arboreus Cav.*	Malvaceae	B-1.B-2,B-3,B-4,B-5
273.	*Mimosa pudica L.*	Mimosaceae	B-1,B-2,B-5
274.	*Polianthus tuberosa*	Amaryllidaceae	B-2,B-3
275.	*Portulaca grandiflora*	Portulaceae	B-1.B-2,B-3,B-4,B-5
276.	*Portulaca oleracea L. var. oleracea*	Portulaceae	B-1.B-2,B-3,B-4,B-5
277.	*Portulaca pilosa L. subsp. grandiflora (Hook.) Geesink*	Portulaceae	B-1.B-2,B-3,B-4,B-5
278	*Rosa indica L.*	Rosaceae	B-1,B-2
279.	*Rosa alba L.*	Rosaceae	B-2
280.	*Rosa centifolia L*	Rosaceae	B-2
281	*Rosa chinenesis Jacquin*	Rosaceae	B-2
282.	*Rosa damascina Miller*	Rosaceae	B-2
283.	*Rosa odorata (Andr.)Sweet var. odorata*	Rosaceae	B-2
284.	*Ruellia brittoniana* Leonard	Acanthaceae	B-2
285.	*Tagetes erecta*	Compositeae	B-1.B-2,B-3,B-4,B-5
286.	*Tagetes patula*	Compositeae	B-1.B-2,B-3,B-4,B-5
287.	*Tecoma stans (L.) Kunth.*	bignoniaceae	B-2,B-5
288.	*Zephyranthes candida*	Amaryllidaceae	B-2
289.	*Zephyranthes candida (Lindl.)Herb.*	Amaryllidaceae	B-2
290.	*Zephyranthes rosea(Lindl.)*	Amaryllidaceae	B-2
PALMS, FERNS, CACTUS AND GROUND COVERS			
291	*Alternanthera ficodea*	Amranthaceae	B-2
292	*Beaucarnea recurvata*	Arecaceae	B-2
293	*Cactus spp.*	Cactaceae	B-1,B-2
294	*Crysalidocarpus lutesens*	Arecaceae	B-1,B-2
295	*Cycas revoluta*	Arecaceae	B-1.B-2,B-3,B-4,B-5
296	*Dypsis leptocheilos*	Arecaceae	B-1,B-2
297	*Hyophorbe legenicaulis*	Arecaceae	B-1,B-2
298	*Livingstonia rotundifolia*	Arecaceae	B-1,B-2
299	*Phoenix roebelenii*	Arecaceae	B-5
300	*Raphis excelsa*	Arecaceae	B-1,B-2
301.	*Roystonea regia*	Arecaceae	B-1,B-2

ORNAMENTAL PLANTS			
302.	Albezia lebbeck	Leguminoceae	B-5
303.	*Bauhinia alba*	Leguminoceae	B-2,B-5
304.	*Bauhinia triandra*	Leguminoceae	B-2
305.	*Bauhinia variegate*	Leguminoceae	B-2
306.	Bombax malabaricum	Bombaceae	B-5
307.	*Callistemon lanceolatus*	Myrtaceae	B-2
308.	*Cassia fistula*	Leguminoceae	B-2,B-5
309.	*Cassia nodosa*	Leguminoceae	B-2,B-5
310.	*Casuarina equistifolia*	Casuarinaceae	B-2
311.	*Cyperus triceps* Endl.	Cyperaceae	B-1,B-3,B-4
312.	*Echinochloa colona (*L.) Link	Poaceae	B-1,B-2,B-3,B-4
313.	*Elaeis guineensis Jacq.*	Arecaceae	B-2,B-5
314.	*Eleusine indica (*L.) Gaertn.	Poaceae	B-1,B-2,B-3,B-4
315	*Elusine coracana (*L.)Gaertn	Poaceae	B-2
316.	*Eucalyptus spp.*	Myrataceae	B-2,B-5
317.	*Ficus benjhamina*	Moraceae	B-1.B-2,B-3,B-4,B-5
318.	*Ficus elastica*	Moraceae	B-2
319.	*Lagerstroemia speciosa*	Lytharaceae	B-1.B-2,B-3,B-4,B-5
320.	Lawsonia inermis	Lythraceae	B-5
321.	*Mimusops elengii*	Sapotaceae	B-1.B-2,B-3,B-4,B-5
322.	*Murraya paniculata(L.) Jack*	Rutaceae	B-1.B-2,B-3,B-4,B-5
323.	*Nauclea cadamba*	Rubiaceae	B-3,B-5
324.	*Nyctanthes arbor-tristis L.*	Oleaceae	B-3
325.	Peltophorum pterocarpum	Leguminoceae	B-5
326.	*Plumeria rubra*	Apocynaceae	B-1,B-5
327.	*Polyalthia pendula*	Anonaceae	B-1.B-2,B-3,B-4,B-5
328.	*Ravenela madagascariensis*	Scitmineae	B-1,B-2,
329.	Salix alba	Salicaceae	B-5
330.	*Setaria pumila* (Poir.) Roem. & Schult.	Poaceae	B-1,B-3,B-4
EPIPHYTES			
331.	*Dendrobium ursula* Strenge	Passifloraceae	B-2
GYMNOSPERM			
332.	*Araucaria columnaris* (Forst.f.) Hook.	Araucariaceae	B-1, B-2

333.	*Cycas revoluta* Thunb.	Cycadaceae	B-1,B-2,B-3
334.	*Juniperus communis* L.	Cupressaceae	B-1, B-2
335.	*Pinus roxburghii* Sargent	Pinaceae	B-2
336.	*Podocarpus nerefolius* D.Don	Podocarpaceae	B-2
337.	*Platycladus orientalis* (L.) Franco	Cupressaceae	B-2
Weed Flora			
338.	*Acalypha indica*	Euphorbiaceae	B3,B5
339.	*Achyranthes aspera*	Amaranthaceae	B1,B2,B3,B4,B5
340.	*Acmella oleracea*	Asteraceae	B1,B2,B3,B4,B5
341.	*Acmella uliginosa*	Asteraceae	B1,B2,B3,B4,B5
342.	*Ageratum conyzoides*	Asteraceae	B1,B2,B3,B4,B5
343.	*Ageratum houstonianum*	Asteraceae	B5
344.	*Alternanthera philoxeroides*	Amaranthaceae	B1,B2,B3,B4,B5
345.	*Amaranthus hybridus*	Amaranthaceae	B3,B5
346.	*Amaranthus spinosus*	Amaranthaceae	B1,B2,B3,B4,B5
347.	*Amaranthus viridis*	Amaratheceaea	B3,B4,B5
348.	*Argemone mexicana*	Papaveraceae	B1,B3,B5
349.	*Avena fatua*	Poaceae	B3,B5
350.	*Avena sterilis*	Poaceae	B5
351.	*Bambusa arundinacea* (Retz.) Willd.	Apocynaceae	B-2
352.	*Bidens pilosa*	Asteraceae	B3,B5
353.	*Chenopodium murale*	Amaranthaceae	B3,B4,B5
354.	*Chloris barbata*	Poaceae	B1,B2,B3,B4,B5
355.	*Cleome viscosa*	Capparaceae	B2,B4,B5
356.	*Commelina benghalensis*	Commelinacea	B1,B2,B3,B4,B5
357.	*Corchorus acutangulus*	Tiliaceae	B3,B5
358.	*Cyanthillium cinereum*	Asteraceae	B1,B3,B4,B5
359.	*Cynodon dactylon*	Poaceae	B1,B2,B3,B4,B5
360.	*Cyperus difformis*	Cyperaceae	B1,B2,B3,B4,B5
361.	*Cyperus esculentus*	Cyperaceae	B3,B4,B5
362.	*Cyperus iria*	Cyperaceae	B3,B4
363.	*Cyperus rotundus*	Cyperaceae	B1,B2,B3,B4,B5
364.	*Dactylectonium aegeptium*	Poaceae	B1,B2,B3,B4,B5
365.	*Datura stramonium*	Asteraceae	B3,B4,B5
366.	*Datura stramonium*	Asteraceae	B3,B4,B5

367.	*Dicanthium annulatum*	Poaceae	B4,B5
368.	*Digitaria sanguinalis*	Poaceae	B1,B2,B3,B4,B5
369.	*Echinochloa colona*	Poaceae	B1,B3,B4,B5
370.	*Echinocloa crus-galli*	Poaceae	B1,B2,B3,B4,B5
371.	*Eclipta alba*	Asteraceae	B3,B4,B5
372.	*Eleusine indica*	Poaceae	B3,B4,B5
373.	*Euphorbia hirta*	Euphorbiaceae	B1,B2,B3,B4,B5
374.	*Leptochloa chinensis*	Poaceae	B1,B2,B3,B4,B5
375.	*Ludwigia parviflora*	Onagraceae	B1,B2,B3,B4,B5
376.	*Mimosa pudica*	Fabaceae	B1,B2,B3,B4,B5
377.	*Mitracarpus hirtus*	Rubiaceae	B1,B3,B4,B5
378.	*Oldenlandia corymbosa*	Rubiaceae	B1,B2,B3,B4,B5
379.	*Parthenium hysterophorus*	Asteraceae	B3,B4,B5
380.	*Phylanthus niruri*	Phyllanthaceae	B1,B2,B3,B4,B5
381.	*Physalis longifolia*	Solanaceae	B1,B3,B4
382.	*Rumex scutatus*	Polygonaceae	B3,B4,B5
383.	*Sida acuta*	Malvaceae	B3,B4,B5
384.	*Solanum nigrum*	Salanaceae	B4,B5
385.	*Sphagneticola trilobata*	Asteraceae	B1,B2,B3,B4,B5
386.	*Synedrella nodiflora*	Asteraceae	B1,B2,B3,B4,B5
387.	*Trianthema portulacastrum*	Aizoaceae	B3,B4,B5
388.	*Tridax procumbens*	Asteraceae	B1,B2,B3,B4,B5
MUSHROOMS			
389.	*Plurotus oestratus*	Plurotaceae	B-4
390	*Agaricus bisporus*	Agaricaceae	B-4
391.	*Volvariella volvacea*	Plutaceae	B-4

Pic: Rose garden, CUTM, Paralakhemundi.

Pic: Fish pond, CUTM, Paralakhemundi.

FAUNAL DIVERSITY

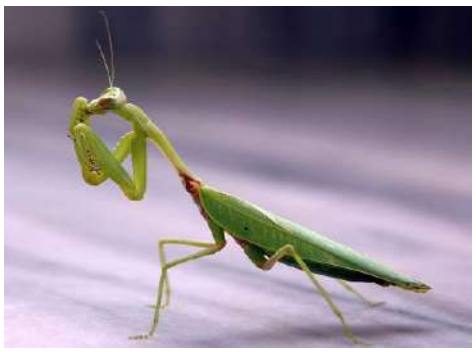
A survey on faunal diversity in our Paralakhemundi campus of Centurion University of Technology and Management has done from 1st of December 2019 to 25th of December 2019. Based on the survey, we prepared report and hereby the report is submmited to the Department of Entomology, MSSSOA, CUTM, Paralakhemundi on 30th of December.

ANIMAL	Sl.No.	Common name	Scientific name
Invertebrates	**1.**	Preying mantid	*Mantis religiosa*
	2.	Two-spotted assassin bug	*Platymeris biguttatus*
	3.	Scarlet skimmer	*Crocothemis servilia*
	4.	Globe skimmer	*Pantala flavescens*
	5.	Slender skimmer	*Orthetrum sabina*
	6.	Great spreadwing	*Archilestes grandis*
	7.	Coconut rhinoceros beetle	*Oryctes rhinoceros*
	8.	Dung beetle	*Dichotomius carolinus*
	9.	Six-spot ground beetle	*Anthia sexguttata*
	10.	Dark grass blue	*Zizeeria knysna*
	11.	Tussock moth	*Lymantria sp.*
	12.	Swallowtail butterfly	*Papilio demoleus*
	13.	Rosy gypsy moth	*Lymantria mathura*
	14.	Indian honey bee	*Apis cerana indica*
	15.	Rock bee	*Apis dorsata*
	16.	Beet webworm moth	*Spoladea recurvalis*
	17.	Quaker butterfly	*Neopithecops zalmora*
	18.	Chocolate pansy	*Junonia iphita*
	19.	The Tiny grass blue	*Zizula hylax*
	20.	Silverline	*Cigaritis vulcanus*
	21.	Cucumber moth	*Diaphania indica*
	22.	Sugarcane looper	*Mocis frugalis*
	23.	The common evening brown	*Melanitis leda*
Vertebrates	**24.**	Chicken bird	*Gallus gallus domesticus*
	25.	Dog	*Canis lupus familiaris*

	26.	Cat	*Felis catus*
	27.	Cattle	*Bos indicus*
	28.	Domestic water buffalo	*Bubalus bubalis*
	29.	Catla fish	*Labeo catla*
	30.	Rohu fish	*Labeo rohita*
	31.	Mrigal carp	*cirrhinus mrigala*
	32.	*Cyprinus rubrofuscus*	Cyprinidae
	33.	*Cyprinus carpio*	Cyprinidae
	34.	*Poecilia reticulata*	Poeciliidae
	35.	*Poecilia sphenops*	Poeciliidae

FAUNAL DIVERSITY

1. **Scientific name:** *Mantis religiosa*



CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Dictyoptera
Family: mantidae
Genus: *Mantis*
Species: *religiosa*

LOCATION
Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS
Mantises are distributed worldwide in temperate and tropical habitats. They have triangular heads with bulging eyes supported on flexible necks. Their elongated bodies may or may not have wings, but all Mantidea have forelegs that are greatly enlarged and adapted for catching and gripping prey; their upright posture, while remaining stationary with forearms folded, has led to the common name praying mantis.

2. **Scientific name:** *Poekilocerus pictus*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Orthoptera

Family: Pyrgomorphidae
Genus: ***Poekilocerus***
Species: ***pictus***

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

Poekilocerus pictus is a large brightly coloured grasshopper found in the Indian subcontinent. Nymphs of the species are notorious for squirting a jet of liquid up to several inches away when grasped. The half-grown immature form is greenish-yellow with fine black markings and small crimson spots. The mature grasshopper has canary yellow and turquoise stripes on its body, green tegmina with yellow spots, and pale red hind wings. It changes its outward appearance by molting. The grasshopper feeds on the poisonous plant *Calotropis gigantea*.Upon slight pinching of the head or abdomen, the half-grown immature form ejects liquid in a sharp and sudden jet, with a range of two inches or more, from a dorsal opening between the first and second abdominal segments. The discharge is directed towards the pinched area and may be repeated several times. The liquid is pale and milky, slightly viscous and bad-tasting, containing cardiac glycosides that the insect obtains from the plant it feeds upon.

3. **Scientific name:** *Platymeris biguttatus*

CLASSIFICATION

Kingdom: Animalia

Phylum: Arthropoda

Class: Insecta

Order: Hemiptera

Family: Reduviidae

Genus: *Platymeris*

Species: *biguttatus*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

Platymeris biguttatus or two-spotted assassin bug is a venomous predatory true bug of west and southwest African origin ranging in size from 10–40 mm. As a true bug of the order hemiptera, it has needle like mouth parts designed for sucking juices out of plants or other insects instead of chewing. *P. biguttatus* has sharp stylets in its proboscis or rostrum used to pierce the exoskeleton of its prey. Saliva is then injected into the prey which liquifies its tissues, and the rostrum is then used to suck out the digested fluids. If disturbed, it is capable of a defensive bite considered to be more painful than a bee sting. It is also known to spit venom that can cause temporary blindness in humans

4. **Scientific name:** *Crocothemis servilia*

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Odonata
Infraorder: Anisoptera
Family: Libellulidae
Genus: *Crocothemis*

Species: *servilia*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

It is a medium sized blood-red dragonfly with a thin black line along the mid-dorsal abdomen. Its eyes are blood-red above, purple laterally. Thorax is bright ferruginous, often blood-red on dorsum. Abdomen is blood-red, with a narrow black mid-dorsal carina. Anal appendages are blood-red. Female is similar to the male; but with olivaceous-brown thorax and abdomen. The black mid-dorsal carina is rather broad. It breeds in ponds, ditches, marshes, open swamps and rice fields.

5. **Scientific name:** *Pantala flavescens*

CLASSIFICATION

Kingdom:Animalia
Phylum:Arthropoda
Class: Insecta
Order: Odonata
Infraorder: Anisoptera
Family: Libellulidae
Genus: *Pantala*
Species: *flavescens*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The dragonfly is up to 4.5 cm long, reaching wingspans between 7.2 cm and 8.4 cm. The front side of the head is yellowish to reddish. The thorax is usually yellow to golden coloured with a dark and hairy line. There were also specimens with a brown or olive thorax. The abdomen has a similar colour as the thorax. The wings are clear and very broad at the base. There, too, there are some specimens with olive, brown and yellow wings. On Easter Island there are wandering gliders with black wings

6. Scientific name: *Orhtetrum sabina*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Odonata
Infraorder: Anisoptera
Family: Libellulidae
Genus: *Orthetrum*
Species: *sabina*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

It is a medium-sized dragonfly with a wingspan of 60-85mm. Adults are grayish to greenish yellow with black and pale markings and green eyes. Its abdomen is greenish-yellow, marked with black. It is very similar to Orthetrum serapia in appearance, with both species appearing in northern Australia. Pale markings on segment four of the abdomen do not extend into the posterior section when viewed from

above on Orthetrum sabina. Females are similar to males in shape, color and size; differing only in sexual characteristics. This dragonfly perches motionless on shrubs and dry twigs for long periods. It voraciously preys on smaller butterflies and dragonflies

7. **Scientific name:** *Archelestes grandis*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Odonata
Suborder: Zygoptera
Family: Lestidae
Genus: *Archilestes*
Species: *grandis*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The great spreadwing is one of the largest North American spreadwings, with a length of 2-2.4 inches and a wingspan of 3 inches. The thorax of the male is dull greenish bronze above it is a broad diagonal yellow stripe on sides. It is also the only species with a broad yellow racing stripe on the sides of thorax. The abdomen is dark with a blue-gray tip. Its eyes and face are blue. Females are similar to males but are more brown on the body. Her eyes are more of a paler blue than the male. The yellow stripe also occurs on the female great spreadwing. When females are laying eggs they may appear in a putty-color. It is much the same color as the withered leaves in which they lay eggs.

8. Scientific name: *Oryctes rhinoceros*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Coleoptera
Family: Scarabaeidae
Subfamily: Dynastinae
Tribe: Oryctini
Genus: *Oryctes*
Species: *rhinoceros*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The Asiatic rhinoceros beetle, coconut rhinoceros beetle or coconut palm rhinoceros beetle, (Oryctes rhinoceros) is a species of rhinoceros beetle of the family Scarabaeidae. O. rhinoceros attacks the developing fronds of raffia, coconut, oil, and other palms in tropical Asia and a number of Pacific islands. Damaged fronds show typical triangular cuts. The beetle kills the palms (particularly newly planted ones) when the growing point is destroyed during feeding. They also infest dead trunk debris.

9. **Scientific name:** *Dichotpmius carlolinus*

CLASSIFICATION

Kingdom: Animalia
Subphylum: Hexapoda
Class: Insecta
Order: Coleoptera
Suborder: Polyphaga
Superfamily: Scarabaeoidea
Subfamily: Scarabaeinae
Genus: *Dichotomius*
Species: *carolinus*

LOCATION

Centurion University of technology and mana

GENERAL CHARACTERISTICS

Dichotomius carolinus are commonly know as Dung Beetles. They are approximately 3/8" - 3/4" in size. The Dung Beetle gets it's name from it primary source of food, animal waste. There are three types of Dung Beetles which are classified by their behaviors. Tunnelers, dig through the manner and create elaborate shafts with different chambers for living, storage of dung, and for incubating larvae. Dwellers lay eggs inside the dung pats or just under dung pats. The last group, Rollers, are what Dichotomius carolinus belong to. Rollers, collect dung and compact it into a sphere. These beetles then roll the ball away from the and burry it to consume later, and as a source of food for eggs. Dichotomius carolinus are know to feed on other food sources, such as fungi, when fresh dung cannot be found. Dung Beetles exhibit bilateral symmetry, have six legs, and a specialized adaptations called elytra, which are hard covering which protect their delicate wings. Dung Beetles exhibit typical insect segmentation and have a head, thorax, and abdomen.

10. Scientific name: ***Anthia sexguttata***

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Coleoptera
Family: Carabidae
Genus: *Anthia*
Species: *sexguttata*

LOCATION

Centurion University of technology and manage

GENERAL CHARACTERISTICS

Adults measure approximately 4 cm (1.5 inches), are black with six relatively large, white, dorsal spots (four over the elytra and two on the thorax). Other patterns are possible although the pattern is always symmetrical. The larva has a flattened form, a large head capsule, and prominent mandibles.

11. Scientific name: *Zizeeria knysna*
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Lycaenidae
Genus: *Zizeeria*
Species: *knysna*
LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS
These are the blue butterfly which are major nectar feeders.

12. Scientific name: *Lymantria* sp.
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Erebidae
Genus: *Lymantria*
Species: not sure
LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS
Attractive moths belonging to super family Noctuoidiae.

13. Scientific name: *Papilio demoleus*
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Papilionidae
Genus: Papilio
Species: P. demoleus
LOCATION
Centurion University of technology and manag
GENERAL CHARACTERISTICS
Papilio demoleus is a common and widespread swallowtail butterfly. The butterfly is also known as the lime butterfly lemon butterfly, lime swallowtail, and chequered swallowtail. These common names refer to their host plants, which are usually citrus species such as the cultivated lime. Unlike most swallowtail butterflies, it does not have a prominent tail. The butterfly is a pest and invasive species, found from Asia to Australia.

14. Scientific name: *Lymantria mathura*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Erebidae
Genus: *Lymantria*
Species: *mathura*

LOCATION

Centurion University of Technology and Man

GENERAL CHARACTERISTICS

The wingspan is 40–50 mm for males and 70- ling on *Terminalia*, *Shorea*, *Quercus*, *Mangifera*, *Eugenia* and *Mitragyna*. It is considered a pest, since it is a major defoliator of deciduous trees.

15. Scientific name: *Apis cerana indica*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Hymenoptera
Family: Apidae
Genus: *Apis*
Species: *cerana indica*

LOCATION

Centurion University of Technology and Manage

GENERAL CHARACTERISTICS

They usually build multiple combed nests in tre bees can adapt to living in purpose-made hives and cavities otentially colonize temperate or mountain areas with prolong

16. Scientific name: *Apis dorsata*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Hymenoptera
Family: Apidae
Genus: *Apis*
Species: *dorsata*

LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS
Highly ferocious rock bees with comparatively more honey production capacity.

17. Scientific name: *Spoladea recurvalis*
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Crambidae
Genus: *Spoladea*
Species: *recurvalis*

LOCATION
Centurion University of Technology and Manag
GENERAL CHARACTERISTICS

Spoladea recurvalis, the **beet webworm moth** or **Hawaiian beet webworm**, is a species of moth of the family Crambidae. It is found worldwide, but mainly in the tropics. The wingspan is 22–24 mm. The moth flies from May to September depending on the location. The larvae feed on spinach, beet, cotton, maize and soybean. They feed on the underside of the leaves protected by a slight web.

18. Scientific name: *Neopithecops zalmora*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Lycaenidae
Genus: *Neopithecops*
Species: *zalmora*

LOCATION
Centurion University of Technology and Manag
GENERAL CHARACTERISTICS
It is also known as Quaker. The larvae are known to feed on *Diospyros* (Ebenaceae) and many species of *Glycosmis* (Rutaceae) including *G. arborea*, *G. parviflora* and *G. pentaphylla*.

19. Scientific name: *Junonia iphita*
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Nymphalidae
Genus: *Junonia*
Species: *iphita*

LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS

It is a medium-sized lepidopteran which is also known as Chocolate pansy or Chocolate soldier. The wingspan is about 5–6 cm (2.0–2.4 in) and the female can be told apart from the male by white markings on the oblique line on the underside of the hindwing. The wavy lines on the underside of the wings vary from wet- to dry-season forms. Individuals maintain a territory and are usually found close to the ground level and often bask in the sun.

20. Scientific name: *Zizula hylax*
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Lycaenidae
Genus: *Zizula*
Species: *hylax*

LOCATION
Centurion University of Technology and Manag
GENERAL CHARACTERISTICS
The wingspan of the adults is about 1.5 centime nd flattened, with a diameter of about 0.5 millimetres (0.020 in). They are laid singly on buds and flowers of a food plant. The caterpillars are 0.7 centimetres (0.28 in) long, green with a dark red line along the back, and light and dark lines partway along the sides. The sides are hairy, and the head is pale brown. The pupa is 0.7 cm long, hairy and green, and is attached to a stem or the underside of a leaf of a food plant.

21. Scientific name: *Cigaritis vulcanus*
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Lycaenidae
Genus: *Cigaritis*
Species: *vulcanus*

LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS
It is also known as Common Silvering. Their numbers peak during the south-west and north-east monsoons. It inhabits scrub land with sparse vegetation, hedge rows, scrub jungles and secondary forest.

22. Scientific name: *Diaphania indica*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Crambidae
Genus: *Cigaritis*
Species: *vulcanus*

LOCATION

Centurion University of Technology and Management, Paralakhemundi Campus.

GENERAL CHARACTERISTICS

The wingspan is about 30 mm. Adults have translucent whitish wings with broad dark brown borders. The body is whitish below, and brown on top of head and thorax as well as the end of the abdomen. There is a tuft of light brown "hairs" on the tip of the abdomen, vestigial in the male but well developed in the female. It is formed by long scales which are carried in a pocket on each side of the 7th abdominal segment, from where they can be everted to form the tufts. Unfertilized females are often seen sitting around with the tuft fully spread, forming two flower-like clumps of scales, which move slowly to spread their pheromones.

23. Scientific name: *Mocis frugalis*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Erebidae
Genus: *Mocis*
Species: *frugalis*

LOCATION

Centurion University of Technology and Management, Paralakhemundi Campus.

GENERAL CHARACTERISTICS

It is also known as Visitor. Its wingspan is 36–50 millimetres (1.4–2.0 in). Male with the hind tibia and tarsi clothed with long thick pile. It has a grey-brown body. Forewing with a diffused dark mark above the centre of vein 1; an oblique postmedial line pale inwardly, red brown outwardly; a submarginal series of black specks. Hindwing with postmedial and diffused submarginal lines. Some specimens have a black spot above inner margin of forewing before the middle.

24. Scientific name: *Melantis leda*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Nymphalidae
Genus: *Melanitis*
Species: *leda*

LOCATION

Centurion University of Technology and Management, Paralakhemundi Campus.

GENERAL CHARACTERISTICS

It is known as "Common Evening Brown". Resident butterflies are known to fight off visitors to the area during dusk hours. This chase behaviour is elicited even by pebbles thrown nearby. The caterpillars feed on a wide variety of grasses including rice (*Oryza sativa*), bamboos, *Andropogon*, *Rotboellia cochinchinensis*, *Brachiaria mutica*, *Cynodon*, *Imperata*, and millets such as *Oplismenus compositus*, *Panicum* and *Eleusine indica*

25. Scientific name: *Gallus gallus domesticus*

Common name: Chicken

CLASSIFICATION

Kingdom- Animalia
Phylum- Chordata
Class- Aves
Order- Galliformes
Family- Phasianidae
Genus- *Gallus*
Species-*gallus*
Subspecies- *G. g. domesticus*

LOCATION

Centurion University Of Technology and Management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

These are domesticated subspecies of the red junglefowl originally from Southeastern Asia.

26. Scientific name*: Canis lupus familiaris*

Common name: Dog

CLASSIFICATION

Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Carnivora
Family- Canidae
Subfamily- Caninae
Genus- *Canis*
Species- *lupus*
Subspecies- *C. l. familiaris*

LOCATION

Centurion University Of Technology and Management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The dogs are domesticated descendant of the wolf which is characterized by an upturning tail.

27. Scientific name*: Felis catus*

Common name: Cat

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Carnivora
Suborder- Feliformia
Family- Felidae
Subfamily- Felinae
Genus- *Felis*
Species- *catus*

LOCATION
Centurion University Of Technology and Management, Parlakhemundi Campus.
GENERAL CHARACTERISTICS
The cats are domestic species of small carnivorous mammals.

28. Scientific name: *Bos indicus*

Common name: Cow

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Artiodactyla
Family- Bovidae
Subfamily- Bovinae
Genus- *Bos*
Species- *indicus*

LOCATION
Centurion University Of Technology and Management, Parlakhemundi Campus.
GENERAL CHARACTERISTICS
The zebu cattle / indicine cattle / humped cattle, is a species or subspecies of domestic cattle originating in the Indian sub-continent.

29. Scientific name: *Bubalus bubalis*

Common name: Buffalo (Water buffalo)

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Artiodactyla
Family- Bovidae
Subfamily- Bovinae

Genus- *Bubalus*
Species- *bubalis*

LOCATION
Centurion University Of Technology and Management, Parlakhemundi Campus.
GENERAL CHARACTERISTICS
The water buffalo (Bubalus bubalis), also called as domestic water buffalo / Asian water buffalo, is a large bovid originating in the Indian subcontinent and Southeast Asia.

30. *Labeo catla* (Hamilton, 1822)

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Labeo
Species: *L. catla*
Common name: Catla

General Characteristics

- Adults occur in rivers, lakes and culture ponds. Mature individuals breed in rivers. Surface and mid-water feeders, mainly omnivorous with juveniles feeding on aquatic and terrestrial insects, detritus and phytoplankton.
- Dorsal soft rays (total): 17; Anal spines: 0; Anal soft rays: 7 - 8. Body deep, with depth 2.5 to 3 times in standard length. Has a large, upturned mouth, with a prominent protruding lower jaw. Pectoral fins long, extending to pelvic fins; scales conspicuously large

31. *Labeo rohita* (Hamilton, 1822)

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Labeo
Species: *L. rohita*
Common name: Rohu

General characteristics

- Adults inhabit rivers. A diurnal species and usually solitary. They burrow occasionally. Feed on plants. Spawning season generally coincides with the southwest monsoon. Spawning occurs in flooded rivers. Fecundity varies from 226,000 to 2,794,000 depending upon the length and weight of the fish and weight of the ovary. Widely introduced outside its native range for stocking reservoirs and aquaculture.
- Dorsal fin with 12-14 1/2 branched rays; lower profile of head conspicuously arched; short dorsal fin with anterior branched rays shorter than head; 12-16 predorsal scales ; snout without lateral lobe.

***32. Cirrhinus mrigala* (Hamilton, 1822)**

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Cirrhinus
Species: *C. mrigala*
Common name: Mrigal

General characteristics:

- It is endemic to Indo-Gangetic riverine systems, is one of the three Indian major carp species cultivated widely in Southeast Asian countries.
- Body bilaterally symmetrical and streamlined, its depth about equal to length of head; body with cycloid scales, head without scales; snout blunt, often with pores; mouth broad, transverse; upper lip entire and not continuous with lower lip, lower lip most indistinct; single pair of short rostral barbels

***33. Cyprinus rubrofuscus* Lacepède, 1803**

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Cyprinus
Species: ***C. rubrofuscus***
Common name: Amur carp

General characteristics:

- Body silvery with red pelvic, anal and lower caudal lobe or grey. Last simple anal ray bony and serrated posteriorly; with 4 barbels; branched dorsal rays 18-22.5.

34. *Cyprinus carpio* Linnaeus, 1758

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Cyprinus
Species: ***C. carpio***
Common name: Common carp

General characteristics:

- Europe to Asia: Black, Caspian and Aral Sea basins. Introduced throughout the world. Wild stocks are only present naturally in rivers draining to the Black, Caspian and Aral Sea.
- Dorsal spines (total): 3 - 4; Dorsal soft rays (total): 17-23; Anal spines: 2-3; Anal soft rays: 5 - 6; Vertebrae: 36 - 37. Diagnosed from other cyprinid species in Europe by having the following characters: 2 pairs of barbels; dorsal fin with 15-20½ branched rays; caudal fin deeply emarginated.

35. *Poecilia reticulata* Peters, 1859

Kingdom: Animalia
Phylum: Chordata Actinopterygii
Order: Cyprinodontiformes
Family: Poecilidae
Genus: Poecilia
Species: *P. reticulata*
Common name: Guppy

General characteristics:

- Native to South America: Venezuela, Barbados, Trinidad, northern Brazil and the Guyanas.
- Found in various habitats, ranging from highly turbid water in ponds, canals and ditches at low elevations to pristine mountain streams at high elevations
- Males are about half the size of females with colorful tail and caudal fin; the anal fin is transformed into a gonopodium for internal fertilization
- No parental care is exercised and parents may even prey on their young.

36. *Poecilia sphenops* Valenciennes, 1846

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cyprinodontiformes
Family: Poecilidae
Genus: *Poecilia*
Species: *P. sphenops*
Common name: Molly

General Characteristics

- Native to Central and South America: Mexico to Colombia.
- Feeds on worms, crustaceans, insects, plant matter. The black variety (Black molly) is a very popular aquarium fish and is marketed throughout the world. In the aquarium it feeds on green algae and also readily accepts dried food

REPORT OF
GREEN AUDIT
OF CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT, PARALAKHEMUNDI, ODISHA (2018-19)

Preface

Institutional self-inquiry is a natural and necessary outgrowth of quality of higher education. Concern about environmental degradation and realization of values of environment are logical consequences of scholarly research, teaching and learning process. In its pursuit for improving environmental quality and to maintain a pristine environment for the future generation of students, Centurion University has made a self-inquiry on environmental quality of the campus with the following objectives: (i) To establish a baseline of existing environmental conditions with focus on natural and physical environment; (ii) To understand the current practices of sustainability with regard to the floral and faunal diversity inside the campus (iii) To promote environmental awareness through participatory auditing process; and (iv) To create a report that document baseline data of good practices and provide future strategies and action plans towards improving environmental quality for future.

This report is compiled by a committee constituted by IQAC. As there was no standard model for such a green audit of campuses in the state, the committee brainstormed and evolved a questionnaire. With the help of student volunteers and faculties of respective departmrnts the major part of the data was compiled, which the committee analyzed. The remaining part which involved measurement of quality was entrusted with the Department of Botany and Department of Zoology of Centurion University of Technology and Management, Odisha. The committee has made short term and long term suggestions to take environment protection to higher levels and it is hoped that this will receive due attention of University authorities and also all stake-holders of the University.

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SCHOOL OF APPLIED SCIENCES
CUTM
CENTURION UNIVERSITY OF TECHNOLOGY & MANAGEMENT

Executive Summary

Many departments maintain garden and the campus is greener with fair biodiversity around and gardens maintained by many departments. A detailed study on floral and faunal diversity has been done. There are also one beautiful rose garden, medicinal plant garden and natural resources or butterfly inside the campus mentained by the university. Faunal and floral diversity reports are given below.

REPORT ON FLORAL DIVERSITY

Flora comes from the Latin word "*Flora*", the meaning is Goddess of plants. *Floris* means flower. Floral diversity is the diversity of plants occurring in a particular region during particular time period. It also refers to the diversity of naturally available native or indigenous plants till now a total of 2, 15, 644 species of plants have been catalogued on the earth till date. It is reported that India harbours 46, 824 species including virus/bacteria and fungi species. In India, floral diversity is concentrated in four phytogeographical unique regions like Himalayas, Western Ghats, Northeast India and Andaman and Nicober Islands. Indian flora records for 11.4% of the total recorded plant species. Angiosperms are the largest plant group in India comprising of total of 17, 817 species which constitutes 38.15% of floral diversity of the entire country followed by fungi comprising 14,698 species which is of 31.38%. High level of cryptogram (Bryophytes and Pteridophytes) diversity is also seen in the country. A total of 2,479 species of Pteridophytes and around 1265 of Bryophytes have been recorded in India. Algae and fungi have also been wide spread in India. Lichens are found in Western Ghats, Eastern and Western Himalayas and Andaman and Nicobar Islands. Most of the ferns and gymnosperms are found in cool temperate zones of the Himalayas and in the mountainous regions of southern India, especially in the Western Ghats. Indian flora represents nearly 12% of the global diversity excluding viruses. A diverse number of species of wild relatives of crop plants are also present.

Presently, considerable attention is being addressed to biological diversity of biodiversity statue which refers to the occurrence of diverse biological forms including micro-organisms, plants and animals in a particular geographical area under a set of environmental conditions. Biodiversity is the reflection of genetic variability with which the different hierarchical forms of germplasm (strains, landraces/genotypes/varieties, species, genera etc.) appear in the course of evolution. The genetic variation may exist either within the species (intra specific) to a certain extent or to a larger scale

between different species (intra specific) and taxa of higher biological order. In fact, it is the ecosystem that supports the biological variability. The diverse living forms of the ecosystem are always in a state of change keeping pace with the global environment perturbations. An ecosystem is composed of both biotic and abiotic components which are quite interrelated and influences each other.

Ecosystem diversity encompasses varieties of living forms due to miscellany of niches, tropic levels and ecological processes like nutrient recycling, food chains, food webs, energy flow and role of dominant species. The present campus of Centurion University, in Paralakhemundi Spread over 120 acres on the foothills of the Eastern ghats in a serene environment lies the main campus of Centurion University in Paralakhemundi. It is the only technological University in South Odisha.

Block wise area under survey:

Block-1: consist of subunits – 1-9 including Main gate, Playground, Tribal mess, Baitarani hostel, MBA building, protected cultivation, Banana farm and 4th gate.

Block-2: consist of the subunits- 10-18 including Hydroponics unit, Banana orchard, Temple area, CPS school, CRC1, CRC2, Pond area, Eicher lab, and Bus parking.

Block-3: consist of the subunits 19-26 including New C type quarters, Indravati hostel and Student fields, Agro-forestry field, Mango fields, Organic farm, Pond, STP 3 and STP 2.

Block-4: consist of subunits 27-34 including Central mess 1 and 2, Boy's hostel 1,2,3, A, B, C type quarters, Gram tarang blocks, Welding lab, Hill top, Dhaba, Gram tarang ground, Guest house.

Block-5: consist of subunits 35-41 Horticulture fields, Fishery Pond, Farm machinery lab, Vasco tank, Tribal village, Dairy unit and Forest side.

LIST OF DIFFERENT KINDS OF FLORA FOUND IN THE CAMPUS

SI NO	TREE SPECIES	FAMILY	BLOCK
Timber Trees			
1.	*Acacia auriculoformis A. Cunn. ex Benth.*	Fabaceae	B1, B2
2.	*Acacia mangium Willd.*	Fabaceae	B1, B3,
3.	*Aegle marmelous L.*	Rutaceae	B3
4.	*Albizia lebbeck L. Benth.*	Mimosaseae	B2, B3
5.	*Alstonia scholaris (L.) R.Br.*	Apocynaceae	B1, B2, B3, B4, B5
6.	*Anacardium occidentale L.*	Anacardiaceae	B4, B5
7.	*Araucaria heterophylla (Salisb.) Franco*	Araucariaceae	B3
8.	*Artocarpus heterophyllus Lam.*	Moraceae	B2, B3, B5
9.	*Azadirachta indica A. Juss.*	Meliaceae	B4, B5
10.	*Bauhinia variegate L.*	Fabaceae	B1, B3
11.	*Bombax ceiba L.*	Malvaceae	B5
12.	*Buchanania lanzan spreng.*	Anacardiaceae	B4, B5
13.	*Butea monosperma Lam.*	Fabaceae	B1, B2
14.	*Callophylum innophylum L.*	Calophyllaceae	B1, B2, B3, B4, B5
15.	*Casia seamea Lam.*	Fabaceae	B1, B2, B3, B4, B5
16.	*Cocos nucifera L.*	Arecaceae	B1, B2, B3, B4, B5
17.	*Dalbergia sissoo Roxb.*	Fabaceae	B1, B3
18.	*Delonix regia (Boj. ex Hook.) Raf.*	Fabaceae	B1, B3, B4
19.	*Ficus religiosa L.*	Moraceae	B1
20.	*Ficus benghalensis L.*	Moraceae	B2, B3
21.	*Gliricidia seepium (Jacq.) Walp.*	Fabaceae	B1, B2, B3
22.	*Gmelina arborea Roxb.*	Lamiaceae	B3, B4, B5
23.	*Mangifera indica L.*	Anacardiaceae	B1, B2, B3, B4, B5
24.	*Neolamarckia cadamba (Roxb.) Bosser*	Rubiaceae	B1, B2
25.	*Plumeria alba L.*	Apocynaceae	B1, B3, B4
26.	*Polyalthia longifolia (Sonn.) Thwaites*	Annonaceae	B1, B2, B4
27.	*Pongamia pinnata*	Fabaceae	B1, B2, B3
28.	*Pterocarpus marsupium Roxburgh.*	Fabaceae	B1, B5
29.	*Samanea samman (Jacq.) Merr.*	Fabaceae	B1, B2, B3, B4
30.	*Shorea robusta Roth.*	Dipterocarpaceae	B4
31.	*Swietenia macrophyla King.*	Meliaceae	B2, B5

32.	*Syzygium cumini L.*	Myrtaceae	B2
33.	*Tamarindus indica L.*	Caesalpiniaceae	B4, B5
34.	*Taminalia arjuna ((Roxb.) Wight & Arn.*	Combretaceae	B5
35.	*Tectona grandis L.*	Lamiaceae	B1, B2, B3, B4, B5
36.	*Terminalia catapa L.*	Combretaceae	B5
37.	*Ziziphus jojoba Mill.*	Rhamnaceae	B4, B5
CROP SPECIES			
38.	*Anthurium*	Araceae	B2,B1
39.	*Arachis hypogea*	Fabaceae	B2,B3
40.	*Brassica Juncea*	Brassicaceae	B2,B3
41.	*Brassica rapa subsp. chinensis*	Brassicaceae	B1,B2
42.	*Brassica rapa subsp. pekinensis*	Brassicaceae	B3,B4
43.	*Cajanus cajan*	Fabaceae	B2,B3
44.	*Carthamus tinctorius*	Asteraceae	B3
45.	*Cicer arietinum*	Fabaceae	B2
46.	*Corchorus capsularis*	Malvaceae	B2
47.	*Crotalaria juncea*	Fabaceae	B2,B3
48.	*Dendrobium spp*	Orchidaceae	B2,
49.	*Elausine coracana*	Poaceae	B2,B3
50.	*Gerbera jamesonii*	Asteraceae	B1
51.	*Gossypium spp*	Malvaceae	B2,B3
52.	*Helianthus annuus*	Asteraceae	B4,B3
53.	*Lactuca sativa*	Asteraceae	B1,B2,B3
54.	*Lens culinaris*	Fabaceae	B2,B3
55.	*Oryza sativa*	Poaceae	B2,B3
56.	*Pennisetum glaucum*	Poaceae	B2
57.	*Pisum sativum*	Fabaceae	B2,B3
58.	*Saccharum officinarum*	Poaceae	B4,B5,B3
59.	*Sesamum indicum*	Pedaliaceae	B3
60.	*Sorghum bicolar*	Poaceae	B2,B3
61.	*Vigna mungo*	Fabaceae	B2,B3
62.	*Vigna radiata*	Fabaceae	B4,B3
63.	*Zea mays*	Poaceae	B2
FRUIT AND PLANTATION TREES			

64.	*Annona reticulata L.*	Annonaceae	B-1
65.	*Annona squamosa L.*	Annonaceae	B-1, B-2, B-3,B-5
66.	*Annanas comosus* L.	Bromiliaceae	B-1,B-2,B-5
67.	*Anacardium occidentale* L.	Anacardiaceae	B-1, B-2, B-4, B-5
68.	*Artocarpus heterophyllus* L.	Moraceae	B-1, B-2, B-3, B-4, B-5
69.	*Areca catechu L.*	Arecaceae	B-2, B-5
70.	*Averrhoea carambola L*	Oxalidaceae	B-3, B-4
71.	*Borasus flabellifer L.*	Arecaceae	B-2,B-3,B-5
72.	*Camelia sinensis* L..	Theaceae	B-4
73.	*Carica papaya* L.	Caricaceae	B-1,B-2,B-3
74.	*Carissa carandas L.*	Apocynaceae	B-3, B-2, B-5
75.	*Canthium parviflorum*	Rubiaceae	B-3, B-5
76.	*Citrus aurantifolia L*	Rutaceae	B-2
77.	*Citrus reticulata L.*	Rutaceae	B-2,B-5
78.	*Cinnamomum verum L.*	Myrtaceae	B-2
79.	*Coffea robusta L.*	Rubiaceae	B-4
80.	*Ficus carica L.*	Moraceae	B-2, B-4
81.	*Garcinia mangostana L.*	Guttiferae	B-5
82.	*Litchi chinensis L.*	Sapindaceae	B-1
83.	*Mangifera indica L*	Anacardiaceae	B-1,B-2,B-3,B-4, B-5
84.	*Manilkara achras L.*	Sapotaceae	B-2,B-4
85.	*Morinda citrifolia*	Rubiaceae	B-2, B-3
86.	*Musa paradisica L.*	Musaceae	B-1, B-2,B-3, B-5
87.	*Nephelium longan* L	Sapindaceae	B-2
88.	*Phoenix sylvestris L*	Arecaceae	B-2,B-3,B-5,
89.	*Phoenix regia L.*	Arecaceae	B-2, B-5, B-3
90.	*Psidium gujava L.*	Myrtaceae	B-1, B-2, B-3
91.	*Punica granatum L.*	Punicaceae	B-1
92.	*Prunus cerasus L*	Rosaceae	B-3
93.	*Zizyphus mauritiana* L.	Rhamnaceae	B-2, B-3,B-5
94.	*Ziziphus oenoplia L*	Rhamanaceae	B-3, B-5
Vegetables			
95.	*Abelmoschus esculentus L.*	Malvaceae	B-2, B-5
96.	*Allium cepa L*	Amaryllidaceae	B-1, B-2, B-5
97.	*Alocasia macrorrhiza L*	Araceae	B-3

98.	*Alternanthera sessillis*	Amaranthaceae	B-1, B-2, B-5
99.	*Brassica oleracea var.capitata*	Cruciferae	B-2,B-5
100.	*Brassica oleracea var. botrytis*	Cruciferae	B-2, B-5
101.	*Brassica oleracea var. gongylodes*	Cruciferae	B-2, B-5
102.	*Raphanus sativus L.*	Cruciferae	B-2, B-5
103.	*Capsicum annum var longum L.*	Solanaceae	B-2, B-5
104.	*Cucumis sativus L.*	Cucurbitaceae	B-1, B-2, B-5
105.	*Coccinia indica L*	Cucurbitaceae	B-1, B-2,B-3, B-4,B-5
106.	*Cucurbita pepo L*	Cucurbitaceae	B-2,B-5
107.	*Cyamopsis tetragonolobus L*	Leguminaceae	B-2, B-5
108.	*Coriandrum sativum L*	Umbelliferae	B-1, B-2,B-5
109.	*Lablab purpureus L*	Leguminaceae	B-2,B-3,B-5
110.	*Luffa acutangular L*	Cucurbitaceae	B-2, B-3, B-5
111.	*Momordica chanrantia L.*	Cucurbitaceae	B-1,B-2,B-3,B-5
112.	*Murraya koenigii L*	Rutaceae	B-2, B-3, B-4
113.	*Solanum melongena L.*	Solanaceae	B-1, B-2, B-5
114.	*Solanum indicum L.*	Solanaceae	B-2, B-5
115.	*Solanum lycopersicum L*	Solanaceae	B-2, B-5
116.	*Vigna unguiculata L.*	Leguminaceae	B-5
MEDICINAL AND AROMATIC CROPS			
117.	*Acacia longifolia*	Leguminaceae	B-2
118.	*Adenanthera pavonine*	Fabaceae	B-2
119.	*Allamanda purpurea*	Acanthaceae	B-2
120.	*Bixa ollerana*	Bixaceae	B-2
121.	*Bombax ceiba*	Malvaceae	B-2
122.	*Butea monosperma*	Leguminaceae	B-2
123.	*Callistemon lanceolatus*	Myrtaceae	B-2
124.	*Citharexylum spinosum*	Verbenaceae	B-2
125.	*Clerodendrum indicum*	Lamiaceae	B-2
126.	*Cymbopogon sp*	Gramineae	B-2
127.	*Endospermum diadenum*	Euphorbiaceae	B-2
128.	*Gardenia jasminoides*	Rubiaceae	B-2
129.	*Gmelina arborea*	Verbenaceae	B-2
130.	*Grewia asiatica*	Tiliaceae	B-2
131.	*Hamelia patens*	Rubiaceae	B-2

132.	*Juglans regia*	Juglandaceae	B-2
133.	*Kaempferia parviflora*	Zingeberaceae	B-2
134.	*Kigelia Africana*	Bignoniaceae	B-2
135.	*Lagerstroemia flos-reginae*	*Lythraceae*	B-2
136.	*Leucophyllum frutescens*	Scrophulariaceae	B-2
137.	*Ligustrum sinense*	Oleaceae	B-2
138.	*Limonia acidissima*	Rutaceae	B-2
139.	*Manilkara hexandra*	Sapotaceae	B-2
140.	*Melia azaderach*	Meliaceae	B-2
141.	*Mimusops elengii*	Sapotaceae	B-2
142.	*Murraya exotica*	Rutaceae	B-2
143.	*Nyctanthes arbor-tristis*	Nyctanthaceae	B-2
144.	*Oroxylum indicum*	Bignoniaceae	B-2
145.	*Phyllanthus Emblica*	Phyllanthaceae	B-2
146.	*Pimenta dioica*	Myrtaceae	B-2
147.	*Plantanus racemose*	Platanaceae	B-2
148.	*Plumeria pudica*	Apocynaceae	B-2
149.	*Prunus serotina*	Rosaceae	B-2
150.	*Psoropis cineraria*	Fabaceae	B-2
151.	*Pterocarpus santalinus*	Leguminaceae	B-2
152.	*Pterocarya rhoifolia*	Juglandaceae	B-2
153.	*Putranjiva roxburghii*	Euphorbiaceae	B-2
154.	*Quercus cestaneifolia*	Fagaceae	B-2
155.	*Rhus glabra*	Anacardiaceae	B-2
156.	*Salix sp*	Salicaceae	B-2
157.	*Santalum album*	*Santalaceae*	B-2
158.	*Sapindus mukorossi*	Sapindaceae	B-2
159.	*Saussurea costus L.*	*Costaceae*	B-2
160.	*Spathodea campanulate*	Bignoniaceae	B-2
161.	*Stachytarpheta jamaicensis*	Verbenaceae	B-2
162.	*Strychnos spinosa*	Loganiaceae	B-2
163.	*Swietenia macrophylla*	Meliaceae	B-2
164.	*Syzigium sp*	Myrtaceae	B-2
165.	*Thespesia populnea*	Malvaceae	B-2
CLIMBER			

166.	*Allamanda blanchetti* A.DC.	Apocynaceae	B-2
167.	*Allamanda cathartica var grandiflora*	Apocynaceae	B-2
168.	*Artabotrys odoratissimus*	Annonaceae	B-2
169.	*Asparagus racemosus* Willd.	Asparagaceae	B-2
170.	*Bougainvillea spp.*	Nyctaginaceae	B-2
171.	Cissus striata	Vitaceae	B-5
172.	Cissus nodosa	Vitaceae	B-3, B-5
173.	*Clerodendron splendens*	Verbanaceae	B-1
174.	*Clitoria ternatea L*	Leguminaceae	B-1,B-2,B-5
175.	*Cuscuta reflexa* Roxb.	Cuscutaceae	B-4
176.	Gloriosa superba	Colchicaceae	B-5,B-3
177.	*Ipomoea obscura* Ker.-Gawl.	Convolvulaceae	B-4
178.	*Jacquemontia pentantha L.*	Convolvulaceae	B-1,B-4
179.	*Ipomea cairica*	Convolvulaceae	B-2,B-5
180.	*Jasminum nitidum L.*	Oleaceae	B-2
181.	*Piper betel* L	Piperaceae	B-2
181.	*Pyrostegia venusta*	Bignoniaceae	B-2
182.	*Quisqualis indica* L.	Combretaceac	B-1, B-2
183.	*Tinospora cordifolia*(Thunb.) Miers	Menispermaceae	B-2
SHRUBS			
184.	*Acalypha hispida L*	Euphorbiaceae	B-1,B-2
185.	*Allamanda grandiflora L.*	Apocynaceae	B-1, B-2, B-3
186.	*Aralia*	Araliaceae	B-1,B-2,B-3,B-4, B-5
187.	*Artabotrys odoratissimus L*	Annonaceae	B-2, B-5
188.	*Barleria cristata L.*	Acanthaceae	B-1, B-2,B-3,B-4,B-5
189.	*Bauhinia tomentosa L*	Leguminaceae	B-1, B-2,B-3,B-5
190.	*Beloperone guttata L.*	Acanthaceae	B-2
191.	*Caesalpinia pulcherrima L.*	Leguminaceae	B-1,B-2,B-3, B-5
192.	*Calotropis gigantia L.*	Apocynaceae	B-5
193.	*Calotropis procera L.*	Apocynaceae	B-4, B-5
194.	*Clerodendron inerme L.*	Verbenaceae	B-1
195.	*Crossandra*	Acanthaceae	B-2,B-3,B-5
196.	*Duranta plumieri*	Verbenaceae	B-1,B-2,B-3,B-4,B-5
197.	*Hibiscus mutabilis*	Malvaceae	B-1,B-2, B-3,B-4, B-5
198.	*Hibiscus rosasinensis*	Malvaceae	B-2,B-5

199.	*Ixora sp.*	Rubiaceae	B-1,B-2,B-3, B-4,B-5
200.	*Lantana camera*	Verbenaceae	B-2,B-3, B-4, B-5
201.	*Mimosa pudica L.*	Fabaceae	B-1,B-2,B-3,B-4,B-5
FOLIAGE PLANTS			
202.	*Acalypha hispida*	Euphorbiaceae	B-1,
203.	*Agave americana*	Amaryllidaceae	B-2,B-4
204.	*Araucaria spp.*	Coniferae	B-2,B-1
205.	*Begonia spp.*	Bignoniaceae	B-1,B-2,B-4,B-5
206.	*Codiaeum variegatum*	Euphorbiaceae	B-1,B-5
207.	*Coleus spp.*	Lamiaceae	B-1,B-2,B-3,
208.	*Cycas revoluta*	Cycadaceae	B-1,B-2,
209.	*Duranta repens L.*	Verbenaceae	B-1, ,B-5
210.	*Pedilanthus tithymaloides*	Euphorbiaceae	B-2,B-3,B-4,B-5
211.	*Philodendron spp.*	Araceae	B-1,B-2,B-5
212.	*Sansevieria trifasicata*	Aspargaceae	B-1,B-2
213.	*Scindapsus aureus*	Araceae	B-2,B-5
214.	*Syngonium podophyllum*	Araceae	B-1,B-2, 5
215.	*Tradescantia pallida*	Commelinaceae	B-1, ,B-5
FLOWERING PLANTS			
216.	*Caesalpinia pulcherrima*	Fabaceae	B-1,B-2,B-4,B-5
217.	*Hibiscus canabinus L*	Malvaceae	B-1.B4
218.	*Hibiscus rosa-sinensis L.*	Malvaceae	B-1.
219.	*Ixora coccinea*	Rutaceae	B-1.B-2,B-3
220.	*Jasminium auriculatum*	Oleaceae	B-1,B-2,B-5
221.	*Jasminium sambac*	Oleaceae	B-1,B-2,B-5
222.	*Jatropha gossypifolia L.*	Euphorbiaceae	B-2,B-5
223.	*Lilium spp*	Lilliaceae	B-2
224.	*Malvaviscus arboreus Cav.*	malvaceae	B-1.B-2,B-3
225.	*Mimosa pudica L.*	Mimosaceae	B-1,B-2,B-5
226.	*Rosa indica L.*	Rosaceae	B-1,B-2
227.	*Rosa alba L.*	Rosaceae	B-2
228.	*Rosa damascina Miller*	Rosaceae	B-2
229.	*Tecoma stans (L.) Kunth.*	Bignoniaceae	B-2,B-5
PALMS, FERNS, CACTUS AND GROUND COVERS			
230.	*Cactus spp.*	Cactaceae	B-1,B-2

231.	*Crysalidocarpus lutesens*	Arecaceae	B-1,B-2
232.	*Cycas revoluta*	Arecaceae	B-1.,B-5
233.	*Dendrobium ursula* Strenge	Passifloraceae	B-2
234.	*Livingstonia rotundifolia*	Arecaceae	B-1,B-2
235.	*Phoenix roebelenii*	Arecaceae	B-5
236.	*Raphis excelsa*	Arecaceae	B-1,B-2
237.	*Roystonea regia*	Arecaceae	B-1,B-2
EPIPHYTES			
237.	*Dendrobium ursula* Strenge	Passifloraceae	B-2
GYMNOSPERM			
238.	*Araucaria columnaris* (Forst.f.) Hook.	Araucariaceae	B-1, B-2
239.	*Cycas revoluta* Thunb.	Cycadaceae	B-1,B-2,B-3
240.	*Juniperus communis* L.	Cupressaceae	B-1, B-2
241.	*Pinus roxburghii* Sargent	Pinaceae	B-2
242.	*Podocarpus nerefolius* D.Don	Podocarpaceae	B-2
243.	*Platycladus orientalis* (L.) Franco	Cupressaceae	B-2
ORNAMENTAL PLANTS			
244.	*Bauhinia alba*	Leguminoceae	B-2,B-5
245.	*Bauhinia triandra*	Leguminoceae	B-2
246.	*Bauhinia variegate*	Leguminoceae	B-2
247.	*Callistemon lanceolatus*	Myrtaceae	B-2
248.	*Cassia fistula*	Leguminoceae	B-2,B-5
249.	*Cassia nodosa*	Leguminoceae	B-2,B-5
250.	*Casuarina equistifolia*	Casuarinaceae	B-2
251.	*Elaeis guineensis Jacq.*	Arecaceae	B-2,B-5
252.	*Eucalyptus spp.*	Myrataceae	B-2,B-5
253.	*Ficus benjhamina*	Moraceae	B-1.B-2,B-3,B-4,B-5
254.	*Ficus elastica*	Moraceae	B-2
255.	*Lagerstroemia speciosa*	Lytharaceae	B-1.B-2,B-3,B-4,B-5
256.	Lawsonia inermis	Lythraceae	B-5
257.	*Mimusops elengii*	Sapotaceae	B-1.B-2,B-3,B-4,B-5
258.	*Murraya paniculata(L.) Jack*	Rutaceae	B-1.B-2,B-3,B-4,B-5
259.	*Nauclea cadamba*	Rubiaceae	B-3,B-5
260.	*Nyctanthes arbor-tristis L.*	Oleaceae	B-3
261.	*Plumeria alba*	Apocynaceae	B-1.B-2,B-3,B-4,B-5

262.	*Plumeria rubra*	Apocynaceae	B-1,B-5
263.	*Polyalthia pendula*	Anonaceae	B-1.B-2,B-3,B-4,B-5
264.	*Polyathia longifolia*	Anonaceae	B-1
265.	*Ravenela madagascariensis*	Scitmineae	B-1,B-2,
266.	*Saraca asoca*	Leguminoceae	B-1
267.	Swetenia mahagoni	Meliaceae	B-5
Weed Flora			
268.	*Acalypha indica*	Euphorbiaceae	B3,B5
269.	*Achyranthes aspera*	Amaranthaceae	B1,B2,B3,B4,B5
270.	*Acmella oleracea*	Asteraceae	B1,B2,B3,B4,B5
271.	*Acmella uliginosa*	Asteraceae	B1,B2,B3,B4,B5
272.	*Ageratum houstonianum*	Asteraceae	B5
273.	*Alternanthera philoxeroides*	Amaranthaceae	B1,B2,B3,B4,B5
274.	*Amaranthus hybridus*	Amaranthaceae	B3,B5
275.	*Amaranthus spinosus*	Amaranthaceae	B1,B2,B3,B4,B5
276.	*Amaranthus viridis*	Amaratheceaea	B3,B4,B5
277.	*Amaranthus spinosus*	Amaranthaceae	B1,B2,B3,B4,B5
278.	*Amaranthus viridis*	Amaratheceaea	B3,B4,B5
279.	*Argemone mexicana*	Papaveraceae	B1,B3,B5
280.	*Avena fatua*	Poaceae	B3,B5
281.	*Avena sterilis*	Poaceae	B5
282.	*Bambusa arundinacea* (Retz.) Willd.	Apocynaceae	B-2
283.	*Bidens pilosa*	Asteraceae	B3,B5
284.	*Chenopodium murale*	Amaranthaceae	B3,B4,B5
285.	*Chloris barbata*	Poaceae	B1,B2,B3,B4,B5
286.	*Cleome viscosa*	Capparaceae	B2,B4,B5
287.	*Commelina benghalensis*	Commelinacea	B1,B2,B3,B4,B5
288.	*Corchorus acutangulus*	Tiliaceae	B3,B5
289.	*Cyanthillium cinereum*	Asteraceae	B1,B3,B4,B5
290.	*Cynodon dactylon*	Poaceae	B1,B2,B3,B4,B5
291.	*Cyperus difformis*	Cyperaceae	B1,B2,B3,B4,B5
292.	*Cyperus esculentus*	Cyperaceae	B3,B4,B5
293.	*Cyperus iria*	Cyperaceae	B3,B4
294.	*Cyperus rotundus*	Cyperaceae	B1,B2,B3,B4,B5
295.	*Dactylectonium aegeptium*	Poaceae	B1,B2,B3,B4,B5

296.	*Datura stramonium*	Asteraceae	B3,B4,B5
297.	*Dicanthium annulatum*	Poaceae	B4,B5
298.	*Digitaria sanguinalis*	Poaceae	B1,B2,B3,B4,B5
299.	*Echinochloa colona*	Poaceae	B1,B3,B4,B5
300.	*Echinocloa crus-galli*	Poaceae	B1,B2,B3,B4,B5
301.	*Eclipta alba*	Asteraceae	B3,B4,B5
302.	*Eleusine indica*	Poaceae	B3,B4,B5
303.	*Euphorbia hirta*	Euphorbiaceae	B1,B2,B3,B4,B5
304.	*Leptochloa chinensis*	Poaceae	B1,B2,B3,B4,B5
305.	*Ludwigia parviflora*	Onagraceae	B1,B2,B3,B4,B5
306.	*Mimosa pudica*	Fabaceae	B1,B2,B3,B4,B5
307.	*Mitracarpus hirtus*	Rubiaceae	B1,B3,B4,B5
308.	*Oldenlandia corymbosa*	Rubiaceae	B1,B2,B3,B4,B5
309.	*Parthenium hysterophorus*	Asteraceae	B3,B4,B5
310.	*Phylanthus niruri*	Phyllanthaceae	B1,B2,B3,B4,B5
311.	*Physalis longifolia*	Solanaceae	B1,B3,B4
312.	*Rumex scutatus*	Polygonaceae	B3,B4,B5
313.	*Sida acuta*	Malvaceae	B3,B4,B5
314.	*Solanum nigrum*	Salanaceae	B4,B5
315.	*Sphagneticola trilobata*	Asteraceae	B1,B2,B3,B4,B5
316.	*Synedrella nodiflora*	Asteraceae	B1,B2,B3,B4,B5
317.	*Trianthema portulacastrum*	Aizoaceae	B3,B4,B5
318.	*Tridax procumbens*	Asteraceae	B1,B2,B3,B4,B5
MUSHROOMS			
319.	*Plurotus oestratus*	Plurotaceae	B-4
320.	*Volvariella volvacea*	Plutaceae	B-4

Pic: Rose garden, CUTM, Paralakhemundi

Pic: Fish pond, CUTM, Paralakhemundi

FAUNAL DIVERSITY

A survey on faunal diversity in our Paralakhemundi campus of Centurion University of Technology and Management has done from 1st of December 2018 to 25th of December 2018. Based on the survey, we prepared report and hereby the report is submmited to the Department of Entomology, MSSSOA, CUTM, Paralakhemundi on 30th of December.

ANIMAL	Sl.No.	Common name	Scientific name
Invertebrates	**1.**	Preying mantid	*Mantis religiosa*
	2.	Two-spotted assassin bug	*Platymeris biguttatus*
	3.	Scarlet skimmer	*Crocothemis servilia*
	4.	Globe skimmer	*Pantala flavescens*
	5.	Slender skimmer	*Orthetrum sabina*
	6.	Great spreadwing	*Archilestes grandis*
	7.	Coconut rhinoceros beetle	*Oryctes rhinoceros*
	8.	Dung beetle	*Dichotomius carolinus*
	9.	Six-spot ground beetle	*Anthia sexguttata*
	10.	Dark grass blue	*Zizeeria knysna*
	11.	Tussock moth	*Lymantria sp.*
	12.	Swallowtail butterfly	*Papilio demoleus*
	13.	Rosy gypsy moth	*Lymantria mathura*
	14.	Indian honey bee	*Apis cerana indica*
	15.	Rock bee	*Apis dorsata*
	16.	Beet webworm moth	*Spoladea recurvalis*
Vertebrates	**17.**	Chicken bird	*Gallus gallus domesticus*
	18.	Dog	*Canis lupus familiaris*
	19.	Cat	*Felis catus*
	20.	Cattle	*Bos indicus*
	21.	Domestic water buffalo	*Bubalus bubalis*
	22.	Catla fish	*Labeo catla*
	23.	Rohu fish	*Labeo rohita*
	24.	Mrigal carp	*cirrhinus mrigala*
	25.	Genetically Improved Farmed Tilapia	-

FAUNAL DIVERSITY

1. **Scientific name:** *Mantis religiosa*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Dictyoptera
Family: mantidae
Genus: *Mantis*
Species: *religiosa*
LOCATION
Centurion University of technology and management, Parlakhemundi Campus.
GENERAL CHARACTERISTICS
Mantises are distributed worldwide in temperate and tropical habitats. They have triangular heads with bulging eyes supported on flexible necks. Their elongated bodies may or may not have wings, but all Mantidea have forelegs that are greatly enlarged and adapted for catching and gripping prey; their upright posture, while remaining stationary with forearms folded, has led to the common name praying mantis.

2. **Scientific name:** *Poekilocerus pictus*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Orthoptera
Family: Pyrgomorphidae
Genus: ***Poekilocerus***
Species: ***pictus***
LOCATION
Centurion University of technology and management, Parlakhemundi Campus.
GENERAL CHARACTERISTICS

Poekilocerus pictus is a large brightly coloured grasshopper found in the Indian subcontinent. Nymphs of the species are notorious for squirting a jet of liquid up to several inches away when grasped. The half-grown immature form is greenish-yellow with fine black markings and small crimson spots. The mature grasshopper has canary yellow and turquoise stripes on its body, green tegmina with yellow spots, and pale red hind wings. It changes its outward appearance by molting. The grasshopper feeds on the poisonous plant *Calotropis gigantea*.Upon slight pinching of the head or abdomen, the half-grown immature form ejects liquid in a sharp and sudden jet, with a range of two inches or more, from a dorsal opening between the first and second abdominal segments. The discharge is directed towards the pinched area and may be repeated several times. The liquid is pale and milky, slightly viscous and bad-tasting, containing cardiac glycosides that the insect obtains from the plant it feeds upon.

3. **Scientific name:** *Platymeris biguttatus*

CLASSIFICATION
Kingdom: Animalia

Phylum: Arthropoda

Class: Insecta

Order: Hemiptera

Family: Reduviidae

Genus: *Platymeris*

Species: *biguttatus*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

Platymeris biguttatus or two-spotted assassin bug is a venomous predatory true bug of west and southwest African origin ranging in size from 10–40 mm. As a true bug of the order hemiptera, it has needle like mouth parts designed for sucking juices out of plants or other insects instead of chewing. *P. biguttatus* has sharp stylets in its proboscis or rostrum used to pierce the exoskeleton of its prey. Saliva is then injected into the prey which liquifies its tissues, and the rostrum is then used to suck out the digested fluids. If disturbed, it is capable of a defensive bite considered to be more painful than a bee sting. It is also known to spit venom that can cause temporary blindness in humans

4. **Scientific name:** *Crocothemis servilia*

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Odonata
Infraorder: Anisoptera
Family: Libellulidae
Genus: *Crocothemis*
Species: *servilia*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

It is a medium sized blood-red dragonfly with a thin black line along the mid-dorsal abdomen. Its eyes are blood-red above, purple laterally. Thorax is bright ferruginous, often blood-red on dorsum. Abdomen is blood-red, with a narrow black mid-dorsal carina. Anal appendages are blood-red. Female is similar to the male; but with olivaceous-brown thorax and abdomen. The black mid-dorsal carina is rather broad. It breeds in ponds, ditches, marshes, open swamps and rice fields.

5. **Scientific name:** *Pantala flavescens*

CLASSIFICATION

Kingdom:Animalia
Phylum:Arthropoda
Class: Insecta
Order: Odonata
Infraorder: Anisoptera
Family: Libellulidae
Genus: *Pantala*
Species: *flavescens*

LOCATION
Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS
The dragonfly is up to 4.5 cm long, reaching wingspans between 7.2 cm and 8.4 cm. The front side of the head is yellowish to reddish. The thorax is usually yellow to golden coloured with a dark and hairy line. There were also specimens with a brown or olive thorax. The abdomen has a similar colour as the thorax. The wings are clear and very broad at the base. There, too, there are some specimens with olive, brown and yellow wings. On Easter Island there are wandering gliders with black wings

6. Scientific name: *Orhtetrum sabina*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Odonata
Infraorder: Anisoptera
Family: Libellulidae
Genus: *Orthetrum*
Species: *sabina*

LOCATION
Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS
It is a medium-sized dragonfly with a wingspan of 60-85mm. Adults are grayish to greenish yellow with black and pale markings and green eyes. Its abdomen is greenish-yellow, marked with black. It is very similar to Orthetrum serapia in appearance, with both species appearing in northern Australia. Pale markings on segment four of the abdomen do not extend into the posterior section when viewed from above on Orthetrum sabina. Females are similar to males in shape, color and size; differing only in sexual characteristics. This dragonfly perches motionless on shrubs and dry twigs for long periods. It voraciously preys on smaller butterflies and dragonflies

7. **Scientific name:** *Archelestes grandis*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Odonata
Suborder: Zygoptera
Family: Lestidae
Genus: *Archilestes*
Species: *grandis*

LOCATION
Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS
The great spreadwing is one of the largest North American spreadwings, with a length of 2-2.4 inches and a wingspan of 3 inches. The thorax of the male is dull greenish bronze above it is a broad diagonal yellow stripe on sides. It is also the only species with a broad yellow racing stripe on the sides of thorax. The abdomen is dark with a blue-gray tip. Its eyes and face are blue. Females are similar to males but are more brown on the body. Her eyes are more of a paler blue than the male. The yellow

stripe also occurs on the female great spreadwing. When females are laying eggs they may appear in a putty-color. It is much the same color as the withered leaves in which they lay eggs.

8. Scientific name: *Oryctes rhinoceros*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Coleoptera
Family: Scarabaeidae
Subfamily: Dynastinae
Tribe: Oryctini
Genus: *Oryctes*
Species: *rhinoceros*

LOCATION
Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS
The Asiatic rhinoceros beetle, coconut rhinoceros beetle or coconut palm rhinoceros beetle, (Oryctes rhinoceros) is a species of rhinoceros beetle of the family Scarabaeidae. O. rhinoceros attacks the developing fronds of raffia, coconut, oil, and other palms in tropical Asia and a number of Pacific islands. Damaged fronds show typical triangular cuts. The beetle kills the palms (particularly newly planted ones) when the growing point is destroyed during feeding. They also infest dead trunk debris.

9. **Scientific name:** *Dichotpmius carlolinus*

CLASSIFICATION
Kingdom: Animalia
Subphylum: Hexapoda
Class: Insecta
Order: Coleoptera
Suborder: Polyphaga
Superfamily: Scarabaeoidea
Subfamily: Scarabaeinae
Genus: *Dichotomius*
Species: *carolinus*

LOCATION
Centurion University of technology and mana

GENERAL CHARACTERISTICS
Dichotomius carolinus are commonly know as Dung Beetles. They are approximately 3/8" - 3/4" in size. The Dung Beetle gets it's name from it primary source of food, animal waste. There are three types of Dung Beetles which are classified by their behaviors. Tunnelers, dig through the manner and create elaborate shafts with different chambers for living, storage of dung, and for incubating larvae. Dwellers lay eggs inside the dung pats or just under dung pats. The last group, Rollers, are what Dichotomius carolinus belong to. Rollers, collect dung and compact it into a sphere. These beetles then roll the ball away from the and burry it to consume later, and as a source of food for eggs. Dichotomius carolinus are know to feed on other food sources, such as fungi, when fresh dung cannot be found. Dung Beetles exhibit bilateral symmetry, have six legs, and a specialized adaptations called elytra,

which are hard covering which protect their delicate wings. Dung Beetles exhibit typical insect segmentation and have a head, thorax, and abdomen.

10. Scientific name: ***Anthia sexguttata***
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Coleoptera
Family: Carabidae
Genus: *Anthia*
Species: *sexguttata*
LOCATION
Centurion University of technology and manage
GENERAL CHARACTERISTICS
Adults measure approximately 4 cm (1.5 inches), are black with six relatively large, white, dorsal spots (four over the elytra and two on the thorax). Other patterns are possible although the pattern is always symmetrical. The larva has a flattened form, a large head capsule, and prominent mandibles.

11. Scientific name: *Zizeeria knysna*
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Lycaenidae
Genus: *Zizeeria*
Species: *knysna*
LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS
These are the blue butterfly which are major nectar feeders.

12. Scientific name: *Lymantria* sp.
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Erebidae
Genus: *Lymantria*
Species: not sure
LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS
Attractive moths belonging to super family Noctuoidiae.

13. Scientific name: *Papilio demoleus*

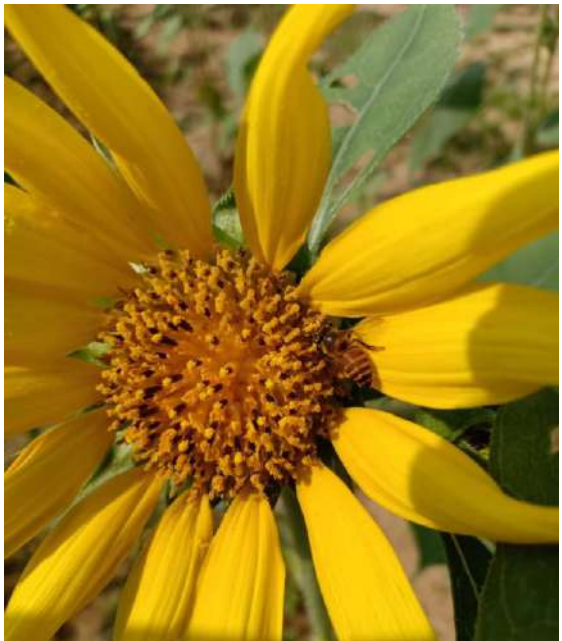
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Papilionidae
Genus: Papilio
Species: P. demoleus
LOCATION
Centurion University of technology and manag
GENERAL CHARACTERISTICS
Papilio demoleus is a common and widespread swallowtail butterfly. The butterfly is also known as the lime butterfly lemon butterfly, lime swallowtail, and chequered swallowtail. These common names refer to their host plants, which are usually citrus species such as the cultivated lime. Unlike most swallowtail butterflies, it does not have a prominent tail. The butterfly is a pest and invasive species, found from Asia to Australia.

14. Scientific name: *Lymantria mathura*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Erebidae
Genus: *Lymantria*
Species: *mathura*

LOCATION
Centurion University of Technology and Man
GENERAL CHARACTERISTICS
The wingspan is 40–50 mm for males and 70- ling on *Terminalia*, *Shorea*, *Quercus*, *Mangifera*, *Eugenia* and *Mitragyna*. It is considered a pest, since it is a major defoliator of deciduous trees.

15. Scientific name: *Apis cerana indica*



CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Hymenoptera
Family: Apidae
Genus: *Apis*
Species: *cerana indica*
LOCATION
Centurion University of Technology and Manage
GENERAL CHARACTERISTICS

They usually build multiple combed nests in tree hollows and man-made structures. These bees can adapt to living in purpose-made hives and cavities. Their nesting habit means that they can potentially colonize temperate or mountain areas with prolonged winters or cold temperatures.

16. Scientific name: *Apis dorsata*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Hymenoptera
Family: Apidae
Genus: *Apis*
Species: *dorsata*

LOCATION

Centurion University of Technology and Manage

GENERAL CHARACTERISTICS

Highly ferocious rock bees with comparatively n

17. Scientific name: *Spoladea recurvalis*

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Crambidae
Genus: *Spoladea*
Species: *recurvalis*

LOCATION

Centurion University of Technology and Manage

GENERAL CHARACTERISTICS

Spoladea recurvalis, the **beet webworm moth** or **Hawaiian beet webworm**, is a species of moth of the family Crambidae. It is found worldwide, but mainly in the tropics. The wingspan is 22–24 mm. The moth flies from May to September depending on the location. The larvae feed on spinach, beet, cotton, maize and soybean. They feed on the underside of the leaves protected by a slight web.

18. Scientific name*: Canis lupus familiaris*

Common name: Dog

CLASSIFICATION

Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Carnivora
Family- Canidae
Subfamily- Caninae
Genus- *Canis*
Species- *lupus*

Subspecies- *C. l. familiaris*

LOCATION

Centurion University Of Technology and Management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The dogs are domesticated descendant of the wolf which is characterized by an upturning tail.

19. Scientific name*: Felis catus*

Common name: Cat

CLASSIFICATION

Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Carnivora
Suborder- Feliformia
Family- Felidae
Subfamily- Felinae
Genus- *Felis*
Species- *catus*

LOCATION

Centurion University Of Technology and Management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The cats are domestic species of small carnivorous mammals.

20. Scientific name: *Bos indicus*

Common name: Cow

CLASSIFICATION

Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Artiodactyla
Family- Bovidae
Subfamily- Bovinae
Genus- *Bos*
Species- *indicus*

LOCATION

Centurion University Of Technology and Management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The zebu cattle / indicine cattle / humped cattle, is a species or subspecies of domestic cattle originating in the Indian sub-continent.

21. Scientific name: *Bubalus bubalis*

Common name: Buffalo (Water buffalo)

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Artiodactyla
Family- Bovidae
Subfamily- Bovinae
Genus- *Bubalus*
Species- *bubalis*

LOCATION
Centurion University Of Technology and Management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS
The water buffalo (Bubalus bubalis), also called as domestic water buffalo / Asian water buffalo, is a large bovid originating in the Indian subcontinent and Southeast Asia.

22. *Labeo catla* (Hamilton, 1822)

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Labeo
Species: *L. catla*
Common name: Catla

General Characteristics

- Adults occur in rivers, lakes and culture ponds. Mature individuals breed in rivers. Surface and mid-water feeders, mainly omnivorous with juveniles feeding on aquatic and terrestrial insects, detritus and phytoplankton.
- Dorsal soft rays (total): 17; Anal spines: 0; Anal soft rays: 7 - 8. Body deep, with depth 2.5 to 3 times in standard length. Has a large, upturned mouth, with a prominent protruding lower jaw. Pectoral fins long, extending to pelvic fins; scales conspicuously large

23. ***Labeo rohita*** (Hamilton, 1822)

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Labeo
Species: *L. rohita*
Common name: Rohu

General characteristics

- Adults inhabit rivers. A diurnal species and usually solitary. They burrow occasionally. Feed on plants. Spawning season generally coincides with the southwest monsoon. Spawning occurs in flooded rivers. Fecundity varies from 226,000 to 2,794,000 depending upon the length and weight of the fish and weight of the ovary. Widely introduced outside its native range for stocking reservoirs and aquaculture.
- Dorsal fin with 12-14 1/2 branched rays; lower profile of head conspicuously arched; short dorsal fin with anterior branched rays shorter than head; 12-16 predorsal scales ; snout without lateral lobe.

24. Cirrhinus mrigala **(Hamilton, 1822)**

Kingdom: Animalia
Phylum: Chordata

Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Cirrhinus
Species: *C. mrigala*
Common name: Mrigal

General characteristics:

- It is endemic to Indo-Gangetic riverine systems, is one of the three Indian major carp species cultivated widely in Southeast Asian countries.
- Body bilaterally symmetrical and streamlined, its depth about equal to length of head; body with cycloid scales, head without scales; snout blunt, often with pores; mouth broad, transverse; upper lip entire and not continuous with lower lip, lower lip most indistinct; single pair of short rostral barbels

25. Genetically Improved Farmed Tilapia

(Since, it is a genetically improved organism there is no scientific classification)

General characteristics:

- GIFT strain was developed to be fast growing and adaptable to a wide range of environments.
- The founding population of GIFT comprised wild Nile tilapia from Egypt, Ghana, Kenya and Senegal, and farmed Nile tilapia from Israel, Singapore, Taiwan and Thailand.

REPORT OF
GREEN AUDIT
OF CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT, PARALAKHEMUNDI, ODISHA (2017-18)

Preface

Institutional self-inquiry is a natural and necessary outgrowth of quality of higher education. Concern about environmental degradation and realization of values of environment are logical consequences of scholarly research, teaching and learning process. In its pursuit for improving environmental quality and to maintain a pristine environment for the future generation of students, Centurion University has made a self-inquiry on environmental quality of the campus with the following objectives: (i) To establish a baseline of existing environmental conditions with focus on natural and physical environment; (ii) To understand the current practices of sustainability with regard to the floral and faunal diversity inside the campus (iii) To promote environmental awareness through participatory auditing process; and (iv) To create a report that document baseline data of good practices and provide future strategies and action plans towards improving environmental quality for future.

This report is compiled by a committee constituted by IQAC. As there was no standard model for such a green audit of campuses in the state, the committee brainstormed and evolved a questionnaire. With the help of student volunteers and faculties of respective departmrnts the major part of the data was compiled, which the committee analyzed. The remaining part which involved measurement of quality was entrusted with the Department of Botany and Department of Zoology of Centurion University of Technology and Management, Odisha. The committee has made short term and long term suggestions to take environment protection to higher levels and it is hoped that this will receive due attention of University authorities and also all stake-holders of the University.

Dr. Yashaswi Nayak

Dr. Sagarika Parida

Dr. Gyanranjan Mahalik

Dr. Siba Prasad Parida

SCHOOL OF APPLIED SCIENCES
CUTM
CENTURION UNIVERSITY OF TECHNOLOGY & MANAGEMENT

Executive Summary

Many departments maintain garden and the campus is greener with fair biodiversity around and gardens maintained by many departments. A detailed study on floral and faunal diversity has been done. There are also one beautiful rose garden, medicinal plant garden and natural resources for butterfly inside the campus mentained by the university. Faunal and floral diversity reports are given below.

REPORT ON FLORAL DIVERSITY

Flora comes from the Latin word "*Flora*", the meaning is Goddess of plants. *Floris* means flower. Floral diversity is the diversity of plants occurring in a particular region during particular time period. It also refers to the diversity of naturally available native or indigenous plants till now a total of 2, 15, 644 species of plants have been catalogued on the earth till date. It is reported that India harbours 46, 824 species including virus/bacteria and fungi species. In India, floral diversity is concentrated in four phytogeographical unique regions like Himalayas, Western Ghats, Northeast India and Andaman and Nicober Islands. Indian flora records for 11.4% of the total recorded plant species. Angiosperms are the largest plant group in India comprising of total of 17, 817 species which constitutes 38.15% of floral diversity of the entire country followed by fungi comprising 14,698 species which is of 31.38%. High level of cryptogram (Bryophytes and Pteridophytes) diversity is also seen in the country. A total of 2,479 species of Pteridophytes and around 1265 of Bryophytes have been recorded in India. Algae and fungi have also been wide spread in India. Lichens are found in Western Ghats, Eastern and Western Himalayas and Andaman and Nicobar Islands. Most of the ferns and gymnosperms are found in cool temperate zones of the Himalayas and in the mountainous regions of southern India, especially in the Western Ghats. Indian flora represents nearly 12% of the global diversity excluding viruses. A diverse number of species of wild relatives of crop plants are also present.

Presently, considerable attention is being addressed to biological diversity of biodiversity statue which refers to the occurrence of diverse biological forms including micro-organisms, plants and animals in a particular geographical area under a set of environmental conditions. Biodiversity is the reflection of genetic variability with which the different hierarchical forms of germplasm (strains, landraces/genotypes/varieties, species, genera etc.) appear in the course of evolution. The genetic variation may exist either within the species (intra specific) to a certain extent or to a larger scale

between different species (intra specific) and taxa of higher biological order. In fact, it is the ecosystem that supports the biological variability. The diverse living forms of the ecosystem are always in a state of change keeping pace with the global environment perturbations. An ecosystem is composed of both biotic and abiotic components which are quite interrelated and influences each other.

Ecosystem diversity encompasses varieties of living forms due to miscellany of niches, tropic levels and ecological processes like nutrient recycling, food chains, food webs, energy flow and role of dominant species. The present campus of Centurion University, in Paralakhemundi Spread over 120 acres on the foothills of the Eastern ghats in a serene environment lies the main campus of Centurion University in Paralakhemundi. It is the only technological University in South Odisha.

Block wise area under survey:

Block-1: consist of subunits – 1-9 including Main gate, Playground, Tribal mess, Baitarani hostel, MBA building, protected cultivation, Banana farm and 4th gate.

Block-2: consist of the subunits- 10-18 including Hydroponics unit, Banana orchard, Temple area, CPS school, CRC1, CRC2, Pond area, Eicher lab, and Bus parking.

Block-3: consist of the subunits 19-26 including New C type quarters, Indravati hostel and Student fields, Agro-forestry field, Mango fields, Organic farm, Pond, STP 3 and STP 2.

Block-4: consist of subunits 27-34 including Central mess 1 and 2, Boy's hostel 1,2,3, A, B, C type quarters, Gram tarang blocks, Welding lab, Hill top, Dhaba, Gram tarang ground, Guest house.

Block-5: consist of subunits 35-41 Horticulture fields, Fishery Pond, Farm machinery lab, Vasco tank, Tribal village, Dairy unit and Forest side.

LIST OF DIFFERENT KINDS OF FLORA FOUND IN THE CAMPUS

SI NO	TREE SPECIES	FAMILY	BLOCK
Timber Trees			
1.	*Acacia auriculoformis A. Cunn. ex Benth.*	Fabaceae	B1, B2
2.	*Acacia mangium Willd.*	Fabaceae	B1, B3, B5
3.	*Aegle marmelous L.*	Rutaceae	B3, B4
4.	*Albizia lebbeck L. Benth.*	Mimosaseae	B2, B3, B4
5.	*Alstonia scholaris (L.) R.Br.*	Apocynaceae	B1, B2, B3, B4, B5
6.	*Anacardium occidentale L.*	Anacardiaceae	B4, B5
7.	*Araucaria heterophylla*	Araucariaceae	B3, B4
8.	*Areca catechu L.*	Arecaceae	B5
9.	*Artocarpus heterophyllus Lam.*	Moraceae	B2, B3, B5
10.	*Azadirachta indica A. Juss.*	Meliaceae	B4, B5
11.	*Bauhinia variegate L.*	Fabaceae	B1, B3
12.	*Bombax ceiba L.*	Malvaceae	B5
13.	*Buchanania lanzan spreng.*	Anacardiaceae	B4, B5
14.	*Butea monosperma Lam.*	Fabaceae	B1, B2
15.	*Callophylum innophylum L.*	Calophyllaceae	B1, B2, B3, B4, B5
16.	*Casia seamea Lam.*	Fabaceae	B1, B2, B3, B4, B5
17.	*Cocos nucifera L.*	Arecaceae	B1, B2, B3, B4, B5
18.	*Dalbergia sissoo Roxb.*	Fabaceae	B1, B3
19.	*Delonix regia (Boj. ex Hook.) Raf.*	Fabaceae	B1, B3, B4
20.	*Ficus religiosa L.*	Moraceae	B1
21.	*Ficus benghalensis L.*	Moraceae	B2, B3
22.	*Ficus recemosa L.*	Moraceae	B4, B5
23.	*Gliricidia seepium (Jacq.) Walp.*	Fabaceae	B1, B2, B3
24.	*Gmelina arborea Roxb.*	Lamiaceae	B3, B4, B5
25.	*Leucaena leucocephala (Lam.) de Wit*	Fabaceae	B2, B3
26.	*Mangifera indica L.*	Anacardiaceae	B1, B2, B3, B4, B5
27.	*Melia azadirach L.*	Meliaceae	B5
28.	*Moringa oleifera Lam.*	Moringaceae	B1, B2, B3, B4, B5
29.	*Neolamarckia cadamba (Roxb.) Bosser*	Rubiaceae	B1, B2
30.	*Plumeria alba L.*	Apocynaceae	B1, B3, B4
31.	*Polyalthia longifolia (Sonn.) Thwaites*	Annonaceae	B1, B2, B4

32.	*Pongamia pinnata*	Fabaceae	B1, B2, B3
33.	*Psidium guajava L.*	Myrtaceae	B3, B4
34.	*Pterocarpus marsupium Roxburgh.*	Fabaceae	B1, B5
35.	*Samanea samman (Jacq.) Merr.*	Fabaceae	B1, B2, B3, B4
36.	*Shorea robusta Roth.*	Dipterocarpaceae	B4
37.	*Sterospermum colais*	Bignoniaceae	B1, B2
38.	*Swietenia macrophyla King.*	Meliaceae	B2, B5
39.	*Syzygium cumini L.*	Myrtaceae	B2
40.	*Tamarindus indica*	Caesalpiniaceae	B4, B5
41.	*Taminalia arjuna ((Roxb.) Wight & Arn.*	Combretaceae	B5
42.	*Tectona grandis L.*	Lamiaceae	B1, B2, B3, B4, B5
43.	*Terminalia catapa L.*	Combretaceae	B5
44.	*Ziziphus jojoba Mill.*	Rhamnaceae	B4, B5
CROP SPECIES			
45.	Zea mays	Poaceae	B2
46.	Sorghum bicolar	Poaceae	B2,B3
47.	Elausine coracana	Poaceae	B2,B3
48.	Gossypium spp	Malvaceae	B2,B3
49.	Pennisetum glaucum	Poaceae	B2
50.	Cajanus cajan	Fabaceae	B2,B3
51.	Vigna mungo	Fabaceae	B2,B3
52.	Vigna radiata	Fabaceae	B4,B3
53.	Pisum sativum	Fabaceae	B2,B3
54.	Cicer arietinum	Fabaceae	B2
55.	Arachis hypogea	Fabaceae	B2,B3
56.	Helianthus annuus	Asteraceae	B4,B3
57.	Sesamum indicum	Pedaliaceae	B3
58.	Crotalaria juncea	Fabaceae	B2,B3
FRUIT AND PLANTATION TREES			
59.	*Annona reticulata L.*	Annonaceae	B-1
60.	*Annona squamosa L.*	Annonaceae	B-1, B-2, B-3,B-5
61.	*Annanas comosus* L.	Bromiliaceae	B-1,B-2,B-5
62.	*Areca catechu L.*	Arecaceae	B-2, B-5
63.	*Averrhoea carambola L*	Oxalidaceae	B-3, B-4
64.	*Borasus flabellifer L.*	Arecaceae	B-2,B-3,B-5

65.	*Camelia sinensis* L..	Theaceae	B-4
66.	*Carica papaya* L.	Caricaceae	B-1,B-2,B-3
67.	*Carissa carandas L.*	Apocynaceae	B-3, B-2, B-5
68.	*Canthium parviflorum*	Rubiaceae	B-3, B-5
69.	*Citrus aurantifolia L*	Rutaceae	B-2
70.	*Citrus reticulata L.*	Rutaceae	B-2,B-5
71.	*Cinnamomum verum L.*	Myrtaceae	B-2
72.	*Coffea robusta L.*	Rubiaceae	B-4
73.	*Ficus carica L.*	Moraceae	B-2, B-4
74.	*Garcinia mangostana L.*	Guttiferae	B-5
75.	*Litchi chinensis L.*	Sapindaceae	B-1
76.	*Mangifera indica L*	Anacardiaceae	B-1,B-2,B-3,B-4, B-5
77.	*Manilkara achras L.*	Sapotaceae	B-2,B-4
78.	*Morinda citrifolia*	Rubiaceae	B-2, B-3
79.	*Nephelium longan* L	Sapindaceae	B-2
80.	*Phoenix sylvestris L*	Arecaceae	B-2,B-3,B-5,
81.	*Phoenix regia .L*	Arecaceae	B-2, B-5,B-3
82.	*Psidium gujava L.*	Myrtaceae	B-1, B-2, B-3
83.	*Punica granatum L.*	Punicaceae	B-1
84.	*Prunus cerasus L*	Rosaceae	B-3
85.	*Zizyphus mauritiana* L.	Rhamnaceae	B-2, B-3,B-5
86.	*Ziziphus oenoplia L*	Rhamanaceae	B-3, B-5
Vegetables			
87.	*Abelmoschus esculentus L.*	Malvaceae	B-2, B-5
88.	*Allium cepa L*	Amaryllidaceae	B-1, B-2, B-5
89.	*Alocasia macrorrhiza L*	Araceae	B-3
90.	*Alternanthera sessillis*	Amaranthaceae	B-1, B-2, B-5
91.	*Brassica oleracea var.capitata*	Cruciferae	B-2,B-5
92.	*Brassica oleracea var. botrytis*	Cruciferae	B-2, B-5
93.	*Brassica oleracea var. gongylodes*	Cruciferae	B-2, B-5
94.	*Raphanus sativus L.*	Cruciferae	B-2, B-5
95.	*Capsicum annuam var. grossum L.*	Solanaceae	B-1
96.	*Capsicum annum var longum L.*	Solanaceae	B-2, B-5
97.	*Cucumis sativus L.*	Cucurbitaceae	B-1, B-2, B-5
98.	*Coccinia indica L*	Cucurbitaceae	B-1, B-2,B-3, B-4,B-5

99.	*Cucurbita pepo L*	Cucurbitaceae	B-2,B-5
100.	*Cyamopsis tetragonolobus L*	Leguminaceae	B-2, B-5
101.	*Coriandrum sativum L*	Umbelliferae	B-1, B-2,B-5
102.	*Lablab purpureus L*	Leguminaceae	B-2,B-3,B-5
103.	*Luffa acutangular L*	Cucurbitaceae	B-2, B-3, B-5
104.	*Momordica chanrantia L.*	Cucurbitaceae	B-1,B-2,B-3,B-5
105.	*Murraya koenigii L*	Rutaceae	B-2, B-3, B-4
106.	*Solanum melongena L.*	Solanaceae	B-1, B-2, B-5
107.	*Solanum indicum L.*	Solanaceae	B-2, B-5
108.	*Solanum lycopersicum L*	Solanaceae	B-2, B-5
109.	*Vigna unguiculata L.*	Leguminaceae	B-5
MEDICINAL AND AROMATIC CROPS			
110.	*Clerodendrum indicum*	Lamiaceae	B-2
111.	*Saussurea costus L.*	Costaceae	B-2
112.	*Pimenta dioica*	Myrtaceae	B-2
113.	*Gardenia jasminoides*	Rubiaceae	B-2
114.	*Juglans regia*	Juglandaceae	B-2
115.	*Allamanda purpurea*	Acanthaceae	B-2
116.	*Adenanthera pavonine*	Fabaceae	B-2
117.	*Grewia asiatica*	Tiliaceae	B-2
118.	*Murraya exotica*	Rutaceae	B-2
119.	*Kigelia Africana*	Bignoniaceae	B-2
120.	*Santalum album*	*Santalaceae*	B-2
121.	*Plumeria pudica*	Apocynaceae	B-2
122.	*Limonia acidissima*	Rutaceae	B-2
123.	*Putranjiva roxburghii*	Euphorbiaceae	B-2
124.	*Quercus cestaneifolia*	Fagaceae	B-2
125.	*Bixa ollerana*	Bixaceae	B-2
126.	*Ligustrum sinense*	Oleaceae	B-2
127.	*Gmelina arborea*	Verbenaceae	B-2
128.	*Terminalia catappa*	Combretaceae	B-2
129.	*Syzigium sp*	Myrtaceae	B-2
130.	*Tectona grandis*	Lamiaceae	B-2
131.	*Melia azaderach*	Meliaceae	B-2
132.	*Oroxylum indicum*	Bignoniaceae	B-2

133.	*Spathodea campanulate*	Bignoniaceae	B-2
134.	*Lagerstroemia flos-reginae*	*Lythraceae*	B-2
135.	*Callistemon lanceolatus*	Myrtaceae	B-2
136.	*Butea monosperma*	Leguminaceae	B-2
137.	*Hamelia patens*	Rubiaceae	B-2
138.	*Pterocarya rhoifolia*	Juglandaceae	B-2
139.	*Rhus glabra*	Anacardiaceae	B-2
140.	*Swietenia macrophylla*	Meliaceae	B-2
141.	*Strychnos spinosa*	Loganiaceae	B-2
142.	*Prunus serotina*	Rosaceae	B-2
143.	*Stachytarpheta jamaicensis*	Verbenaceae	B-2
144.	*Nyctanthes arbor-tristis*	Nyctanthaceae	B-2
145.	*Leucophyllum frutescens*	Scrophulariaceae	B-2
146.	*Phyllanthus Emblica*	Phyllanthaceae	B-2
147.	*Citharexylum spinosum*	Verbenaceae	B-2
148.	*Sapindus mukorossi*	Sapindaceae	B-2
149.	*Pterocarpus santalinus*	Leguminaceae	B-2
150.	*Salix sp*	Salicaceae	B-2
151.	*Acacia longifolia*	Leguminaceae	B-2
152.	*Plantanus racemose*	Platanaceae	B-2
153.	*Endospermum diadenum*	Euphorbiaceae	B-2
154.	*Manilkara hexandra*	Sapotaceae	B-2
155.	*Mimusops elengii*	Sapotaceae	B-2
156.	*Bombax ceiba*	Malvaceae	B-2
157.	*Psoropis cineraria*	Fabaceae	B-2
158.	*Thespesia populnea*	Malvaceae	B-2
159.	*Cymbopogon sp*	Gramineae	B-2
160.	*Kaempferia parviflora*	Zingeberaceae	B-2
CLIMBER			
161.	*Allamanda blanchetti* A.DC.	Apocynaceae	B-2
162.	*Allamanda cathartica var grandiflora*	Apocynaceae	B-2
163.	*Artabotrys odoratissimus*	Annonaceae	B-2
164.	*Asparagus racemosus* Willd.	Asparagaceae	B-2
165.	*Bougainvillea spp.*	Nyctaginaceae	B-2
166.	Cissus striata	Vitaceae	B-5

167.	Cissus nodosa	Vitaceae	B-3, B-5
168.	*Clerodendron splendens*	Verbanaceae	B-1
169.	*Clitoria ternatea L*	Leguminaceae	B-1,B-2,B-5
170.	*Cuscuta reflexa* Roxb.	Cuscutaceae	B-4
171.	Gloriosa superba	Colchicaceae	B-5,B-3
172.	*Ipomoea obscura* Ker.-Gawl.	Convolvulaceae	B-4
173.	*Jacquemontia pentantha L.*	Convolvulaceae	B-1,B-4
174.	*Ipomea cairica*	Convolvulaceae	B-2,B-5
175.	*Jasminum nitidum L.*	Oleaceae	B-2
176.	*Piper betel* L	Piperaceae	B-2
177.	*Pyrostegia venusta*	Bignoniaceae	B-2
178.	*Quisqualis indica* L.	Combretaceac	B-2
179.	*Tinospora cordifolia*(Thunb.) Miers	Menispermaceae	B-2
SHRUBS			
180.	*Acalypha hispida L*	Euphorbiaceae	B-1,B-2
181.	*Allamanda grandiflora L.*	Apocynaceae	B-1, B-2, B-3
182.	*Aralia*	Araliaceae	B-1,B-2,B-3,B-4, B-5
183.	*Artabotrys odoratissimus L*	Annonaceae	B-2, B-5
184.	*Barleria cristata L.*	Acanthaceae	B-1, B-2,B-3,B-4,B-5
185.	*Beloperone guttata L.*	Acanthaceae	B-2
186.	*Bauhinia tomentosa L*	Leguminaceae	B-1, B-2,B-3,B-5
187.	*Caesalpinia pulcherrima L.*	Leguminaceae	B-1,B-2,B-3, B-5
188.	*Clerodendron inerme L.*	Verbenaceae	B-1
189.	*Crossandra*	Acanthaceae	B-2,B-3,B-5
190.	*Calotropis gigantia L.*	Apocynaceae	B-5
191.	*Calotropis procera L.*	Apocynaceae	B-4, B-5
192.	*Duranta plumieri*	Verbenaceae	B-1,B-2,B-3,B-4,B-5
193.	*Hibiscus rosasinensis*	Malvaceae	B-2,B-5
194.	*Hibiscus mutabilis*	Malvaceae	B-1,B-2, B-3,B-4, B-5
195.	*Ixora sp.*	Rubiaceae	B-1,B-2,B-3, B-4,B-5
196.	*Lantana camera*	Verbenaceae	B-2,B-3, B-4, B-5
197.	*Mimosa pudica L.*	Fabaceae	B-1,B-2,B-3,B-4,B-5
FOLIAGE PLANTS			
198.	*Agave americana*	Amaryllidaceae	B-2,B-4
199.	*Agave salmiana Otto ex Salm-Dyck*	Asparagaceae	B-2

200.	*Bryophyllum sp.*	Crassulaceae	B-2
201.	*Codiaeum variegatum*	Euphorbiaceae	B-1,B-2,B-3,B-4,B-5
202.	*Coleus spp.*	Lamiaceae	B-1,B-2,B-3,B-4,B-5
203.	*Cordyline fruticosa(L.) A.Chev. (L.)Nees.*	Agavaceae	B-1,B-2,B-3,B-4,B-5
204.	*Crassula ovata*	Crassulaceae	B-2
205.	*Cycas revoluta*	Cycadaceae	B-1,B-2,B-3,B-4,B-5
206.	*Dieffenbachia maculata*	Araceae	B-1,B-2,B-3,,B-5
207.	*Dracaena marginata*	Asparagaceae	B-1,B-2,B-3,,B-5
208.	*Dracena reflexa*	Asparagaceae	B-2,B-3
209.	*Duranta erecta*	Verbenaceae	B-1,B-2,B-3,B-4,B-5
210.	*Duranta goldiana*	Verbenaceae	B-1,B-2,B-3,B-4,B-5
211.	*Duranta repens L.*	Verbenaceae	B-1,B-2,B-3,B-4,B-5
212.	*Ficus elastioca*	Moraceae	B-2
213.	*Juniperus chinensis*	Cupressaceae	B-2
214.	*Pedilanthus tithymaloides*	Euphorbiaceae	B-2,B-3,B-4,B-5
215.	*Philodendron spp.*	Araceae	B-1,B-2,B-5
216.	*Sansevieria trifasicata*	Aspargaceae	B-1,B-2
217.	*Scindapsus aureus*	Araceae	B-2,B-5
218.	*Syngonium podophyllum*	Araceae	B-1,B-2,B-3,B-4,B-5
FLOWERING PLANTS			
219.	*Caesalpinia pulcherrima*	Fabaceae	B-1,B-2,B-4,B-5
220.	*Canna indica*	Cannaceae	B-2
221.	*Chrysanthemum grandiflorum*	Compositeae	B-2,B-3
222.	*Euphorbia indica Lam*	Euphorbiaceae	B-2
223.	*Euphorbia mili*	Euphorbiaceae	B-2,B-5
224.	*Euphorbia pulcherrima Willd. ex Klotzsch*	Euphorbiaceae	B-2
225.	*Gerbera jamesonii*	Compositeae	B-1,B-2
226.	*Helianthus annus*	Compositeae	B-2,B-3
227.	*Hibiscus mutabilis L.*	Malvaceae	B-1.B-2,B-3,B-4,B-5
228.	*Hibiscus rosa-sinensis L.*	Malvaceae	B-1.B-2,B-3,B-4,B-5
229.	*Impatiens balsamina L.*	Balsaminaceae	B-2
230.	*Ipomoea carnea Jacq.*	Convolvulaceae	B-1,B-2
231.	*Ixora coccinea*	Rutaceae	B-1.B-2,B-3,B-4,B-5
232.	*Jasminium auriculatum*	Oleaceae	B-1,B-2,B-5
233.	*Jasminium sambac*	Oleaceae	B-1,B-2,B-5

234.	*Portulaca grandiflora*	Portulaceae	B-1.B-2,B-3,B-4,B-5
235.	*Portulaca oleracea L. var. oleracea*	Portulaceae	B-1.B-2,B-3,B-4,B-5
236.	*Portulaca pilosa L. subsp. grandiflora (Hook.) Geesink*	Portulaceae	B-1.B-2,B-3,B-4,B-5
237.	*Rosa indica L.*	Rosaceae	B-1,B-2
238.	*Rosa alba L.*	Rosaceae	B-2
239.	*Rosa damascina Miller*	Rosaceae	B-2
240.	*Tagetes erecta*	Compositeae	B-1.B-2,B-3,B-4,B-5
241.	*Tagetes patula*	Compositeae	B-1.B-2,B-3,B-4,B-5
242.	*Tecoma stans (L.) Kunth.*	bignoniaceae	B-2,B-5
PALMS, FERNS, CACTUS AND GROUND COVERS			
243.	*Cactus spp.*	Cactaceae	B-1,B-2
244.	*Crysalidocarpus lutesens*	Arecaceae	B-1,B-2
245.	*Cycas revoluta*	Arecaceae	B-1.B-2,B-3,B-4,B-5
246.	*Dypsis leptocheilos*	Arecaceae	B-1,B-2
247.	*Hyophorbe legenicaulis*	Arecaceae	B-1,B-2
248.	*Livingstonia rotundifolia*	Arecaceae	B-1,B-2
249.	*Phoenix roebelenii*	Arecaceae	B-5
250.	*Raphis excelsa*	Arecaceae	B-1,B-2
251.	*Sorghum vulgare* L.	Poaceae	B-2
252.	*Zea mays* L.	Poaceae	B-2
EPIPHYTES			
253.	*Dendrobium ursula* Strenge	Passifloraceae	B-2
GYMNOSPERM			
254.	*Araucaria columnaris* (Forst.f.) Hook.	Araucariaceae	B-2
255.	*Cycas revoluta* Thunb.	Cycadaceae	B-2
256.	*Juniperus communis* L.	Cupressaceae	B-2
257.	*Pinus roxburghii* Sargent	Pinaceae	B-2
258.	*Podocarpus nerefolius* D.Don	Podocarpaceae	B-2
259.	*Platycladus orientalis* (L.) Franco	Cupressaceae	B-2
ORNAMENTALS			
260.	*Bauhinia alba*	Leguminoceae	B-2,B-5
261.	*Bauhinia triandra*	Leguminoceae	B-2
262.	*Bauhinia variegate*	Leguminoceae	B-2
264.	*Callistemon lanceolatus*	Myrtaceae	B-2

265.	*Cassia fistula*	Leguminoceae	B-2,B-5
266.	*Cassia nodosa*	Leguminoceae	B-2,B-5
267.	*Casuarina equistifolia*	Casuarinaceae	B-2
269.	*Elaeis guineensis Jacq.*	Arecaceae	B-2,B-5
270.	*Eucalyptus spp.*	Myrataceae	B-2,B-5
272.	*Ficus benjhamina*	Moraceae	B-1.B-2,B-3,B-4,B-5
273.	*Ficus elastica*	Moraceae	B-2
275.	*Lagerstroemia speciosa*	Lytharaceae	B-1.B-2,B-3,B-4,B-5
276.	*Mimusops elengii*	Sapotaceae	B-1.B-2,B-3,B-4,B-5
277.	*Murraya paniculata(L.) Jack*	Rutaceae	B-1.B-2,B-3,B-4,B-5
278.	*Nauclea cadamba*	Rubiaceae	B-3,B-5
279.	*Nyctanthes arbor-tristis L.*	Oleaceae	B-3
280.	*Plumeria alba*	Apocynaceae	B-1.B-2,B-3,B-4,B-5
281.	*Plumeria rubra*	Apocynaceae	B-1,B-5
282.	*Polyalthia pendula*	Anonaceae	B-1.B-2,B-3,B-4,B-5
283.	*Polyathia longifolia*	Anonaceae	B-1
285.	*Ravenela madagascariensis*	Scitmineae	B-1,B-2,
286.	*Saraca asoca*	Leguminoceae	B-1
294.	Peltophorum pterocarpum	Leguminoceae	B-5
295.	Albezia lebbeck	Leguminoceae	B-5
296.	Salix alba	Salicaceae	B-5
297.	Bombax malabaricum	Bombaceae	B-5
299.	Swetenia mahagoni	Meliaceae	B-5
300.	Lawsonia inermis	Lythraceae	B-5
WEED FLORA			
301.	*Acalypha indica*	Euphorbiaceae	B3,B5
302.	*Achyranthes aspera*	Amaranthaceae	B1,B2,B3,B4,B5
303.	*Acmella oleracea*	Asteraceae	B1,B2,B3,B4,B5
304.	*Acmella uliginosa*	Asteraceae	B1,B2,B3,B4,B5
305.	*Ageratum conyzoides*	Asteraceae	B1,B2,B3,B4,B5
306.	*Ageratum houstonianum*	Asteraceae	B5
307.	*Alternanthera philoxeroides*	Amaranthaceae	B1,B2,B3,B4,B5
308.	*Amaranthus hybridus*	Amaranthaceae	B3,B5
309.	*Amaranthus spinosus*	Amaranthaceae	B1,B2,B3,B4,B5
310.	*Amaranthus viridis*	Amaratheceaea	B3,B4,B5

311.	*Argemone mexicana*	Papaveraceae	B1,B3,B5
312.	*Avena fatua*	Poaceae	B3,B5
313.	*Avena sterilis*	Poaceae	B5
314.	*Bambusa arundinacea* (Retz.) Willd.	Apocynaceae	B-2
315.	*Bidens pilosa*	Asteraceae	B3,B5
316.	*Chenopodium murale*	Amaranthaceae	B3,B4,B5
317.	*Chloris barbata*	Poaceae	B1,B2,B3,B4,B5
318.	*Cleome viscosa*	Capparaceae	B2,B4,B5
319.	*Commelina benghalensis*	Commelinacea	B1,B2,B3,B4,B5
320.	*Corchorus acutangulus*	Tiliaceae	B3,B5
321.	*Cyanthillium cinereum*	Asteraceae	B1,B3,B4,B5
323.	*Cynodon dactylon*	Poaceae	B1,B2,B3,B4,B5
324.	*Cyperus difformis*	Cyperaceae	B1,B2,B3,B4,B5
325.	*Cyperus esculentus*	Cyperaceae	B3,B4,B5
326.	*Cyperus iria*	Cyperaceae	B3,B4
327.	*Cyperus rotundus*	Cyperaceae	B1,B2,B3,B4,B5
328.	*Dactylectonium aegeptium*	Poaceae	B1,B2,B3,B4,B5
329.	*Datura stramonium*	Asteraceae	B3,B4,B5
330.	*Dicanthium annulatum*	Poaceae	B4,B5
331.	*Digitaria sanguinalis*	Poaceae	B1,B2,B3,B4,B5
332.	*Echinochloa colona*	Poaceae	B1,B3,B4,B5
333.	*Echinocloa crus-galli*	Poaceae	B1,B2,B3,B4,B5
334.	*Eclipta alba*	Asteraceae	B3,B4,B5
335.	*Eleusine indica*	Poaceae	B3,B4,B5
336.	*Euphorbia hirta*	Euphorbiaceae	B1,B2,B3,B4,B5
337.	*Leptochloa chinensis*	Poaceae	B1,B2,B3,B4,B5
338.	*Ludwigia parviflora*	Onagraceae	B1,B2,B3,B4,B5
339.	*Mimosa pudica*	Fabaceae	B1,B2,B3,B4,B5
340.	*Mitracarpus hirtus*	Rubiaceae	B1,B3,B4,B5
341.	*Oldenlandia corymbosa*	Rubiaceae	B1,B2,B3,B4,B5
342.	*Parthenium hysterophorus*	Asteraceae	B3,B4,B5
343.	*Phylanthus niruri*	Phyllanthaceae	B1,B2,B3,B4,B5
345.	*Physalis longifolia*	Solanaceae	B1,B3,B4
346.	*Rumex scutatus*	Polygonaceae	B3,B4,B5
347.	*Sida acuta*	Malvaceae	B3,B4,B5

348.	*Solanum nigrum*	Salanaceae	B4,B5
349.	*Sphagneticola trilobata*	Asteraceae	B1,B2,B3,B4,B5
350.	*Synedrella nodiflora*	Asteraceae	B1,B2,B3,B4,B5
351.	*Trianthema portulacastrum*	Aizoaceae	B3,B4,B5
352.	*Tridax procumbens*	Asteraceae	B1,B2,B3,B4,B5
MUSHROOMS			
353.	*Plurotus oestratus*	Plurotaceae	B-4
354.	*Agaricus bisporus*	Agaricaceae	B-4
355.	*Volvariella volvacea*	Plutaceae	B-4

Pic: Rose garden, CUTM, Paralakhemundi

FAUNAL DIVERSITY

A survey on faunal diversity in our Paralakhemundi campus of Centurion University of Technology and Management has done from 1st of December 2017 to 25th of December 2017. Based on the survey, we prepared report and hereby the report is submmited to the Department of Entomology, MSSSOA, CUTM, Paralakhemundi on 30th of December.

ANIMAL	Sl.No.	Common name	Scientific name
Invertebrates	**1.**	Two-spotted assassin bug	*Platymeris biguttatus*
	2.	Scarlet skimmer	*Crocothemis servilia*
	3.	Globe skimmer	*Pantala flavescens*
	4.	Slender skimmer	*Orthetrum sabina*
	5.	Great spreadwing	*Archilestes grandis*
	6.	Coconut rhinoceros beetle	*Oryctes rhinoceros*
	7.	Dung beetle	*Dichotomius carolinus*
	8.	Six-spot ground beetle	*Anthia sexguttata*
	9.	Dark grass blue	*Zizeeria knysna*
	10.	Tussock moth	*Lymantria sp.*
	11.	Swallowtail butterfly	*Papilio demoleus*
	12.	Rosy gypsy moth	*Lymantria mathura*
Vertebrates	**13.**	Chicken bird	*Gallus gallus domesticus*
	14.	Dog	*Canis lupus familiaris*
	15.	Cat	*Felis catus*
	16.	Cattle	*Bos indicus*
	17.	Domestic water buffalo	*Bubalus bubalis*
	18.	Catla fish	*Labeo catla*
	19.	Rohu fish	*Labeo rohita*
	20.	Mrigal carp	*cirrhinus mrigala*

FAUNAL DIVERSITY

1. **Scientific name:** *Mantis religiosa*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Dictyoptera
Family: mantidae
Genus: *Mantis*
Species: *religiosa*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

Mantises are distributed worldwide in temperate and tropical habitats. They have triangular heads with bulging eyes supported on flexible necks. Their elongated bodies may or may not have wings, but all Mantidea have forelegs that are greatly enlarged and adapted for catching and gripping prey; their upright posture, while remaining stationary with forearms folded, has led to the common name praying mantis.

2. **Scientific name:** *Poekilocerus pictus*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Orthoptera
Family: Pyrgomorphidae
Genus: ***Poekilocerus***
Species: ***pictus***

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

Poekilocerus pictus is a large brightly coloured grasshopper found in the Indian subcontinent. Nymphs of the species are notorious for squirting a jet of liquid up to several inches away when grasped. The half-grown immature form is greenish-yellow with fine black markings and small crimson spots. The mature grasshopper has canary yellow and turquoise stripes on its body, green tegmina with yellow spots, and pale red hind wings. It changes its outward appearance by molting. The grasshopper feeds on the poisonous plant *Calotropis gigantea*.Upon slight pinching of the head or abdomen, the half-grown immature form ejects liquid in a sharp and sudden jet, with a range of two inches or more, from a dorsal opening between the first and second abdominal segments. The discharge is directed towards the pinched area and may be repeated several times. The liquid is pale and milky, slightly viscous and bad-tasting, containing cardiac glycosides that the insect obtains from the plant it feeds upon.

3. **Scientific name:** *Platymeris biguttatus*

CLASSIFICATION

Kingdom: Animalia

Phylum: Arthropoda

Class: Insecta

Order: Hemiptera

Family: Reduviidae

Genus: *Platymeris*

Species: *biguttatus*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

Platymeris biguttatus or two-spotted assassin bug is a venomous predatory true bug of west and southwest African origin ranging in size from 10–40 mm. As a true bug of the order hemiptera, it has needle like mouth parts designed for sucking juices out of plants or other insects instead of chewing. *P. biguttatus* has sharp stylets in its proboscis or rostrum used to pierce the exoskeleton of its prey. Saliva is then injected into the prey which liquifies its tissues, and the rostrum is then used to suck out the digested fluids. If disturbed, it is capable of a defensive bite considered to be more painful than a bee sting. It is also known to spit venom that can cause temporary blindness in humans

4. **Scientific name:** *Crocothemis servilia*

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Odonata
Infraorder: Anisoptera
Family: Libellulidae
Genus: *Crocothemis*
Species: *servilia*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

It is a medium sized blood-red dragonfly with a thin black line along the mid-dorsal abdomen. Its eyes are blood-red above, purple laterally. Thorax is bright ferruginous, often blood-red on dorsum. Abdomen is blood-red, with a narrow black mid-dorsal carina. Anal appendages are blood-red. Female is similar to the male; but with olivaceous-brown thorax and abdomen. The black mid-dorsal carina is rather broad. It breeds in ponds, ditches, marshes, open swamps and rice fields.

5. **Scientific name:** *Pantala flavescens*

CLASSIFICATION

Kingdom:Animalia
Phylum:Arthropoda
Class: Insecta

Order: Odonata
Infraorder: Anisoptera
Family: Libellulidae
Genus: *Pantala*
Species: *flavescens*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The dragonfly is up to 4.5 cm long, reaching wingspans between 7.2 cm and 8.4 cm. The front side of the head is yellowish to reddish. The thorax is usually yellow to golden coloured with a dark and hairy line. There were also specimens with a brown or olive thorax. The abdomen has a similar colour as the thorax. The wings are clear and very broad at the base. There, too, there are some specimens with olive, brown and yellow wings. On Easter Island there are wandering gliders with black wings

6. Scientific name: *Orhtetrum sabina*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Odonata
Infraorder: Anisoptera
Family: Libellulidae
Genus: *Orthetrum*
Species: *sabina*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

It is a medium-sized dragonfly with a wingspan of 60-85mm. Adults are grayish to greenish yellow with black and pale markings and green eyes. Its abdomen is greenish-yellow, marked with black. It is very similar to Orthetrum serapia in appearance, with both species appearing in northern Australia. Pale markings on segment four of the abdomen do not extend into the posterior section when viewed from above on Orthetrum sabina. Females are similar to males in shape, color and size; differing only in sexual characteristics. This dragonfly perches motionless on shrubs and dry twigs for long periods. It voraciously preys on smaller butterflies and dragonflies

7. **Scientific name:** *Archelestes grandis*

CLASSIFICATION

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Odonata
Suborder: Zygoptera
Family: Lestidae
Genus: *Archilestes*
Species: *grandis*

LOCATION

Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The great spreadwing is one of the largest North American spreadwings, with a length of 2-2.4 inches and a wingspan of 3 inches. The thorax of the male is dull greenish bronze above it is a broad diagonal yellow stripe on sides. It is also the only species with a broad yellow racing stripe on the sides of thorax. The abdomen is dark with a blue-gray tip. Its eyes and face are blue. Females are similar to males but are more brown on the body. Her eyes are more of a paler blue than the male. The yellow stripe also occurs on the female great spreadwing. When females are laying eggs they may appear in a putty-color. It is much the same color as the withered leaves in which they lay eggs.

8. Scientific name: *Oryctes rhinoceros*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Coleoptera
Family: Scarabaeidae
Subfamily: Dynastinae
Tribe: Oryctini
Genus: *Oryctes*
Species: *rhinoceros*

LOCATION
Centurion University of technology and management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS
The Asiatic rhinoceros beetle, coconut rhinoceros beetle or coconut palm rhinoceros beetle, (Oryctes rhinoceros) is a species of rhinoceros beetle of the family Scarabaeidae. O. rhinoceros attacks the developing fronds of raffia, coconut, oil, and other palms in tropical Asia and a number of Pacific islands. Damaged fronds show typical triangular cuts. The beetle kills the palms (particularly newly planted ones) when the growing point is destroyed during feeding. They also infest dead trunk debris.

9. **Scientific name:** *Dichotpmius carlolinus*

CLASSIFICATION
Kingdom: Animalia
Subphylum: Hexapoda
Class: Insecta
Order: Coleoptera
Suborder: Polyphaga
Superfamily: Scarabaeoidea
Subfamily: Scarabaeinae
Genus: *Dichotomius*
Species: *carolinus*

LOCATION
Centurion University of technology and mana

GENERAL CHARACTERISTICS
Dichotomius carolinus are commonly know as Dung Beetles. They are approximately 3/8" - 3/4" in size. The Dung Beetle gets it's name from it primary source of food, animal waste. There are three types of Dung Beetles which are classified by their behaviors. Tunnelers, dig through the manner and create elaborate shafts with different chambers for living, storage of dung, and for incubating larvae.

Dwellers lay eggs inside the dung pats or just under dung pats. The last group, Rollers, are what Dichotomius carolinus belong to. Rollers, collect dung and compact it into a sphere. These beetles then roll the ball away from the and burry it to consume later, and as a source of food for eggs. Dichotomius carolinus are know to feed on other food sources, such as fungi, when fresh dung cannot be found. Dung Beetles exhibit bilateral symmetry, have six legs, and a specialized adaptations called elytra, which are hard covering which protect their delicate wings. Dung Beetles exhibit typical insect segmentation and have a head, thorax, and abdomen.

10. Scientific name: ***Anthia sexguttata***
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Coleoptera
Family: Carabidae
Genus: *Anthia*
Species: *sexguttata*
LOCATION
Centurion University of technology and manage
GENERAL CHARACTERISTICS
Adults measure approximately 4 cm (1.5 inches), are black with six relatively large, white, dorsal spots (four over the elytra and two on the thorax). Other patterns are possible although the pattern is always symmetrical. The larva has a flattened form, a large head capsule, and prominent mandibles.

11. Scientific name: *Zizeeria knysna*
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Lycaenidae
Genus: *Zizeeria*
Species: *knysna*
LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS
These are the blue butterfly which are major nectar feeders.

12. Scientific name: *Lymantria* sp.
CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Erebidae
Genus: *Lymantria*
Species: not sure

LOCATION
Centurion University of Technology and Management, Paralakhemundi Campus.
GENERAL CHARACTERISTICS
Attractive moths belonging to super family Noctuoidiae.

13. Scientific name: *Papilio demoleus*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Papilionidae
Genus: Papilio
Species: P. demoleus
LOCATION
Centurion University of technology and manag
GENERAL CHARACTERISTICS
Papilio demoleus is a common and widespread swallowtail butterfly. The butterfly is also known as the lime butterfly lemon butterfly, lime swallowtail, and chequered swallowtail. These common names refer to their host plants, which are usually citrus species such as the cultivated lime. Unlike most swallowtail butterflies, it does not have a prominent tail. The butterfly is a pest and invasive species, found from Asia to Australia.

14. Scientific name: *Lymantria mathura*

CLASSIFICATION
Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Family: Erebidae
Genus: *Lymantria*
Species: *mathura*

LOCATION
Centurion University of Technology and Man
GENERAL CHARACTERISTICS
The wingspan is 40–50 mm for males and 70- ling on *Terminalia*, *Shorea*, *Quercus*, *Mangifera*, *Eugenia* and *Mitragyna*. It is considered a pest, since it is a major defoliator of deciduous trees.

15. Scientific name*: Canis lupus familiaris*

Common name: Dog

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Carnivora

Family- Canidae
Subfamily- Caninae
Genus- *Canis*
Species- *lupus*
Subspecies- *C. l. familiaris*

LOCATION

Centurion University Of Technology and Management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The dogs are domesticated descendant of the wolf which is characterized by an upturning tail.

16. Scientific name*: Felis catus*

Common name: Cat

CLASSIFICATION

Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Carnivora
Suborder- Feliformia
Family- Felidae
Subfamily- Felinae
Genus- *Felis*
Species- *catus*

LOCATION

Centurion University Of Technology and Management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The cats are domestic species of small carnivorous mammals.

17. Scientific name: *Bos indicus*

Common name: Cow

CLASSIFICATION

Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Artiodactyla
Family- Bovidae
Subfamily- Bovinae
Genus- *Bos*
Species- *indicus*

LOCATION

Centurion University Of Technology and Management, Parlakhemundi Campus.

GENERAL CHARACTERISTICS

The zebu cattle / indicine cattle / humped cattle, is a species or subspecies of domestic cattle originating in the Indian sub-continent.

18. Scientific name: *Bubalus bubalis*

Common name: Buffalo (Water buffalo)

CLASSIFICATION
Kingdom- Animalia
Phylum- Chordata
Class- Mammalia
Order- Artiodactyla
Family- Bovidae
Subfamily- Bovinae
Genus- *Bubalus*
Species- *bubalis*

LOCATION
Centurion University Of Technology and Management, Parlakhemundi Campus.
GENERAL CHARACTERISTICS
The water buffalo (Bubalus bubalis), also called as domestic water buffalo / Asian water buffalo, is a large bovid originating in the Indian subcontinent and Southeast Asia.

19. *Labeo catla* (Hamilton, 1822)

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Labeo
Species: *L. catla*
Common name: Catla

General Characteristics

- Adults occur in rivers, lakes and culture ponds. Mature individuals breed in rivers. Surface and mid-water feeders, mainly omnivorous with juveniles feeding on aquatic and terrestrial insects, detritus and phytoplankton.
- Dorsal soft rays (total): 17; Anal spines: 0; Anal soft rays: 7 - 8. Body deep, with depth 2.5 to 3 times in standard length. Has a large, upturned mouth, with a prominent protruding lower jaw. Pectoral fins long, extending to pelvic fins; scales conspicuously large

20. *Labeo rohita* (Hamilton, 1822)

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: Labeo
Species: *L. rohita*
Common name: Rohu

General characteristics

- Adults inhabit rivers. A diurnal species and usually solitary. They burrow occasionally. Feed on plants. Spawning season generally coincides with the southwest monsoon. Spawning occurs in flooded rivers. Fecundity varies from 226,000 to 2,794,000 depending upon the length and weight of the fish and weight of the ovary. Widely introduced outside its native range for stocking reservoirs and aquaculture.
- Dorsal fin with 12-14 1/2 branched rays; lower profile of head conspicuously arched; short dorsal fin with anterior branched rays shorter than head; 12-16 predorsal scales ; snout without lateral lobe.

21. Cirrhinus mrigala **(Hamilton, 1822)**

Kingdom: Animalia
Phylum: Chordata
Sub-Phylum: Vertebrata
Class: Actinopterygii
Order: Cypriniformes

Family: Cyprinidae
Genus: Cirrhinus
Species: *C. mrigala*
Common name: Mrigal

General characteristics:

- It is endemic to Indo-Gangetic riverine systems, is one of the three Indian major carp species cultivated widely in Southeast Asian countries.
- Body bilaterally symmetrical and streamlined, its depth about equal to length of head; body with cycloid scales, head without scales; snout blunt, often with pores; mouth broad, transverse; upper lip entire and not continuous with lower lip, lower lip most indistinct; single pair of short rostral barbels

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REPORT OF

GREEN AUDIT

OF CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT, RAYAGADA, ODISHA (2021-22)

Preface

Institutional self-inquiry is a natural and necessary outgrowth of quality of higher education. Concern about environmental degradation and realization of values of environment are logical consequences of scholarly research, teaching and learning process. In its pursuit for improving environmental quality and to maintain a pristine environment for the future generation of students, Centurion University has made a self-inquiry on environmental quality of the campus with the following objectives: (i) To establish a baseline of existing environmental conditions with focus on natural and physical environment; (ii) To understand the current practices of sustainability with regard to the floral and faunal diversity inside the campus (iii) To promote environmental awareness through participatory auditing process; and (iv) To create a report that document baseline data of good practices and provide future strategies and action plans towards improving environmental quality for future.

This report is compiled by a committee constituted by IQAC. As there was no standard model for such a green audit of campuses in the state, the committee brainstormed and evolved a questionnaire. With the help of student volunteers and faculties of respective departmrnts the major part of the data was compiled, which the committee analyzed. The remaining part which involved measurement of quality was entrusted with the Department of Botany and Department of Zoology of Centurion University of Technology and Management, Odisha. The committee has made short term and long term suggestions to take environment protection to higher levels and it is hoped that this will receive due attention of University authorities and also all stake-holders of the University.

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CUTM campus Audit aims to address the need for more comprehensive and focused Education Training and Holistic Development of an institution. In the world of advanced researches and globalization an audit programme of the institution provides knowledge about the detailed working of the various campus entities and the scope for betterment in areas of education and environmental action programmes. The outcome of green audit programmes give an insight into better running of the institution and judicious utilization of its available resources, their improvement, quality enhancement and conservation and spreading the information through awareness programmes. Such practices help building holistic personality of pupils and the faculty members and is imperative towards shaping the way of "Action Learning" programme and its successful implementation.

Situated in the mineral rich southern part of Odisha, Rayagada is a district of meadows, forests, waterfalls and terraced valleys, inhabited by many primitive tribal groups. The scenic beauty and heritage of the land is an unexplored paradise. Spread over 15 acres of land this campus provides skill integrated education in the region.

Methodology followed

Campus biodiversity study programme was conducted by internal audit team The different plants in the campus were identified and recorded. Their medicinal values were identified. Similarly, the avifauna, mammals were studied in the campus. The identification was done following the expert guidance of faculty members and relevant literatures viz. Hooker (1872-97), Bingham (1897, 1903), Prain (1905) and Ali (2003). The photographs were taken in DSLR camera.

Floral and Faunal Biodiversity in the Campus

The Campus although located in the heart of the city maintains its greenery. Survey conducted by the faculty members of Zoology and Botany department identified about 85 plant species of various genera. Most of the recorded species have medicinal importance.

Pictures of some of the floral elements are given. The Campus maintains its own nursery to cultivate various other useful medicinal plants. This floral diversity provides a conducive ambience to wide gamut of faunal elements to be present in the campus. This includes a rich diversity of insects including butterflies, ants, birds and mammals.

Following sections provide photographs of the recorded floral and faunal diversity in the campus:

Floral diversity:

Bolck 1: Administrative Building

Bolck 2: Academic Building

Table 1: List of Plants found in Centurion University, Rayagada campus

Sl. No.	Botanical Name	Family	Distribution
TREES			
1	*Millettia pinnata*	Fabaceae	B1
2	*Calotropis gigantea*	Apocynaceae	B1
3	*Gmelina arborea*	Lamiaceae	B1
4	*Pittosporum eugenioides*	Pittosporaceae	B1
5	*Thuja occidentalis*	*Cupressaceae*	B1
6	*Syzygium cumini*	Myrtaceae	B1
7	*Bougainvillea glabra*	Nyctaginaceae	B1, B2
8	*Azadirachta indica*	Meliaceae	B2
9	*Ziziphus jujuba*	Rhamnaceae	B1
10	*Cocos nucifera*	Arecaceae	B1, B2

11	*Araucaria columnaris*	*Araucariaceae*	B1, B2
12	*Mimosa pudica*	Fabaceae	B1
13	*Anacardium occidentale*	Anacardiaceae	B1
14	*Ficus racemosa*	Moraceae	B1, B2
15	*Acasia catechu*	Leguminosae	B2
16	*Stereospermum suaveolens*	Bignoniaceae	B1
17	*Tectona grandis*	Lamiaceae	B1
18	*Mimusops elengi*	*Sapotaceae*	B1
19	*Nyctanthes arbor-tristis*	Oleaceae	B1, B2
20	*Myristica fragrans*	Myristicaceae	B1
21	*Mesua ferrea*	*Calophyllaceae*	B1, B2
22	*Murraya koenigii*	Rutaceae	B2
23	*Averrhoa carambola*	Oxalidaceae	B2
24	*Cassia tora*	Fabaceae	B2
25	*Saraca asoca*	Fabaceae	B1
26	*Swietenia mahagoni*	Meliaceae	B1
27	*Schleichera oleosa*	Sapindaceae	B2
28	*Mangifera indica*	Anacardiaceae	B1
29	*Moringa oleifera*	Moringaceae	B1
30	*Aegle marmelos*	Rutaceae	B1
31	*Phyllanthus emblica*	Phyllanthaceae	B1
32	*Phyllanthus acidus*	Phyllanthaceae	B2
33	*Artocarpus heterophyllus*	Moraceae	B2
34	*Mimusops elengi*	*Sapotaceae*	B1
35	*Dalbergia sissoo*	Fabaceae	B1
36	*Senna occidentalis*	Fabaceae	B1
37	*Caesalpinia pulcherrima*	Fabaceae	B1
38	*Delonix regia*	Fabaceae	B1
39	*Ficus religiosa*	Moraceae	B1
40	*Litchi chinensis*	Sapindaceae	B1
41	*Manilkara zapota*	*Sapotaceae*	B1
SHRUBS			

1	*Sida cordifolia*	Malvaceae	B1, B2
2	*Tabernaemontana divaricata*	Apocynaceae	B1
3	*Chrysanthemum indicum*	Asteraceae	B1, B2
4	*Valeriana wallichii*	Valerianaceae	B1, B2
5	*Amaranthus dubius*	*Amaranthaceae*	B1, B2
6	*Phyllanthus niruri*	*Phyllanthaceae*	B2
7	*Portulaca grandiflora*	Portulacaceae	B2
8	*Cynosurus dactylon*	Poaceae	B1, B2
9	*Cyperus rotundus*	Cyperaceae	B2
10	*Agave amica*	Asparagaceae	B1
11	*Euphorbia hirta*	Euphorbiaceae	B1, B2
12	*Ageratum conyzoides*	Asteraceae	B2
13	*Mimosa pudica*	Fabaceae	B1, B2
14	*Croton variegatum*	Euphorbiaceae	B1, B2
15	*Ocimum sactum*	Lamiaceae	B1
16	*Sida cordifolia*	Malvaceae	B2
17	*Elettaria cardamomum*	Zingiberaceae	B1
18	*Tridax procumbens*	Asteraceae	B2
19	*Colocasia esculenta*	Araceae	B1, B2
20	*Vernonia cinerea*	Asteraceae	B1, B2
21	*Mentha arvensis*	Lamiaceae	B1, B2
22	*Bambusa vulgaris*	Poaceae	B1, B2
23	*Musa acuminata*	Musaceae	B2
24	*Ocimum tenuiflorum*	Lamiaceae	B2
25	*Rosa Rubiginosa*	Rosaceae	B1, B2
HERBS			
1	*Lantana camara*	Verbenaceae	B2
2	*Calotropis gigantea*	Apocynaceae	B1, B2
3	*Hyophorbe lagenicaulis*	Arecaceae	B1
4	*Solanum melongena*	Solanaceae	B1, B2
5	*Datura stramonium*	Solanaceae	B1, B2

6	*Hibiscus rosa-sinensis*	Malvaceae	B1, B2
7	*Ananas comosus*	Bromeliaceae	B2
8	*Cascabela thevetia*	Apocynaceae	B2
9	*Ixora coccinea*	Rubiaceae	B1
10	*Jasminum grandiflorum*	Oleaceae	B1
11	*Senna occidentalis*	Fabaceae	B2
12	*Murraya paniculata*	*Rutaceae*	B1, B2
13	*Nerium oleander*	Apocynaceae	B1, B2
14	*Magnolia champaca*	Magnoliaceae	B1, B2
CLIMBERS			
1	*Pterocarpus santalinus*	Fabaceae	B2
2	*Vitis Vinifera*	Vitaceae	B1
3	*Coccinia grandis*	Cucurbitaceae	B1

Faunal Diversity

Birds

Sl.No	Common name	Zoological name	Conservation status (IUCN)
1	Black drongo	*Dicrurus macrocercus*	Least Concern
2	Purple sunbird	*Cinnyris asiaticus*	Least Concern
3	Greater coucal	*Centropus sinensis*	Least Concern
4	Black kite	*Milvus migrans*	Least Concern
5	Blue rock pigeon	*Columba livia*	Least Concern
6	Pond heron	*Ardeola grayii*	Least Concern
7	Cattle egret	*Bubulcus ibis*	Least Concern
8	Common crow	*Corvus splendens*	Least Concern
9	Common hawk-cuckoo	*Hierococcyx varius*	Least Concern
10	Spotted owlet	*Athene brama*	Least Concern
11	White breasted kingfisher	*Halcyon smyrnensis*	Least Concern
12	Common myna	*Acridotheres tristis*	Least Concern
13	Koel	*Eudynamys scolopaceus*	Least Concern
14	Black winged kite	*Elanus caeruleus*	Least Concern

15	Red vented bulbul	Pycnonotus cafer	Least Concern
16	Laughing dove	*Spilopelia senegalensis*	Least Concern

Black drongo

Purple sunbird

Greater Coucal

Common myna

Koel

Red vented bulbul

Spotted owlet

Common crow

Black winged kite

laughing dove

White breasted kingfisher

Reptiles

Sl no	Common name	Zoological name	Conservation status
	Common garden lizard	*Calotes versicolor*	Least concern
	Bark gecko	*Hemidactylus leschenaultii*	Least concern
	Spotted house gecko	*Hemidactylus brookii*	Least concern

Common garden lizard

Mammals

Sl no	Common name	Zoological name	Conservation status
1	Dog	*Canis lupus familiaris*	
2	Cat	*Felis catus*	

Feral dog

Feral cat

Invertebrates

Sl no	Common name	Zoological name	Conservation status
	Honey bee	*Apis mellifera*	Least concern
	Twany coaster butterfliy	*Acraea terpsicore*	Least concern
	Common grass yellow butterfly	*Eurema hecabe*	Least concern
	Plain tiger butterfly	*Danaus chrysippus*	Least concern
	Carpenter bee	*Xylocopa sp.*	

Twany coaster

Plain tiger

Carpenter bee