GREEN AUDIT

FOR

INTEGRAL UNIVERSITY, LUCKNOW

DASAULI, P.O. BASHA, KURSI ROAD, LUCKNOW (UP)-226026

Year: 2021 – 2022

Conducted By:

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EARTH PROTECTION GROUP
ENVIRONMENTAL CONSULTANT PVT. LTD.

Accredited Ground Water Consultant Organization under the QCI-NABET Scheme

ISO: 9001, 14001 & OHSAS: 18001 Certified Company

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Year- 2022

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PREFACE

Integral University, Lucknow engaged our organization, **M/s Earth Protection Group Environmental Consultant Pvt. Ltd.** to carry out detailed Green Audit for their University. We are submitting herewith the Green Audit Report.

Report prepared on the basis of site visit (physical), one to one interaction with the concerned departmental officials & physical verification of the concerned documents.

This audit report has been prepared on the basis of valuable guidelines laid down by the different organizations / statutory bodies and our experience & expertise in the field. Our team members have exercised all reasonable skills, care and diligence in preparation of this report. In spite of our sincere efforts, errors may creep in. Error, omission or discrepancy, if any, may please be noted and brought to our notice for necessary correction.

(Dr. Nelesh Agrawal)
Managing Director
M/s Earth Protection Group Environmental Consultant Pvt. Ltd.

GREEN AUDIT CONDUCTING TEAM

The details of audit team comprising the members from M/s Earth Protection Group Environmental Consultant Pvt. Ltd. (EPGEC) as well as university representatives are as under:

Name, Qualification & Experience of team	Role & Responsibility	Signature
Dr. Nelesh Agrawal Founder Director, EPGEC Ph.D. in Environmental Science, P.G. Diploma in Industrial Pollution & Management, PG Diploma in Health, Safety & Environment 22 years' experience in Environment & Industrial Safety consultancy.	**Lead Auditor** Responsibility Includes: • Selecting the audit team members, preparing the audit plan, audit checklist, planning scheduling and carrying out the field visit, briefing and guide the auditors to prepare the working document, reporting critical non-conformities resulting in imminent danger to the auditee, preparing audit report with the help of auditors, reporting the audit results objectively, clearly, conclusively. • Evaluation of possible impacts on Air, water environment, their mitigation and management measures, Observation & implementation of corrective action to improve environmental conditions & prepare the report. • Evaluation of possible impacts of Solid Hazardous Waste their mitigation and management measures, Observation & implementation of corrective action to improve environmental conditions & prepare the report • Check the Final Report	
Dr. Rajeev Kanaujia Founder Director, EPGEC Ph.D. in Environmental Science, P.G. Diploma in Industrial Pollution & Management, Post Diploma in Industrial Safety from RLI 22 years' experience in Environment & Industrial Safety consultancy.	**Auditor** Responsibility Includes: • Responsibility in project as Auditor for noise &vibration (NV) • Site visit for baseline monitoring and data collection. Evaluation of primary and secondary data • Ensuring compliance related to Noise & Vibration. • Submission of Audit Finding & Non-Conformities to Project Coordinator	
Mr. Mohd Asif Project Manager, EPGEC M.Sc. (Env. Science) & PG Diploma in Health, Safety & Environment 14 years' experience in Environment & Industrial Safety consultancy.	**Auditor** Responsibility Includes: • Site visit with Auditor • Reporting of Any observation/findings to the Auditor • Client Communication • Check the Reconciliation of Report • Finalize the Draft Report	

Prof. Monowar Alam Khalid Head (Environmental Science Deptt.) Integral University, Lucknow	**Coordinator** Inform relevant officials and staff about the objectives and scope of the audit; appoint officials to coordinate with auditor; provide all resources needed to auditor; provide access to the facilities and evidential material as requested by the auditors; co-operate with the auditors to facilitate achievements of audit objectives; of the audit results; Ensure implementation of corrective actions based on the audit report.	
Mrs. Kavita Agrawal Associate Professor & Head (Dept. of Computer Science & Engg.) Integral University, Lucknow	**Coordinator** Inform relevant officials and staff about the objectives and scope of the audit; appoint officials to coordinate with auditor; provide all resources needed to auditor; provide access to the facilities and evidential material as requested by the auditors; co-operate with the auditors to facilitate achievements of audit objectives; of the audit results; Ensure implementation of corrective actions based on the audit report.	
Mr. Mohammad Javed Siddique Superintendent Engineer Integral University, Lucknow	**Coordinator** Inform relevant officials and staff about the objectives and scope of the audit; appoint officials to coordinate with auditor; provide all resources needed to auditor; provide access to the facilities and evidential material as requested by the auditors; co-operate with the auditors to facilitate achievements of audit objectives; of the audit results; Ensure implementation of corrective actions based on the audit report.	

ABOUT ENVIRONMENTAL CONSULTANT

Our Organization, **M/s Earth Protection Group Environmental Consultant Pvt. Ltd.** was registered as a Pvt. Ltd. Company in the year 2000. (Company Identification No. U74210UP2000PTC025670) & ISO 9001:2015, 14001:2015 & 45001:2018 certified company. Organization is also accredited by QCI-NABET (Accreditation Certificate No. NABET/GWCO/IA/GW024) as for preparation of Impact Assessment Report / Hydrogeological Report for ground water.

We are one of the leading consultants in the field of Environment & Industrial Safety. Our organization is providing Legal & Technical Consultancy in the field of *Environment & Industrial Safety related issues for the last 22 years.* The Company EPGEC incepted with well-equipped facilities and qualified team, offers a complete solution for Pollution Control, Industrial Safety and for Ground Water Withdrawal for industrial use under single platform.We cover a wide range of disciplines such as Analysis of Water, Soil, Noise, Air Monitoring, Environmental Audit, Green Audit, Water Audit, Energy Audit, EIA, EMP, Impact Assessment Report for Ground Water, Hydrogeological Report, Waste Management, Safety Audit, Risk Analysis, HAZOPStudy, On Site & Off-Site Emergency Plan etc. and "Design, Construction, Installation &Commissioning" further "Operation & Maintenance" of STP, ETP, RO, WTP, Swimming Pool etc. We provide training on Environment Management, Industrial Safety, Operation & Maintenance of Waste Water Treatment Plant. We also provide the services for the Preparation & Filing of Statutory Documents for CGWA, UPGWD, HWRA etc. & PCB for obtaining NOC, CTE & CTO. EPGEC's clientele is very diverse. We provide services to different client segmentsas per their requirement.

M/s Earth Protection Group Environmental Consultant Pvt. Ltd. (EPGEC) is working underthe guidance of the Managing Director, Dr. Nelesh Agrawal and Executive Director Dr. Rajeev Kanaujia. Core management of the organization is managed by Technical Personnel having specialized qualification in the field of (Environment and Industrial Safety) i.e. Doctorate and Post Graduate Degree in Environment Science &Post Graduate Diploma in Industrial Safety. Organization also has a team of well-qualified and experienced persons from different disciplines who provide successful services to leading Industrial Houses, Government Department, Infrastructure Projects like Housing, Road, Hospitals, and Hotel etc.

1.0 INTRODUCTION FOR GREEN AUDIT

Green Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of various establishments. It aims to analyse environmental practices within and outside of the concerned sites, which will have an impact on the eco-friendly ambience. Green Audit can be a useful tool for a college to determine how and where they are using the most energy or water or resources; the college can then consider how to implement changes and make savings. It can also be used to determine the type and volume of waste, which can be used for a recycling project or to improve waste minimization plan. It can create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of green impact on campus. If self-enquiry is a natural and necessary outgrowth of a quality education, it could also be stated that institutional self-enquiry is a natural and necessary outgrowth of a quality educational institution. Thus, it is imperative that the college evaluate its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, **the role of higher educational institutions in relation to environmental sustainability is more prevalent**. The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the college which will lead for sustainable development and at the same time reduce a sizable amount of atmospheric carbon-di-oxide from the environment.

2.0 WHY GREEN AUDIT

- In present scenario, people are not caring nature. They are directly or indirectly damaging the environment causing problems like; global warming, ecological damage, air pollution, water pollution etc.
- The intention of organizing Green Audit is to upgrade the environmental condition in and around the college.

3.0 GOALS OF GREEN AUDIT

- The objective to carry out Green Audit is to secure the environment and cut down the threats to ecology and human health.
- To make sure that rules and regulations are taken care off.

- To avoid the interruptions in environment that are more difficult to handle and their correction requires high cost.
- To suggest the best protocols to add for sustainable development.

4.0 OBJECTIVES

In recent time, the Green Audit of an institution has been becoming a paramount important for self-assessment of the university which reflects the role of the university in mitigating the present environmental problems. The university has been putting efforts to keep our environment clean since its inception. But the auditing of this non-scholastic effort of the college has not been documented.

Therefore, the purpose of the present Green Audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards. The main objectives of carrying out Green Audit are:

- To prepare a checklist of flora and fauna diversity in the university campus.
- To suggest measures to improve biodiversity within the university campus.
- To suggest the possibilities of plantation of more plants, trees etc.

5.0 METHODOLOGY

The purpose of the audit was to ensure that the practices followed in the campus are in accordance with the Green Policy adopted by the college. The criteria, methods and recommendations used in the audit were based on the identified risks. The methodology includes: preparation and filling up of questionnaire, physical inspection of the campus, observation and review of the document, interviewing responsible persons and data analysis, measurements and recommendations. The methodology adopted for this audit was a three-step process comprising:

5.1 Pre-Audit Stage

- Plan the audit
- Plan the audit team
- Schedule the audit facility
- Acquire the background information
- Visit the site / campus

5.2 On-Site Stage

- Understand the scope of Audit
- Analyze the strengths and weakness of the internal controls
- Conduct the Audit
- Evaluate the observations of Audit Programs
- Prepare a report of the observations side by side

5.3 Post-Audit

- Produce a draft report of the data collected
- Produce a final report of the final observations and the interference with accuracy
- Distribute the report to the management
- Prepare an action to overcome the flaws
- Keep a watch on the action plan

6.0 ABOUT UNIVERSITY

Integral University is a premier university in Lucknow, the capital city of the state of Uttar Pradesh, India. It was established under the Act Number 9 of 2004 by the State Government and governed by U.P. Private University Act-2019. The University is duly approved by the University Grants Commission (UGC) under sections 2(f) and 12B of the UGC Act, 1956, National Medical Commission, Pharmacy Council of India, Indian Nursing Council, Council of Architecture, Bar Council of India, Indian Association of Physiotherapists, National Council for Teacher Education, UP State Medical Faculty. The University is a member of Association of Indian Universities. Integral University is recognized as a Scientific & Industrial Research Organization (SIRO) by the Department of Scientific & Industrial Research, Ministry of Science & Technology, Government of India. It was accredited as 'Good' by the National Assessment and Accreditation Council (NAAC) in 2015. In the recent past, the University has been a recipient of several prestigious awards in the education sector. The National Institutional Ranking Framework (NIRF), the most prestigious ranking by the Govt. of India, ranked Integral University as a leading institution in the country in Pharmacy from 2017 to 2022 consecutively. The University offers diploma, undergraduate, postgraduate and doctoral programs in the fields of Engineering & Information Technology, Sciences, Health & Medical Sciences, Commerce & Management, Pharmacy, Agriculture, Law, Architecture, Planning & Design, Education, Library & Information Science and Humanities & Social Sciences. The University offers more than 240 programs across 47 disciplines and currently hosts around 12000 students at its 120-acre campus. The medium of instruction is English

for all programs. The academic programs are delivered in more than 200 classrooms and 100 laboratories & workshops across the campus.

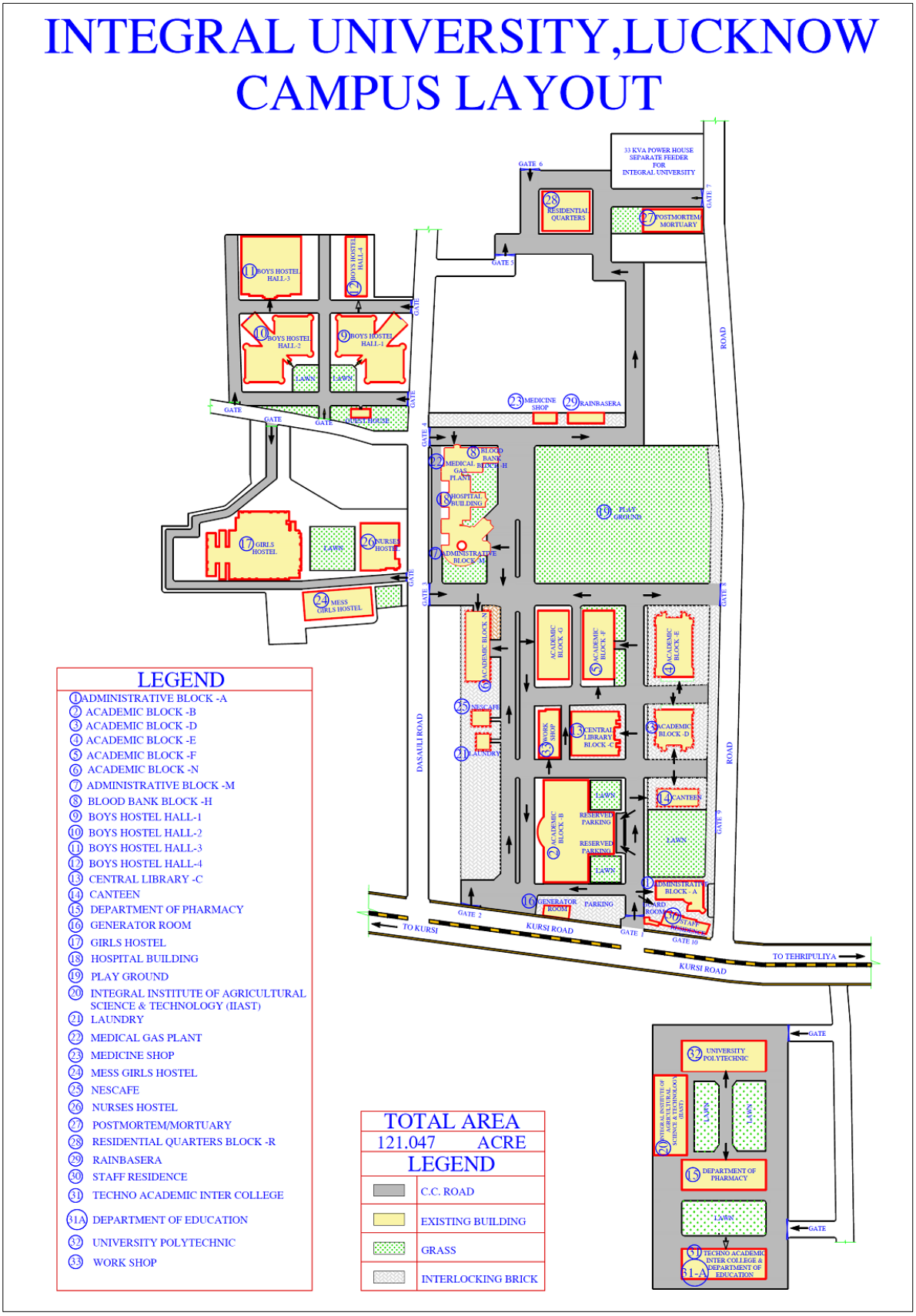
The University maintains a decent and decorous atmosphere in the campus. The campus is highly disciplined and ragging-free, with all modern amenities for pursuit of higher education and sports. The campus provides state-of-the-art hostel accommodation, with the capacity to host 2600 students in the hostels, and houses a 800+ bedded hospital, as part of the Medical College, with state-of-the-art medical facilities, and more than 200 doctors. The grand Central Library of the University holds more than 100,000 books and several hundreds of journals and magazines. The University lays focus and stress on research programmes and career advancement of students. Interactive efforts with eighteen renowned universities and research organizations and campus selection of students by national and multinational organizations bear testimony to these efforts. On the international front, the University has MoUs and collaborations with World Food Preservation Centre LLC, Shepherdstown, WV, US, Yegungnam University, Gyeongsan, South Korea, Arsi University, Asella, Ethiopia, Harambee College, Adama, Ethiopia and University of Sarawak, Sarawak, Malaysia. The University is committed to imparting quality education and enriching experience to all its students, including almost 150 foreign students from Nigeria, Sudan, Kenya, Afghanistan, Bangladesh, Nepal, Germany and other countries. The University collaborates with some top MNCs and academic institutions of higher learning for academic enhancements at national and international levels. The University has hosted several diplomats and dignitaries from African and Asian countries and enjoys the trust and support of the embassies on account of its quality education/research facilities and infrastructure. The guidance and support that the University provides to its students in general and international students in particular, have brought accolades from the diplomatic community and student associations in the country.

7.0 LOCATION OF UNIVERSITY

Integral University is situated in Dasauli. P.O. Basha, Kursi Road, Lucknow-226026. The coordinates are Lat: 26.957487° N & Long: 80.999823° E. Map showing the location the university is depicted below:

(Fig. 7.0-a. Map showing the location of university)

Layout plan and location map of the University are as under:



(Fig. 7.0.b: Layout Plan)

8.0 UNIVERSITY INFRASTRUCTURE, FACILITIES & UTILITIES

8.1 Classrooms and training facilities

Spacious, well-lit, ventilated, and well-equipped classrooms, including 210 ICT and Wi-Fi-enabled ones to facilitate classroom teaching and 28 Seminar halls for interactive presentations. Students have access to training facilities that add value to the curricula facilitating experimental learning.

8.2 Hostel Facility

Integral University has the best hostel facilities in the campus. Hostels for boys and girls with capacities exceeding 2500 occupants exist in the campus. Separate hostels for boys and girls are spread over 8 blocks.

8.3 Transport Facility

The University offers transportation services to faculty and students coming from practically every Lucknow neighbourhood. Average 04 buses are provided for transportation facility, for the students' safety, each bus has a well-trained driver, an attendant, and a first aid kit.

8.4 Library Facility

In keeping with the vision and mission of the University, the library aims “to promote knowledge generation and application through its effective dissemination”. The library, therefore, acts as the main learning resource centre of the university and provides services and facilities to meet the requirements of the university’s teaching, training, research, and consultancy, through one Central Library and 14 departmental libraries. The library and information science professionals manage all the libraries. The total collection strength of the Integral University Library System (IULS) is more than 1.40 lakhs

8.5 Medical Facilities

At Integral University an 800 bedded hospital, as part of the Medical College, with state-of-the-art medical facilities and more than 200 doctors are available to make the country progressive and prosperous in all walks of life.

8.6 Sports & Cultural Facility

The university has central sports facilities and huge play grounds for organizing the all sorts of games and capable of conducting state level programmes.

8.7 Facility of Gallery

Pictures automatically creates memories and we Integralists are the best curator of photos and the stories behind them. The Photos will take you through the Integral years full of events, achievements, celebrations, campus and lots of pride and nostalgia. Gallery-Our cherished memory lane from all the action at the Integral University

8.8 Facility for teaching & learning computer laboratories

The university is well equipped with teaching-learning resources, state of art infrastructure and modern facilities for teaching & learning computer laboratories.

8.9 Training Facilities

- Moot Court – 01 nos.
- Design Studios and Museum – 01 nos.
- Business Research Laboratory – 01 nos.
- State-of-the-Art Workshop – 01 nos.
- Animal House – 01 nos.
- Vermicompost, Mushroom, Azolla Unit and Automatic Weather Station
- Mist House, Net House, NADEP Unit and Agriculture Farm
- Hospital Wards, Rural health, and training centre, Modular O.T. and I.C.U., Nursing Facilities

8.10 Sewage Treatment Plant of capacity 1.0 MLD

Sewage Treatment Plant (STP) of Capacity 1.0 MLD is installed in the university campus for the treatment of domestic sewage waste generated from the domestic activities.

8.11 RO for Drinking Water Purpose

Approximate 50 nos. of drinking booth with RO system have been provided to entire university campus.

8.12 Other Facilities

- State-of-the-Art laboratories
- Enriched central library – 01 nos.
- Hospital with Modular OT's and Labs at IIMSR – 01 nos.
- Student's activity centre – 01 nos.
- Gymnasium – 03 nos.
- Playground – 01 nos.
- Centre for Career Guidance and Development Cell – 01 nos.
- Modern Workshops – 02 nos.
- Campus wide networking with Internet facilities (Lease line 1.1 GBPS connection fully Wi-Fi campus, named jionet@integral & IUWiFi)

8.13 Canteens & Cafeteria

Total 07 numbers of canteen and cafeteria are available in University Campus. The details are as under:

SNo.	Name of Canteen	Seating Capacity
1.	Central Canteen	175 nos.
2.	Medical Canteen	50 nos.
3.	Neutrifresh	30 nos.
4.	Campus-2 Canteen	35 nos.
5.	PNB Block Canteen	15 nos.
6.	Boy's Hostel Canteen	30 nos.
7.	Girls's Hostel Canteen	30 nos.
Cafeteria		
8.	Yuba Café	
9.	Amul Café	
10.	Romio Pizza	
11.	Street Food Stall – 6 nos.	

9.0 TOTAL DAILY MOVEMENT OF POPULATION

S. No.	Particulars	Numbers
1.	Student (Day Scholar)	9484
2.	Student (Hosteller)	1869
3.	Staff (Teaching, Non-Teaching & Admin)	1764
4.	Staff Resident (Hostel Wardens)	25
5.	Staff Resident (in flats)	390
6.	Visitors (Guest House)	143
7.	Visitors	150
Total		**13825**

10.0 LAND USE ANALYSIS

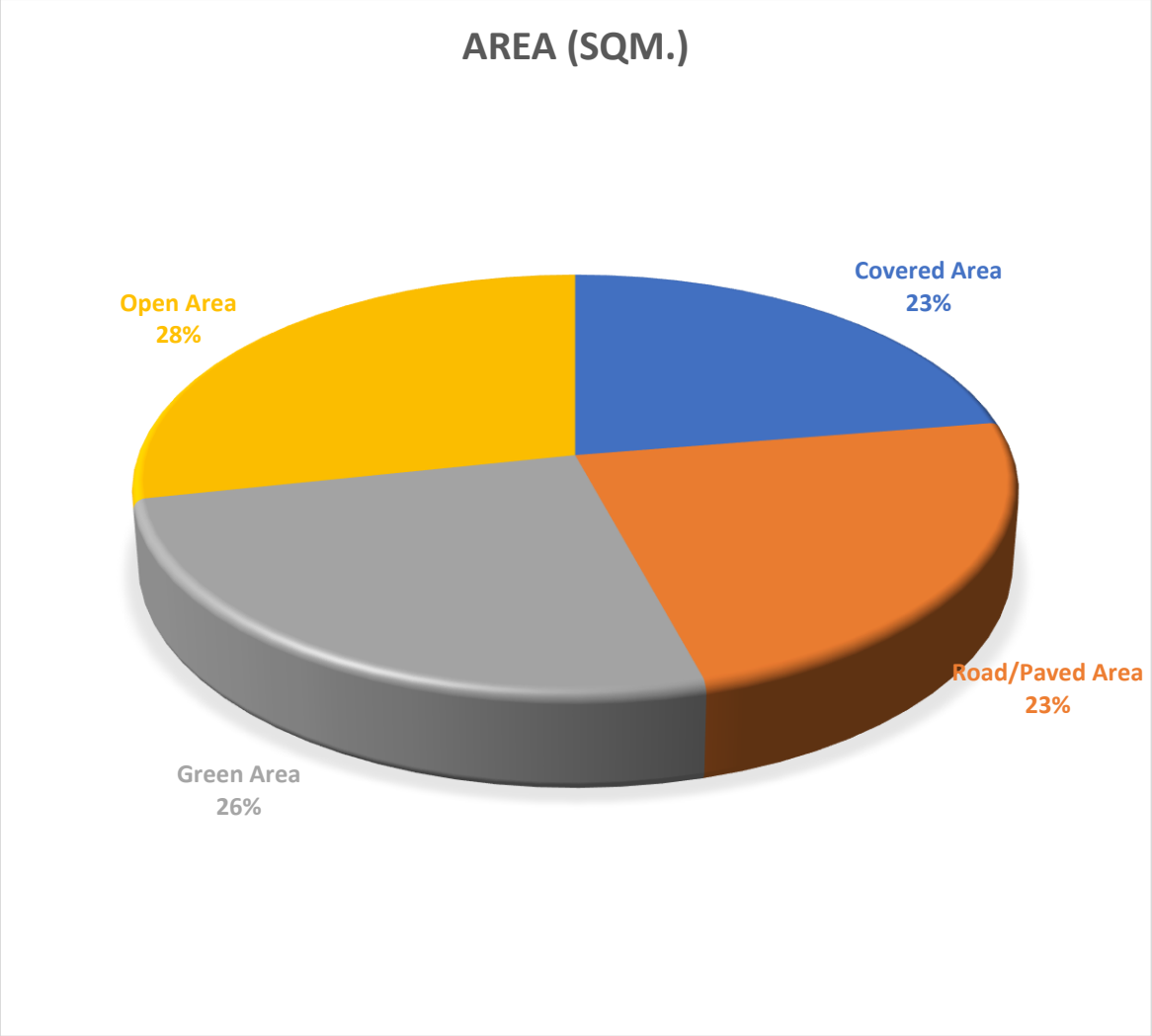
Land use on and derived from land. Viewing the earth from space, it is now very crucial in man's activities on natural resource. In situations of rapid changes in land use, observations of the Earth from space give the information of human activities and utilization of the landscape.

Remote sensing and GIS techniques are now providing new tools for advanced land use mapping and planning. The collection of remotely sensed data facilitates the synoptic analyses of earth system, functions, patterning, and change in the local, regional as well as at global scales over time. Satellite imagery particularly is a valuable tool for generating land use map.

10.1 LAND USE OF UNIVERSITY

University campus is spread over the **278172** Sq.m. The land use breakup is given in below table:

S. No.	Type of Land	Area (Sq.m.)
1.	Covered Area	62368
2.	Road/Paved Area	64998
3.	Green Area	71953
4.	Open Area	78853
Total		**278172**



11.0 BIO-DIVERSITY OF INTEGRAL UNIVERSITY CAMPUS

11.1 Floral diversity in Integral University

Integral University is within the geo-position between Lat 26.9585° N & Long 80.9992° E in Lucknow, Uttar Pradesh India. It encompasses an area of about 120 Acres. The area is immensely diverse with a variety of tree species performing a variety of functions. Most of these tree species are planted in different periods of time through various plantation programmes organized by the authority and have become an integral part of the university. A thick belt of large shady trees in the periphery of the university have found to be bringing down noise and cut down dust and storms. Thus, the university has been playing a significant role in maintaining the environment of the entire campus and its surrounding areas.

List of Trees, Shrubs & Herbs species with quantity of Integral University Campus:

SNo.	Common Name	Scientific Name	Quantity
1.	ALLSPICE	*Pimenta dioca*	2
2.	AMRAKH	*Averrhoa carambola*	2
3.	ANAR	*Punica granatum*	39
4.	AONLA	*Phyllanthus emblica*	21
5.	ARAUCARIA	*Arocaria cocii*	18
6.	ARECA PALM	*Dypsis lupescens*	31
7.	ASHWAGANDHA	*Withenia somnifera*	1
8.	ARJUN	*Terminalia arjuna*	22
9.	FALSE ASHOK	*Polyalthea longifolia*	261
10.	BABOOL	*Acasia nilotica*	1
11.	BAEL	*Aegle marmelos*	7
12.	BAKAIN	*Melia axedarach*	17
13.	BANYAN TREE	*Ficus benghalensis*	1
14.	BER	*Ziziphus mauritiana*	2
15.	BLACKBERRY	*Syzygium cumini*	19
16.	GULAB	Rosa domestica	60
17.	KAMINI	Murraya paniculata	32
18.	IXORA	Ixora coccinea	16
19.	PUMELLO	Citrus maxima	12
20.	BOTTLE BRUSH	*callistemon lansiolatus*	20
21.	BOTTLE PALM	*Hyophorbe lagenisaulis*	86
22.	CHADNI	*Ervatamia divaricata*	7
23.	CITRUS	*Citrus spp.*	33
24.	CHILBIL	*Holoptelea integrifolia*	2
25.	CHINESE PALM	*Liwinstonia rotundifolia*	1
26.	CYSUS PALM	*Cysus revoluta*	3
27.	CURRY TREE	*Murraya koenigii*	3
28.	DRAIGON FRUIT	*Selenicerius ubdetus*	14
29.	EUCALYPTUS	*Eucalyptusglobulus*	1
30.	FIG	*Ficus carica*	5
31.	MADAR	Calotropis procera	10
32.	TYPHA	Typha L.	18
33.	SUCKLING CLOVER	Trifolium dubium	22

34.	SADABAHAR	Catharanthus roseus	32
35.	WILD HYDRANGEA	Hydrangea aroborescens	15
36.	GRAPE FRUIT	*Citrus paradisi*	17
37.	GUAVA	*Psidium guajava*	370
38.	GULAR	*Ficus glumerata*	63
39.	GULMOHAR	*Delonix regia*	13
40.	GURHAL	*Hibiscus rosasinesis*	55
41.	JACK FRUIT	*Artocarpus heterophylls*	5
42.	KACHNAR	*Bauhinia variegata*	2
43.	KADAMB	*Anthocephalus cadamba*	120
44.	KARONDA	*Carissa carandas*	6
45.	KANER	*Cascabela thevetia*	4
46.	CASSOD TREE	*Cassia siamea*	153
47.	LASODA	*Cordia mixa*	1
48.	MAHUA	*Madhuca latifolia*	10
49.	MANGO	*Mangifera indica*	123
50.	MOLSRI	*Mimospos elengi*	1
51.	MORPANKHI	*Thusa compacta*	190
52.	MULBERRY	*Morus alba*	16
53.	NEEM	*Azadirachta indica*	18
54.	PAKAD	*Ficus infectoria*	4
55.	PEEPAL	*Ficus religiosa*	2
56.	PHALSA	*Grewia asiatica*	7
57.	RUBBER	*Ficys elastica*	4
58.	SANDAL	*Santalum album*	1
59.	SAPTAPARNI	*Alstonia scholaris*	7
60.	SEMAL	*Bombax malabaricum*	10
61.	SHARIFA	*Annona reticulata*	4
62.	SHISHAM	*Dalbergia sissoo*	4
63.	SIRIS	Albizia lebbeck	1
64.	SOOBABOOL	*Leucenea leucocephala*	5
65.	TEAK	*Tectona grandis*	67
66.	TECOMA	*Tecoma stans*	154
67.	WEEPING FIG	*Ficus benjamina*	71
68.	WHITE FRANGIPANI	*Plumeria alba*	3

Sample photographs of the trees, shrubs, herbs are depicted below:

11.2 Faunal diversity of Integral University Campus

SNo.	Zoological Name	CommonName	Family	Status In WPA 1972	Status In IUCN Category
Mammals					
1.	*Funambulus*	Gilhari	*Sciuridae*	Schedule IV	Least Concern
Reptiles					
2.	*Hemidactylus*	Chipkali	*Gekkonideae*	*Not Enlisted*	*Not Enlisted*
3.	*Chamaleo*	Chameleon	*Gekkonideae*	*Not Enlisted*	*Not Enlisted*
4.	*Hemidactylus*	Rock Gaeko	*Gekkonideae*	*Not Enlisted*	*Not Enlisted*
Amphibians					
5.	*Rana tigrina*	Common Frog	*Ranideae*	Schedule IV	Least Concern
6.	*Bufo bufo*	Toad	*Bufonideae*	*Not Enlisted*	*Not Enlisted*

11.3 Avifaunal diversity of Integral University Campus

The campus showed a rich and diverse presence of nearly 83 species of birds in its varied habitats (Singh and Khalid, 2020). Various authors have confirmed that birds are ecological indicators (Padoa-Schioppa et al, 2006; Gregory et al, 2003) of ecosystem and green spaces in the urban areas have immense importance in conservation of biodiversity (Khera et al, 2009; Mason, 2006; Alvey, 2006 etc). In that context, Integral University campus provides safe and excellent habitats to the avifauna as evident from its rich species diversity. List of bird species observed in the Integral University Campus are as under:

SNo.	Common Name of Bird	Scientific Name	Bird Family
1.	Black Eared Kite	Milvus lineatus	Accipitridae
2.	Black Kite	Milvus migrans	
3.	Egyptian Vulture	Neophron percnopterus	
4.	Oriental Honey Buzzard	Pernis ptilorhynchus	
5.	Shikra	Accipiter badius	
6.	Booted Warbler	Iduna caligata	Acrocephalidae
7.	White Throated Kingfisher	Halcyon smyrnensis	Alcedinidae
8.	Lesser Whistling Duck	Denrocygna javanica	Anatidae

9.	Black Bittern	Dupetor flavicollis	Ardeidae
10.	Black Crowned Night Heron	Nycticorax nycticorax	
11.	Cattle Egret	Bubulcus ibis	
12.	Grey Heron	Ardea cinerea	
13.	Indian Pond Heron	Ardeola grayii	
14.	Intermediate Egret	Mesophoyx intermedia	
15.	Little Egret	Egretta garzetta	
16.	Indian Grey Hornbill	Ocyceros birostris	Bucerotidae
17.	Red Wattled Lapwing	Vanellus indicus	Charadriidae
18.	Ashy Prinia	Prinia socialis	Cisticolidae
19.	Grey Breasted Prinia	Prinia hodgsonii	
20.	Common Pigeon	Columbia livia	Columbidae
21.	Laughing Dove	Stigmatopelia senegalensis	
22.	Orange Breasted Green Pigeon	Treron bicinctus	
23.	Oriental Turtle Dove	Streptopelia orientalis	
24.	Spotted Dove	stigmatopelia chinensis	
25.	Indian roller	Coracias benghalensis	Coraciidae
26.	House Crow	Corvus splendens	Corvidae
27.	Indian Jungle Crow	Corvus Culminatus	
28.	Rufous Treepie	Dendrocitta vagabunda	
29.	Asian Koel	Eudynamys scolopaceus	Cuculidae
30.	Common Hawk Cuckoo	Hierococcyx varius	
31.	Eurasian Cuckoo	Cuculus carnous	
32.	Greater Coucal	Centropus sinensis	
33.	Pied Cuckoo	Clamator jacobinus	
34.	Pale billed flower pecker	Dicaeum erythrorhynchos	Dicaeidae
35.	Black Drongo	Dicrurus macrocercus	Dicruridae
36.	Indian Silverbill	Euodice malabarica	Estrildidae
37.	Scaly Breasted Munia	Lonchura punctulata	
38.	Common Rosefinch	Carpodacus rubescens	Fringillidae
39.	Red Rumped Swallow	Cecropis daurica	Hirundinidae
40.	Wire Tailed Swallow	Hriundo smithii	
41.	Bronze Winged Jacana	Metopidius indicus	Jacanidae

42.	Long Tailed Shrike	Lanius Schach	Laniidae
43.	Copper Smith Barbet	Megalaima Haemacephala	Megalaimidae
44.	Green Bee Eater	Merops orientalis	Meropidae
45.	White Browed Wagtail	Motacilla madaraspatensis	Motacillidae
46.	White Wagtail	Motacilla alba	
47.	Yellow Wagtail	Motacilla flava	
48.	Black Redstart	Phoenicurus ochruros	Muscicapidae
49.	Bluethroat	Luscinia svecica	
50.	Brown Rockchat	Cercomela fusca	
51.	Oriental Magpie Robin	Copsychus saularis	
52.	Taiga Flycatcher	Ficedula albicilla	
53.	Purple Sunbird	Cinnyris asiaticus	Nectariniidae
54.	Black Hooded Oriole	Oriolus xanthornus	Oriolidae
55.	Indian Golden Oriole	Oriolus kundoo	
56.	Great Tit	Parus major	Paridae
57.	House Sparrow	Passer domesticus	Passeridae
58.	Little Cormorant	Phalacrocorax niger	Phalacrocoracidae
59.	Grey Francolin	Francolinus Pondicerianus	Phasianidae
60.	Indian Peafow	Pavo cristatus	
61.	Common Chiffchaff	Phylloscopus collybita	Phylloscopidae
62.	Baya Weaver	Ploceus philippinus	Ploceidae
63.	Little Grebe	Tachybaptus ruficollis	Podicipedidae
64.	Rose Ringed Parakeet	Psittacula krameri	Psittacidae
65.	Red Vented Bulbul	Pycnonoytus cafer	Pycnonotidae
66.	Red Whiskered Bulbul	Pycnonotus Jocosus	
67.	Common Moorhen	Gallinula cholopus	Rallidae
68.	White Breasted Waterhen	Amaurornis phoenicurus	
69.	Black Winged Kite	Elanus careuleus	Recurvirostrida e
70.	Black Winged stilt	Himantopus himantopus	
71.	Greater Painted Snipe	Rostratula benghalensis	Rostratulidae
72.	Green Sandpiper	Tringa ochropus	Scolopacidae
73.	Wood Sandpiper	Tringa glareola	
74.	Spotted Owlet	Athene brama	Strigidae
75.	Asian Pied Starling	Gracupica contra	Sturnidae

76.	Brahminy Starling	Sturnia Pagodarum	
77.	Common Myna	Acridotheres tristis	
78.	Clamorous Reed Warbler	Acrocephalus stentoreus	Sylviidae
79.	Common Tailor Bird	Orthotomus sutorius	
80.	Lesser White throat	Sylvia curruca	
81.	Orphean Warbler	Sylvia hortensis	
82.	Jungle Babbler	Turdoides striata	Timaliidae
83.	Oriental White Eye	Zosterops palpebrosus	Zosteropidae

Source: International Journal for Research Volume 8 Issue IX Sep 2020

12.0 SUGGESTIONS

1. Apart from existing trees, management is advised to develop the green belt as per the "Miyawaki forestation method" inside the campus area.
2. It is advice to create mass awareness programme to protect biodiversity of campus among all the students, staff, and workers.
3. Management is advised to identify all the trees available inside the campus and record should maintained along with their location, species, diameter, height, age and geo-coordinates.
4. It is advised to display the name plate over each tree with their name.
5. Management is advised to conduct the carbon sequestration study of the campus.
6. High Shade giving trees such as Albizzia lebbek (Siris), Azadirachta indica (Neem), Ficus religiosa (Pipal), Kigelia pinnata (Sausage tree) etc. are to be planted on the available open spaces inside the campus area.