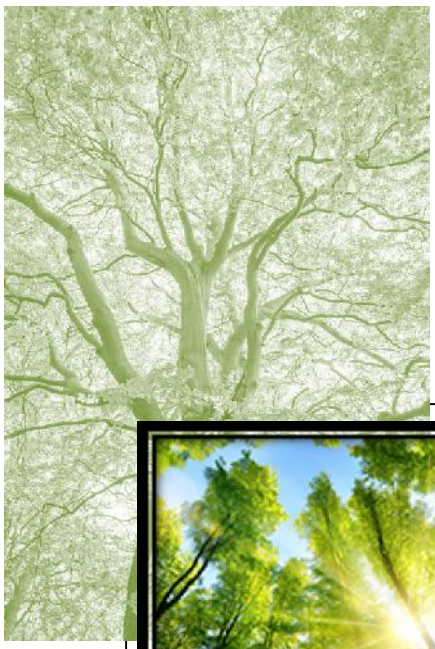
GREEN AUDIT REPORT

(2018-19)



INTEGRAL UNIVERSITY
LUCKNOW

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ACKNOWLEDGEMENT

Green Audit Assessment Team thanks the Integral University for assigning this important work of Green Audit. We appreciate the cooperation extended to our team during the entire process. Our special thanks are due to:

- Dr MA Khalid, Dean of Students Welfare, Chairman

Team of colleagues For giving us necessary inputs to carry out this very vital exercise of Green Audit. We are also thankful toother staff members who were actively involved while collecting the data and conducting field measurements.The green audit conducted by the Integral University is an internal audit that aims towards looking after a healthy environment. Though nascent, the initiative is taken up to foster the concept of environmental sustainability.

Sincere thanks to all for providing us necessary amenities and co-operation during the audit that helped in making the audit, a success.

EXECUTIVE SUMMARY

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 institute which will lead for sustainable development.Integral University,Lucknow is deeply concerned and unconditionally believes that there is an urgent need to address these fundamental problems and reverse the trends. 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 institution. The methodology included: preparation and filling up of questionnaire, physical inspection of the campus, observation and review of the documentation, interviewing key persons and data analysis, measurements and recommendations. It works on the several facets of ‘Green Campus’ including Water Conservation, Tree Plantation, Waste Management, Paperless Work, Alternative Energy and Mapping of Biodiversity. With this in mind, the specific objectives of the audit was to evaluate the adequacy of the management control framework of environment sustainability as well as the degree to which the Departments are in compliance with the applicable regulations, policies and standards. It can make a tremendous impact on student health and learning college operational costs and the environment. The criteria, methods and recommendations used in the audit were based on the identified risks.

The baseline data prepared for the Integral University will be a useful tool for campus greening, resource management, planning of future projects, and a document for implementation of sustainable development of the college. Existing data will allow the college to compare its programmes and operations with those of peer institutions, identify areas in need of improvement, and prioritize the implementation of future projects. We expect that the management will be committed to implement the green audit recommendations.

MEMBER OF GREEN AUDIT COMMITTEE

Dr. M.A .Khalid
Dean of Students Welfare
Chairman

.....

Dr. Indrani Chakraborty
Dean, Faculty of Architecture and Planning
Convener

.....

Er. Suffiyan Abbasi
Director Procurement
Member

.....

Er . Mohd. Kashif Khan
Civil Engineering Department
Member

.....

Ar.Tariq Ul Islam
Associate Professor
Department of Architecture
Member

.....

Dr.Deepti Shrivastava
Assistant Professor
IIAST

.....

Ar. Safa Seraj
Assistant Professor
Department of Architecture
Member

.....

1.INTRODUCTION

Green audit is assigned to the criteria 7 of NAAC, National Assessment and Accreditation Council. Green Audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of environmental diversity. The 'Green Audit' aims to analyze environmental practices within and outside the campus, which will have an impact on the eco-friendly ambience. It was initiated with the motive of inspecting the work conducted within the organizations whose exercises can cause risk to the health of inhabitants and the environment. Green Audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of environmental diversity. It was initiated with the motive of inspecting the work conducted within the organizations whose exercises can cause risk to the health of inhabitants and the environment. Later on, it is implemented as a measure to enhance a healthy environment to almost all the organizations. Through Green Audit, one gets a direction as how to improve the condition of environment and there are various factors that have determined the growth of carrying out Green Audit.

The goal is to reduce CO2 emission, energy and water usage, while creating an environmentally literate campus where students can learn the idea of protection of environment and stay healthy. The „Green Campus" has been a very new concept adopted by this college. The college administration is still working on the several facets of „Green Campus" including Water Conservation, Tree Plantation, Waste Management, Paperless Work, carbon footprints and Alternative Energy.

2.OBJECTIVES

With the advice of the Internal Quality Assessment Cell (IQAC) has set up a Green audit Committee (GREEN CAMPUS) had been established that aimed at performing the green audit of the University campus. The main objectives of the audit are:

- To assess whether non-academic activities of the Institution support the collection, recovery, reuse and recycling of solid wastes that harm the environment.
- To identify gaps and suggest recommendations to improve the Green Campus status of the institution
- To create a green campus and to Enhance of university profile
- To enable waste management through reduction of waste generation, solid- waste and water recycling
- To recognize the cost saving methods through waste minimizing and managing
- To Impart environmental education through systematic environmental management approach and benchmarking for environmental protection

3. METHODOLOGY

In order to perform green audit, the methodology included different techniques such as physical inspection of the campuses, observation and review of the documentation, interviewing key persons and data analysis, measurements and recommendations. The study covered the following steps to summarize the present status of environment management in the campuses: .

1. Onsite Visit
2. Focus Group Discussion
3. Office/Building Survey
4. Recommendation

The scoring of the campus for greenness based on United Nations Environment Programme, 2014(UNEP), GREENING UNIVERSITIES TOOLKIT V2.0 the following study has appraised on the basis of the following criteria:

1. Energy, Carbon, and Climate Change
2. Water
3. Waste
4. Biodiversity and Ecosystem Service
5. Planning, Design and Development
6. Procurement
7. Green Office
8. Green Lab
9. Green IT
10. Transport

GREEN AUDIT ASSESSMENT TEAM

The green Audit team Comprises of:

1. Dr MA Khalid, Dean of Students Welfare, Chairman
2. Dr Indrani Chakraborty, Dean, faculty of Architecture and Planning, Convener
3. Er Suffiyan Abbassi, Director Procurement, Member
4. Er Kashif Khan, Civil engineering Department, Member
5. Ar.Tariq Ul Islam, Assistant Professor, Department of Architecture, Member
6. Ar Safa Seraj, Assistant Professor, Department of Architecture, Member

4. UNIVERSITY CAMPUS

Integral University is a state private university in Lucknow, the capital of Uttar Pradesh, India, which originated as the Institute of Integral Technology, Lucknow. The Institute of Integral Technology, Lucknow was established in 1998. Integral University, the first enacted Minority University in the country, started functioning from 1 April 2004. Integral University was accorded recognition by U.G.C. under section 2(f) of U.G.C. Act, 1956. The University was founded in 2004.

At present the University has 14 faculties and 32 departments of Science, Pharmacy, Education, Management Studies, Health & Medical Sciences, Agricultural Science & Technology, Humanities & Social Sciences, Computer Applications, Medical Sciences & Allied Health Sciences, and Law, with 2 schools each of Nursing and Pharmacy and a university Polytechnic providing courses at the diploma, undergraduate, graduate, postgraduate and doctoral levels. Integral University also includes the Techno-Academic School in the West Campus of University Law Campus which provides the Secondary and Senior Secondary education.

The university is divided into blocks: Academic blocks A, B,C,D,E,F and N, Administrative Block - M, Hospital Block - H, Boys Hostel Hall-1,2,3,&4,Central Library -Block C, Canteen , Department of Pharmacy Block -CW , Generator Room , Girls Hostel , Hospital Building , Playground , IIAST Block - BW , Laundry , Medical Gas Plant , Medicine Shop , Mess Girls Hostel , Nescafe , Nurses Hostel , Post Mortem/Mortuary , Residential Quarters Block -R, Rainbasera , Staff Residence , Techno Academic Inter College -Block DW , University Polytechnic -AW and Workshop Beside this a Punjab National Bank branch has been operating in the university. (Map of the campus and plans of individual buildings alongwith total number of rooms are attached in the annexure)

Table: 1 Illustration of the campus area and the total population.

	Attributes	Variables
UNIVERSITY AREA	Campus Area	121.047 Acre
	Built Up Area	40%
	Open Spaces	60%
POPULATION	Students	16054
	Teachers	304
	Non Teaching Staffs	400

Overall initiatives need to include:

1. Physical Appearance and Overall Ambience
2. Adequacy of Toilets (Student/Toilet Ratio)
3. Gender Balance of Toilets (Male: Women) self certifiable
4. Disabled-Friendly Toilets
5. Water Taps and Sanitation Plumbing, Adequacy and Efficiency
6. Water Efficient Toilets
7. Dedicated Staff for Hygiene Maintenance
8. Dedicated Staff for Hygiene Inspection
9. Kitchen Staff Apparel and Hygiene
10. Canteen Hygiene
11. Kitchen Hygiene
12. Cutlery, Crockery and Utensils Hygiene
13. Dining Hall Hygiene
14. Cleaning Equipment and Consumables

To ensure minimum water consumption or to save more than 40% of the potable water by incorporating the following strategy Reduce Reuse Recycle We have implemented the following 1. Effective rainwater management system 2. Water efficient plumbing fixtures 3. Landscaping with native species of trees and plants to ensure minimum water consumption as much as possible. 4. Efficient irrigation systems 5. 100% of the waste water generated on-site is treated using STP and the treated water has been reused within the site itself for landscaping, flushing and other custodial purposes 6. Continuous monitoring to enhance the performance of the building through water meters To reduce adverse health impacts for building occupants, the entire campus uses eco-friendly housekeeping chemicals. The campus adopts eco -friendly house keeping practices during maintenance / housekeeping activities by using bio-degradable chemicals, which address health, hygiene and well-being of maintenance staff & building occupants. Eco-friendly house keeping chemicals are used for cleaning of floors, walls, glazing surfaces, restrooms etc.

4.1 ACADEMIC ACTIVITIES

4.1.1 FACULTIES OF STUDY

Table 2: List of Programme .

Undergraduate	Post Graduate	Integrated
1. Architecture (B.Arch.) 2. Arts (English/Physical Edu.) 3. Business Administration (BBA) 4. Bachelor Of Optometry (B.Optom.) 5. Bachelor Of Science In Forensic Science (BFS) 6. Bachelor Of Science In Health & Information Technology 7. Commerce (Honours) (BCom) 8. Computer Application (BCA) 9. Education (BEd) 10. Engineering (BE) 11. Law (BA/BBA/B.Com-LLB) 12. Library & Information Science 13. Medicine (MBBS) 14. Medical Laboratory Technology (BMLT) 15. Pharmacy (BPharm) 16. Physiotherapy (BPth) 17. Planning (BPlan) 18. Radio Imaging Technology (BRIT) 19. Science (BSc) 20. Technology (BTech) 21. Vocational (BVoc)	1. Architecture (M.Arch.) 2. Arts (MA) 3. Business Administration (MBA) 4. Commerce (MCom) 5. Computer Application (MCA) 6. Education (MEd) 7. Humanities & Social Sciences 8. Library And Information Science 9. Medicine (MD) 10. Pharmacy (MPharm) 11. Physiotherapy (MPth) 12. Planning (M.Plan) 13. Science (MSc) 14. Technology (MTech) 15. Valuation	1. M.B.A (Integrated) 2. M.Com (Integrated) 3. M.Sc. (Integrated) 4. Dual Degree • B.Tech. + M.Tech. • Diploma • Doctorate • Certificate Courses • Distance Education • Pvt. Registration

4.2 BUILDING USE ANALYSIS

The detail analysis of the classroom and other spaces are documented and analyzed. (**Annexure 1**)
The university campus is divided into two campuses:
Campus 1 consists of:

- Academic blocks:
  - Block - A
  - Block -B
  - Block -D
  - Block -E
  - Block -F
  - Block -N
- Administrative Block - M
- Hospital Block - H
- Boys Hostel Hall :
  - Boys Hostel Hall-1

- Boys Hostel Hall-2
- Boys Hostel Hall-3
- Boys Hostel Hall-4
- Central Library -Block C
- Canteen
- Generator Room
- Girls Hostel
- Hospital Building
- Playground
- Laundry
- Medical Gas Plant
- Medicine Shop
- Mess Girls Hostel
- Nescafe
- Nurses Hostel
- Post Mortem/Mortuary
- Residential Quarters Block -R
- Rainbasera
- Staff Residence
- Workshop

West Campus consists of:

- IIAST Block - BW
- University Polytechnic -AW
- Techno Academic Inter College -Block DW
- Department of Pharmacy Block -CW

Total Plot Area is 180382 sq.mt. In which 34550 sq.mt (excluding residential activities) is the ground coverage i.e. 25% and remaining 60,000 sq.mt i.e.75% is the green scape.

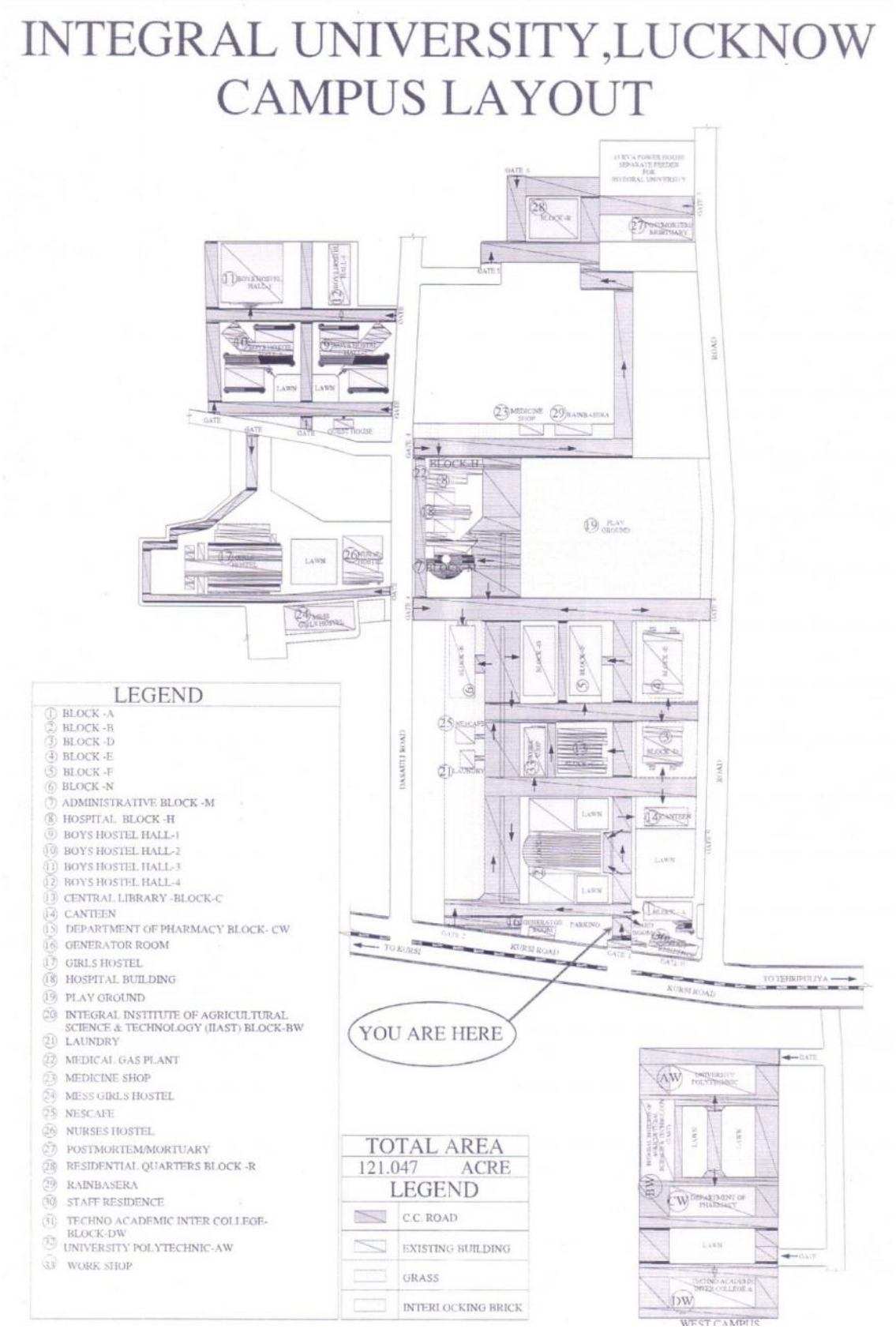


FIGURE 1: Layout Plan of the University

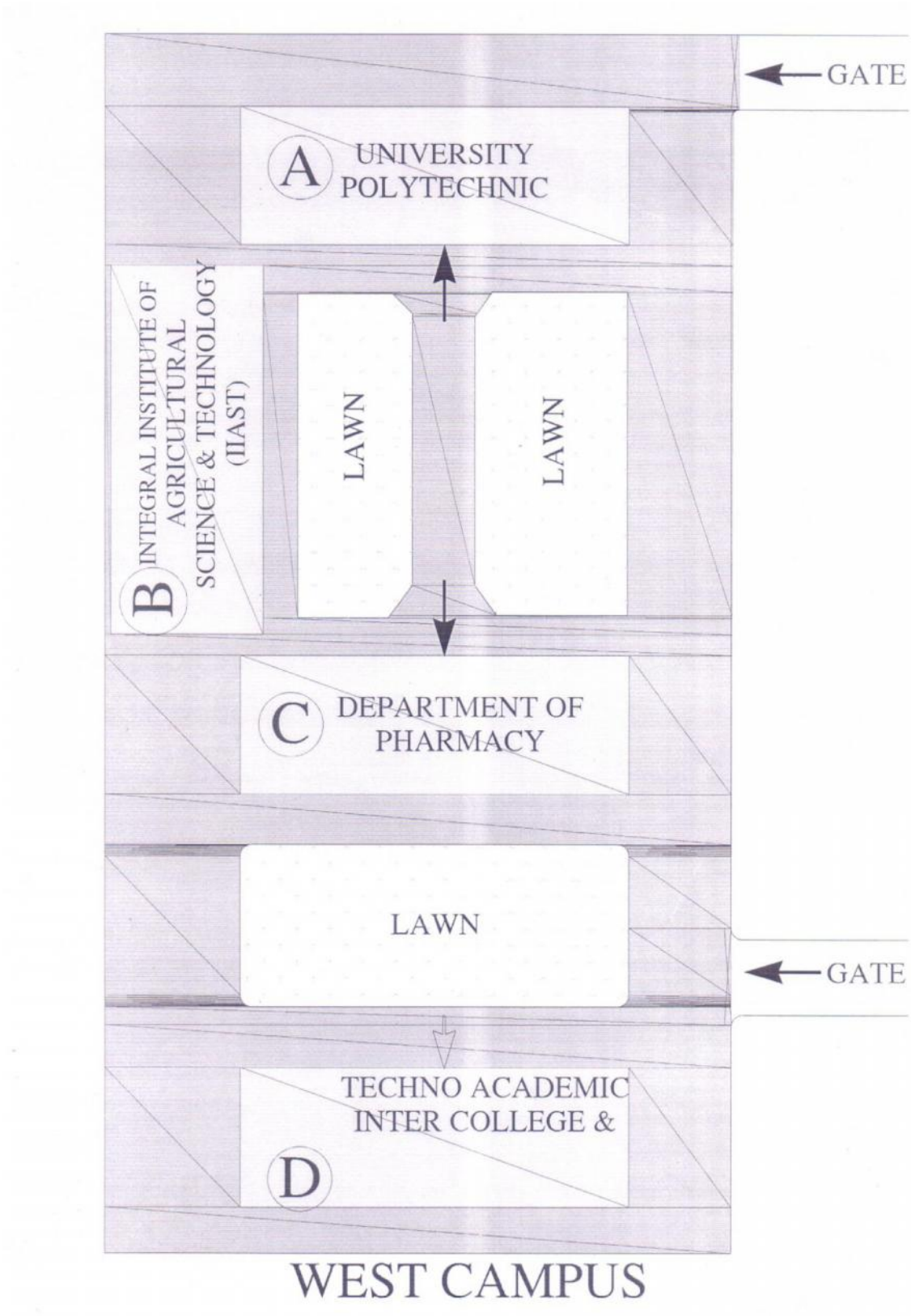


FIGURE 2: Layout Plan of the West Campus of the University

5. GREEN FACTORS IN THE CAMPUS

5.1 ENERGY, CARBON, AND CLIMATE CHANGE

5.1.1 ENERGY USE AND CONSERVATION

Conservation is the process of reducing demand on a limited supply and enabling that supply to begin to rebuild itself. Many times the best way of doing this is to replace the energy used with an alternate. Without energy conservation, the world will deplete its natural resources. While some people don't see that as an issue because it will take many decades to happen and they foresee that by the time the natural resource is gone there will be an alternative; the depletion also comes at the cost of creating an enormous destructive waste product that then impacts the rest of life. The goal with energy conservation techniques is reduce demand, protect and replenish supplies, develop and use alternative energy sources, and to clean up the damage from the prior energy processes.

Integral University being one of the most exemplary university of Lucknow consumes an average unit 441366.5 kW per year **(2018-2019)** in average it is **29.8%** only to maintain its volumetric activities throughout the year . The average solar unit consumed per year is 131419.8333 kW through the installed solar LED lights. The authority keep on replacing the old filament bulbs, CFL bulbs and tube lights by low energy consuming LED bulbs and LED tubes and bulky high power consuming fans by energy efficient fans in order to keep the electricity consumption of the University as low as possible.

5.1.2 SOLAR PANELS

Installation of solar panels on the terrace of the department is being done and is in use for the street lights inside the campus. Integral University has adopted SPV Technology to reduce its reliance on conventional power. For SPV grid interactive system, available roof area on the building is used for setting up solar PV plants. The electricity generated here is fed to transmission grid. Rooftop solar PV systems are easy to install & maintain, have long life and are modular in nature.

In tune with the international trend, Integral University has installed 1MWp Rooftop Grid Interactive Solar Power Plant as per Solar Energy Corporation of India (SECI) guidelines & specifications. Apart from 30%-40% revenue saving, the plant abates around 1400 tons of Carbon dioxide annually and reduces emissions from grid power and backup diesel generators.

Table 3: 1MWP SOLAR PHOTOVOLTAIC PLANT (Grid Interactive & Rooftop)

Location	Capacity (kWp)	Modules (320 Wp)	Inverters
Academic Block	200	720 Nos.	66 kVA (3 Nos.)
New Girls Hostel	150	460 Nos.	50 kVA (3 Nos.)
Civil Block	110	417Nos.	66 kVA (1No.), 25kVA (1 No.) 20 kVA (1No.)
Medical Phase II	110	343Nos.	50 kVA (2Nos.)
Medical Phase - I	100	400Nos.	25 kVA (4 Nos.)
BNLT Block	90	340Nos.	66 kVA (1 No.),25kVA (1 No.)
Residential Block	80	240Nos.	50 kVA (1 No.),30kVA (1No.)
Library	70	220Nos.	50 kVA (1 No.),20kVA (1No.)

Old Girls Hostel	60	180	66 kVA (1No.)
NLT A Block	40	120	50 kVA (1No.)

FIGURE 3 : Solar light installation with in the campus.

FIGURE 4: Solar light installation on the terrace of Departments.

Other energy saving initiatives

Reuse Strategies Promote the use of reusable by giving away or selling them to members of the campus community and organizing discounts at local and campus stores. Work with the university stores to reduce waste:

1) Establish a bag/carton return program (in which there is a small refund for returning them),
2) Promote the use of cloth bags instead of disposable bags,
3) Encourage the sale of goods with less packaging; and
4) Create a market for used books and other items.

5. Strict rules need to be implemented to prevent littering on the campus.

6. Declare the entire campus as 'No Plastic Zone'.

7. Water dispensers need to be set in several locations on campus with durable and reusable cups (bottled water as well as sale point of soft drinks and water in pet bottles on campus need to be banned).

8. Reusable tableware and eco-friendly parceling need to be enforced in all food joints on campus.

9. A small part of the land on campus needs to be earmarked to set up four separate waste processing units: one for organic waste (biogas plant/ compost), one for secondary and tertiary segregation of dry wastes, yet another for shredding and incinerating, and a fourth one to store recyclable wastes, construction rubble and waste residue intended for municipal landfill and e-waste that need to leave the campus in a designated way.

10. E-waste is to be deposited with designated contractor duly authorized by the Pollution Control Board. Refurbished computers, monitors, scanner and printers may be donated.

11. Avoid paper pamphlets and flex banners. Instead, use reusable cloth banners and notice boards.

12. Wet waste can be treated at source itself for the benefit of other organisms. The wet waste from the kitchen and the canteen is to be collected at a place so that birds, cows, dogs, goats and small animals can feed on it. If unused food is in large quantity and not spoiled, it can be channeled to the needy through 'Food Bank' system on the campus.

13. When institutes and offices become paperless, a lot of trash can be reduced. Hence use emails, SMS, WhatsApp and Face book and other social media platforms and online resources to a certain extent.

Plan for waste handling:

1. Compost structure

2. Biomedical wastes, if any, must be securely and properly sent to biomedical waste treatment and disposal facilities as per the procedures laid out by the Pollution Control Board.

3. Bio-methane plant for wet waste.

4. Set up an incinerator for hazardous dry / waste.

5.2 WATER

5.2.1 DRINKING WATER

FIGURE5: Drinking tank around the campus with different capacity.

Water is a precious resource, and although it flows freely from the tap, it's not infinite. Green campus lawns, clean cafeteria plates, and even air conditioned dorms don't happen without using lots of water. College campuses are home to some of the most innovative ideas for water conservation, implementing water management technology, smart conservation policies and more.

The university campus consist of rain water harvesting that collects and store the rain water as well as the surface water into the tanks. Sprinklers have been installed into the garden areas and regular pipes are checked for unnecessary leakage .

5.2.2 RAINWATER HARVESTING

Objectives:

- Meet the growing needs and demands of water.
- It decreases the run-off because it stops or blocks the drain.
- Shunning the flooding of roads.
- Increase the underground water level and decreases the ground water pollution.

- Decreases the corrosion of soil and complete the domestic needs of water.

The methodology adopted for Rain Water Harvesting is by building pits .

Recharge pits are small pits of any shape rectangular, square or circular, contracted with brick or stone masonry wall with weep hole at regular intervals. Top of pit can be covered with perforated covers. Bottom of pit should be filled with filter media.

The capacity of the pit can be designed on the basis of catchment area, rainfall intensity and recharge rate of soil. Usually the dimensions of the pit may be of 1 to 2 m width and 2 to 3 m deep depending on the depth of pervious strata.

Rainfall calculator

A 10-sq.ft. area receives 1 liter of water if the rainfall is 1 mm. The average Rainfall per year is 1,200 mm in the district. Hence, the total volume of water received On the 1, 00,000 sq.ft. area of the terrace (1,200 mm × 1, 00,000 sq.ft.) = 12, 00, 00,000 Liters per year. If this is converted into metric tonnes, it is 1, 20,000 metric tonnes.

FIGURE 6: Location of Rain Water Harvesting.

5.3 WASTE

5.3.1 WASTE MANAGEMENT

Waste management (or **waste disposal**) is the activities and actions required to manage waste from its inception to its final disposal. This includes the collection, transport, treatment and disposal of waste, together with monitoring and regulation of the waste management process.

Waste can be solid, liquid, or gas and each type have different methods of disposal and management. Waste management deals with all types of waste, including industrial, biological and household. In some cases, waste can pose a threat to human health. Waste is produced by human activity, for example, the extraction and processing of raw materials. Waste management is intended to reduce adverse effects of waste on human health, the environment or aesthetics.

5.3.2 WASTE GENERATION

The weight or volume of materials and products that enter the waste stream before recycling, composting, land filling, or combustion takes place. Also can represent the amount of waste generated by a given source or category of sources.

Solid waste generation and composition analysis is a critical first step towards developing successful and effective planning of waste management service and strategies across university campus. This indicator addresses waste production and disposal of different wastes like paper , food, plastic, glass, dust etc.

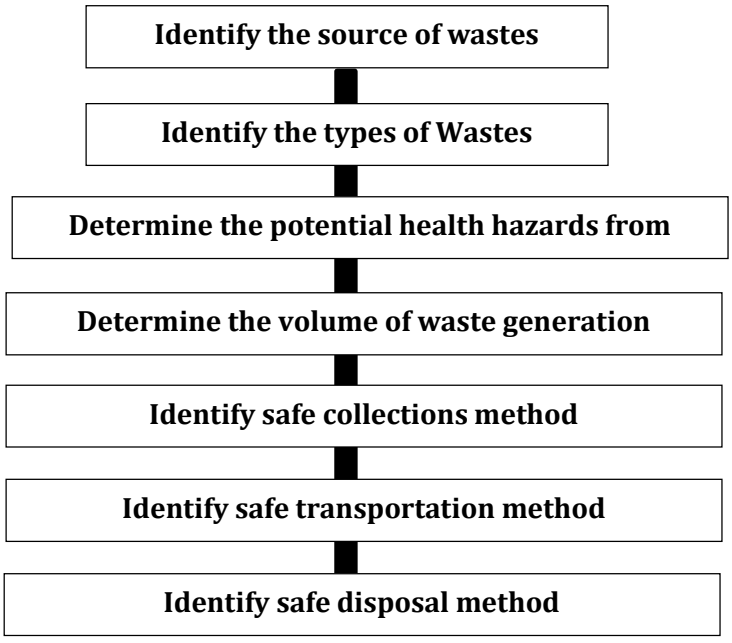


FIGURE7: Process for Solid Waste Management

Solid wastes may contain:

· Human pathogens – diapers, handkerchiefs, contaminated food and surgical dressings

· Animal pathogens – waste from pets

· Soil persons – garden waste

By reusing or recycling we are: Contributing to the conservation of natural resources, saving energy, helping to protect the environment and reducing landfill. We will also reduce our impact on the environment by minimizing the carbon emissions associated with both disposing of old products and obtaining new ones. The campus consist of numbers of dust bins along with the color coding such as - green for bio-degradable waste and blue for plastic and metal waste .

5.3.3 WASTE COLLECTION

FIGURE 8: Color Codes have been used ; green- bio degradable waste and blue - plastic and metal waste

5.3.4 WASTE DISPOSAL AND TREATMENT

FIGURE 9: Photo of Bio-Waste Transferring.

FIGURE 10: Sewage Treatment Plant (under construction)

5.3.5 E-WASTE MANAGEMENT

E-Waste comprises of wastes generated from used electronic devices and household appliances which are not fit for their original intended use and are destined for recovery, recycling or disposal. Such wastes encompasses wide range of electrical and electronic devices such as computers, hand held cellular phones, personal stereos, including large household appliances such as refrigerators, air conditioners etc. Electronic waste or e-waste or e-scrap or waste electrical and electronic equipment

(WEEE) can be defined as the discarded waste computers, office electronic equipments entertainment device electronics, mobile phones, television sets and the refrigerators. The term E-waste is loosely applied to consumer and business electronic equipment that is near or at the end of it's useful life. It is a waste consisting of any broken or unwanted electrical or electronic appliance.

Waste generated from the following electronic equipments is generally referred to as the E-waste:

• IT and Telecom equipments like computers, laptops, tablets and the systems used in the BPO call centres.
• Medical devices like CT scan machine, X-Ray machine, etc.
• Monitoring and control devices
• Small household appliances like PC's, mobile phones, MP3 players, I-Pods, Tablets etc
• Consumer and lighting equipments like bulbs, CFL, fluorescent tube lights.

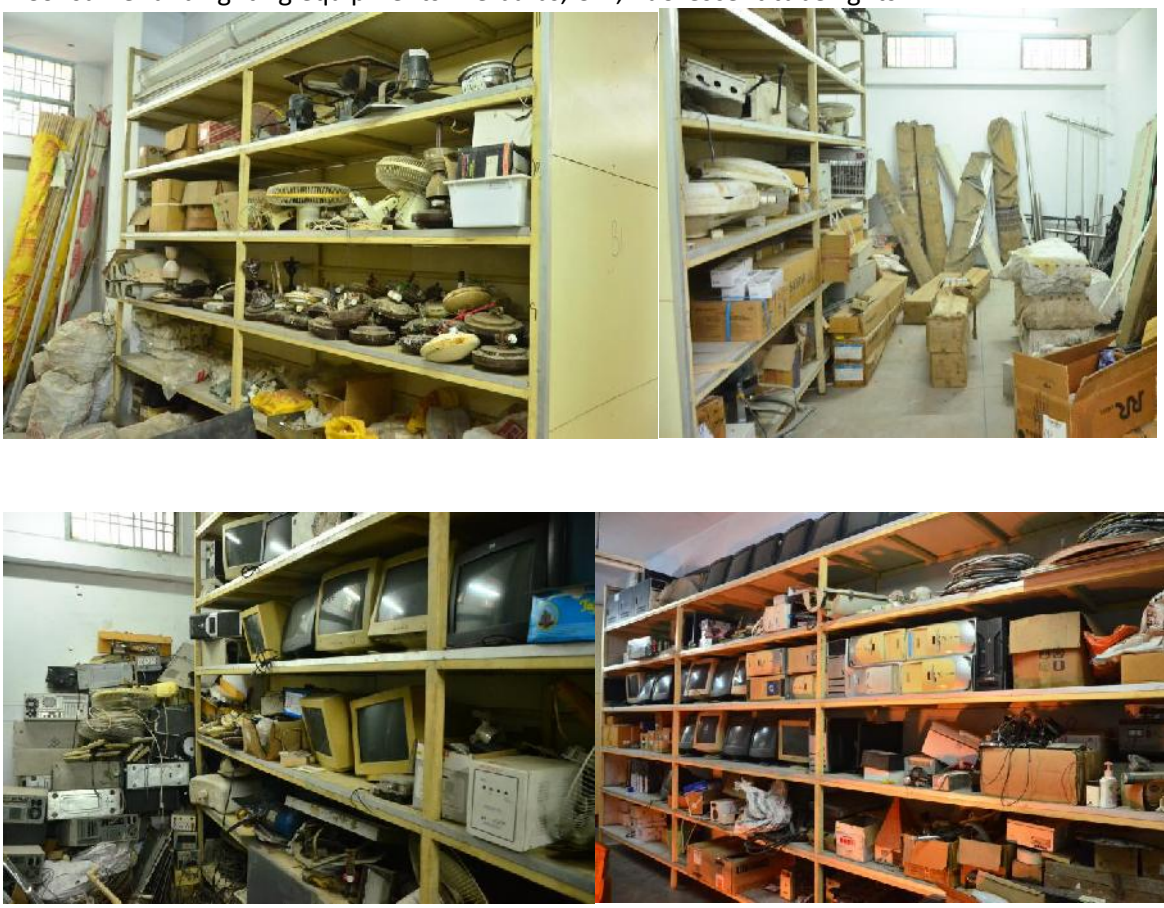


FIGURE 11: The E -Waste room stores all the damaged electronic gadgets and their parts.

5.4 BIODIVERSITY AND ECOSYSTEM SERVICE

5.4.1 GREEN AREAS

Green area means an area of grass, trees, or other vegetation set apart for recreational or aesthetic purposes in an otherwise urban environment. It plays a very vital role in boosting the mental health of the student. It seems obvious that a place where people are able to make connections, meet new

friends and participate in recreational activities is also good for the locals' mental health. After all, physical health and strong relationships are important to maintaining mental well being.

Yet the mental health benefits of green space go beyond the obvious. Direct exposure to nature has its own benefits on mental health, reducing stress and increasing happiness and these effects take place almost immediately.

5.4.2 GREEN - SCAPES

FIGURE 12: Green scapes with in the campus.

Students' psychological health might benefit from a university environment that contains greenery. The campus consist of the total 60,000 sq.mt i.e.75% is the green scapes (excluding residential building).

5.4.3 INDOOR PLANTATION

FIGURE 13: Plantation inside the Department to provide soothing and healthy atmosphere.

5.4.4 TREE DIVERSITY

Table 4: List of trees present inside the university campus along with their botanical names

S.No.	Local & Common Name of Trees	Scientific Name of Trees	Classification
1.	African Tulip Tree	Spathodeacampanulata	Tree
2.	Aggai	Bryophyllumpinnatum	Tree
3.	Akohar	Myrica Esculenta	Tree
4.	Akola	Alangiumsalviifolium	Tree
5.	Amaltas	Cassia Fistula	Tree
6.	Amrood	Psidium Guajava	Tree
7.	Anjir	Ficuscarica	Tree
8.	Apple Blossom Tree	Malus Domestica	Tree
9.	Arjun Tree	Terminalia Arjuna	Tree
10	Ashok	Saracaasoca	Tree
11.	Asna	Terminalia Elliptica	Tree
12.	Bada Nimboo	Citrus Limon (L.) Osbeck	Tree
13.	Badigumchi	Adenantherapavonina	Tree
14.	Bahera	*Terminalia Bellirica* (Gaertn.)	Tree
15.	Bailewa	Strychnos	Tree
16.	Ban Khajur	Urostigma Subgenus	Tree
17.	Ban Naranga	Suregada Multiflora	Tree
18.	Barhal	Artocarpuslacucha	Tree
19.	Barun	Crataevanurvala	Tree
20.	Basant Rani	Tabebuia Rosea	Tree
21.	Bat Vriksha	Neolamarckiacadamba	Tree
22.	Bead Tree	Adenantherapavonina	Tree
23.	Bel	Aegle Marmelos L.	Tree
25.	Bengal Fig	Ficuscarica	Tree
26.	Bhendi	Thespesia Populnea	Tree
27.	Bhilawa	Semecarpusanacardium	Tree
28.	Blackboard Tree	Alstoniascholaris	Tree
29.	Bottle Brush	Callistemon Comboynensischeel	Tree
30.	Bridal Couch Tree	Hymenodictyonorixense	Tree
31.	Cape Lilac	Melia Azedarach	Tree
32.	Cassia	Cassia Fistula	Tree
33.	Ceylon Oak	Schleicheraoleosa	Tree
34.	Champa	Hedychium Coronarium	Plant
35.	Cheura	Diploknemabutyracea	Tree
36.	Common Jujube	Ziziphusjujuba	Tree
37.	Conessi	Holarrhenamalaccensis Wight	Tree
38.	Coral Jasmine	Nyctanthesarbortristis	Shrub
39.	Crepe Myrtle	Lagerstroemia Indica	Tree/Shrub
40.	Crimson Temple Tree	Plumeria	Tree
41.	Curry Leaf	Murrayakoenigii	Tree
42.	Cutch Tree	Senegalia Catechu	Tree
43.	Dhaman	Tiliifolia	Tree
44.	Dhamin	Couroupitaguianensis	Tree
45.	Dhau	Anogeissuslatifolia	Tree

S.No.	Local & Common Name of Trees	Scientific Name of Trees	Classification
46.	Dinner Plate Tree	Pterospermumacerifolium	Tree
47.	Ear Leaf Acacia	Acacia Auriculiformis	Tree
48.	Ear Pod Wattle	Acacia Pycnantha	Tree
49.	Ebony	Diospyros Ebenum	Tree
50.	False Ashoka Tree	Polyalthialongifolia	Tree
51.	False Lime	Suregada Multiflora	Tree
52.	Flamegold	Koelreuteriabipinnata	Tree
53.	Fountain Tree	Spathodea. Spathodea	Tree
54.	Gainti	Indopiptadeniaoudensis	Tree
55.	Gamhar	*Gmelina* Arborea	Tree
56.	Gandhraj	Gardenia	Plant
57.	Gular	Ficusglomerata Roxb.	Tree
58.	Gulmohar	Delonix Regia	Tree
59.	Gutel	Trewianudiflora	Tree
60.	Har Singar	Nyctantches Arbor - Tristis	Tree
61.	Indian Mahogany	Swieteniamahagoni,	Tree
62.	Indian Tulip Tree	Thespesia Populnea	Tree
63.	Jamun	*Syzygiumcumini*	Tree
64.	Jangle Jalebi	Pithecellobium Dulce	Tree
65.	Jasmine	Jasminum Officinale	Plant
66.	Jivanputra	Putranjivaroxburghii	Tree
67.	Kadambh	*Neolamarckiacadamba*	Tree
68.	Kamala	Mallotusphilippensis	Tree
69.	Khaira	Senegalia Catechu	Tree
70.	Kusum	Schleichera	Tree
71.	Lebbek Tree	Albizialebbeck	Tree
72.	Lemon Guava	Psidium Cattleyanum	Tree
73.	Liptus	Eucalyptus Grandis	Tree
74.	Litchi	Sapindaceae	Tree
75.	Litora	Terminalia Arjuna	Tree
76.	Lucky-Bean Tree	Erythrina Lysistemon	Tree
77.	Madeira Mahogany	Swieteniamahagoni	Tree
78.	Mahuwa	Madhucalongifolia	Tree
79.	Money Plant	Crassula Ovata	Plant
80.	Neem	Azadirachtaindica	Tree

5.5 PLANNING, DESIGN AND DEVELOPMENT

Certain initiative had been taken by the authority for development of existing campus as green campus:

Table 5: The initiatives taken by the University for green campus.

Existing Initiatives	Proposed Initiatives
I. Energy efficient measures including energy efficient street lighting system with proper control, low energy fixtures, energy efficient pumping system, energy efficient motors and other equipment's, sensors for lighting, use of energy star rating equipments, improvement of power factor, use of variable frequency drive and other energy efficient technologies should be adopted and reflected in the proposed master plan. II. The buildings in the campus have rooftop SPV systems preferably grid connected systems. III. The master plan should be site specific and should have minimum 5 numbers of implementable a detailed project reports as per guidelines of MNRE and BEE under various schemes. An audit report should be prepared and submitted alongwith the master plan. IV. An awareness/training workshop should be organized in the campus regarding renewable energy applications, and taking suitable measures for energy conservation and energy efficiency V. The possibility of redesigning of exterior surfaces of the buildings with energy efficient material may be explored.	I. The energy audit and water audit of the entire campus should be carried out through registered certified professionals and the base line for the energy and water consumption should be defined. II. Utilization of renewable energy system such as solar water heater, solar air conditioning, solar dryers, solar cookers, solar lantern, solar pumps, solar traffic signals, battery operated vehicle, hybrid systems etc. should be explored III. Solar cooking systems must be utilized for hostels/hospitals etc. All houses, hostels, kitchen must have solar water heaters (including multi-storied buildings). IV. A master plan for the entire campus should be prepared keeping in view the overall reduction in fossil fuel based energy by 25% within next 5 years by utilizing renewable energy applications, and taking suitable measures for energy conservation and energy efficiency V. Suitable architectural retrofit options for building envelop (floor, roof, walls etc.) and energy efficient glasses for windows should be explored and included in the report.

5.6 PROCUREMENT

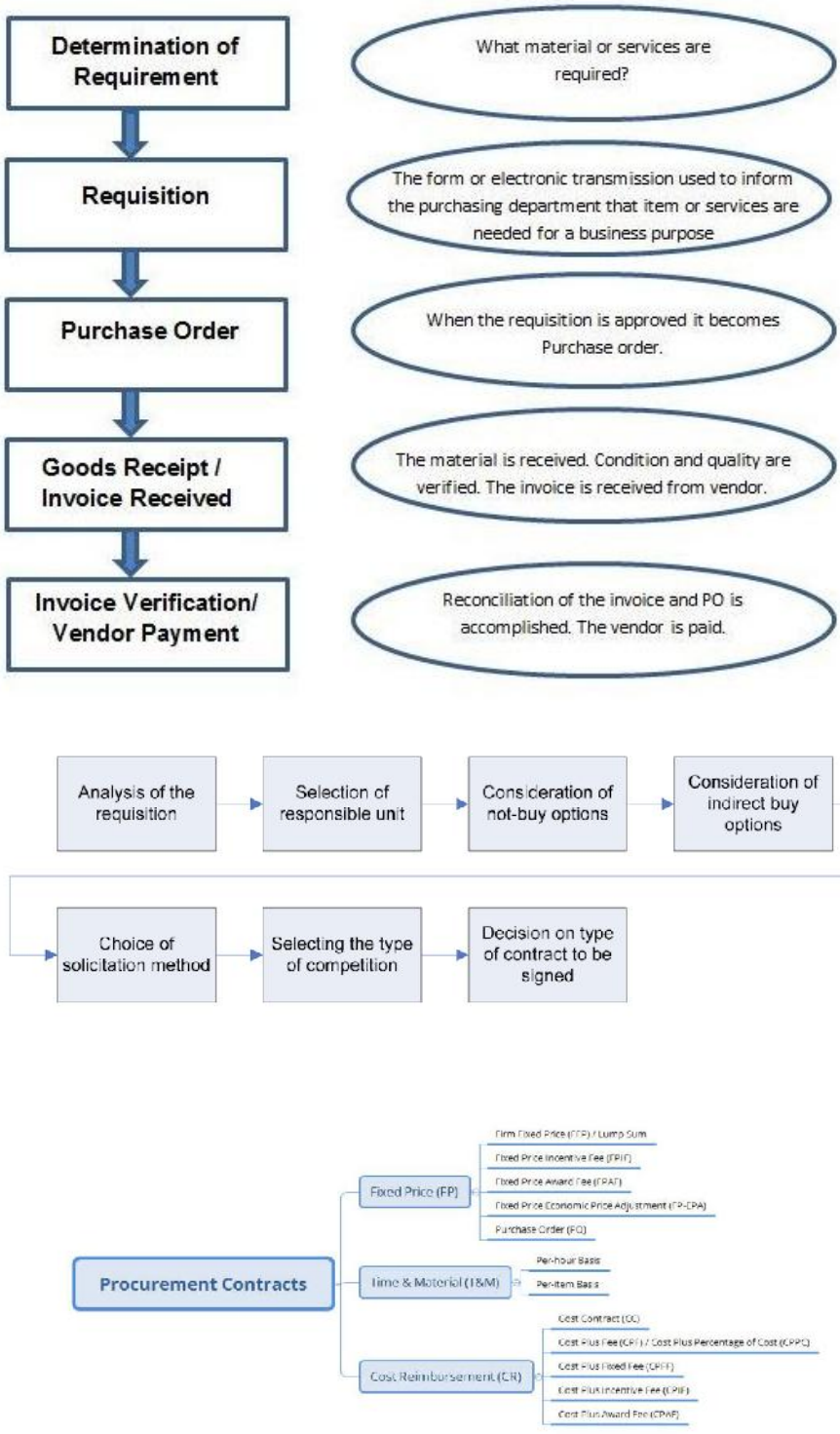


FIGURE 14: Process for Procurement.

5.7 GREEN OFFICE

5.7.1 LIBRARY

The Integral University Library System (IULS) comprises of a Central Library and Departmental Libraries that collectively support the teaching, research and extension programs of the University. The Central Library houses a rich collection of 108966 documents and continuously growing which consists text books, print journals, e-journals, PhD theses, master dissertations, CDs/DVDs and online databases in the fields of Engineering, Management, Computer Science, Medical and Paramedical Sciences, Biotechnology, Agriculture, Applied Sciences, Humanities, Education and Literature etc.

Objectives:

I. To acquire various kinds of information resources to support the new and existing needs of academic programs in learning, teaching and research and innovation.
II. To provide the information of the University community with a high quality, innovative and excellent information services that fulfill the information requirements of the University Community and to meet their high expectations.
III. To provide information literacy programs/ library skill sessions in different modules in order to enable the users identify, search, locate, evaluate and use the information effectively.
IV. To maintain quality access to the local as well as external resources using the state of- the- art technologies.

FIGURE 15: Multi - Storey Library With Proper Seating Arrangements And Advancement Of Technologies .

The Computerization & Automation of the Library System:

Considering the importance of computerization in the library house-keeping operations such as acquisition, OPAC, circulation, serials control, multimedia and web based inquiry; the library is fully automated by using internationally reputed integrated library system software named Koha. More than Ten (10) PCs are dedicated exclusively to the users for online public access catalogue (OPAC) with

facilities for various search options like by author, title, subject keyword, accession numbers and articles, along with search combination of Boolean operators.

The Central Library has a very good collection of print as well as online journals. IP based campus wide access to online journals and e-books are available through E-Shodhsindhu Digital Library Consortium as well as other leading international publishers. More than 15 PCs are exclusively reserved in the Digital Resource Center to access e-resources in the Central Library.

The library also has a very rich collection of digital resources i.e., CDs and DVDs and Pen drives on many subjects which are made available from Digital Resources Center.

All the books available in the library are Bar-coded for automated check in and check-out and helping to achieve maximum efficiency in providing accuracy, speed and reliability. It is very helpful in providing Circulation statistics of the books and also helping in answering different queries such as history of issue and return of books, most issued books, books in a great demand etc.

The library has taken visible measures in making use of ICT advancements. The library has :

- Wi-Fi connectivity
- LAPTOP zone
- Internet facility for accessing on-line databases
- New HP 3330Pro server was installed in January 2015, with 500 GB hard disk capacity, Data base server and backup server 500 GB with the storing capacity of 1TB.
- 15 PCs for providing internet access facility to students
- 15 PCs provided for professional staff in working areas
- 10 OPAC Terminals
- Barcode Technology for Circulation Counter
- 2 Scanners for the digitization
- Web OPAC and Integral University Library portal for remote access of library catalog
- CCTV Surveillance

Central library is housed in two floors of a multi story building which is located in the heart of the university campus.

- Total area of the library 4000 Sq.Mts.
- Total seating capacity: 550
- Lounge for browsing and relaxed reading: 900 Sq.Mts.
- Digital resource centre for accessing e-resources: 150 Sq.Mts.
- Three reading halls with 300 seating capacity, which is kept open all working days
- Reserved area for faculty, researchers and differently abled.

5.7.2 AUDITORIUM

The State Of The Art Auditorium Has Ultra Modern Acoustics & Frequently Hosts National & International Events.

FIGURE 16: Central Auditorium along with other numbers of auditorium in the unit.

5.7.3 BANK FACILITY

Punjab national bank provides all banking facilities including lockers & 24x7 atm in campus. The bank also extends education loan to students. For the students and staff residing in the campus, full branch of Punjab National Bank and ATM facility of is available.

Figure 17: Facility of Bank and ATM within the campus.

5.7.4 SHOPPING CENTER

FIGURE 18: the shopping complex consist of the stationary , clothing , fooding and printing shops.

The shopping centre has a number of stores catering to necessary commodities such as books, stationery, vegetables, milk snacks & other refreshment items**.**

5.7.5 POST OFFICE

The campus also consist of Post Office for the student and the faculty member that make the work easier .To make postal communication easy, university set up a post office in the campus.

FIGURE 19 : Post Office beside the Punjab National Bank .

5.7.6 CAFETERIA

There are three canteens functioning in the University to serve the huge crowd of students. The total capacity of these three canteens are 450. Staff members and the students share the canteen with separate sitting areas. These three canteens are located at different locations in the University. One is located opposite to Academic Block -B, second one is located in the parking area and third is at University Medical College Premises.

FIGURE 20 : Canteen are neat and clean to maintain hygiene.

Well maintained canteens in the campus provide students with a variety of indian, continental &asian cuisines.

5.7.7 PLAY GROUND

Integral University has its dedicated playground for playing Football, Cricket, Basketball, badminton, Hockey and Tennis etc. Apart from outdoor games university provides facility to play indoor games as well. During the annual Fest “Fiesta”, University organized its well know Sports Meet every year.

5.7.8 HOSPITAL

Services available for indoor wards:

1. Medicine: 120
2. Surgery: 120
3. Pediatric: 60
4. Orthopedic: 60
5. Obstetrics & Gynecology: 60

6. Ophthalmology: 30
7. ENT: 30
8. T.B. & Chest: 10
9. Psychiatry: 10
10. Dermatology: 10

Other Services:

- Intensive Care Unit
- Emergency/ Casualty medical services
- Blood Bank
- Operation Theatre :

➢ There are total 9 (nine) operation theatres. The operation theatres are well equipped and are for surgical, Orthopedics, ENT/ OPH/ Obst cases. Besides, there a minor OT and Labour Room.

- Support Services:

➢ Central Kitchen
➢ Central Laundry
➢ Central Sterilization Unit

Diagnostic Services :

The hospital has its own diagnostic services which consists of Pathology, Microbiology and Radiological facilities comprising of CT Scan Machine, 300mm X-ray, 500mm X-ray, 800mm X-Ray and Portable X-ray Machines besides four Ultrasound(USG) Machines.

Staff :

The Institute has got a team of dedicated specialists in various departments who are committed for patients care and improving medical education. This is supported by necessary nursing and other para-medical staff.

FIGURE 21: Provision of Hospital within the campus serve the students and the faculty free of Cost.

5.7.9 SECURITY

Integral university campus has 24x7 closed circuit tv network security & surveillance system managed by the security department equipped with wireless communication system. Awell equipped security fleet is assigned to patrol the campus to ensure 24x7 security.

5.7.10 TOILET

In every department a service core has been provided which is running from ground floor to top most floor and the service core have separate toilet for male and female as per standards.

FIGURE 22: Toilets are provided in the service core.

5.7.11 ANTI - RAGGING CAMPUS

As per the directives of Medical Council of India, the following steps have been undertaken for prevention of ragging in the IIMS&R campus and hostels for the academic year of 2018-19.
Terms of reference of the functioning of Anti Ragging Committee:

1. To make all the inmates and employees of the institution and students in particular aware of the dehumanizing effect of ragging and strict policy of IIMS&R of the Integral University to manifest a ragging free campus.

2. To take undertaking from all the employee of the institution including hostel employee or employee running the canteen, hostel security, watchman &ward staff. An undertaking that any incident of ragging in any part of the campus will be reported to anti-ragging helpline number of the IIMS&R or any of the anti –ragging committee members and anti ragging squad. Those who report any incident of ragging will be appreciated.
3. The students at the time of admission will be briefed about the menace of ragging and necessity of reporting the incident. So that, it can be prevented in future. Accordingly, an undertaking will be taken from the new entrants and their parents to report such incident and not to indulge in such type of activities.
4. Banners/Poster and publicity material will be displayed with subject that ragging is cognizable offence and the punishment is severe, so student should not indulge in such activities and if observed in the campus to report the same to the Anti-Ragging Helpline.
5. An undertaking will also be taken from the senior student of the IIMS&R or University stating that they will not indulge in ragging activities. Along with the students, the parent of the student will be informed.
6. An Anti-Ragging Squad is also formed with total 19 members and their responsibility.

Squad Responsibility:

Terms of reference of the functioning of Anti Ragging Committee:-

1. All The members of the squad are to be vigilant regarding any untoward activities in the campus or hostel.
2. Members are requested to organize an efficient surveillance system which should include the watch & ward staff, hostel employee of all grades to inform any suspicious activities to the members.
3. The members should verify and take specific action with the information to Coordination, Dean/Director.
4. The member should also organize meeting to sensitize the inmates on the evil of ragging.
5. They are also to conduct regular &surprise inspection of the hostel etc.
6. A weekly report has to be submitted on surveillance of the campus related to any incidents.

The campus consists of numbers of “Anti - Ragging Signage “board all over the campus.

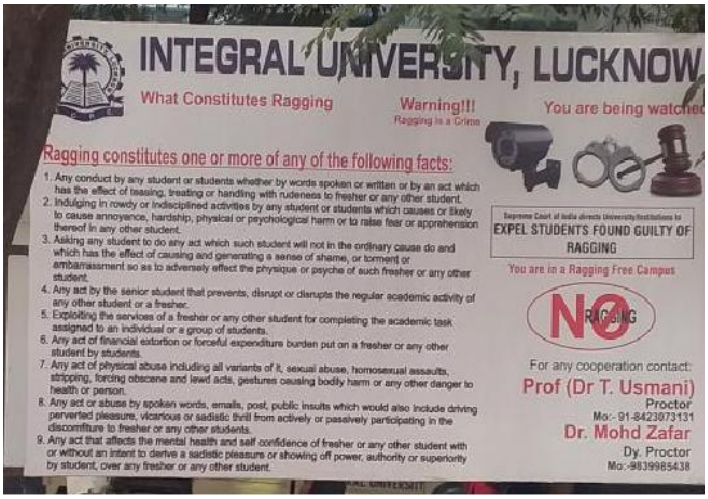


FIGURE 23: Awareness against ragging through poster.

5.8 GREEN LAB

Hazardous Chemical Waste

Educate the campus community to minimize the drain disposal of chemicals and the use of toxic substances in work shops, research labs and the classrooms. Reduce hazardous wastes and properly dispose materials for recycling waste oil, used batteries and solvents. Convert chemistry labs to micro scale.

5.9 GREEN IT

5.9.1 COMPUTER LAB

FIGURE 24 : Students while using the computer lab

FIGURE 25: Number of labs inside the computer lab with the natural skylight to provide good ambiance .

5.9 TRANSPORT

5.10.1 PARKING

FIGURE 26: Parking for motar cycles , cars and ambulance are provided.

The campus have parking facility in pockets . Chunks of Parking can be seen outside of the departments and a separate parking is also seen inside the campus . The campus have separate parking for bi - cycles , motor cycles , cars , ambulance and buses.

5.10.2 BUS TRANSPORT FACILITY

Integral University offers transport facility to its students and faculty members on very nominal charges. University transport has very vast network in the city to pick and drop the students and faculty members from their places.

FIGURE 27: Parking for buses and cars.

5.10.3 CAR LESS CAMPUS

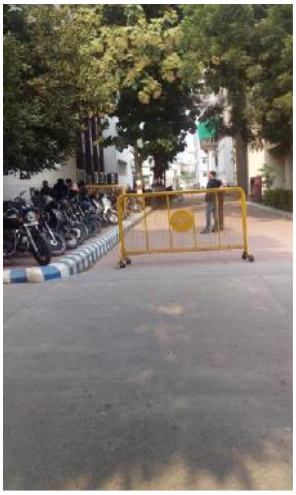
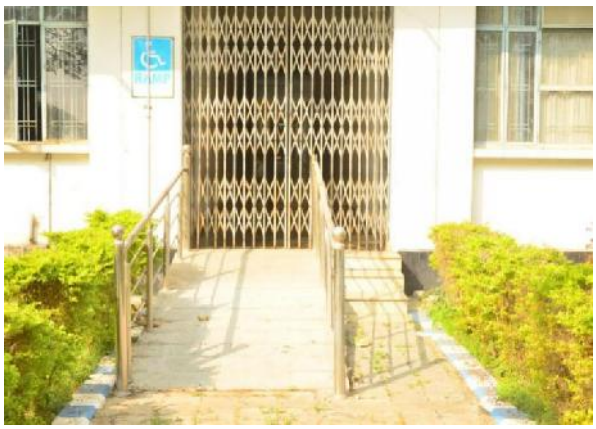


FIGURE 28: Initiating pedestrian walkways more with in the campus.

6. MOBILITY

6.1 UNIVERSAL DESIGN



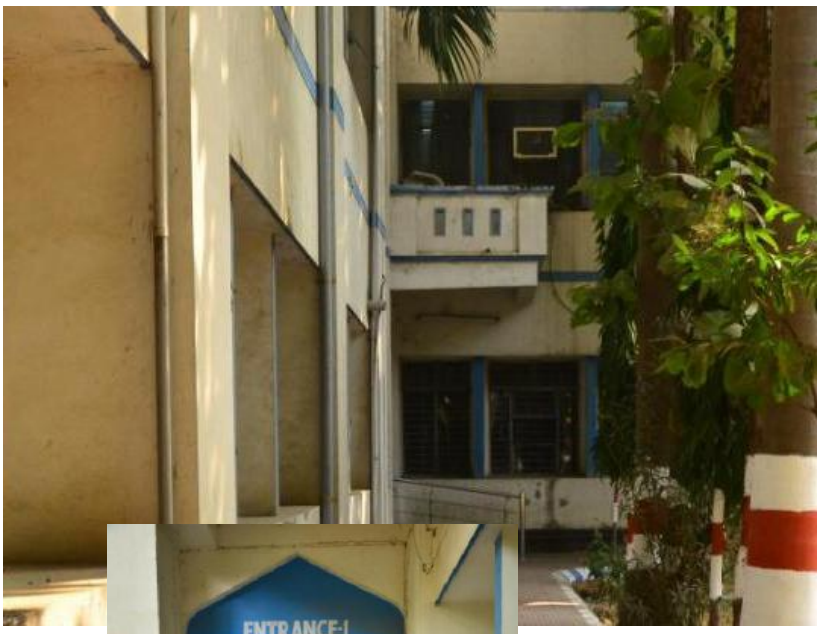


FIGURE 29: Provision of Ramp with proper handrails at every entry/exit of the Department.

FIGURE 30: Toilets for physically disabled people.

6.2 BI CYCLE FRIENDINESS

The university is planning to upgrade a campus that supplies students with free bike repair resources, covered bike parking, discounted equipment, classes on bike safety and group rides.

Figure 31: Photo of Bi Cycle stand and its route.

Table : 2 The University remark as per the audit observation.

Sl No	Criteria	Indicator	Sub Indicator	Score
	Energy, Carbon and Climate Change	Energy Conservation	Employment of Energy Manager	4
			Energy efficiency standards for new construction and refurbishments	3
			Energy efficiency purchasing standards	5
			Staff energy conservation training Improved space utilisation to avoid new construction or heating/cooling of underutilised space	3
			Thermal comfort policy (e.g. widening heating/cooling temperature settings)	2
			Financial strategies to assign energy cost incurred - and savings achieved - to the responsible cost centres	4
			Energy / climate change awareness programs	4
			Establishment of "energy champions" network across campus building	2
		Energy efficiency	Detailed energy audit to identify prority areas	2
			Periodic recommissioning and building tuning to optimise energy efficiency	3
			Building retrofitting	1
			Lighting	4
			Heating, ventilation and air-conditioning (HVAC)	4
			Laboratory ventilation and fume hoods	3
			Installation of building management and control systems (BMCS) and sub-metering for major building energy uses, energy use displays.	1
		Renewable and alternative energy	Purchase of certified “green power”.	5
			Installation of photovoltaic, wind, biomass, etc. systems	4
			Installation of cogeneration and trigeneration.	1
			Fuel switching	1
			University managed plantation program to offset greenhouse emissions.	5
	Water	Water conservation	Employment of Water Manager (can be combined Energy / Water Manager position).	5
			Water efficiency standards for new construction and refurbishments.	4
			Water efficiency purchasing standards	3
			Staff water conservation training (can combine with energy conservation training).	3
			Financial strategies to assign water costs incurred – and savings achieved – to the responsible cost centres.	4
			Water conservation awareness programs – posters, stickers, events and competitions, websites, awards and incentives.	3
			Extension of “energy champions” network to incorporate water conservation.	3
		Water efficiency	Detailed water audit and campus water balance to identify priority areas.	3
			Active maintenance program of early detection and repair of faulty plant, equipment and fixtures	5
			Retrofitting of water saving devices	3

			Underground pipework leak detection and repair.	4
			Use of pervious paving.	2
			Specification of low water use species for campus grounds.	3
			Laboratory water use	3
			Installation of building management and control systems (BMCS) and sub-metering for major building water uses, water use displays	1
		Water reuse and recycling	Capture and reuse of rainwater from roofs and other hard surfaces for non-potable uses (irrigation, laboratories, toilet flushing, cooling towers, construction works, swimming pools, etc.)	3
			Substitution of borewater for non-potable uses, when combined with managed aquifer recharge to ensure more water is returned to the aquifer than extracted.	2
			Installation of greywater recycling system for treatment of kitchen, laundry and shower water	1
			Composting toilets and urine recovery for fertiliser.	1
			Installation of blackwater recycling system to treat sewage for non-potable uses.	1
			Recovery and reuse of fire system test water, vehicle washdown water, etc.	1
	Waste	Policy and behaviour change	Employment of Waste Manager	5
			Sustainable procurement standards which address longevity, durability, repairability, recyclability and recycled content	5
			Financial strategies to assign waste costs incurred – and savings achieved – to the responsible cost centres	5
			Waste management awareness programs	4
			Programs targeting teaching and research to minimise generation of hazardous wastes.	4
		Waste management	Waste characterisation study to identify waste stream components and prioritise response.	3
			Individual staged and prioritised programs for waste minimisation which address each component of the university waste stream according to environmental impact.	3
			Performance-based waste management contracts to specify resource recovery targets. 1 In-house collection of recyclables (e.g. paper / cardboard) where practicable, to support local job creation.	4
			Provision of adequate storage spaces for waste and recyclables.	5
		Closing the loop	Campus based exchange and reuse programs	3
			On-site composting of food and garden organics for reuse on campus grounds.	1
			Campus based programs to process collected recyclables	4
	Biodiversity and Ecosystem Service	Policy, design and development	Survey and evaluation of campus biodiversity and ecosystem services	4
			Extension of campus green space (consolidation / intensification of campus buildings over time, installation of green roofs / walls)	5
			Increase density of campus vegetation, e.g. through additional tree planting	5
			Enhance diversity of campus vegetation. 3 Green infrastructure / ecological engineering projects (green roofs / walls, designed wetlands for wastewater treatment, phytoremediation of	5

			contaminated land, indoor landscapes for biofiltration / indoor environmental quality).	
			Development of productive landscape systems (permaculture, aquaponics) to provide food / fibre / timber.	4
			Restorative and enabling landscapes for contemplation, recreation and wellbeing	4
			Campus grounds and green infrastructure used in teaching and research	4
		Management and maintenance	Specify local native species	5
			Preserve significant vegetation during building works	4
			Avoid monocultures	3
			Avoid environmental weeds	5
	Planning, Design and Development	Campus Planning	Campus-specific sustainability objectives included in all campus planning instruments	4
			Space planning at campus, precinct and building scale to optimise flexibility, adaptability, diversity and multifunctionality of spaces.	4
			Investigation of non-building solutions to accommodate university growth.	3
			Physical accessibility of the campus to the external community, different age groups and people with a disability	4
		Campus Building Design	Design to the appropriate green building rating system as the minimum starting point.	3
			Each new building / major refurbishment to incorporate at least one innovative sustainability feature beyond the requirements of the green building rating system.	4
		Campus Construction Management	Construction contractors certified to ISO 14001	4
			Contractor staff inducted to the university's sustainability management system.	3
			Management of campus construction/demolition to minimise on- and off-site impacts	4
	Procurement	Developing Specification	Evaluation of university contracts for procurement of goods and services on the basis of cost, complexity and actual/potential sustainability impacts to determine priorities.	3
			Staged development of sustainable procurement standards / specifications based on identified priorities	2
			Inclusion of sustainability criteria in tender specifications for procurement of goods and services.	2
		Tender Evaluation	Inclusion of sustainability criteria in tender evaluation procedures	3
		Contract Management	Inclusion of sustainability objectives and targets in contract management documentation, and regular monitoring of progress.	3
			Second party" audits of providers to drive continual improvement through the supply chain	3
	Green Office	Policy and behaviour change	Employment of Green Office Manager.	3
			Sustainable procurement standards for office equipment and consumables	3
			Education, training and awareness programs	4
			Establishment of "Green Office champions" network across campus buildings as the vehicle for the energy and water conservation network	4
		Office Practices	Campus- wide audit of office practices disaggregated to department level	2

			Establishment of department-specific targets to drive continual improvement	2
	Green Lab	Policy and behaviour change	Employment of a Green Lab manager.	3
			Development of a "green chemistry" program.	3
			Sustainable procurement standards for lab equipment and consumables.	2
			Green Lab online and face-to-face training.	2
		Laboratory Practices	Campus wide audit of university laboratories – energy, water, input and output of chemicals, hazardous waste management.	3
			Establishment of lab-specific prioritised targets for improvement.	3
			Development of online tracking system for chemical management (inputs, processes and outputs).	2
			Establish lab equipment / consumables exchange program to minimise waste.	3
		Maintenance and capital works	Development of green laboratory design standards, e.g. referencing Labs21.	2
			Laboratory ventilation and fume hoods	3
			Laboratory water use	3
			Secure storage spaces for hazardous wastes to minimise risk of spillage / leakage.	3
	Green IT	IT Policy and behaviour change	Adoption and implementation of IT purchasing standards (e.g. IEEE, EPEAT, etc.).	4
			"Switch off when not in use" awareness programs	3
			Standard operating environments (hardware and software)	3
		IT Management and Capital Works	Reduce frequency of computer replacement programs – substitute software upgrades for hardware upgrades where possible.	3
			Centralised / dedicated server space(s) to avoid dispersing server heat loads across multiple buildings	4
			Computer reuse program, e.g. donation to community groups / schools.	2
			E-waste program.	4
			Ensure energy saving features are enabled.	2
	Transport	General	Employment of Transport Manager.	5
			Development of university transport policy	3
		Commuter Transport	Student housing and services on or close to campus.	5
			Awareness and promotion of alternatives to private transport – posters, stickers, events and competitions, websites, awards and incentives.	2
			Regular liaison with public transport providers to optimise services to the campus.	2
			Incentives for staff committing to forego use of private commuter transport.	2
			Secure, undercover bike racks, and shower facilities, lockers and bike repair workshop for cyclists.	4
			Car pooling programs. Reduction of car parking spaces and provision of dedicated spaces for car pool vehicles and electric vehicles (and also charging points)	2
			Establishment of shuttle bus service where the university has multiple campuses.	3
			Acknowledgement that for reasons of social equity, disability, etc. some staff and students will still need to use private vehicles	2

			to access the campus.	
			Pedestrian-friendly campus to minimise internal motor vehicle trips	3
		Travel on University Bussiness	Acquisition and promotion of video conferencing technology to staff and students.	2
			University managed revegetation program to offset emissions for air travel, and/or commitment to "third party" carbon credit / carbon offset program.	2
			Purchase of fuel efficient vehicles for university fleet.	2
			Regular maintenance to optimise motor vehicle fleet fuel efficiency	4
a Score (1= Very Not Good; 2 = Not Good; 3 = Moderate; 4 = Good; 5 = Very Good) b Total Score (10 – 17 = Very Not Good; 18 – 25 = Not Good; 26 – 33 = Moderate; 34 – 41 = Good; 42 – 50 = Very Good)				

6. SUGGESTIONS AND RECOMMENDATIONS

1. More than 12 acres of land area is available to raise horticulture gardens, fruitbearing trees and shade-giving trees.
2. Compostable solid waste shall be collected and deposited in solid waste collection tanks. These wastes shall be profitably converted into compost and applied to gardens and trees to reduce the application of chemical-based fertilizers and pesticides.
3. Regular checking and maintenance of pipelines are done to control water wastage.
4. Energy-efficient measures such as replacement of all incandescent bulbs with LED lamps, old electrical regulators of fans with energy-efficient electronic regulators, air-conditioning units with all-star rated systems need to be undertaken.
5. Students from the different Department shall be trained as e-waste managers to manage e-waste. These e-managers shall be in constant touch with schools, orphanages and parish houses through social media and inform them of the outdated computer systems that shall be used by them. They also shall dispose of the less efficient, damaged and non-functioning e-wastes to the vendors.
6. Biogas plants shall be installed in the campus using solid waste and night soil generated from the Girls Hostel in the campus. The biogas shall be used by the Hostel Kitchen and College canteen.
7. Water quality testing laboratory will be installed in one part of the laboratory to test the potability of the drinking water to ensure the students are free from water-borne diseases. All the water taps shall be fitted with high-efficiency aerator taps to reduce wastage of water. All toilets shall be fitted with dual flush water closets, which will reduce water consumption by 40%.
8. Environment education shall be imparted to all college students through 1-hr life-skill classes once a week. This will create wide-level environment consciousness among the student community. They will be sensitized to encourage pillion riding with their peers or use public transport instead of two wheelers. Moreover, they will also motivate their parents to replace all the incandescent or fluorescent bulbs with energy-efficient LED bulbs.
9. Though water is used nominal in the University, but to ensure a further minimal rate, placards and warnings are set up in the University premise.
10. the University has put several posters and reminder notes in classrooms and other relevant places to turn off electric appliances when not in use. Encourage staff, students and conference

guests to save energy through visible reminders, incentives and information to increase awareness. This particularly concerns turning off electrical appliances when not in use

11. The University tries to put the main switch off when there is no need of electricity. Monitor and understand the importance of different sources of University energy consumption

- E-waste generated in the campus is very less in quantity. Administration conducts the awareness programs regarding E-waste Management with the help of various departments. The E-waste and defective item from computer laboratory is being stored properly. The institution has decided to contact approved E-waste management and disposal facility in order to dispose E-waste in scientific manner. Recycle or safely dispose of white goods, computers and electrical appliances.
- Use reusable resources and containers and avoid unnecessary packaging where possible. Always purchase recycled resources where these are both suitable and available
- Campus is located in the vicinity of many trees (species) to maintain the bio-diversity. Various tree plantation programs are being organized at University campus and surrounding villages through NSS (National Service Scheme) unit.
- This program helps in encouraging eco-friendly environment which provides pure oxygen within the institute and awareness among villagers. The plantation program includes various type of indigenous species of ornamental and medicinal wild plant species.
- Review periodically the list of trees planted in the garden, allot numbers to the trees and keep records. Assign scientific names to the trees.
- Promote environmental awareness as a part of course work in various curricular areas, independent research projects, and community service.
- Create awareness of environmental sustainability and take actions to ensure environmental sustainability.
- Establish a University Environmental Committee that will hold responsibility for the enactment, enforcement and review of the Environmental Policy. The Environmental Committee shall be the source of advice and guidance to staff and students on how to implement this Policy.
- Ensure that an audit is conducted annually and action is taken on the basis of audit report, recommendation and findings.
- Celebrate every year 5th June as ‘Environment Day’ and plant trees on this day to make the campus more Green.
- Indoor plantation to inculcate interest in students, Bonsai can planted in corridor to bond a relation with nature.
- Green library should be established.

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