

GREEN AUDIT REPORT
of
MIT ART, DESIGN AND TECHNOLOGY UNIVERSITY
Loni Kalbhor, Pune 412201



MIT-ADT
UNIVERSITY
PUNE, INDIA
A leap towards World Class Education.

Year: 2020-21

Prepared by

Enrich Consultants

Yashashree, 26, Nirmal Bag Society
Near Muktagan English School, Parvati, Pune 411009
Phone: 09890444795, Email: enrichcons@gmail.com

MAHARASHTRA ENERGY DEVELOPMENT AGENCY

An ISO 9001 : 2000 Reg. no. : RQ 91 / 2462



Maharashtra Energy Development Agency

(Government of Maharashtra Institution)

Aundh Road, Opposite Spicer College Road, Near Commissionerate of Animal Husbandary,

Aundh, Pune, Maharashtra 411067

Ph No: 020-35000450

Email: eee@mahaurja.com, Web: www.mahaurja.com

ECN/2021-22/CR-14/1577

22nd April, 2021

**CERTIFICATE OF REGISTRATION
FOR CLASS 'A'**

We hereby certify that, the firm having following particulars is registered with **MAHARASHTRA ENERGY DEVELOPMENT AGENCY (MEDA)** under given category as "Energy Planner & Energy Auditor" in Maharashtra for Energy Conservation Programme of MEDA.

Name and Address of the firm : M/s Enrich Consultants
Yashashree, Plot No. 26, Nirmal Bag Society,
Near Muktangan English School, Parvati,
Pune - 411009.

Registration Category : *Empanelled Consultant for Energy Conservation Programme for Class 'A'*

Registration Number : *MEDA/ECN/2021-22/Class A/EA-03*

- Energy Conservation Programme intends to identify areas where wasteful use of energy occurs and to evaluate the scope for Energy Conservation and take concrete steps to achieve the evaluated energy savings.
- MEDA reserves the right to visit at any time without giving prior information to verify quarterly activities performed by the firm and canceling the registration, if the information is found incorrect.
- This empanelment is valid till **21st April, 2023** from the date of registration, to carry out energy audits under the Energy Conservation Programme
- The Director General, MEDA reserves the right to cancel the registration at any time without assigning any reasons thereof.

General Manager (EC)

Enrich Consultants

Yashashree, 26, Nirmal Bag Society,
Near Mukhtangan English School, Parvati, Pune 411 009
Tel: 09890444795 Email: enrichcons@gmail.com

Ref: EC/MITADT/20-21/02 Date: 28/10/2021

CERTIFICATE

This is to certify that we have conducted Green Audit at MIT Art, Design and Technology University, Loni Kalbhor, Pune 412 201, in the year 2020-21.

The University has adopted following Green Practices:

- Maintenance of Good Internal Lawn & Tree Plantation
- Green Cover area of **16.225 Acres** about **25 %** of Total Land Area.
- Maintenance of Good Housekeeping practices
- There are about **4000 Plus** Trees in the campus, belonging to **38** species
- Provision of Ramp for Divyanga students
- Usage of Battery Operated Vehicles in the campus
- Creation of awareness about Resource Conservation by displaying posters

We appreciate the support of Management, involvement of faculty members and students in the process of making the campus Green.

For Enrich Consultants,

A Y Mehendale,
Certified Energy Auditor
EA-8192

INDEX

| No | Particulars | Page No |
|----|-----------------------------|---------|
| I | Acknowledgement | 5 |
| II | Executive Summary | 6 |
| | | |
| 1 | Introduction | 7 |
| 2 | Study of Land Usage Pattern | 10 |
| 3 | Study of Plant Biodiversity | 12 |
| 4 | Study of Green Practices | 14 |
| | Annexure | |
| I | Details of Tree Plantation | 17 |

ACKNOWLEDGEMENT

We Enrich Consultants, Pune, express our sincere gratitude to the management of MIT Art, Design and Technology University, Loni Kalbhor, Pune, for awarding us the assignment of Green Audit of their Loni Kalbhor Campus for the Year: 2020-21.

We are thankful to:

- Prof. Dr. Mangesh T. Karad, Executive Director & Vice Chancellor
- Prof. Dr. Anant Chakradeo, Pro Vice Chancellor
- Dr. Mangesh Chopade, Registrar

We are also thankful to the Director, Internal Quality Assurance Cell and various Head of the Departments & other staff members for helping us during the field study.

EXECUTIVE SUMMARY

After the Field Study & Analysis, we present herewith important observations made during the assignment of Green Audit.

1. MIT Art, Design and Technology University, is located at Loni Kalbhor, on Pune-Hyderabad National Highway. The total area is spread in about 65 Acres, adjacent to Mula-Mutha River.

2. Land Usage Pattern:

1. The Total Area of the University is **65 Acres**
2. The Green Cover area is **16.225 Acres**
3. The percentage of Green Cover to Total Area is **25 %**.

3. Tree Plantation:

- The University has well maintained and landscaped garden.
- There are about **4000 plus** Trees in the campus belonging to **38** species.

4. Green, Innovative and Sustainable Practices:

- The University has well maintained internal roads for easy movement in the campus.
- The University has well maintained House Keeping practices.
- Ramps are provided for easy movement of Divyanga students.
- Battery operated vehicles are used for transportation within the campus.
- To make aware about the importance of Conservation of resources, Display posters emphasizing the importance of Resource Conservation are placed at various important locations.

CHAPTER-I INTRODUCTION

1.1 Objectives:

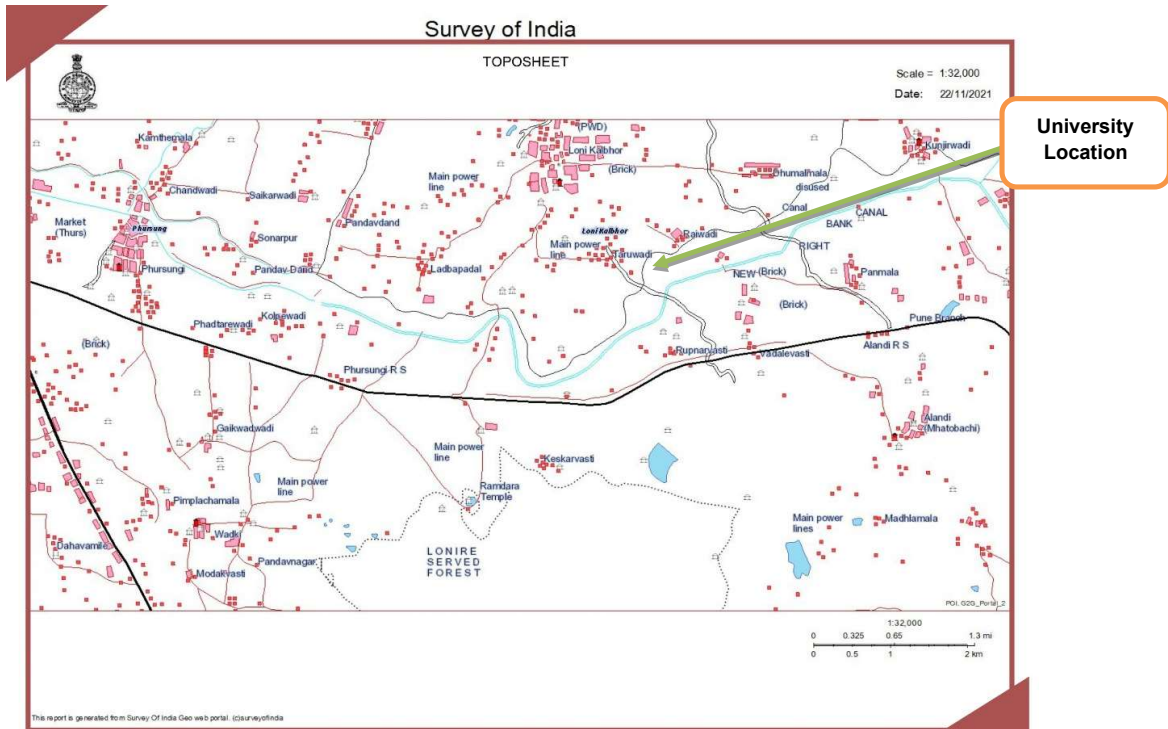
1. To study Land Usage Pattern
2. To Study Plant Biodiversity
3. To study Green Practices

1.2 General Details of University:

Table No 1: General Details

| No | Head | Particulars |
|----|----------------------|--|
| 1 | Name of Institution | MIT Art Design and Technology University |
| 2 | Address | Loni Kalbhor, Pune 412 201 |
| 3 | Latitude / Longitude | 18.49 ⁰ / 74.02 ⁰ |

1.3 Topo Sheet:



1.4 Goggle Earth Image of the University:



1.5 List of Buildings:

1. MANET Building
2. MANET- Workshop-1
3. MANET- Workshop-2
4. MANET- Workshop-3
5. MANET- Workshop-4 (T S Vishwanath)
6. MANET Section- Bio Engineering Building
7. MANET Hostel Blocks: A, B, C, D, E, F
8. Design, Architecture & Fine Arts
9. Design College
10. Design Hostel: Boys & Girls
11. School of Film & Television
12. Makers Space
13. Sangeet
14. Vedic Science
15. VC Bungalow, Admission Cell

16. Laundry
17. Raj Kapoor Bungalow
18. Raj Memorial
19. Raj Restaurant& Boat Club Hostel
20. Sports Complex
21. Engineering & I T
22. Workshop- Engineering

CHAPTER-II

STUDY OF PRESENT LAND USAGE PATTERN& GREEN COVER

In this chapter, we present the Land Usage Pattern& Green Cover.

2.1 Land Usage Pattern:

Table No 2: List of Buildings& Built up Area

| No | Name of Building | Built Up Area in sq.m |
|-----------|---|------------------------------|
| 1 | Marine Engineering | 10407.45 |
| 2 | Design/Architecture/ Fine & Applied Arts | 9323 |
| 3 | Broadcasting/Film/Drama/Holistic | 12916.78 |
| 4 | Sangeet (including Girls Hostel) | 5066.04 |
| 5 | Vedic Science/Education/Humanities | 2640.2 |
| 6 | Workshop Marine Engineering 1 | 975.66 |
| 7 | Workshop Marine Engineering 2 | 975.66 |
| 8 | Workshop Marine Engineering 3 | 257.95 |
| 9 | Workshop Marine Engineering 4 | 604.48 |
| 10 | Workshop Marine Engineering 5 | 919.94 |
| 11 | Ship in Campus | 825.48 |
| 12 | VC Bungalow, Admission Cell, Guest House, Tuck Shop | 2920.91 |
| 13 | Art Gallery | 266.5 |
| 14 | Raj Memorial | 748.4 |
| 15 | Raj Restaurant | 1345.89 |
| 16 | Prayer Hall | 1207 |
| 17 | Laundry | 919.78 |
| 18 | Raj Kapoor Bungalow | 701.33 |
| 19 | Bank of India | 218.6 |
| 20 | Store | 204.41 |
| 21 | Staff Quarter with Filter plant | 2935.58 |
| 22 | Staff Quarters 'A', 'B'&'C' | 7903.8 |
| 23 | Sports Complex | 3350.06 |
| 24 | Play Grounds | 62591.08 |
| 25 | Hostel (Design, Girls Hostel) | 11456.11 |
| 26 | Hostel (Design, Boys Hostel) | 8632.59 |
| 27 | Hostel (Marine Engineering) | 32015.8 |
| 28 | Hostel (Boat Club) | 2604.68 |
| 29 | Workshop Building | 6669.07 |

| | | |
|-----------|--|-----------------|
| 30 | Staff Quarter – II | 2601.75 |
| 31 | Engineering and Information Technology Building [Block-II] | 15689.38 |
| 32 | Engineering and Information Technology Building [Block-I] | 15689.38 |
| 33 | Total | 225584.7 |

2.2 Study of Green Cover:

In the University campus, there are **4209 no.** of trees belonging to **38 no** of species.

2.3 Layout of Green Cover of the University Campus:



2.4 Computation of % of Green Cover to Total Area:

| No | Particulars | Value | Unit |
|----------|---|-----------------|----------|
| 1 | Total Campus Area | 65 | Acres |
| 2 | Total Built up Area | 225584.7 | sq. m. |
| 3 | Area under Green Cover | 16.225 | Acres |
| 4 | % of Green Cover to Total Area= (3) *100 / (1) | 25 | % |

CHAPTER-III

STUDY OF PLANT BIODIVERSITY

3.1 Biodiversity is the variability among living organisms from all sources, including terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems. Biodiversity forms the foundation of the vast array of ecosystem services that critically contribute to human well-being. Biodiversity is important in human-managed as well as natural ecosystems.

Biodiversity is defined as “the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

3.2 List of Plants:

| No | Botanical Name | Common Name | Habit | No. of Trees |
|----|---------------------------------------|--------------------|-------|--------------|
| 1 | <i>Azadirachta Indica</i> | Neem Tree | Tree | 100 |
| 2 | <i>Archontophoneix Cunninghamiana</i> | Bungalow Palm | Tree | 1006 |
| 3 | <i>Acer negundo ne</i> | Three leaved maple | Tree | 61 |
| 4 | <i>Albizia lebbeck</i> | Siris tree | Tree | 530 |
| 5 | <i>Acalypha wilkesiana</i> | Copper leaf | Shrub | |
| 6 | <i>Annona squamosa</i> | Custard apple | Tree | 1 |
| 7 | <i>Bougainvallea Spectabilis</i> | Paper flower | Tree | 42 |
| 8 | <i>Bambusa vulgaris</i> | Common bamboo | Grass | 56 |
| 9 | <i>Canna indica</i> | Indian shot | Herb | 50 |
| 10 | <i>Cynodon dactyl L</i> | Bermuda grass | Grass | |
| 11 | <i>Cocosnucifera</i> | Coconut palm | Tree | 250 |
| 12 | <i>Carica papaya</i> | papaya | Tree | 1 |
| 13 | <i>Casuarina cunninghamiana</i> | River oak | Tree | 15 |
| 14 | <i>Duranta erecta</i> | Skyflower | Shrub | |
| 15 | <i>Dracena trifasciata</i> | Snake plant | Shrub | 20 |
| 16 | <i>Delonix regia</i> | Flame tree | Tree | 235 |
| 17 | <i>Dypsis lutesens</i> | Areca palm | Tree | 510 |
| 18 | <i>Ficus benjamina</i> | Weeping fig | Tree | 40 |
| 19 | <i>Ficus religiosa</i> | Peepul | Tree | 20 |
| 20 | <i>Ficus glomerata</i> | Gular | Tree | 10 |
| 21 | <i>Heliconia restrota</i> | Lobster claw | Shrub | |

| | | | | |
|----|--------------------------------|-------------------------|-------|-----|
| 22 | <i>Latania lontaroides</i> | Red latan palm | Tree | 40 |
| 23 | <i>Muting calabura</i> | Birds cherry | Tree | 25 |
| 24 | <i>Monstera deliciosa</i> | Slipt leaf philodendron | Herb | 6 |
| 25 | <i>Millingtonia hortensis</i> | Indian cork tree | Tree | 60 |
| 26 | <i>Nerium oleander L</i> | Oleander | Shrub | 140 |
| 27 | <i>Peltophorum pterocarpum</i> | Yellow flame tree | Tree | 16 |
| 28 | <i>Plumbago auriculata</i> | Nila Chitra | Shrub | |
| 29 | <i>Plumeria obtuse</i> | White frangipani | Tree | 86 |
| 30 | <i>Phoenix dactylifera</i> | Date palm | Tree | 20 |
| 31 | <i>Plumera rubra</i> | Red frangipani | Tree | 26 |
| 32 | <i>Ricinus communis</i> | Castor oil plant | Shrub | 250 |
| 33 | <i>Spathodea campanulata</i> | African tulip tree | Tree | 25 |
| 34 | <i>Scirpus Scirpus</i> | Club rush | Grass | |
| 35 | <i>Saraca asoca</i> | Ashoka tree | Tree | 360 |
| 36 | <i>Tagetes erecta</i> | African marigold | Herb | 40 |
| 37 | <i>Tamarind Indica</i> | Tamarind | Tree | 35 |
| 38 | <i>Terminalia catappa</i> | Indian almond | Tree | 53 |

3.3 Summary:

| No | Particulars | Value |
|----|---------------------|-------------|
| 1 | Total No of Trees | 4209 |
| 2 | Total No of Species | 38 |

3.4 The Tree Plant details are attached separately in the Annexure.

CHAPTER IV

STUDY OF GREENAND SUSTAINABLE PRACTICES

4.1 Internal Roads:

For easy movement of commuters, in the campus, the University has maintained good internal roads, within the campus. For pedestrians, separate foot paths are constructed.



Photograph of Internal Road

4.2 Good Internal Lawn:

The University is maintaining very Clean Campus, inside the Buildings as well as outer areas.



Photograph of Internal Lawn

4.3 Good Housekeeping Practices:

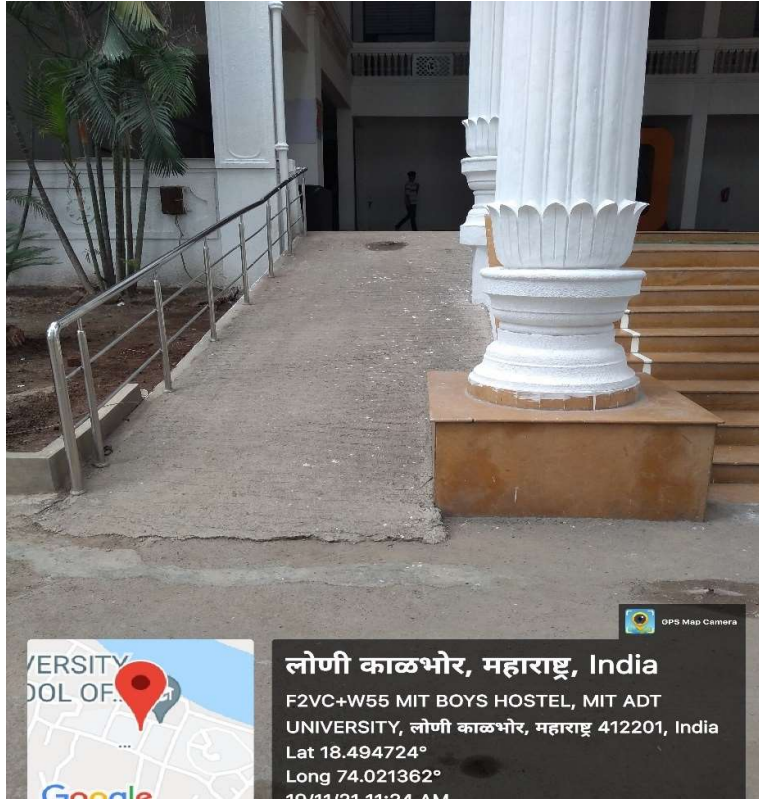
The University is maintaining very Clean Campus, inside the Buildings as well as outer areas.



Photograph of Cleaning the Lawn

4.4 Provision of Ramp for Divyanga Students:

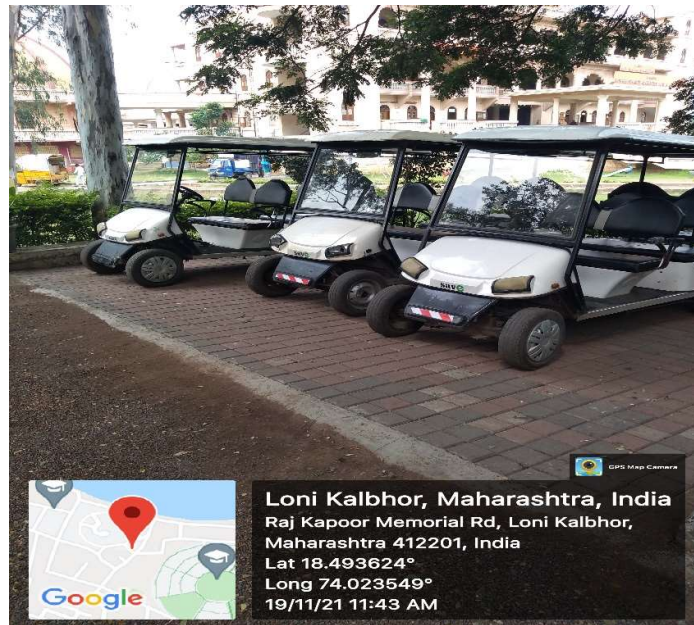
The University has made provision of Ramp, for easy movement of Divyanga students.



Photograph of Ramp

4.5 Usage of Battery Operated Vehicles:

The University is making use of Battery Operated Vehicles for transportation in the campus.



Photograph of Battery Operated Vehicle

4.6 Creating Awareness about Importance of Resource Conservation:



In order to create awareness among the stake holders about the Conservation of various resources like Electricity, posters are displayed at various locations.




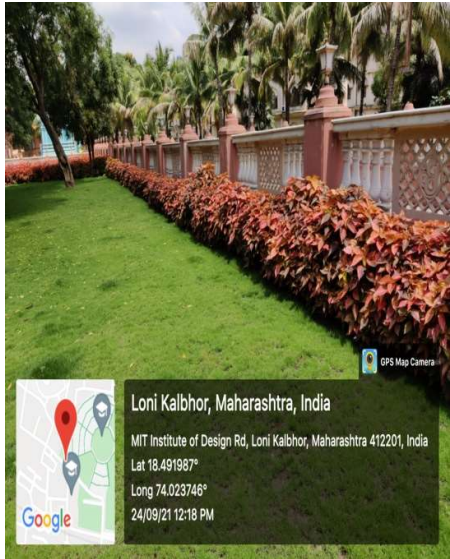
Photograph of Poster of Switching of the Lights when not in use

ANNEXURE: DETAILS OF TREE PLANTATION



| No | Botanical Name | Common Name | Habit | Photograph |
|----|----------------|-------------|-------|------------|
|----|----------------|-------------|-------|------------|

| 1 | Archontophoenix Cunninghamiana | Bungalow Palm | Tree |  |
|----|-----------------------------------|------------------|-------|---|
| No | Botanical Name | Common Name | Habit | Photograph |
| 2 | Azadirachata Indica | Neem Tree | Tree |  |

| No | Botanical Name | Common Name | Habit | Photograph |
|----|----------------|-------------|-------|------------|
|----|----------------|-------------|-------|------------|

| 3 | Acer Negundo Ne | Tree Leveled Mapple | Tree |  |
|----|------------------------|---------------------------|-------|---|
| No | Botanical Name | Common Name | Habit | Photograph |
| 4 | Acalypha wilkesiana | Copper leaf | Shrub |  |

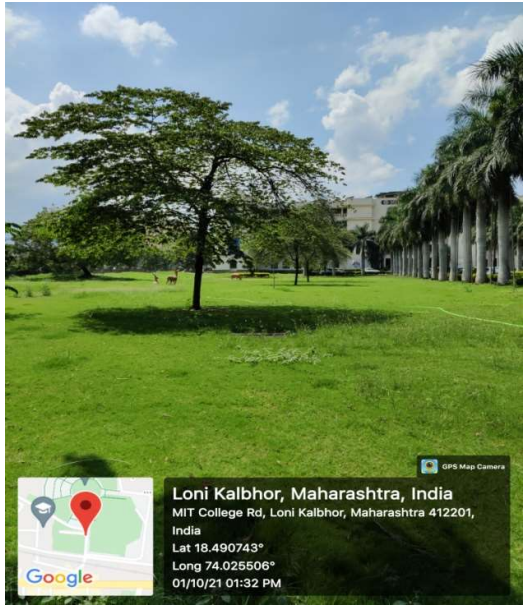
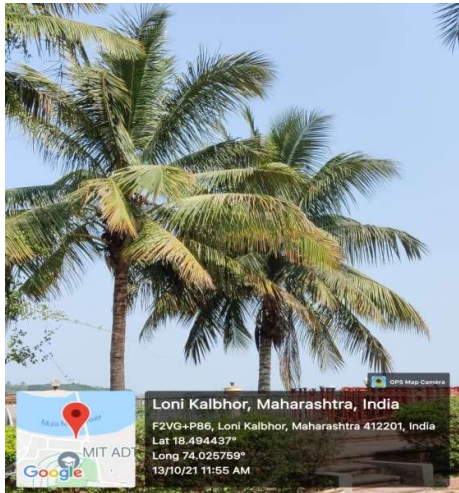
| No | Botanical Name | Common Name | Habit | Photograph |
|----|----------------|-------------|-------|------------|
|----|----------------|-------------|-------|------------|

| | | | | |
|---|-----------------|---------------|------|---|
| 5 | Albizia lebbeck | Siris tree | Tree |  |
| 6 | Annona squamosa | Custard apple | Tree |  |

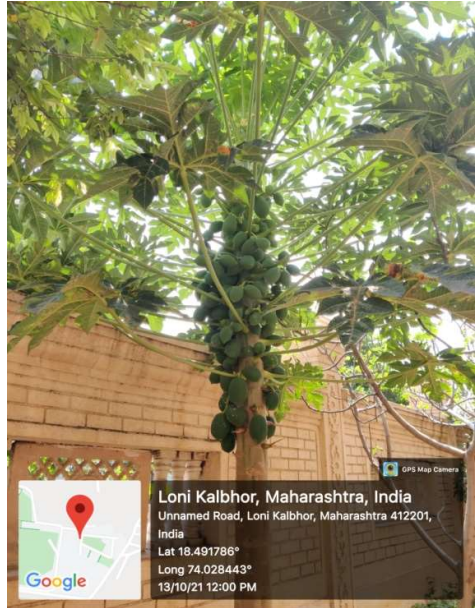

| No | Botanical | Common | Habit | Photograph |
|----|-----------|--------|-------|------------|
|----|-----------|--------|-------|------------|

| No | Botanical Name | Common Name | Habit | Photograph |
|----|---------------------------|---------------|------------|--|
| 7 | Bougainvillea Spectabilis | Paper Flower | Tree |  |
| 8 | Bambusa vulgaris | Common Bamboo | Tree/grass |  |

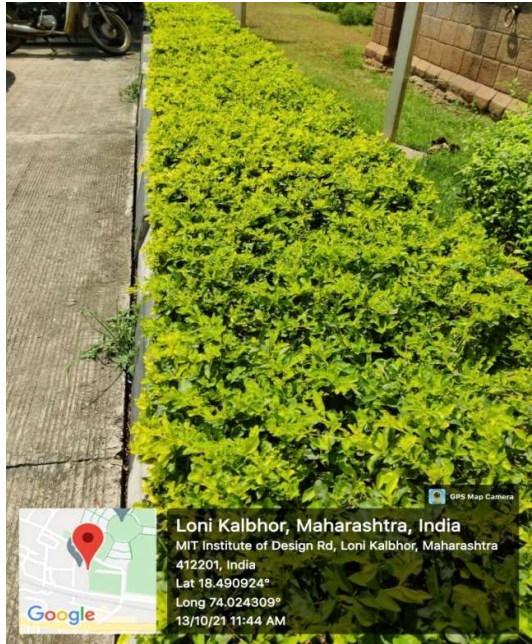

| No | Botanical Name | Common Name | Habit | Photograph |
|----|----------------|-------------|-------|------------|
|----|----------------|-------------|-------|------------|

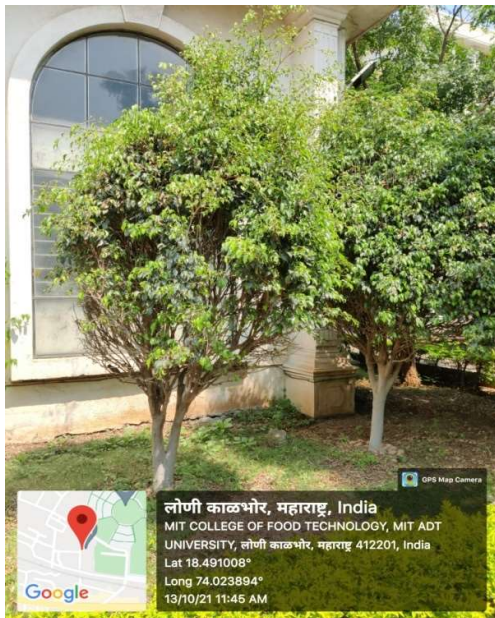
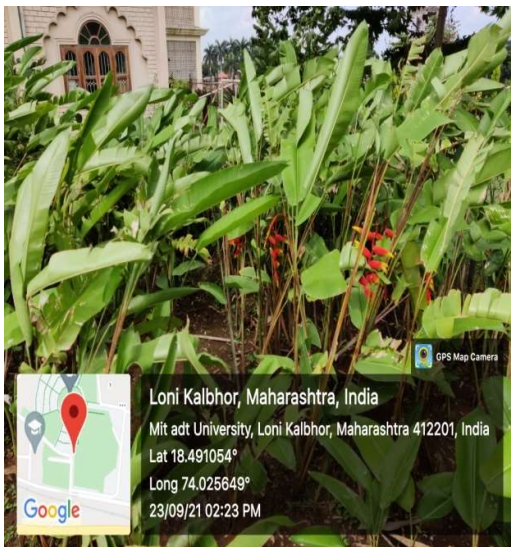
| | | | | |
|----|---------------------|------------------|-------|---|
| 9 | Cynodon Dactyl L | Bermuda Grass | Grass |  |
| 10 | Cocosnucifera | Coconut Palm | Tree |  |

| No | Botanical | Common | Habit | Photograph |
|----|-----------|--------|-------|------------|
|----|-----------|--------|-------|------------|



| | Name | Name | | |
|----|----------------------------|-----------|------|---|
| 11 | Carica Papaya | Papaya | Tree |  |
| 12 | Casuarina Cunnighaminia | River Oak | Tree |  |

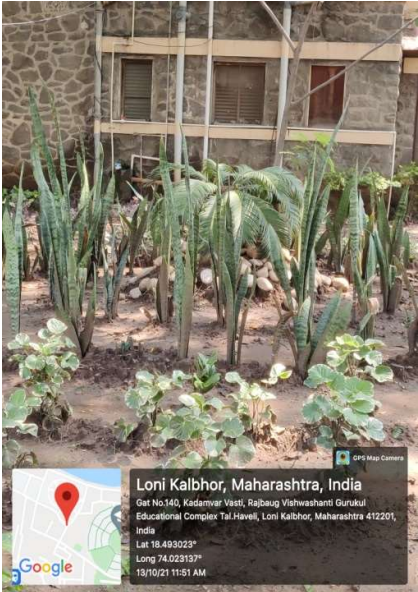

| No | Botanical Name | Common Name | Habit | Photograph |
|----|----------------|-------------|-------|------------|
|----|----------------|-------------|-------|------------|

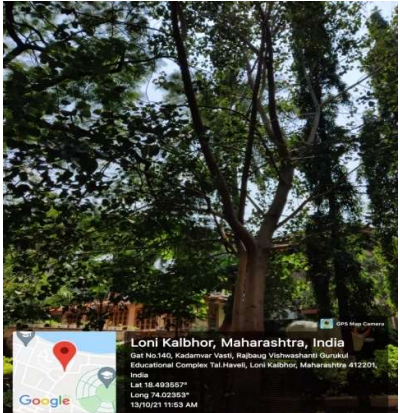


| | | | | |
|----|----------------|------------|-------|---|
| 13 | Duranta erecta | Sky flower | Shrub |  |
| 14 | Delonix Ragia | Flame Tree | Tree |  |




| No | Botanical Name | Common Name | Habit | Photograph |
|----|--------------------|--------------|-------|--|
| 15 | Ficus Benjamina | Weeping Fig | Tree |  |
| 16 | Heliconia Restrota | Lobster Claw | Shrub |  |


| No | Botanical Name | Common Name | Habit | Photograph |
|----|----------------|-------------|-------|------------|
|----|----------------|-------------|-------|------------|



| | | | | |
|----|--------------------|-------------------------|------|---|
| 17 | Muting Calabura | Birds Cherry | Tree |  <p>GPS Map Camera Loni Kalbhor, Maharashtra, India MIT College Rd, Loni Kalbhor, Maharashtra 412201, India Lat 18.490743° Long 74.025506° 01/10/21 01:32 PM</p> |
| 18 | Monstera Deliciosa | Slipt leaf philodendron | Herb |  <p>GPS Map Camera Loni Kalbhor, Maharashtra, India MIT Institute of Design Rd, Loni Kalbhor, Maharashtra 412201, India Lat 18.490983° Long 74.024239° 13/10/21 11:44 AM</p> |


| No | Botanical Name | Common Name | Habit | Photograph |
|----|----------------------------|-------------|-------|---|
| 19 | <i>Dracena trifasciata</i> | Snake plant | Shrub |  |
| 20 | <i>Dypsis lutescens</i> | Areca palm | Tree |  |



| No | Botanical Name | Common Name | Habit | Photograph |
|----|---------------------|----------------|-------|---|
| 21 | Ficus religiosa | Peepul | Tree |  <p>Loni Kalbhor, Maharashtra, India Dist. Nashik, Kadamer West, Rabang Vasthasthanti Gurukul Educational Complex, Tal. Haveli, Loni Kalbhor, Maharashtra 412201, India Lat 18.493557° Long 74.02353° 13/10/21 11:53 AM</p> |
| 22 | Ficus glomerata | Gular | Tree |  <p>Loni Kalbhor, Maharashtra, India Dhanand Road, Loni Kalbhor, Maharashtra 412201, India Lat 18.49202° Long 74.028769° 13/10/21 12:10 PM</p> |
| 23 | Latania lontaroides | Red latan palm | Tree |  <p>Loni Kalbhor, Maharashtra, India F2VG+MC2, Loni Kalbhor, Maharashtra 412201, India Lat 18.49377° Long 74.026089° 23/09/21 12:39 PM</p> |

| No | Botanical Name | Common Name | Habit | Photograph |
|----|-------------------------|-------------------|-------|--|
| 24 | Millingtonia hortensis | Indian cork tree | Tree |  |
| 25 | Nerium oleander L | Oleander | Shrub |  |
| 26 | Peltophorum pterocarpum | Yellow flame tree | Tree |  |


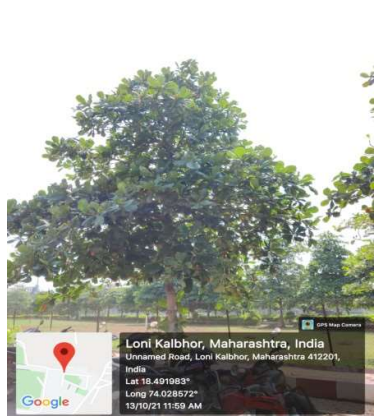

| | | | | |
|----|--------------------|-------------|-------|--|
| 27 | Plumbago auriolata | Nila Chitra | Shrub |  |
|----|--------------------|-------------|-------|--|

| No | Botanical Name | Common Name | Habit | Photograph |
|----|---------------------|------------------|-------|--|
| 28 | Plumeria obtuse | White frangipani | Tree |  |
| 29 | Phoenix dactylifera | Date palm | Tree |  |

| | | | | |
|----|------------------|------------------|-------|--|
| 30 | Plumera rubra | Red frangipani | Tree |  <p>Loni Kalbhor, Maharashtra, India Unnamed Road, Loni Kalbhor, Maharashtra 412201, India Lat 18.491463° Long 74.028467° 13/10/21 12:07 PM</p> |
| 31 | Ricinus communis | Castor oil plant | Shrub |  <p>लोणी काळभोर, महाराष्ट्र, India MIT BOYS HOSTEL, MIT ART UNIVERSITY, लोणी काळभोर, महाराष्ट्र 412201, India Lat 18.496244° Long 74.02117° 13/10/21 12:13 PM</p> |
| 32 | Salvia splendens | Scarlet sage | Herb |  <p>Loni Kalbhor, Maharashtra, India MIT Institute of Design Rd, Loni Kalbhor, Maharashtra 412201, India Lat 18.490717° Long 74.024756° 13/10/21 11:42 AM</p> |

| No | Botanical Name | Common Name | Habit | Photograph |
|----|-----------------|-------------|-------|---|
| 33 | Scirpus Scirpus | Club rush | Grass |  |
| 34 | Saraca asoca | Ashoka tree | Tree |  |

| No | Botanical Name | Common Name | Habit | Photograph |
|----|----------------|------------------|-------|---|
| 35 | Tagetes erecta | African marigold | Herb |  |

| | | | | |
|----|--------------------|---------------|------|---|
| 36 | Tamarind indica | Tamarind | Tree |  |
| 37 | Teminalia catappa | Indian almond | Tree |  |
| 38 | Canna Indica | Indian Shot | Herb |  |