



Green & Environmental Audit

Certificate of Completion

This is to certify that

Gharda Institute of Technology, Level

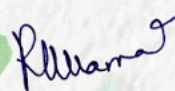
Tal. Khed, Dist. Ratnagiri, pin 415708.

Has successfully completed Green & Environmental Audit by
Department of Technology, Shivaji University, Kolhapur

16/03/2022


Co-ordinator

Environmental Science and Technology
Department of Technology


Director

Department Of Technology
Shivaji University, Kolhapur

Kolhapur - 415 004, Maharashtra (India)
Tel. : 0231-2609413 E-mail : director.tech@unishivaji.ac.in

Green and Environmental Audit Report

Gharda Institute of Technology, Lavel
2022



Internal Quality Assurance Cell (IQAC)



Department of Technology Shivaji University, Kolhapur

(Approved by DET Govt. of Maharashtra & AICTE)

Kolhapur - 415 004, Maharashtra (India)
Tel. : 0231-2609413 E-mail : director.tech@unishivaji.ac.in

No.DOT/Consultancy & Testing Cell/

Date: 16/03/2022

To,
The Principal,
Gharda Institute of Technology, Lavel,
Tal- Khed,
Dist-Ratnagiri, PIN-415708

Sub : Regarding Green Audit of your institute.
Ref : Your P.O. dated 06 / 01 /2022.

Dear Sir,

Thank you for your proposal for Green Audit of your institute. As per the P.O. we have completed the task of Green & Environmental Audit through our team as under:

- *Water Management Audit of every building.*
- *Waste Water Management guidelines.*
- *Solid Waste Management scenario & suggestions.*
- *Potential of Rain Water Harvesting.*
- *Present Plantation & Green belt stretch report.*

Our Audit team has scrutinized all the details of Green Audit during visit of our team during 11th -13th February 2022.

The detailed report of the audit is enclosed herewith.

Yours faithfully,

Director,
Department of Technology,
Shivaji University, Kolhapur.
Department of Technology
Shivaji University, Kolhapur

CONSULTANCY & TESTING CELL
Department of Technology,
Shivaji University, Kolhapur (Maharashtra).



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CHAPTER 1

INTRODUCTION

1

Introduction

- **General Introduction of Green and Environmental 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 examine environmental practices within the premises of the concerned sites, which will have an impact on the eco-friendly atmosphere.

Sustainability is becoming an integral part of the global resource management technique. Evaluation of impacts on the natural resources within the premises due to routine activities of the organization. Environmental audit is systematic documented and objective oriented approach to verify the evidences pertaining to various environmental aspects.

- **Objectives:**

1. To recognize the initiative taken by organization towards environment.
2. To provide a healthy environment in campus
3. To enhance awareness towards environmental guidelines and responsibilities.
4. To identify cost saving methods through minimizing and effectively managing waste.

- **Green /Environmental Audit Process:**

Audit process at campus is in three phases:

a) Pre-audit activity, b) Audit and c) Action Plans and Recommendations

The green/Environmental audit practically involves examine different components like water management, Solid/E-waste waste management, Waste water treatment and reuse of water, use of renewable sources and biological diversity at campus. Towards better and better performance for the sustainable development of the organization.

- **Introduction of Gharda Institute of Technology (GIT), Level.**

Gharda Institute of Technology is the dream project of “Padmashree Dr. Keki H. Gharda”, a successful businessman, internationally acclaimed scientist, visionary and a great lover of books & education. To offer quality education at an

affordable cost under the banner of Gharda Foundation, Dr. Gharda conceived an ambitious project of GIT, at a scenic location of Lavel in Ratnagiri district of Maharashtra for the benefit of ambitious and intelligent students of rural region, aspiring to become engineers. Gharda Institute of Technology (GIT) is located around 230 Km from Mumbai in a village called Lavel, 1 Km off Mumbai - Goa Road. It can be reached by train from Khed railway station (13 Km) or Chiplun railway station (17 Km). It is situated in the midst of nature surrounded by greenery and waterfalls and there is sparse population in nearby areas. Gharda Institute of Technology has a huge campus with a good hostel accommodation facility for both boys and girls. Different buildings are assigned for different departments. There is a huge and well equipped library with all books available. All the classrooms have a good ventilation system.

There are 3 hostels on campus: one for all the girls, one for first year (boys) and one for remaining 3 years (boys). The hygiene of hostels is well maintained. The Institute has residential facility separately for Boys and Girls students. It accommodates 530 Boys and 220 Girls students in three hostels. The total land area of the campus is 63.19 acre and total numbers of students are 1091.



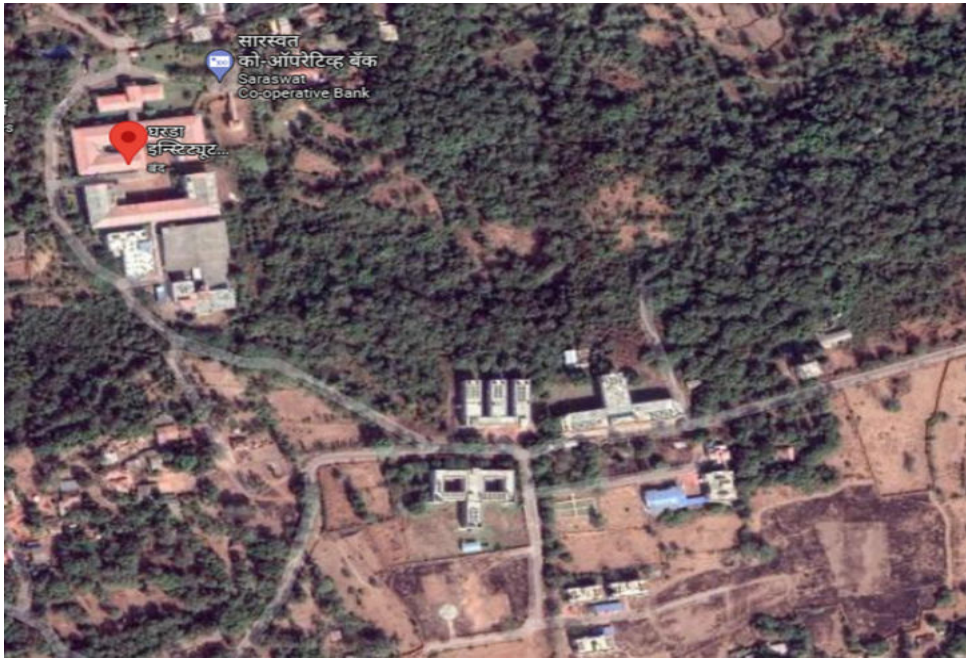
GREEN AUDIT COMMITTEE

| | | |
|---|--------------------|-----------------------------------------------|
| 1 | Er. S. M. Bhosale | Head, Environmental Sci. & Tech. Dept. |
| 2 | Er. A. A. Kulkarni | Asst. Prof., Environmental Sci. & Tech. Dept. |
| 3 | Dr. G. S. Kulkarni | Research Professor, Environ. Sci. & Tech. |

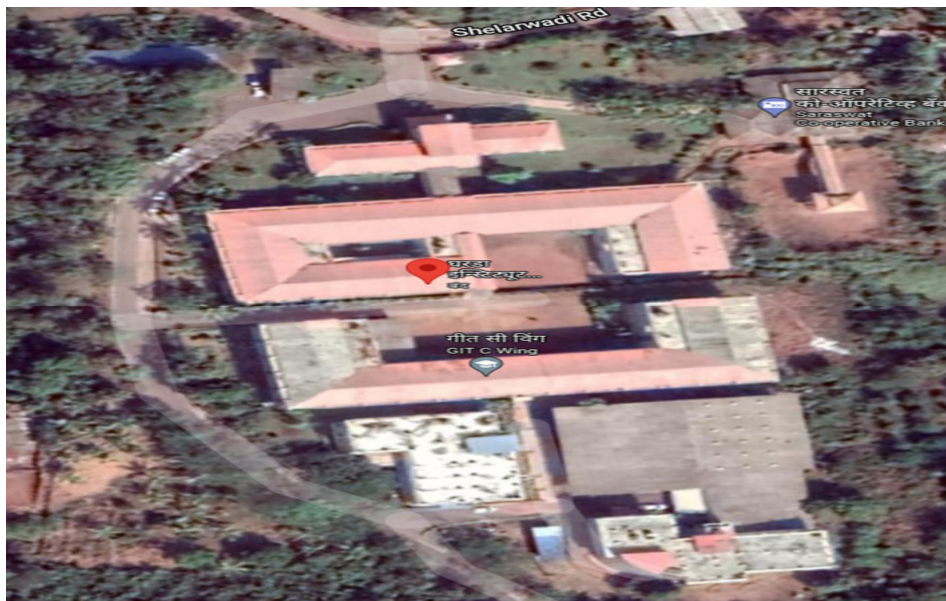
CHAPTER 2

ABOUT THE INSTITUTE

2

About the Institute

Total Campus top view (Source: Google Earth)



Top View of Wings: A, B, C, D, E (Source: Google Earth)

Students Intake Details

| Sr. No | Year | Course | Intake | 16-17 | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 |
|--------------|------|-------------|--------|-------------|-------------|------------|-------------|-------------|-------------|
| 1 | F.E. | CHEM. ENGG. | 60+3 | 46 | 36 | 27 | 32 | 29 | 37 |
| 2 | S.E. | CHEM. ENGG. | 60 | 48 | 70 | 65 | 71 | 74 | 73 |
| 3 | T.E. | CHEM. ENGG. | 60 | 64 | 48 | 63 | 75 | 69 | 74 |
| 4 | B.E. | CHEM. ENGG. | 60 | 62 | 68 | 62 | 67 | 66 | 68 |
| 5 | F.E. | CIVIL ENGG. | 60+3 | 57 | 40 | 15 | 17 | 26 | 21 |
| 6 | S.E. | CIVIL ENGG. | 60 | 74 | 78 | 68 | 82 | 72 | 66 |
| 7 | T.E. | CIVIL ENGG. | 60 | 81 | 84 | 68 | 78 | 84 | 72 |
| 8 | B.E. | CIVIL ENGG. | 60 | 95 | 86 | 62 | 70 | 69 | 85 |
| 9 | F.E. | COMP. ENGG. | 60+3 | 40 | 44 | 57 | 70 | 53 | 69 |
| 10 | S.E. | COMP. ENGG. | 60 | 28 | 55 | 69 | 73 | 72 | 77 |
| 11 | T.E. | COMP. ENGG. | 60 | 28 | 31 | 61 | 68 | 72 | 72 |
| 12 | B.E. | COMP. ENGG. | 60 | 55 | 31 | 45 | 49 | 63 | 71 |
| 13 | F.E. | EXTC. ENGG. | 60+3 | 22 | 36 | 08 | 10 | 33 | 21 |
| 14 | S.E. | EXTC. ENGG. | 60 | 26 | 28 | 22 | 23 | 16 | 44 |
| 15 | T.E. | EXTC. ENGG. | 60 | 45 | 34 | 38 | 40 | 27 | 16 |
| 16 | B.E. | EXTC. ENGG. | 60 | 71 | 46 | 29 | 31 | 36 | 27 |
| 17 | F.E. | MECH. ENGG. | 60+3 | 56 | 47 | 21 | 28 | 29 | 17 |
| 18 | S.E. | MECH. ENGG. | 60 | 75 | 79 | 72 | 80 | 51 | 57 |
| 19 | T.E. | MECH. ENGG. | 60 | 79 | 84 | 69 | 73 | 73 | 51 |
| 20 | B.E. | MECH. ENGG. | 60 | 69 | 89 | 70 | 80 | 72 | 73 |
| 21 | T.E. | IT. ENGG. | 60 | 03 | 02 | 00 | 00 | 00 | 00 |
| 22 | B.E. | IT. ENGG. | 60 | 12 | 05 | 00 | 00 | 01 | 00 |
| Boys+Girls | | | | 871+265 | 891+230 | 752+239 | 846+271 | 834+253 | 852+239 |
| Total | | | | 1136 | 1121 | 991 | 1117 | 1087 | 1091 |

Teaching & Non-Teaching Staff Details (Year wise)

| Sr. No | Teaching staff | 16-17 | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 |
|------------------------|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1 | APPLIED SCIENCE & HUMANITIES | 11 | 11 | 12 | 10 | 11 | 11 |
| 2 | CHEMICAL ENGG. | 12 | 13 | 10 | 09 | 11 | 11 |
| 3 | MECHANICAL ENGG. | 14 | 14 | 10 | 10 | 10 | 10 |
| 4 | COMPUTER ENGG. | 14 | 15 | 09 | 11 | 10 | 10 |
| 5 | EXTC. ENGG | 14 | 14 | 13 | 10 | 10 | 10 |
| 6 | CIVIL ENGG. | 10 | 13 | 12 | 11 | 11 | 11 |
| Gents +Ladies | | 58+17 | 63+17 | 59+7 | 54+7 | 55+8 | 56+7 |
| Total | | 75 | 80 | 66 | 61 | 63 | 63 |
| Sr. No | Technical staff | 16-17 | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 |
| 1 | APPLIED SCIENCE & HUMANITIES | 01 | 01 | 01 | 01 | 01 | 01 |
| 2 | CHEMICAL ENGG. | 04 | 04 | 04 | 04 | 04 | 04 |
| 3 | MECHANICAL ENGG. | 07 | 07 | 07 | 05 | 05 | 06 |
| 4 | COMPUTER ENGG. | 05 | 05 | 05 | 05 | 05 | 05 |
| 5 | EXTC. ENGG | 04 | 04 | 03 | 03 | 03 | 03 |
| 6 | CIVIL ENGG. | 02 | 03 | 03 | 02 | 02 | 02 |
| Gents +Ladies | | 20+03 | 21+03 | 21+02 | 19+01 | 19+01 | 20+01 |
| Total | | 23 | 24 | 23 | 20 | 20 | 21 |
| Sr. No | General Administration | 16-17 | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 |
| 1 | General Administration | 23 | 26 | 22 | 26 | 24 | 23 |
| Sr. No | Contractual Persons | 16-17 | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 |
| 1 | Contractual Persons | 60 | 60 | 58 | 55 | 52 | 52 |
| Number of working days | | | | | | | |
| Sr. No | Number of working days | 16-17 | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 |
| 1 | Number of working days | 296 | 284 | 291 | 295 | 297 | 286 |

Area occupied by various buildings at GIT, Level

| Institute Building | | |
|-----------------------------------|---------------------------|----------------------|
| Sr. No | Name of Building | Built up Area(Sq.m) |
| 1 | 'A' Wing | 1235.00 |
| 2 | 'B' Wing | 4838.00 |
| 3 | 'C' Wing | 5774.00 |
| 4 | Workshop | 1480.00 |
| 5 | Strength of Material Lab. | 225.00 |
| 6 | Library | 1299.00 |
| 7 | Canteen | 313.00 |
| 8 | Canteen Extension | 80.00 |
| 9 | Security Cabin | 12.45 |
| 10 | Snack Center | 64.00 |
| 11 | D.G. Room | 45.91 |
| Institute Building Total | | 15366.36 |
| Residential Building | | |
| 1 | Boys Hostel-I | 4500.00 |
| 2 | Boys Hostel-II | 3410.00 |
| 3 | Girls Hostel-I | 3350.00 |
| 4 | Principle Bungalow | 155.00 |
| 5 | 2 BHK Staff Quarter-I | 1020.00 |
| 6 | 1 BHK Staff Quarter-I | 690.00 |
| 7 | 1 BHK Staff Quarter-II | 690.00 |
| Residential Building Total | | 13815.00 |
| Other Work | | |
| 1 | Under Ground Water Tanks | 3 Lakh Liters |
| 2 | Over Head Water Tanks | 2.40 Lakh Liters |

| Hostel details | | | | | |
|-----------------------|-------------------------------|--------------------|----------------------|---------------------------|------------------------------|
| Sr. No | Name of Building | Area (Sq.m) | No. of Floors | Total Rooms (Nos.) | Total Capacity (Nos.) |
| 1 | Boys Hostel-I (Shivneri) | 4500.00 | G+2 | 86 | 297 |
| 2 | Boys Hostel-II (Raigad) | 3410.00 | G+2 | 85 | 240 |
| 3 | Girls Hostel-I (Ajinkyatara) | 3350.00 | G+2 | 74 | 220 |
| | | | | Total | 757 |



Top View of Hostels & Guest House (Source: Google Earth)



Drone view of hostel buildings and ground at GIT, Level

CHAPTER 3

WATER MANAGEMENT

3

Water Management

Buildings and water storage capacities at GIT, Lavel campus

| Sr. No | Location | No. of Tank | Capacity in Ltr. |
|---------------------------------------------|------------------------------|---------------------------|-----------------------|
| 1 | 'B' Wing | 2×2000 | 4000 |
| 2 | 'C' Wing | 2×5000 | 10000 |
| 3 | Workshop | 1×2000 | 2000 |
| 4 | Library | 1×2000 | 2000 |
| 5 | Civil | 1×2000 | 2000 |
| 6 | UG Tank near 'B' Wing | 1×35000 | 35000 |
| 7 | Snack Center | 1×2000 | 2000 |
| 8 | Boys Hostel-I (Shivneri) | 6×2000 3×500 | 12000 1500 |
| 9 | Boys Hostel-II (Raigad) | 6×5000 3×500 | 30000 1500 |
| 10 | Girls Hostel-I (Ajinyatara) | 4×2000 4×5000 3×500 | 8000 20000 1500 |
| 11 | Principle Bungalow | 1×2000 | 2000 |
| 12 | 2 BHK Staff Quarter-I | 4×2000 | 8000 |
| 13 | 1 BHK Staff Quarter-I | 4×2000 | 8000 |
| 14 | 1 BHK Staff Quarter-II | 4×2000 | 8000 |
| 15 | 1 BHK Staff Quarter-III | 1×10000 | 10000 |
| 16 | Attach Room Building | 1×2000 | 2000 |
| 17 | ValmikiChal | 1×2000 | 2000 |
| 18 | Main Under Ground Water Tank | 1×300000 | 300000 |
| 19 | Over Head Water Tank | 1×240000 | 240000 |
| Total water storage Capacity in Ltr. | | | 711500 |

Rainwater Harvesting

Rainwater harvesting is a technology mainly divided in two types surface rainwater harvesting and rooftop rainwater harvesting. Rainwater harvesting is the collection and storage of rain, rather than allowing it to run off. (runoff is nothing more than water "running off" the land surface) Rain water is the purest form of water available to us in the nature only for a few months in a year.

| Sr. No | Description | Details |
|--------|------------------------------------------------------------------------------------|------------------------------|
| 1 | The coefficient of permeability (K) in soil sample of GIT rainwater harvesting pit | 3.093*10 ³ cm/sec |
| 2 | Length of pit | 34 M |
| 3 | Width of pit | 18 M |
| 4 | Height of pit | 3.4 M |
| 5 | Total catchment Area of pit | 612 Sq.M |
| 6 | The capacity of rain harvesting pit | 20,80,612 Lit. |
| 7 | Total seepage loss in our GIT pit in terms of litres | 1.041 lit/sec |
| 8 | Percentage of seepage loss in Pit | 21.85% |
| 9 | Total catchment area of roof in GIT campus | 4098 Sq.M |
| 10 | The annual rainfall in Kankan belt | 4082 |



Rooftop rainwater harvesting collection tank

| | |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |
| <p>Civil Engg. Dept. toilet water censer installation</p> | |
|  |  |
| <p>Water Pond</p> | <p>Sprinkler system for Lawn</p> |
|  |  |
| <p>Roof top rainwater collection</p> | <p>Roof top rainwater down take pipe</p> |

Observations:

Two wells are main water sources for GIT, Lavel campus. Water lifted from wells by 7.5 HP pumps through intermediate pumping station up to main underground water tank having 30,0000 Lit. capacity. Water is lifted by another 7.5 HP Pump in ESR 240000 Ltr. Capacity which is distribution reservoir for campus. Separate team is assigned for water distribution operation at campus.

In summer season when there will be shortage of water in source wells, water tankers are hired by GIIT, Authorities as per requirements. Water quality of hired tankers are tested randomly.

For Fire disaster management system around institutional campus, separates water tank is provided by institute. Water conservation awareness slogans are placed at bathroom and toilets at each floor.

Water testing is done by Chemical & Civil Engg. department for samples of campus as well as tanker water in summer season.

Recommendations:

Attention towards Roof top rain water harvesting system (down take pipe + rain water collection gutters) for hostel building for surface water harvesting at downstream side of hostel area.

CHAPTER 4

WASTEWATER MANAGEMENT

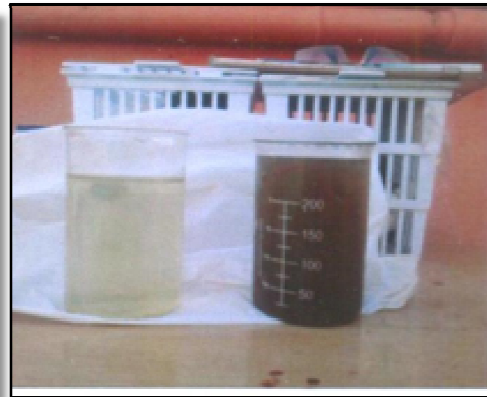
4

Wastewater Management**Wastewater Treatment Plant**

Location: Behind Girls Hostel



Bio-filter Plant



Sprinklers in bio bed before and after treatment view



Utilization of water after wastewater treatment for Banana and Papaya Plantation.

| Wastewater Treatment Plant | |
|---------------------------------------------------------|---------------|
| Installed Plant Capacity | 30 KLD |
| Treated water is used for banana and papaya plantation. | |

Observations:

Wastewater from “Ajinkyatara” (girl’s hostel) is collected in sump near Bio filter plant and treated water from bio filter technology is used for banana and papaya plantation.

Wastewater from Raigad and Shivneri (boy’s hostel) is collected in sump near Bio filter plant and treated water from bio filter technology used for plantation on downstream side of plantation.

Wastewater from institutional wings is collected in sump near main gate parking area of GIT, Campus and partially treated water is used for coconut plantation.

Recommendations:

Special attention is required towards wastewater treatment from institutional wings near main gate like alternative options like constructed wetland.

CHAPTER 5

SOLID WASTE MANAGEMENT

5

Solid Waste Management**BIO-FERTILIZER (BIO-COMPOSTING)**

Application of Organic Waste Converter for segregated biodegradable waste from different sources like canteen, boys and girls hotel mess of Gharda Institute of Technology, Campus. Composting is the best method to convert this organic waste and this resultant product is called as manure, which is an excellent fertilizer utilize for plantation at campus.



For this process we required saw dust and the solid waste such as kitchen waste, canteen waste etc. The two chemicals used in this processes are Bioculum and Sanitreat. Sanitreat is used to control the putrefaction (decay) process of organic waste materials and Bioculum is used for accelerates the aerobic composting of bio degradable organic waste. It also treats the waste and makes it free from pathogens, foul smells and weed seeds. Specifications for both are as follows:

- Sanitreat is herbal and mineral mixture that is a nontoxic and environmentally safe way to sanitization. It is highly effective over both segregated and desegregated organic waste. Sanitreat retards the formation of toxic leachates and gases; it is able to make organic garbage stink free in just a few minutes.

Formulation

- Sanitreat is a free flowing light brown powder. It is a non-hazardous mixture of mineral and herbal components that control the putrefaction process of organic waste materials. It retards the formation of toxic leachates and gases which results in the rapid control of odor.

Application

Powder should be sprayed dry over the waste using a powder sprayer. No special handling precautions are required. But it is recommended that operators wear gloves. Application rates vary depending on the organic content of the waste, climatic conditions and age of the waste. About 1.5 to 2 kgs. is sufficient to cover 1 Metric Ton of the waste. The dose is indicative of likely application rates, but trials are recommended.

Bioculum is a mixture of microorganism cultures that accelerate the aerobic composting of bio degradable organic waste. It also treats the waste and makes it free from pathogens, foul smells and weed seeds.

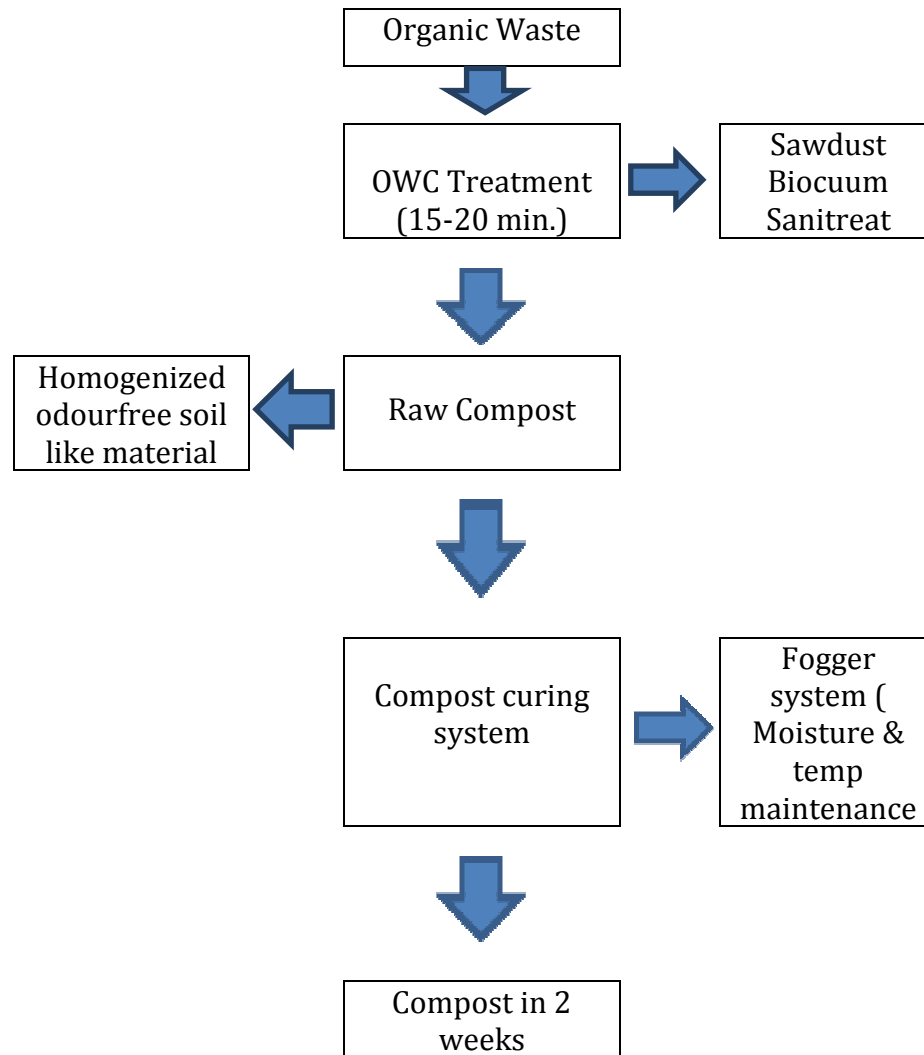
Bioculum is a key input in the OWC process and consists of cultures of naturally occurring bacteria, fungi and actinomycitis along with enzymes. These facilitate the rapid conversion of organic waste into bio stabilized compost. It is free from any toxic or hazardous components. It preserves the vital nutrients and organic matter in the waste.

Applications

Proper treatment of Organic Waste using Bioculum converts it into a rich source of stable organic manure that can be used as a Bio Organic enricher.

| | |
|------------|--------------------------|
| Input | Segregated Organic Waste |
| Model | OWC 60 |
| Capacity | 5 Kg |
| Batch time | 10-15 Minutes |
| Power | 2.5 HP |

| Organic Waste Converter | |
|-----------------------------------|---------------|
| Installed Plant Capacity | 100 Kg |
| Food waste converted into manure. | |



| | |
|----------------------------------------|---------------|
| Natural process of composting duration | 2 to 3 Months |
| OWC process of composting duration | 10 to 15 days |

Observations:

Biodegradable solid waste collected from canteen, boys and girl Hostel Mess and snack spot is used in organic waste converter plant. Less time required for composting by OWC process. Biodegradable and non-biodegradable sign boards for bins.

Recommendations:

Further segregation of non-biodegradable waste should be done. Awareness programme to reduce single use plastic free campus. Attention towards scrap material storage arrangement in proper way.



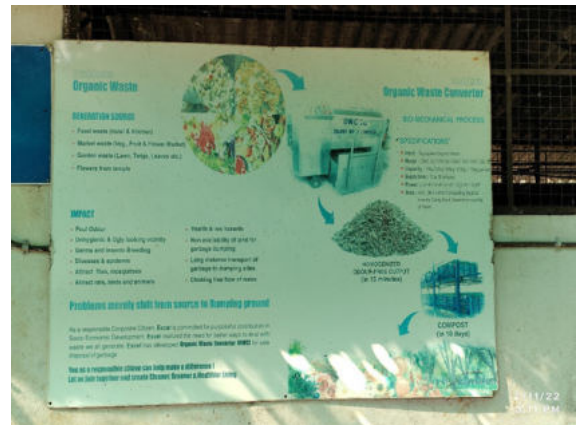
Measurement of solid waste



Sign boards segregation of waste



OWC



Process Chart



Waste to recourse



Waste to recourse



CHAPTER 6

E- WASTE MANAGEMENT

6

E-Waste Management



ECO FRIEND INDUSTRIES

10 Maya, 5 College St., Dadar (W),
Mumbai 400028, Maharashtra, INDIA

MPCB / CPCB Authorized E-Waste Disposal Facility

MPCB Consent No.: BO/MPCB/RO(HQ)/NM/CO/B-10150 Date: 05/11/2014

Green Certificate

for E-Waste Disposal

Certificate Sr. No.: 131 / 2017

This is to certify that

M/s. GHARDA FOUNDATION'S GHARDA INSTITUTE OF TECHNOLOGY

Address: _____

Road name: AT & POST - LAVEL TALUKA - KHED,
DIST. - RATNAGIRI

City: RATNAGIRI State: MAHARASHTRA

Pin Code: 415708 Country: INDIA has disposed 520 Kg (in figures)

FIVE HUNDRED TWENTY Kg (in Words)

of Electronic/Electrical Waste with Eco Friend Industries on dt. 03/03/2017

Issued under the Eco Friend Industries Seal



Authorized Signatory



For and on behalf of
ECO FRIEND INDUSTRIES



Registration Certificate – Cum – Pass Book for Recycling / Dismantling of E-Waste under the E-waste (Management & Handling) Rules, 2011

Name and Address of the Industry: M/s. Eco-leafed Industries, A-10F, TIC 2nd Area, Jambhe Village, Thane, Colaba Road, W. Maharashtra, 400 010.

Telephone/Fax No.: (022) 24045318, 24045348

E-mail Address: ecoleafed@rediffmail.com

Registration No.: MH/REG/2011/01111

Registration issued for: Recycling / Dismantling of the E-Waste

Date of Issue: 21/02/2011

Validity Period: 01/01/2011

Quantity of the E-Waste(s) procurement is permitted for Recycling / Dismantling of the E-Waste:

| S. No. | Type of E-Waste with Quantity | Quantity (Tons Per Annum) |
|--------|--------------------------------|---------------------------|
| 1 | Dismantling of e-waste - Cable | 1000 TPA |

Date: 21/02/2011
Place: Mumbai

Authorized Signatory & Seal: **DR. Y. B. SONTAKKE**, Regional Officer (RO) & In-charge, Hazardous Substance Management Division, Maharashtra Pollution Control Board, 3rd Floor, Kalpataru Point, Opp. Cineplex, Shivajinagar, Mumbai.
Tel: (022) 24010437, 24020781
Fax: (022) 24044532

Endorsement by the Auctioneer/Seller (except column No. 6 & 7)
[Condition No. 7 of the Registration]

Registration No. _____ Date: _____
Waste(s) Type _____ Permitted Quantity: _____

| S. No. | Date | Address of the Auctioneer/Seller | Type & Quantity of E-waste sold/Auctioned | Signature & Seal of the Auctioneer/Seller with date | Date of Arrival in the Recycler/Dismantler Premises & Challan No. |
|--------|----------|--------------------------------------------------|-------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------|
| (1) | (2) | (3) | (4) | (5) | (6) |
| 1000 | 20/2/17 | BARC Stores Office | E-waste Scrap plastic (05.170 MT) | [Signature] | |
| 1000 | 10/3/17 | BARC Stores Office | E-waste Scrap plastic (02.150 MT) | [Signature] | |
| 1000 | 3/3/2017 | Gharda Foundation Gharda Institute Tech | E-Waste 520kg | | |
| 1000 | 1/3/2017 | Cash metal work | E-Waste 50kg | | |
| 1000 | 6/3/2017 | MMRDA BRC | E-Waste kg | | |

1. Sender's name & mailing address (Including Phone No. and e-mail)
Gharda Institute of Technology
Gharda - 245101, Dist. Patna, Bihar - 812002

2. Sender's authorization No.

3. Transporter's name & address (Including Phone No. and e-mail)
Local Transporter

4. Type of vehicle
Tempo / Truck / Tanker / Special Vehicle

5. Transporter's registration No.

6. Vehicle registration No.
MH02W-372

7. Receiver's name and mailing address (Including Phone No. and e-mail)
Eco Friend Industries
M-105, TTC Industrial Area,
Thane (Western Fringe), Thane (W), Dist. Thane - 400602

8. Receiver's authorization No.

9. Waste description

| No. | Type | Total Quantity | Cat. |
|-----|------|----------------|------|
| | | 520kg | 317 |

10. Total quantity
No. of Containers: _____
None

11. Physical form
[Self / Semi - Solid / Sludge / Clay / Tarry / Slurry / Liquid]

12. Special handling instruction and additional information
HANDLE WITH CARE

13. Sender's Certificate
I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are categorized, packed, marked, and labeled, and are in all respects in proper condition for transport by road according to applicable national government regulations.

Name & Stamp: _____ Signature _____
Month _____ Day _____ Year _____

14. Transporter Acknowledgement of Receipt of Wastes
Name & Stamp: _____ Signature _____
Month _____ Day _____ Year _____

15. Receiver's certification for receipt of hazardous and other waste
Name & Stamp: _____ Signature _____
Month _____ Day _____ Year _____

Observations:

Separate E-waste storage collection and handover to treatment MPCB/CPCB authorized waste disposable agency.

Recommendations:

Awareness campaign for E-waste segregation from solid waste

CHAPTER 7

TREE PLANTATION

7

Tree Plantation

| Sr. No | Location | Area |
|--------|--------------------|-----------|
| 1 | Garden | 03 Acre |
| 2 | Mango Plantation | 05 Acre |
| 3 | Amala Plantation | 20 Guntha |
| 4 | Ramphal Plantation | 10 Guntha |
| 5 | Coconut Plantation | 01 Acre |
| 6 | Banana Plantation | 20 Guntha |
| 7 | Cashew Plantation | 01 Acre |
| 8 | Teak Wood | 10 Guntha |
| 9 | Wild Trees | 02 Acre |



Plantation Map (Lawn+Tree)

TREE DIVERSITY OF GIT CAMPUS

| Sr. No | Common Name | Family | Botanical Name | Total |
|---------------|--------------------|----------------|---------------------------------|--------------|
| 1 | Coconut | Arecaceae | <i>Cocosnucifera</i> | 53 |
| 2 | Mango | Anacardiaceae | <i>Mangiferaindica</i> | 152 |
| 3 | Cashew | Anacardiaceae | <i>Anacardiumoccidentale</i> | 61 |
| 4 | Amla | Phyllanthaceae | <i>Phyllanthusemblica</i> | 02 |
| 5 | RaiAmla | Phyllanthaceae | <i>Phyllanthusacidus</i> | 15 |
| 6 | BanarasiAmla | Phyllanthaceae | <i>Phyllanthusemblica</i> | 11 |
| 7 | Gulmohar | Fabaceae | <i>DelonixRegia</i> | 84 |
| 8 | Kanchan | Fabaceae | <i>Bauhinia variegata</i> | 02 |
| 9 | Sonchafa | Magnoliaceae | <i>Magnolia champaca</i> | 13 |
| 10 | Christmas tree | Araucariaceae | <i>Araucaria columnaris</i> | 03 |
| 11 | Indian bael | Rutaceae | <i>Aeglemarmelos</i> | 04 |
| 12 | Bamboo | Poaceae | <i>Bambusa vulgaris</i> | 03 |
| 13 | Jambhul | Mirtaceae | <i>Syzygiumcumini</i> | 05 |
| 14 | Kadilimb | Meliaceae | <i>Azadirachtaindica</i> | 04 |
| 15 | Umbar | Meliaceae | <i>Ficusracemosa</i> | 01 |
| 16 | Jackfruit | Meliaceae | <i>Artocarpusheterophyllus</i> | 07 |
| 17 | Lythraceae | Lythraceae | <i>Lagerstroemia speciosa</i> | 10 |
| 18 | Suru | Casuarinaceae | <i>Casuarinaequisetifolia</i> | 46 |
| 19 | Payer | Moraceae | <i>Ficusarnottiana</i> | 04 |
| 20 | Peru | Myrtaceae | <i>Common guava</i> | 07 |
| 21 | Banana | Musaceae | <i>Musa</i> | 22 |
| 22 | Ficus Panda | Moraceae | <i>Ficusbenjamina</i> | 07 |
| 23 | Pipal | Moraceae | <i>Ficusreligiosa</i> | 02 |
| 24 | Kachaghara | Fabaceae | <i>Terminaliaaelliptica</i> | 02 |
| 25 | Banyan | Moraceae | <i>Ficusbenghalensis</i> | 06 |
| 26 | Parijat | Oleaceae | <i>Nyctanthes arbor-tristis</i> | 07 |
| 27 | Karanj | Fabaceae | <i>Millettiapinnata</i> | 06 |
| 28 | Kokum | Clusiaceae | <i>Garciniaindica</i> | 02 |

TREE DIVERSITY OF GIT CAMPUS

| Sr. No | Common Name | Family | Botanical Name | Total |
|---------------|--------------------|----------------|------------------------------|--------------|
| 29 | Rubber | Euphorbiaceae | <i>Hevea brasiliensis</i> | 03 |
| 30 | Rain tree | Fabaceae | <i>Samaneasaman</i> | 10 |
| 31 | Badam | Combretaceae | <i>Terminaliacatappa</i> | 01 |
| 32 | Tamalpatra | Lauraceae | <i>Cinnamomumtamala</i> | 05 |
| 33 | Chikku | Sapotaceae | <i>Manilkarazapota</i> | 05 |
| 34 | Ramfal | Annonaceae | <i>Annonareticulata</i> | 06 |
| 35 | Teak Wood | Lamiaceae | <i>disambiguation</i> | 06 |
| 36 | Bamboo | <i>Poaceae</i> | <i>Dendrocalamusstrictus</i> | 23 |
| 37 | Devchafa | Apocynaceae | <i>Plumeriaacutifolia</i> | 10 |
| 38 | Cherry | Rosaceae | <i>Prunusavium</i> | 09 |

Along with above species following tree diversity at GIT, Campus

| | |
|-------------|----|
| Limb | 04 |
| Peltraform | 04 |
| Cori chafa | 01 |
| Goban Vel | 27 |
| Nag chafa | 02 |
| Circus Palm | 68 |
| Bond Palm | 41 |
| Salwin | 08 |
| Niv | 04 |



Nakshatra Garden



Green Team: Men at Work









Green Campus

CHAPTER 8







BIOLOGICAL DIVERSITY AT CAMPUS

8

Biological Diversity at GIT Campus

| | |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |
| <p>Malabar Pied Hornbill (<i>Anthracoscoronatus</i>)</p> | <p>Three-striped Palm Squirrel (<i>Funambuluspalmarum</i>)</p> |
|  |  |
| <p>Small Indian Civet (<i>Viverriculaindica</i>)</p> | <p>Russell's Viper (<i>Daboiarusselii</i>)</p> |
|  |  |
| <p>Red-vented Bulbul (<i>Pycnonotuscafer</i>)</p> | <p>Bengal Monitor Lizard (<i>Varanusbengalensis</i>)</p> |

Biological Diversity at GIT Campus

| | |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |
| <p>Oriental Magpie-robin (<i>Copsychus saularis</i>)</p> | <p>Black-headed Oriole (<i>Oriolus larvatus</i>)</p> |
|  |  |
| <p>Black Drongo (<i>Dicrurus macrocercus</i>)</p> | <p>Indian Pond-heron (<i>Ardeola grayii</i>)</p> |
|  |  |
| <p>Red-rumped Swallow (<i>Cecropis daurica</i>)</p> | <p>Grey Junglefowl (<i>Gallus sonneratti</i>)</p> |

CHAPTER 9

RENEWABLE ENERGY RESOURCES

9

Renewable Energy Resources

| Hostels details | | | | | |
|---------------------------------------------|------------------------------|---------------------------|----------------------|--------------------------|-----------------------------|
| Sr. No | Name of Building | Area (Sq.M) | No. of Floors | Total Rooms (Nos) | Total Capacity (Nos) |
| 1 | Boys Hostel-I (Shivneri) | 4500.00 | G+2 | 86 | 297 |
| 2 | Boys Hostel-II (Raigad) | 3410.00 | G+2 | 85 | 240 |
| 3 | Girls Hostel-I (Ajinyatara) | 3350.00 | G+2 | 74 | 220 |
| Total | | | | | 757 |
| Solar Water Heating System in Hostel | | | | | |
| Sr. No | Name of Building | Capacity in Liters | | | |
| 1 | Boys Hostel-I (Shivneri) | 5600.00 | | | |
| 2 | Boys Hostel-II (Raigad) | 5200.00 | | | |
| 3 | Girls Hostel-I (Ajinyatara) | 5200.00 | | | |
| Total | | 16000.00 | | | |



Solar water Heaterat hostel



Solar water Heater at hostel



Hostel top solar light view



Hostel top solar light view



Solar Street light view



Solar Street light view



Workshop roof top



Solar panel assembly

CHAPTER 10

INITIATIVES AND AWARDS

10

Initiatives and Awards



EXPENDITURE ON GREEN INITIATIVES DURING THE LAST FIVE YEARS

Stores and Purchase Department

| Year | Garden tree plant purchase (Amount in Rs.) | Drip System (Amount in Rs.) | LED Tube/Bulb (Amount in Rs.) |
|-------------|-------------------------------------------------------|----------------------------------------|------------------------------------------|
| 2014 | Nil | 3,17,447/- | Nil |
| 2016 | 5,348/- | Nil | Nil |
| 2018 | 21,810/- | Nil | Nil |
| 2019 | Nil | Nil | 90,825/- |
| 2021 | 16,534/- | Nil | 1,39,900/- |



Our Campus.....Green Campus.....