# BJS Bharatiya Jain Sanghatana 

# BHARATIYA JAIN SANGHATANA'S 

ARTS, SCIENCE AND COMMERCE
COLLEGE, WAGHOLI, PUNE
BHARTIYA JAIN SANGHATANA'S
"WAGHOLI" EDUCATIONAL REHABILITATION CENTER"
(WERC)

## GREEN AUDIT REPORT <br> $$
2020-2021
$$


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## CERTIFICATE

This to certify that Bharatiya Jain Sanghatana's Arts, Science and Commerce College, Wagholi, Pune have conducted "Green Audit" in the Year 2020-21 to assess the green initiative planning, effort, activities implemented in the college campus like Plantation, Waste management, Rain water harvesting, Energy conservation, Paperless technology and various Environmental Awareness activities. This Green Audit is also aimed to assess impact of green initiatives for maintainance of the campus eco-friendly.

## Place: Wagholi

Date: 22-06-2021


Dr.Kishor Desarda
IQAC coordinator



Principal
Bharatiya Joe in Sanghatana's
Arts, Science \& Commerce Collet ${ }^{\circ}$,
Wagholi, Pane - 412207

## Preface

The concept of 'GREEN AUDIT' was put forth by Hon. Shri. Shantilalji Gulabchandji Muttha, Founder President - Bharatiya Jain Sanghatana, Pune during dialog about the tree plantation, environmentally sustainable development of the campus and at that very moment we decided to take this opportunity.

Concept of green audit is not limited to the decorating the college campus but also corporate responsibility, with quality education keep college environment eco-friendly with its facilities.

Attempt has been made on that direction by Landscaping and Plantation, Solid Waste Management, Recycling of Waste Water, Conservation of Energy, Water Conservation, Rainwater Harvesting, Minimum of usage of paper and conducting several Environment Awareness Programs.

With keeping this view our campus clean and fresh, we tried to inculcate value of surrounding environment among the students through Environmental awareness activities like 'Nature trail', 'NSS', Healthy sapling competition, Quiz competition on environment, 'Salad Decoration Competition' Nursery and Gardening management course, Mushroom cultivation course, Production of vermin compost from solid waste and activity like Competition on Preparation of 'Best from Waste', preparation of trenches and plantation of tree sapling on ' Green Sunrise Hill', greenery of the campus is maintain by the student of 'Karmaveer Bhaurao Earn and Learn Scheme' and students and official staff from Department of Botany.

Greenery and eco-friendly sustainable environment lead to delightful, refreshing and healthier college campus increasing efficiency of every element of the college.

## "GROW GREEN LIVE GREEN"

Convener
(Dr. Devidas N. Patil)
Head, Department of Botany

## Acknowlegement

We take this opportunity to express our gratitude towards the Hon. Founder President of the Bharatiya Jain Sanghatana Hon. Shri Shantilalji Muttha, Hon. Shri Vilasji Rathod President, Execuitive Council, Bharatiya Jain Sanghatana, Hon. Shri. Arunji Nahar Chairman, College Development Committee, and all Hon. Members of CDC committee of the college for their valuable guidance, continuous encouragement, generous gift of time with constructive suggestion during the composition of work of entire 'Green Audit Report'.

We also express our deep sense of gratitude to our Hon. Principal Major, Dr. Ashok V. Giri, Mr. H.B. Patil External Auditor, Dr. S. D. Gaikwad, IQAC Coordinator of the college, Hon. Shree Project Manager, WERC Wagholi, Pune who inspired and encouraged us throughout the work. We great fully acknowledge the help provided by all the authorities on several occasions.

It is right time to express our deep sense of gratitude to our college Colleague Dr. Madhuri Deshmukh, Dr. More J.C., Asst. Prof. Sonawne S.M. for continuous help, inspiring resoluteness and sensible suggestion without any reservation whenever we approached throughout investigation.

We are equally thankful to our all teaching and Non-teaching staff and First and second year students of B. Sc as well as students from 'Earn and Learn Scheme' who enthusiastically participated in Green audit activities.

Dr. Devidas N. Patil<br>Head, Dept. of Botany<br>Dr. Madhuri C. Pagariya<br>Internal Auditor

Green Audit Report 2020-21

## From Principal's Desk

I express my hearty wishes for success of this publication of 'Green Audit 2020-21'

WERC is one of the unique spiritual educational campus with quality education, augmenting social, environmental with cultural development, this enhance interactive learning that sparks the imagination and unlocks creativity.

Efforts made by our institution for the protection of environment and biodiversity conservation is really distinctive, which possibly will become a pilot project spreading the appropriate message of plantation, energy conservation and most important disaster management.

In our campus we are trying to maintain eco-friendly environment through various activities like landscaping and plantation, rain water harvesting, solid waste management, sewage treatment plant, energy conservation, E-waste management, and paperless technology minimizing the use of paper.

The ultimate aim of our institution is to develop youth as fertile probe who understand for their social responsibilities.

I express my hearty wishes for success of this drive of Green Audit Report for the new beginning of the conservation.

Our green audit reflects assessment and achievement of our vision and mission of the college.

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## HISTORY

## About the WERC

Founder President - Bharatiya Jain Sanghatana's Hon. Shri Shantilalji Gulabchandji Muttha, Pune is a role model in three wings - Social Service, Disaster Management, and Permanent Rehabilitation through Quality Education.

The Wagholi Education and Rehabilitation Center (WERC) was built in a record time on a 10 acre plot of land with assistance from the World Bank and the Government of Maharashtra and 1200 children from Latur were shifted to this location. Since then the WERC has offered educational rehabilitation to many other children from the Jabalpur earthquake as also the Melghat malnutrition affected, kids of farmers pertaining suicide ... to name a few.

500 students from Jammu \& Kashmir affected by the earthquake were also shifted to WERC and assured of undisrupted education. This facility is also made available to the tribal children from Maharashtra for undergoing social and academic education and can be equated to rehabilitation of the deprived sections of the society.

Building future for earthquake-hit orphans - Latur, Maharashtra - 1993 : During a massive earthquake across Latur district in 1993, Hon. Shri Shantilal Muttha began a hostel-cum-school at Wagholi Educational and Rehabilitation Center (WERC), Pune, and re-built lives of nearly 1,200 earthquake-hit orphans from standard 5 , who had lost everything in the quake, and educated them till graduation.

Malnourished children of Melghat (Maharashtra) - 1996: Nearly 400 Malnourished children from the tribal area of Melghat of Vidarbha region in Maharashtra, were brought to WERC, Pune in 1996 with the belief and hope that these children would educate the tribals and bring about a radical change in the area.

Jabalpur Earthquake - 1997: Nearly 50 children were brought from Jabalpur 1997 to WERC, Pune to rebuild their lives. This ultra-modern rehabilitation centre continues to offer shelter to orphans even today. Hon'ble President Dr. A. P. J. Abdul Kalam visited WERC, Pune and donated amount from his personal account.
The tremendous success of BJS-EDUQIP prompted Education Department of Goa Government to execute the same programme in about 1,700 state-run schools in Goa State. The same programme is being implemented in all the 550 Navodaya Vidyalayas all over India.

During Covid Pandemic situation in the year 2020 as students were beforehand send back to their native places before lockdown and no one was residing in the hostel the WERC center was used as Covid Care Center for patients as students were not.

## LOCATION (WERC)

WERC is located on Pune-Ahmednagar National Highway (Maharashtra), East of the Pune City at Wagholi as sub urban area of Pune City spreader over 10 acres.

| Country | India |
| :--- | :--- |
| State | Maharashtra |
| District | Pune |
| Taluka | Haveli |
| Village | Wagholi |
| Government Type | Grampanchayat |
| Sarpanch | Vasundharatai Shivdas Ubale |
| Metropolis | 10 acers |
| Population | 7,169 |
| Demonym | BJS |
| Area Code (s) | +91-20 |
| Official language | Marathi |

## Satellite Image of BJS Campus



## A) Geography :

Pune is located $560 \mathrm{~m}(1,840 \mathrm{ft})$ above sea level on the western margin of the Deccan plateau. It is situated on the leeward side of the Sahyadri mountain range, which forms a barrier from the Arabian sea. It is a hilly city, with its tallest hill, Vetal Hill, rising to $800 \mathrm{~m}(2,600 \mathrm{ft})$ above sea
level. Just outside the city, the Sinhagad fort is located at an altitude of 1300 m . It lies between $18^{\circ} 32^{\prime \prime}$ North latitude and $73^{\circ} 51^{\prime \prime}$ East longitude.

Central Pune is located at the confluence of the Mula and Mutha rivers. The Pavana and Indrayani rivers, tributaries of the Bhima river, traverse the northwestern outskirts of metropolitan city Pune.
B) LATITUDE AND LONGITUDE (WGS84): $18^{\circ} 34^{\prime}$ North , $73^{\circ} 58^{\prime}$ East
C) SOIL TYPE: Lateritic, hard rock.
D) CLIMATE: Pune has a hot semi-arid climate (BSH) bordering with tropical wet and dry (Aw) with average temperatures ranging between 20 to $28^{\circ} \mathrm{C}\left(68\right.$ to $\left.82^{\circ} \mathrm{F}\right)$.
Pune experiences three seasons: summer, monsoon and a winter.
Typical summer months are from March to May, with maximum temperatures ranging from 30 to $38^{\circ} \mathrm{C}$ ( 86 to $100^{\circ} \mathrm{F}$ ). The warmest month in Pune is April; although summer doesn't end until May, the city often receives heavy thunder showers in May (and humidity remains high). Even during the hottest months, the nights are usually cool due to Pune's high altitude. The highest temperature ever recorded was $42.3^{\circ} \mathrm{C}\left(108.1^{\circ} \mathrm{F}\right)$ on 30 April 1897. The monsoon lasts from June to October, with moderate rainfall and temperatures ranging from 22 to $28^{\circ} \mathrm{C}\left(72\right.$ to $\left.82{ }^{\circ} \mathrm{F}\right)$. Most of the 722 mm ( 28.43 in ) of annual rainfall in the city fall between June and September, and July is the wettest month of the year. Hailstorms are also common in this region. Winter begins in November; November in particular is referred to as the Rosy Cold (literal translation) (Marathi: गुलाबीथंडी). The daytime temperature hovers around $28^{\circ} \mathrm{C}\left(82^{\circ} \mathrm{F}\right)$ while night temperature is below $10^{\circ} \mathrm{C}\left(50^{\circ} \mathrm{F}\right)$ for most of December and January, often dropping to 5 to $6^{\circ} \mathrm{C}\left(41\right.$ to $\left.43{ }^{\circ} \mathrm{F}\right)$. The lowest temperature ever recorded was $1.7^{\circ} \mathrm{C}\left(35^{\circ} \mathrm{F}\right)$ on 17 January 1935.

## METEOROLOGY DATA

## Climate data for Pune

| Month | Ja n | Fe <br> b | $\mathrm{Ma}$ <br> r | Apr | Ma $\mathbf{y}$ | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Record high ${ }^{\circ} \mathrm{C}$ ( ${ }^{\circ} \mathbf{F}$ ) | $\begin{aligned} & 35 . \\ & 3 \\ & (95 \\ & .5) \end{aligned}$ | $\begin{aligned} & 38 . \\ & 9 \\ & (10 \\ & 2) \end{aligned}$ | $\begin{aligned} & 42.8 \\ & (109 \\ & ) \end{aligned}$ | $\begin{aligned} & 43.3 \\ & (109 \\ & .9) \end{aligned}$ | $\begin{aligned} & 43.3 \\ & (109 \\ & .9) \end{aligned}$ | $\begin{aligned} & 41.7 \\ & (107 \\ & .1) \end{aligned}$ | $\begin{aligned} & 36 . \\ & 0 \\ & (96 \\ & .8) \end{aligned}$ | $\begin{aligned} & 35.0 \\ & (95) \end{aligned}$ | $\begin{aligned} & 36.1 \\ & (97) \end{aligned}$ | $\begin{aligned} & 37.8 \\ & (100 \\ & ) \end{aligned}$ | $\begin{aligned} & 36.1 \\ & (97) \end{aligned}$ | $\begin{aligned} & 35.0 \\ & (95) \end{aligned}$ | $\begin{aligned} & 43.3 \\ & (109 . \\ & 9) \end{aligned}$ |
| Average high ${ }^{\circ} \mathrm{C}$ ( ${ }^{\circ} \mathrm{F}$ ) | $\begin{aligned} & 30 . \\ & 3 \\ & (86 \\ & .5) \end{aligned}$ | $\begin{aligned} & 32 . \\ & 8 \\ & \text { (91 } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 36.0 \\ & (96 . \\ & 8) \end{aligned}$ | $\begin{aligned} & 38.1 \\ & (100 \\ & .6) \end{aligned}$ | $\begin{aligned} & 37.2 \\ & (99) \end{aligned}$ | $\begin{aligned} & 32.1 \\ & (89 . \\ & 8) \end{aligned}$ | $\begin{aligned} & 28 . \\ & 3 \\ & (82 \\ & .9) \\ & \hline \end{aligned}$ | $\begin{aligned} & 27.5 \\ & (81 . \\ & 5) \end{aligned}$ | $\begin{aligned} & 29.3 \\ & (84 . \\ & 7) \end{aligned}$ | $\begin{aligned} & 31.8 \\ & (89 . \\ & 2) \end{aligned}$ | $\begin{aligned} & 30.5 \\ & (86 . \\ & 9) \end{aligned}$ | $\begin{aligned} & 29.6 \\ & (85 . \\ & 3) \end{aligned}$ | $\begin{aligned} & 32.0 \\ & (89.6 \\ & ) \end{aligned}$ |
| Daily mean ${ }^{\circ} \mathbf{C}\left({ }^{\circ} \mathbf{F}\right)$ | $\begin{aligned} & 20 . \\ & 5 \\ & (68 \\ & .9) \end{aligned}$ | $\begin{aligned} & 22 . \\ & 0 \\ & (71 \\ & .6) \end{aligned}$ | $\begin{aligned} & 25.6 \\ & (78 . \\ & 1) \end{aligned}$ | $\begin{aligned} & 28.8 \\ & (83 . \\ & 8) \end{aligned}$ | $\begin{aligned} & 29.7 \\ & (85 . \\ & 5) \end{aligned}$ | $\begin{aligned} & 27.4 \\ & (81 . \\ & 3) \end{aligned}$ | $\begin{aligned} & 25 . \\ & 3 \\ & (77 \\ & .5) \end{aligned}$ | $\begin{aligned} & 24.5 \\ & (76 . \\ & 1) \end{aligned}$ | $\begin{aligned} & 25.1 \\ & (77 . \\ & 2) \end{aligned}$ | $\begin{aligned} & 25.0 \\ & (77) \end{aligned}$ | $\begin{aligned} & 22.3 \\ & (72 . \\ & 1) \end{aligned}$ | $\begin{aligned} & 20.2 \\ & (68 . \\ & 4) \end{aligned}$ | $\begin{aligned} & \hline 24.7 \\ & (76.4 \end{aligned}$ <br> 6) |
| Average <br> low ${ }^{\circ} \mathrm{C}$ <br> ( ${ }^{\circ} \mathbf{F}$ ) | $\begin{aligned} & 11 . \\ & 4 \\ & (52 \\ & .5) \\ & \hline \end{aligned}$ | $\begin{aligned} & 12 . \\ & 7 \\ & (54 \\ & .9) \end{aligned}$ | $\begin{aligned} & 16.5 \\ & (61 . \\ & 7) \end{aligned}$ | $\begin{aligned} & 20.7 \\ & (69 . \\ & 3) \end{aligned}$ | $\begin{aligned} & 22.5 \\ & (72 . \\ & 5) \end{aligned}$ | $\begin{aligned} & 22.9 \\ & (73 . \\ & 2) \end{aligned}$ | $\begin{aligned} & 22 . \\ & 0 \\ & (71 \\ & .6) \end{aligned}$ | $\begin{aligned} & 21.4 \\ & (70 . \\ & 5) \end{aligned}$ | $\begin{aligned} & 20.7 \\ & (69 . \\ & 3) \end{aligned}$ | $\begin{aligned} & 18.8 \\ & (65 . \\ & 8) \end{aligned}$ | $\begin{aligned} & \hline 14.7 \\ & (58 . \\ & 5) \end{aligned}$ | $\begin{aligned} & 12.0 \\ & (53 . \\ & 6) \end{aligned}$ | $\begin{aligned} & \hline 18.0 \\ & (64.4 \\ & ) \end{aligned}$ |
| $\begin{aligned} & \text { Record } \\ & \text { low }{ }^{\circ} \mathrm{C} \\ & \left({ }^{\circ} \mathrm{F}\right) \end{aligned}$ | $\begin{aligned} & 1.7 \\ & (35 \\ & .1) \end{aligned}$ | $\begin{aligned} & 3.9 \\ & (39 \\ & ) \end{aligned}$ | $\begin{aligned} & 7.2 \\ & (45) \end{aligned}$ | $\begin{aligned} & 10.6 \\ & (51 . \\ & 1) \end{aligned}$ | $\begin{aligned} & 13.8 \\ & (56 . \\ & 8) \end{aligned}$ | $\begin{aligned} & 17.0 \\ & (62 . \\ & 6) \end{aligned}$ | $\begin{aligned} & 18 . \\ & 9 \\ & (66 \\ & ) \end{aligned}$ | $\begin{aligned} & 17.2 \\ & (63) \end{aligned}$ | $\begin{aligned} & 13.2 \\ & (55 . \\ & 8) \end{aligned}$ | $\begin{aligned} & 9.4 \\ & (48 . \\ & 9) \end{aligned}$ | $\begin{aligned} & 4.6 \\ & (40 . \\ & 3) \end{aligned}$ | $\begin{aligned} & 3.3 \\ & (37 . \\ & 9) \end{aligned}$ | $\begin{aligned} & 1.7 \\ & (35.1 \\ & ) \end{aligned}$ |
| $\begin{aligned} & \hline \frac{\text { Precipit }}{\text { ation }} \\ & \text { mm } \\ & \text { (inches) } \end{aligned}$ | $\begin{aligned} & \hline 0 \\ & (0) \end{aligned}$ | $\begin{aligned} & 0.5 \\ & (0 . \\ & 02) \end{aligned}$ | $\begin{aligned} & 5.3 \\ & (0.2 \\ & 09) \end{aligned}$ | $\begin{aligned} & 16.6 \\ & (0.6 \\ & 54) \end{aligned}$ | $\begin{aligned} & 40.6 \\ & (1.5 \\ & 98) \end{aligned}$ | $\begin{aligned} & 116 . \\ & 1 \\ & (4.5 \\ & 71) \end{aligned}$ | $\begin{aligned} & 187 \\ & .2 \\ & (7 . \\ & 37) \\ & \hline \end{aligned}$ | $\begin{aligned} & 122 . \\ & 3 \\ & (4.8 \\ & 15) \end{aligned}$ | $\begin{aligned} & 120 . \\ & 1 \\ & (4.7 \\ & 28) \\ & \hline \end{aligned}$ | $\begin{aligned} & 77.9 \\ & (3.0 \\ & 67) \end{aligned}$ | $\begin{aligned} & \hline 30.2 \\ & (1.1 \\ & 89) \end{aligned}$ | $\begin{aligned} & 4.8 \\ & (0.1 \\ & 89) \end{aligned}$ | $\begin{aligned} & 721 . \\ & 7 \\ & (28.4 \\ & 13) \\ & \hline \end{aligned}$ |
| Avg. precipit ation days | 0.0 | 0.1 | 0.6 | 1.1 | 2.8 | 7.5 | $\begin{aligned} & 12 . \\ & 8 \end{aligned}$ | 10.6 | 7.4 | 4.6 | 2.0 | 0.4 | 49.9 |
| $\begin{aligned} & \text { \% } \\ & \text { humidit } \\ & y \end{aligned}$ | 56 | 46 | 36 | 36 | 48 | 70 | 79 | 82 | 78 | 64 | 58 | 58 | 59.3 |
| Mean monthly sunshin e hours | $291$ | $\begin{aligned} & 282 \\ & .8 \end{aligned}$ | $\begin{aligned} & 300 . \\ & 7 \end{aligned}$ | $\begin{aligned} & 303 . \\ & 0 \end{aligned}$ | $\begin{aligned} & 316 . \\ & 2 \end{aligned}$ | $\begin{aligned} & 186 . \\ & 0 \end{aligned}$ | $\begin{aligned} & 120 \\ & .9 \end{aligned}$ | $\begin{aligned} & 111 . \\ & 6 \end{aligned}$ | $\begin{aligned} & 177 . \\ & 0 \end{aligned}$ | $\begin{aligned} & 248 . \\ & 0 \end{aligned}$ | $270 .$ | $\begin{aligned} & 288 . \\ & 3 \end{aligned}$ | $\begin{aligned} & 2,89 \\ & 5.9 \end{aligned}$ |

Source \#1: Temperature and Precipitation: IMD (1951-1980) ${ }^{[36 \mid[37]}$
Source \#2: Sun hours and Humidity: NOAA (1971-1990) ${ }^{[38]}$

## INTRODUCTION

## Executive Summary

Bharatiya Jain Sanghatana's Wagholi Educational and Rehabilitation Center (WERC), Pune, established in 1997 leads 10 acres of campus, where with senior college there is administrative building, hostel, canteen, Secondary and higher secondary school, staff quarters, ladies hostel. About 7,169 population provided with facility of water, canteen, toilet, electricity.

Before establishment of this campus it was barren land, after building construction we enriched the area by plantation creating greenery in surrounding area of the building, with keeping view in developing eco-friendly environment in this campus and maintaining the green audit of this campus, we undertake activities like landscaping and plantation, processing and reuse of solid waste of the plant debris and canteen, recycling of the waste water, rainwater harvesting, energy conservation, E-waste management keeping the environment of the campus clean and fresh boosting environment importance by different educational and extracurricular activities among students.

Green Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of various establishments. It is the process of assessing the environment impact of an organization, process, project, product etc. It aims to analyze environmental practices within and outside of the concerned sites, which will have an impact on the eco-friendly ambience. Green audit is a useful tool for a college as it evaluate its own contributions toward a sustainable future as it helps in determining how and where most energy or water or resources are used in campus and this data can be considered in implementing positive changes and make savings.

Green audit of our campus plays an important role as it facilities to keep environment of college campus eco-friendly contributing towards sustainable future.

## Objectives of the Green Audit

Green audit is to promote the Environment Management and Conservation in the College Campus. The purpose of the audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards.

The main objectives of carrying out Green Audit are:

- To introduce and aware students to real concerns of environment and its sustainability
- To secure the environment and cut down the threats posed to human health by analyzing the pattern and extent of resource use on the campus.
- To establish a baseline data to assess future sustainability by avoiding the interruptions in environment that are more difficult to handle and their corrections requires high cost.
- To bring out a status report on environmental compliance


## Methodology

Green audit of the campus is prepared by various methods including different tools such as physical inspection of the campus, observation, questionnaire, and review of the documents, interviewing key persons and data analysis.

## Observation and recommendations

The study covered the following areas to summaries the present status of environmentally sustainable management on the campus.

- Landscape and plantation
- Solid Waste management
- Sewage Waste management
- E-waste management
- Energy Conservation
- Rain water harvesting
- Environmental awareness activities


## LANDSCAPING AND PLANTATION

Landscaping: Landscape is an art to develop specific piece of land into green with aesthetic view commonly called as 'beautification'.

## Aim and objective of the landscaping and plantation:-

Aim:

1. To develop eco-friendly campus.
2. To creates healthy environment for learning
3. Beautification of Land

## Objectives:

1. Creating ecofriendly atmosphere leading to clean and cool surrounding.
2. Plants the main source of natural oxygen and creates natural habitat for birds and animal.
3. Plants are important as they increase aesthetic view of the campus

## Activity-

Earlier our college campus land was a bare land. After establishment of the Wagholi Education Rehabilitation Center (WERC) in 1997, landscaping was done, 10 acres of land have various buildings such as School students Hostel, Canteen, School, Senior college, Staff quarters (A,B,C Type) and Ladies hostel.

Surrounding area of the building was a bare land of rocks, due to scarcity of water it was challenging task to make the campus green, as without plants campus beautification and most important good aeration was impossible.

Since continuous years of efforts our WERC have developed as one of the Eco-friendly campus, entire campus is divided for specific type of plantation by planting 849 number of 90 species of plants. Students of Earn \& Learn, N.S.S., Nature Club, Department of Botany and non-teaching staff all together take good efforts in maintaining the campus and keeping the campus green and clean.

## Observation

Plant sapling are planted as per location, different variety of plants are planted on different places considering the aesthetic view and most important type of soil texture.

The College has 91 species of plants that are labeled and their growth is monitored. The entire campus has been developed into beautiful garden patches with variety of 584 trees and 687
small plants. Efforts are made to increase the number of plants that can survive under adverse condition of soil and scarcity of water.

During the academic year 2020-21 due to pandemic situation students were not able to actively participate in plantation activities as before but the plantation drive was carried by college staff and by higher authorities during different occasions, and special visits. And the campus trees were well maintained by the non-teaching staff.

Table -I: Locational Survey of WERC Campus plants

| Sr. no | Location | Tree | Plants |  |
| :--- | :--- | :--- | :--- | :---: |
| $\mathbf{1}$ | A+B+C -Quarters and Ladies hostel | $\mathbf{6 4}$ | $\mathbf{4 3}$ |  |
| $\mathbf{2}$ | College Cafeteria | $\mathbf{1 9 0}$ | $\mathbf{2 6 0}$ |  |
| $\mathbf{3}$ | School | $\mathbf{8 4}$ | $\mathbf{7 6}$ |  |
| $\mathbf{4}$ | Hostel+ Mess | $\mathbf{1 2 2}$ | $\mathbf{2 1 4}$ |  |
| $\mathbf{5}$ | Admin building and New STP | $\mathbf{5 4}$ | $\mathbf{8 3}$ |  |
| $\mathbf{6}$ | College Gymkhana | $\mathbf{3 4}$ | $\mathbf{0 0}$ |  |
| $\mathbf{7}$ | Road side | $\mathbf{3 6}$ | $\mathbf{1 1}$ |  |
|  | Total | $\mathbf{5 8 4}$ | $\mathbf{6 8 7}$ |  |
|  |  |  |  |  |

List of Some Medicinal Plants in the College campus (WERC)

| $\begin{array}{\|l\|} \hline \text { Sr. } \\ \text { No } \\ \hline \end{array}$ | Botanical name | Local name | Part used | Uses |
| :---: | :---: | :---: | :---: | :---: |
| 1 | Aloe veraL. | 'Korpad' | leaves | Preparation of commercial cosmetics |
| 2 | Azadirachata indica L. | 'Kadu-Neem' | Leaves, karneles seeds | Expectorant cure digestive germs \& worms |
| 3 | Cassia Fistula Linn. | $\begin{aligned} & \text { 'Bahava/Amalt } \\ & \underline{\text { ash' }} \end{aligned}$ |  | Fruit pulp use to cure stomach ache of the babies. |
| 4 | Ocimum sanctum L. | 'Ram tulsi' | Leaves | Use in rheumatic joints |
| 5 | Phyllanthus emblica L. | 'Avala' | fruit | Use in churn |
| 6 | Polyalthia longifolia Benth. \&Hk. | 'ASHOK' | Branch of plant | Use in milk secretion in mother |
| 7 | Tinospora cordifolia (Wild.) Miers. ex.H.\&T. | 'Korpad' | leaves | Use in cosmetics as antiseptic properties. |
| 8 | Hibiscus rosa- sinensisL | Jaswand | Flowers | Use for making dyes |
| 9 | Bombax ceiba | Malyari | Flowers | Edible flowers |
| 10 | Mangifera indica | 'Amba' | Fruits | Edible fruits |
| 11 | Pongamia pinnata | 'Karanj' | Seeds, | Use in skin deseases |
| 12 | Cassia fistula | 'Amaltas' | leaves | Against skin diseases |
| 13 | Mimosa pudica | 'Lajalu' | leaves | For hydrocele |
| 14 | Kalanchoe pinnata | 'Panphuti' | Leaves | making threads |
| 15 | Asparagus recemosus | shatavari | Leaves | Increase productivity $\quad$ milk |

## Maintenance of Botanical Garden



## SOLID WASTE MANAGEMENT

The primary goal of solid waste management is reducing and eliminating adverse impacts of waste materials on human health and the environment to support economic development and superior quality of life

## Aim and objective of solid waste management <br> Aim:

1. Evaluation on the type and nature of wastes and scientific disposal of solid waste.
2. Reuse and reduce the solid waste disposal.
3. Protection of human health and environment.

## Objective

1. To increase recycling level
2. To reduce organic waste in landfills
3. To control air, water, soil pollution
4. Production of green manure and vermicompost.

## Activity/Observation

Solid waste is separated as dry and wet. Dry waste includes plastic, glass, paper, metals, wood and related product. Wet waste typically refers to organic waste usually generated as canteen waste, plant debris.

Dry waste is separated and it is given for its reuse and recycling to the recycler agency to avoid the pollution.

Wet waste is also known as organic waste. It is obtain from canteen, fallen leaves, litter, trash etc. produce in the campus, this waste needs to be disposed properly as it may lead to different environmental pollutions.

To avoid this we have implemented solid organic waste management activity, we run it at two levels

1. Decomposition of solid waste through the composting in pit, vermi-compost form solid organic waste.
2. Training to the students, farmers about production of organic manure like vermicompost, production of mushroom from the solid organic agricultural waste which ultimately conversion of Best from Waste, further the best bio fertilizer is used for plants of college campus which
enhances greenery leads environment clean and fresh. Canteen waste is also disposed by the Shreedling processing Machine produce good organic fertilizer which is used for the plants in the campus garden.

## Vermicompost



## WATER / SEWAGE WASTE MANAGEMENT

Wastewater / sewage waste management includes, the removal of impurities from wastewater, or sewage, before it reaches aquifers or natural bodies of water such as rivers, lakes.

## Aim and objective of waste/sewage waste management <br> Aim :

1. Scientific disposal of Sewage.
2. Provide solution to maintain health and hygine.

## Objective:

1. Minimization of water and air pollution
2. Reuse of drainage water
3. To minimizing expenses for gardening by fulfilling the requirement of water.

## Activity/Observation :-

WERC campus includes hostel, school, senior college, staff quarter, ladies hostel, administrative building about 7,169 population including students, staff, and stack holders live in this campus, which requires about $41,74,854$ liters of fresh water daily.

Daily about 20,00,000 lits. of domestic waste water is collected and supplied for treatment in "Sewage water treatment plant"(STP), after the treatment it is circulated through pipe in garden for growing of plants in the campus which are the natural fan keeping environment clean and eco- friendly.


Sewage Treatment Plant- I

## E-WASTE MANAGEMENT

E- Waste (Electronic waste) comprises of waste generated from used electronic devices and house hold and college electrical appliances which are not fit for their original intended use. Ewaste is the future coming environmental problem will create hazards to our environment, it is non-degradable waste can pollute water, soil and air. With keeping this view we are aware about destructive material mainly metal, insulating materials present in the e-waste like CD, scrap, mobile like devices, computer waste like wiring, metals, and unused pen drive.

## Aim and objective E- Waste management:

## Aim

1. Disposal of unwanted electronic gadgets.
2. Proper methodology needs to be followed to control the pollution caused by e-waste products.

## Objective

The major objective of e-waste management is to reduce, reuse, and recycle.
ITEMS AND THEIR TOXIC COMPONENTS:

| SR. <br> NO | ITEM | COMPONETS |
| :--- | :--- | :--- |
| 1 | Refrigerator | CFC/HC/Rubber |
| 2 | PC And Laptops | CRT, Fluorescent Lamp, Copper |
| 3 | Television | Metal, CRT, Plastc, BRF |
| 4 | Washing Machine | Rubber, Eletric Wire, Metal And Motar |
| 5 | Computer Batteries | Cadmium |
| 6 | Capacitor And Transformer | PBC |
| 7 | Printed Circuit Board | Lead And Cadmium |
| 8 | Cathod Ray Tubes | Lead Oxide And Cd |
| 9 | Cable Insulation / Coating | PVC |
| 10 | Switches And Flat Screen Monitor | Mercury |

## Activity/Observations:

With keeping view to minimize the pollution created through the E-waste, we have carried out the scientific disposal of E-waste by two ways

1) Collection of E- waste in E- waste box
2) Reuse of the component of unused electronic devices.

## Collection of E-waste:

We have installed E- waste box in the computer laboratory, and our students, staff lay the unused electronic devices and component like CD, PD, memory card etc. in it and thus collected. The reused and recycled E-waste is given to E-waste scrap purchaser for proper disposal of such Ewaste.

This activity is run throughout the year by collecting E-waste in E- waste box. In 2020 Campaigned E- waste collection by S.Y students of BBA and BCA Environment awareness studies as a project work along with mentioning the detail information of the E-waste its harmful effects generated. Out of this some was reused for preparation of best from waste activity. And some items were repaired. For the scientific disposal of the E-waste it was given to proper disposal agency.

## RAIN WATER HARVESTING

The rain water harvesting is simple collection or storing of water through scientific techniques from during the rain falls. It involves utilization of rain water for the domestic use, agricultural purpose. The method of rain water harvesting has been into practice since ancient times.

It is for the best possible way to conserve water and harvesting has been into practice since ancient times. It is as far the best possible way to conserve water awakens the society towards the importance of water. The method is simple and cost effective too.

People usually make complaints about the lack of water, if the water can be harvested during the monsoon as lot of water is wasted or flow down into drainage this can solve the problem of water scarcity during odds.

Rain water harvesting proves that it is effective way to conserve water. Thus, in our project we collect the rain water into tanks and prevent it from flowing into drainages. Rain water harvesting comprises of storage of water and purifying through the technical process.

## Aims and objectives of Rain Water Harvesting :

Aim:

1) Conservation of fresh water
2) Increase the ground water level

## Objectives:

1. To arrest ground water decline and augment ground water.
2. To conserve surface water runoff during monsoon.

## Activity /Observations:

Rain water is primary source of fresh water. In our WERC campus the rainwater harvesting program activity is conducted in two ways:

1) Rain water discharge in trenches in garden and old dry bore.
2) Rain water harvesting for laboratory use after purification/distillation.

- College campus is of 10 acres, with construction of School, college, hostel and canteen building. Maximum rain water is harvested in campus by construction of trenches in campus garden and remaining water is diverted to the dry bore well /pits increasing ground water level.
- In College campus two locations are identified and pits are constructed near the dry bores. In rainy season water is collected and discharged for percolation it enhances the ground water level.
- Rain water is collected every year from roof of the building (Table 2), after filtration and distillation it is used as distilled water for science laboratory of Chemistry, Physics, Botany, Zoology.

Table 2- Use of rain water harvested in laboratory

| Year | Water Collection in liters for laboratory |
| :---: | :--- |
| $2020-21$ | 2500 lt |

## PAPERLESS TECHNOLOGY

Paperless technology not only does the implementation of paperless processes improve productivity, but it reduces costs. While this technology is essential to achieving a paperless office it does not address the processes that generate paper in the first place. Paperless technology saves the environment while helping analyze and visualize data more effectively than paper reports.

## Aims and Objective of Paperless Technology

Aim

1. Forest conservation
2. Use of E - media for the communication as green initiative practice

## Objectives:

1. To minimize the use of papers
2. To conserve plant natural resources

## Activity/Observations

Paper is a cellulosic, made from plants. Due to its use there is pressure created on the forest. To avoid this pressure, paperless technology such as \& mail, SMS, Whats app various educational apps, softwares and internet services are used by the institute for communication.

To send of document to the stakeholder, student, teachers, parents, Principal, management, institutes and internet is used and this paperless technology ultimately reflects our green initiatives.

We use of Digital Notice board for various notices for students.

## "GROW GREEN LIVE GREEN"



