

GREEN AND ENVIRONMENT AUDIT REPORT 2022



Marangi Mahavidyalaya

Lettekujan, Golaghat

Assam





ESTD: 1990

Dr. Mamoni Mahanta

Principal In-Charge, 919954026126

OFFICE OF THE PRINCIPAL MARANGI MAHAVIDYALAYA

P.O. Lettekujan, Golaghat, Assam

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Ref. No.....

Date.....

Foreword

Green reporting is a motivating outlet of an institution. It accounts the environment and its well-being of an institution. An organization can lessen most of the environmental costs by taking effective decisions with the help of green reporting. A green report can be regarded as a tool of environmental related issues. All of us know that the global pollution carries a negative impact on environment, water, land and human being. The rapid population growth and so called modern sophisticated lifestyle or we may say lack of human awareness about global warming or green nature are some of the factors for increasing unhealthy environment. In this connection the higher institutions have a responsibility to prepare a policy dialogue for the efficient usage of resources and in the reduction of pollution to an extent. Green reporting plays a vital role in the corporate social responsibility of an educational institution.

Marangi Mahavidyalaya is always committed to keep a green and healthy environment for the well being of nature as well as of upcoming generation. In the college campus and nearby community we have been practicing various awareness programme like plantation, distribution of sapling, using of LED bulbs, solar electricity, pure drinking water facility through RO system, waste management, rain water harvesting in order to create a eco-friendly environment. Moreover, the college has already taken various initiatives under Swachh Bharat Mission campaign in order to aware an eco-friendly environment.

Keeping in mind the aforesaid feelings Marangi Mahavidyalaya has prepared the Green Audit Report for the promotion of awareness on various issues related with environment among the College community. I hope, the Green Report will be a vision document to all the concerned to welcome a green future.

(Dr.Mamoni Mahanta)
Principal In-Charge

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Acknowledgement

I, the Coordinator of the Green Audit Team of Marangi Mahavidyalaya thankful to the esteemed Team Members of Rain Forest Research Institute, Jorhat, Assam for performing the processes of Green auditing with Marangi Mahavidyalaya. I would like to thank all the participants of the auditing team especially students, faculty and non-teaching staff who took pain along with us to gather data through survey. I also thank the office staff who helped us during the document verification.



(Yugal Jyoti Borah)
Coordinator,
Green Audit Assessment Team
(Internal)
IQAC Coordinator
Marangi Mahavidyalaya

Table-1. Green Audit Assessment Team (Internal)

Sl. No.	Name	Designation
1.	Dr. Mamoni Mahanta (Principal In-Charge)	Chairman
2.	Mr. Yugal Jyoti Borah (Asst. Prof.)	Coordinator
3.	Mrs. Monalisha Tamuly (Asst. Prof.)	Member
4.	Mr. Chitra Ranjan Mili (Asst. Prof.)	Member
5.	Mr. Binod Konwar (Asst. Prof.)	Member

Table-2. Monitoring Team (External)

Sl. No.	Name	Designation
1.	Dr. Dhruba J. Das (Scientist-F, RFRI, Jorhat)	Team Leader
2.	Dr. Girish Gogoi (Senior Technical Officer)	Member
3.	Mr. Abhijit Medhi (Technical Assistant)	Member

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1. Introduction

1.1 About the College

Marangi Mahavidyalaya is the only higher educational Institution in Arts stream in the entire Marangi Mouza of Golaghat District. The college was established in the year 1990 with the bold initiatives of Doigrong Ancholic Students Union and with the cooperation of local people. The first batch started in a classroom of Pandit Hemchandra Goswami Bidyapeeth, Doigrong on 31st August, 1990. It had a humble beginning with the Principalship of Mr. Tapan Chandra Bordoloi. Later, in the year of 1991 the college was shifted to its present place where it has been growing with permanent structures.

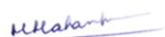
After that on 19th September, 2005 following the Govt. guidelines and Resolution of a Public Meeting held in the College Campus, the college was divided into two sections namely Marangi Mahavidyalaya (Junior) and Marangi Mahabidyalaya (Degree), Mr. Padmakanta Hazarika was selected as the Principal of Marangi Mahavidyalaya (Degree).

The college was permanently affiliated to Dibrugarh University as well as recognized under Section 2(f) & 12(B) of the UGC Act.1956 (Letter no. F. No. 8-431/2016(CPP-I/C) dated 25th October, 2017.

Since its establishment Marangi Mahavidyalaya has been playing a decisive role to identify itself as one of the pioneering colleges in the district. Marangi Mahavidyalaya deeply believes that 'education' is not only to build up one's personal career, but to build up a holistic and valued exercise to its nearby community as well. The college has been trying to follow the changing education policies implemented by the Higher Education for the welfare of the future generation. Total number of teaching and non-teaching staff and students of the college for the current year is given in the Table-3.

Table-3. Number of Teaching, Non-Teaching Staff and students of the college for the current year

Male/Female	Nos. of Teaching Staff	Nos. of Non-Teaching Staff	Nos. of Students
Male	12	03	147
Female	13	10	167
Total	25	13	314


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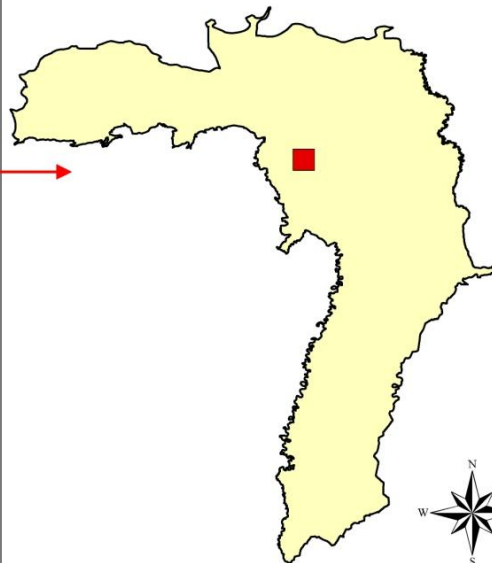
1.2 Campus Infrastructure

The college is situated in an ecologically flavoured zone with pollution-free campus spread over 3.306 acres (1.34 ha) of land encompassing Tea Gardens. The geographical location of Marangi mahavidyalaya is latitude 26.5459530oN and longitude 93.824049oE at Purabangla, Doigrong, Golaghat, Assam. The College is linked by AH-1, 18 Km. from headquarter of Golaghat District, Assam, 4 km. from NRL, Asia's biggest refinery, 12 Km. from Kaliyani Buddha Temple, Asia's one of the oldest Buddha temple and about 40 Km. from Kaziranga National park, world famous for one horned rhino. The location map of the college and the scaled image of the college campus are shown in the Figure.1 and 2 respectively. The college has eight general Classrooms and three digital classrooms.

Location of Golaghat district in Assam



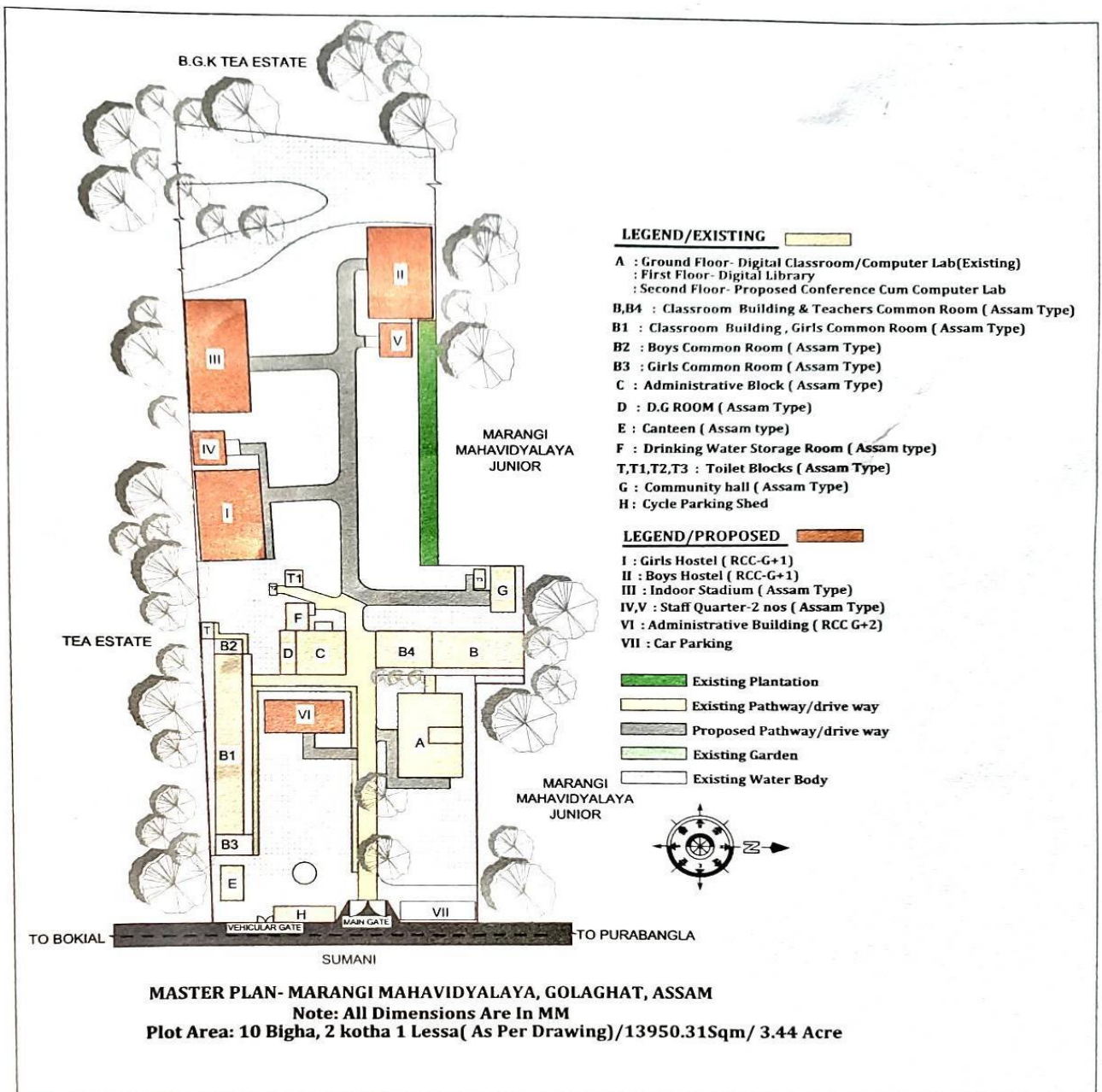
Location of Marangi Mahavidyalaya in Golaghat district



Location map of Marangi Mahavidyalaya



Fig.1: Location Map of Marangi Mahavidyalaya (Source: Google earth)



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Fig.2: Scaled image of college campus

1.3 Vision and Mission of the college

Our Vision

To prepare the students to understand, to realize and to solve the social vice and obstacles and to make them feel for contributing to the socio-economic development of the surrounding areas.

Our Mission

- To provide opportunity for quality higher education.
- To facilitate the inculcation of moral, cultural & spiritual values among the youths.
- To encourage the youths to fight against all forms of social evils and superstitions.
- To instill leadership role among the young in order to develop environmental awareness.
- To promote and extend helping hand to the nearby community and educational institutions in order to create a responsible attitude for the upcoming generation.
- To maintain and create a healthy atmosphere of gender equity.

1.4 Goals and Objectives of the college

Now-a-days the Green Audit of an institution is the key for self-assessment of the institution which reflects the role of the institution in mitigating the present environmental problems. Marangi Mahavidyalaya has been putting efforts to keep our environment clean since its inception. Therefore, the purpose of the present green audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards. The main objectives of carrying out Green Audit are:

- To map the Geographical Location of the college.
- To identify the floral and faunal diversity of the college.
- To record the meteorological parameter of the college where college is situated.
- To document the ambient environmental condition of weather, air, water, land and noise of the college.
- To document the waste disposal system.
- To enumerate the carbon stock of the campus.
- To find the gap and future course of action for improvement.
- To document measures taken for human health and safety management.

2. Green Audit

Green Audit can be regarded as a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of institute. The main aim of the Green Audit is to analyze environmental practices within and outside of the institution which will have an impact on the eco-friendly atmosphere. It is a valuable means for a college to determine how and where they are using the resources, the college can then consider how to implement changes and make savings. It can create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of Green impact on campus.

Thus, Marangi Mahavidyalaya evaluates its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent.

3. Methodology

3.1 Onsite Visit

The internal Green Audit Committee of the college visited the places physically, inspected and instructed the concerned for improvement and to undertake safety measures wherever necessary to minimize the impact on environment. A third party monitoring team from Rain Forest Research Institute, Jorhat consists of Scientists and Officers also visited and inspected the college campus.

3.2 Survey and Analysis

Green and environment data mainly air, water, sound, waste disposal, energy consumption etc. were recorded by the Internal Green Audit Committee in the college and arranged the water and soil sample to send to the authorized Laboratories/institutes for analysis. The girths and heights of all the trees above 10 cm diameter at breast height were measured and listed. The list is sent to RFRI, Jorhat for estimating above ground biomass (AVG) and carbon stock of the college campus.

4. Tree Diversity of Marangi Mahavidyalaya

The area is diverse with a variety of tree species performing variety of ecological and environmental functions. Most of these tree species are planted in different periods of time through various plantation programmes organized by the authority and have become an integral part of the college. The trees of the college have increased the quality of life, not only the college fraternity but also the people around of the college in terms of contributing to our environment by providing oxygen, improving air quality, climate amelioration, conservation of water, preserving soil, and supporting wildlife, controlling climate by moderating the effects of the sun, rain and wind. Leaves absorb and filter the sun's radiant energy, keeping things cool in summer. A thick belt of large shady trees in the periphery of the college have found to be bringing down noise and cut down dust and storms. Thus, the college has been playing a significant role in maintaining the environment in its surrounding areas. The trees and shrubs and herbs species available in the college campus are listed in the Table-4 and Table-5. Moreover, the measurement of the girth at breast height and height of trees of the campus is given in the Table-6. A total of 95 individual trees were found in the college campus (Table-4).

Table-4. List of tree species of Marangi Mahavidyalaya

SN.	Botanical Name	Family	Common/English Name	Local Name	Total
1	<i>Mangifera indica</i>	Anacardiaceae	Mango	Aam	01
2	<i>Mimusops elengi</i>	Sapotaceae	Bullet Wood	Bakul	30
3	<i>Azadirachta indica</i>	Meliaceae	Neem	Mahaneem	01
4	<i>Zizyphus jujuba</i>	Rhamnaceae	Palm, Jujube, Ber	Bogori	02
5	<i>Psidium guajava</i>	Myrtaceae	Guava	Madhuri	04
6	<i>Polyalthia longifolia</i>	Annonaceae	Monoon longifolium	False ashoka	15
7	<i>Acacia mangium</i>	Fabaceae	Wattle or Acacia	Acacia	03
8	<i>Hyophorbe lagenicaulis</i>	Arecaceae	Bottle Palm	Bottle Palm	02
9	<i>Citrus sp.</i>	Rutaceae	Citrus Lemon	Kazi Nemu	02
10	<i>Hibiscus mutabilis</i>	Malvaceae	Cotton Rose	Sthala Padma	05
11	<i>Albizia lebbek</i>	Fabaceae	Lebbek Tree, Flea Tree	Shirish	12
12	<i>Alstonia scholaris</i>	Apocynaceae	White Chesewood	Satiyana	01
13	<i>Cassia fistula</i>	Fabaceae	Golden Shower Tree, Pudding Pipe Tree, Purging Cassia	Sonaru	03
14	<i>Embllica officinalis</i>	Phyllanthaceae	Amla	Amlakhi	05
15	<i>Schima wallichii</i>	Theaceae	Needlewood tree	Nagabher	05
16	<i>Gmelina arborea</i>	Lamiaceae	Beechwood	gamari	03

17	<i>Tecoma stans</i>	Trumpet bushes	Yellow Bells	Yellow Bells	01
18	<i>Pinus sp.</i>	Pine	Eastern White Pine	Pine	01
Total no. of trees					96

Table-5. List of Ornamental Shrubs and Medical Herbs in College campus

SN.	Scientific name	Common name/local name	Family
1	<i>Ocimum tenuiflorum</i>	Holy basil/Tulsi	Lamiaceae
2	<i>Blechnum orientale</i>	Centipede fern /Dheki	Blechnaceae
3	<i>Colocasia esculenta</i>	Yam/ Elephant's Ear/Kasu	Araceae
4	<i>Hibiscus sabdariffa</i>	Meska-tenga, Pisola Rosta tenga	Malvaceae
5	<i>Paederia foetida</i>	Stinkvine/Bhedai lata	Rubiaceae
6	<i>Leucas zeylanica</i>	Ceylon/Doron bon	Lamiaceae
7	<i>Jasminum multiflorum</i>	Jasmine/Jutiful	Oleaceae
8	<i>Tabernaemontana divaricata</i>	Pinwheel Flower/Tagor	Apocynaceae

Table-6. Measurement of the girth at breast height and height of trees of the campus

Sl. No.	Name of Tree	DBH(cm)	Height(M)
1	<i>Mangifera indica</i>	142.08	12.192
2	<i>Zizyphus jujuba</i>	50	4.57
3	<i>Psidium guajava</i>	35	3.048
4	<i>Polyalthia longifolia</i>	40	3.6576
5	<i>Polyalthia longifolia</i>	50	4.345
6	<i>Polyalthia longifolia</i>	75	4.712
7	<i>Acacia mangium</i>	135	13.716
8	<i>Acacia mangium</i>	284	14.631
9	<i>Acacia mangium</i>	180	13.712
8	<i>Hyophorbe lagenicaulis</i>	65.1	6.096
9	<i>Albizia lebbeck</i>	90	15.24
10	<i>Albizia lebbeck</i>	73	13.231
11	<i>Albizia lebbeck</i>	92	13.673
12	<i>Albizia lebbeck</i>	94	14.24
13	<i>Albizia lebbeck</i>	70	12.341
14	<i>Albizia lebbeck</i>	101	14.765
15	<i>Albizia lebbeck</i>	100	14.121
16	<i>Albizia lebbeck</i>	60	12.223
17	<i>Albizia lebbeck</i>	65	12.215
18	<i>Albizia lebbeck</i>	40	10.563
19	<i>Albizia lebbeck</i>	64	12.761
20	<i>Alstonia scholaris</i>	152	19.812

21	<i>Cassia fistula</i>	120	15.24
22	<i>Schima wallichii</i>	80	13.282
23	<i>Schima wallichii</i>	57	11.282
24	<i>Schima wallichii</i>	31	10.453
25	<i>Schima wallichii</i>	34	10.751
26	<i>Schima wallichii</i>	33	10.231
27	<i>Tecoma stans</i>	60	4.32
28	<i>Pinus sp.</i>	54	9.231
29	<i>Gmelina arborea</i>	95	15.742
30	<i>Gmelina arborea</i>	93	14.737
31	<i>Gmelina arborea</i>	90	14.231

5. Carbon Stock of the College Campus

All green plants absorbed carbon dioxide gas emitted by the various human activities to the environment which help to mitigate the climate change. The above ground carbon stock of all the trees of the college campus having 10 cm diameter at breast height was estimated and the total above ground biomass and total carbon stock of the entire tree species of the college was found 20.05Mg and 9.42Mg respectively. The above ground biomass and its carbon stock per unit area was estimated to be 14.96Mg/ha and 7.03Mg/ha. Total above ground biomass carbon of each tree species in the whole campus area is shown in the Fig.3.

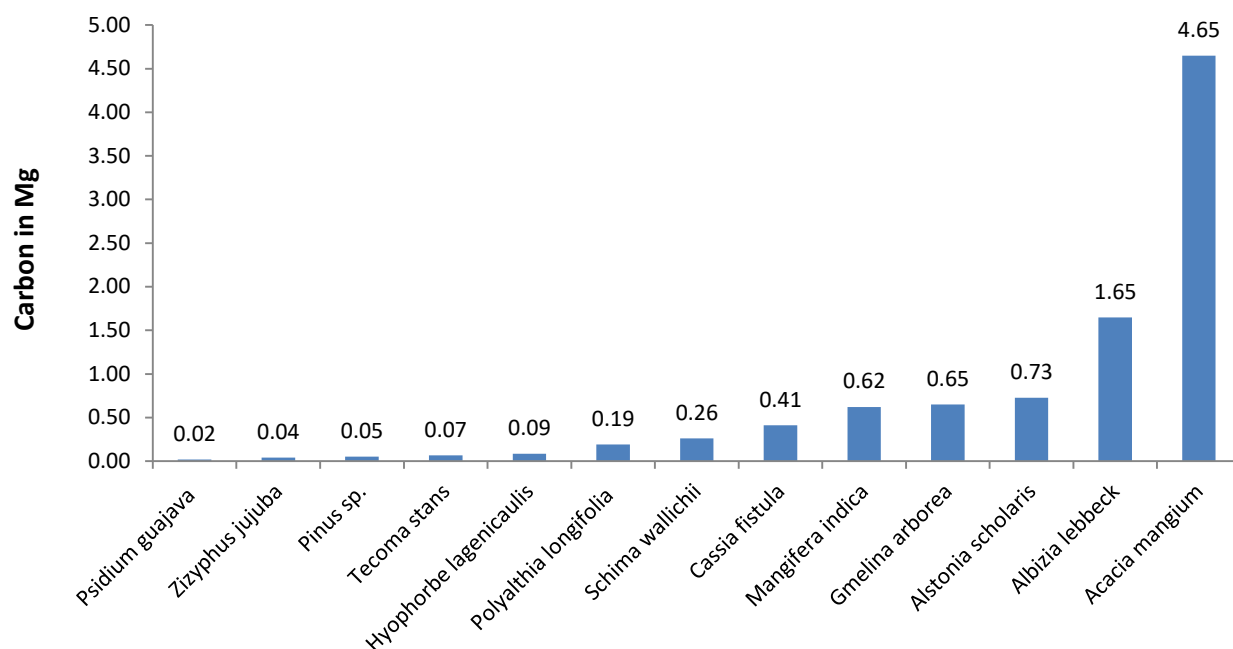


Fig.3: Total above ground biomass carbon of each tree species in Mg

6. Water Quality Assessment and Management Strategies

Water quality testing is important because it identifies contaminants and prevents waterborne diseases. Drinking or using contaminated water can result in severe illness or death. That is why it is important to ensure that drinking water is safe, clean and free from bacteria and disease. Keeping these in mind the water quality Marangi mahavidyalaya has duly tested at CSIR-Noth-East Institute of Science and Technology, Jorhat. The parameters for water quality are determined by the intended use. Work in the area of water quality tends to be focused on water that is treated for human consumption, or in the environment. The physical and chemical parameters tested of the water samples of the college are given in the Table-7 and the reports are appended in the Annexure-I to III.

Table-7. The list of parameters tested in the water sample of the college

Sl. No.	Dimentional Details	Strength/tested Value with Unit	Accepted Value as per IS:10500, 2012
1	pH	6.20 at 25.1° C	6.5-8.5
2	Turbidity(NTU)	Not Detected	1 NTU(MAX)

3	Total Hardness as CaCO ₃	34.3mg/1	200mg/1(MAX)
4	Calcium as Ca	Trace(<1.0mg/1)	75mg/1(MAX)
5	Magnesium as Mg	Trace(<1.0 mg/1)	30mg/1(MAX)
6	Iron as Fe	Trace(<1.0 mg/1)	0.3 mg/1(MAX)
7	Sulphate as S ₄	6.1mg/1	200 mg/1(MAX)
8	Chloride as Cl	16.8 mg/1	250mg/1(MAX)
9	Phenolphthelain Alkalinity	Not detected	
10	Total Alkalinity	2.5 mg/1	200mg/1(MAX)
11	Total Dissolved Solids	25.73 mg/1	500 mg/(MAX)
12	Total Suspended Solids	94.0mg/1	
13	Arsenic	1.18 ug/1	10ug/1(MAX)

6.1 Water purifying plant

Water supply for drinking and other purpose is maintained by two submersible bore wells installed in the campus. Pure drinking water facility through RO systems for students and teachers are also available in the college campus. So, biological test of drinking water of the college for bacteria causing water borne diseases are done.



Photo-1. Water purifying plant (RO)



Photo-2. Overhead Water Tank for distribution



Photo-3. RO Water purifier



Photo-4. Clean drinking Water for students

6.2 Rain Water Harvesting

Initiatives for conservation water are also taken by the college. The Rain water Harvesting Unit from rooftops and preserves it in water tank and with the help of pipes this water is used in girls' common room and the flower garden of the college. The college also takes some steps to conserve water like-check water leaks and repair leaky taps, use mugs and buckets in toilet to minimize the water wastage etc.



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Photo-5. Harvesting of rainwater from rooftops

7. Air Quality assessment and Management

As the College is situated in a rural area surrounded by tea garden and planted areas, the hazardous pollution is most likely to be absent in the college campus. The ambient air quality shows that there are very less polluted particles in ambient air; AQI for SO₂ & NO₂ parameters are within the range of normal living standards, there are a number of factors responsible for this cleanliness, calmness and serenity in this area. Firstly, population which is most responsible for all the problems and hurdles in smooth living is lowest. Secondly, in this area more trees have been planted as compared to other places. Furthermore, no air polluting industry is established near here. Therefore, the Marangi Mahavidyalaya campus can be regarded as an eco-friendly campus.

7.1 Air Quality Determination

Moderate air quality index (OVERALL=57) in Numaligarh, Assam, India, data accessed on dated 12 October 2022. The list of parameters and their results of air assessed to determine the quality of air in the college campus is given in the Table-8.

Table-8. Air quality assessment in the college campus

SNo.	Parameter	Result (Range)
1	NO ₂	2.3jug/m ³
2	O ₃	28.63 jug/m ³
3	PM2.5	13.7jug/M ³ AQI
4	MP ₁₀	11.11jug/m ³
5	CO	1.150Jug/m ³
6	SO ₂	1.1Jug/m ³
7	Humidity	79%
8	Barometric Pressure	1010mbar
9	Wind Speed	12km/h
10	Wind Direction	25km/h
11	Sun Rise	5.13AM
12	Sun Set	4.51PM
13	Moonrise	6.27PM

14	Moonset	8.17AM
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Source- <https://www.iqair.com/in-en/india/assam/numaligarh>



Photo-6. Signboard for “No smoking zone”

8. Sound Pollution Management at Marangi Mahavidyalaya

Marangi Mahavidyalaya has been taken measures to keep the college noise free. No horns of any vehicle is allowed in the college campus. Moreover, as a part of awareness, various boards have been displayed in order to maintain silence in the college campus. The noise level was recorded at the different important locations of Marangi Mahavidyalaya. At each spot, the measurements were taken for 60 seconds during day time (6 AM- 6 PM) and noted down the measurements. Screen shots of the measurements of noise were taken immediately by the Noise Test Pro App at the time of 60th second of each measurement. The results of the experiments at different places have been tabulated in the Table-9.

Table-9. The noise level recorded at different important locations of the college

Location	Measurements (Duration in Sec)	Minimum (dBA)	Maximum (dBA)	Average (dBA)
Canteen	60	25	87	47
Library	60	29	90	45
Principal Office	60	26	89	64
Auditorium	60	22	58	31
Classroom block -1	60	22	51	31
Classroom block -2	60	27	71	52
Block - C Ground floor	60	24	67	40
Block - C First floor	60	38	80	50

Generator Room	60	62	84	71
Faculty Room	60	35	89	65
Office Staff	60	26	89	64
College Front Gate	60	33	66	48
College Back Gate	60	9.5	70	29



Photo-7. Noise Measurement by Noise Test Pro App



Photo-8. Signboard noise free Campus

9. Soil Nutrient Status and Quality Assessment

Marangi Mahavidyalaya has been trying to aware all the stakeholders of the college i.e. the students, the teaching staff as well as non-teaching staff to make the college campus plastic free. This practice is done through displaying boards and organizing various awareness programme. The college staff and the canteen also use reusable utensils to minimize the use of plastic plates, glass etc. The College has already tested (NPK) its soil in the CSIR-North East Institute of Science and Technology (NEIST), Jorhat, Assam. The parameters for soil quality are determined by the intended use. Soil Test Certificate is enclosed in the Annexure-IV and the result of NPK test is shown in the Table-10.

Table-10. Value of NPK in the soil of the college

SNo.	Parameters	Strength/ Unit
1	Nitrogen (N)	3.104g/Kg
2	Phosphorous (P)	287.14 mg/Kg.

3	Potassium (K)	3.0g/Kg.
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Photo-9. Display board for plastic free Campus

10. Weather Data of Marangi Mahavidyalaya

In Marangi, the climate is warm and temperate. Rainfall is more in summer than the winter in Marangi, Golaghat. The average annual temperature in Golaght is 26.08 °C and precipitation level is about 770 mm. The driest month is generally December. There is 16 mm of precipitation in December. The greatest amount of precipitation occurs in July, with an average of 338 mm with an average temperature of 27 °C, May is the warmest month. The lowest average temperatures in the year occur in January, when it is around 19 °C. The precipitation varies 322 mm between the driest month and the wettest month. The variation in temperatures throughout the year is 20.3 °C. Month-wise weather data of Marangi purabangla accessed from google source is given in the Table-11.

Table-11. Month-wise weather data of Marangi purabangla for the year 2022

Temperature/ Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Avg.Temp.(°c)	20	24	29	32	28	28	28	27	28	27	22	20
Min.Temp(°c)	14	17	20	24	23	25	25	24	24	22	16	14
Max. Temp(°c)	23	28	34	36	30	30	29	29	32	31	26	25
Avg.Temp.(°F)	63	68.4	74.8	79	82.5	75.2	83.5	84.5	82.2	76.5	68.5	63.9
Min.Temp(°F)	51.3	55.9	62.2	67.5	72.1	57.9	76.6	76.5	74.3	86	57.6	53.4
Max. Temp(°F)	74.7	80.8	87.4	90.5	92.8	92.5	90.3	91.6	90	67	79.3	

												74.3
Precipitation/ Rainfall (mm)	17	22	41	82	120	220	338	281	214	99	17	16

Source: <https://www.worldweatheronline.com/numaligarh-weather-averages/assam/in.aspx>)

11. Human Health and Safety Management

Marangi Mahavidyalaya is always aware of human health and safety. The College has been taking various initiatives for human health and safety in the college campus as well as in the nearby communities.

11.1 Blood Donation Camp

NSS UNIT and Red Ribbon Club have been organized blood donation camp in association with Kushal Konwar Civil Hospital, Golaghat, a government hospital of Assam.



Photo-10. Awareness cum voluntary Blood Donation Camp

11.2 Free Health Check up Camp Cum Awareness Programme

NSS UNIT and Red Ribbon Club organized Free Health Check Up Camp cum Awareness Programme in association with Kushal Konwar Civil Hospital, Golaghat, a government hospital of Assam at Purabangla Bagicha M.E. School.

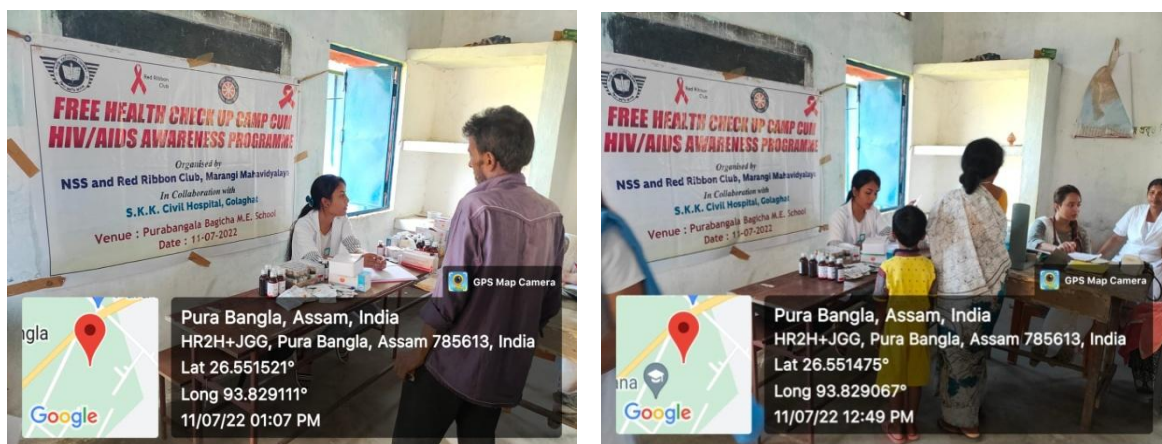


Photo-11. Free Health Check Up Cum HIV/AIDS Awareness Programme

12. Waste Management

Waste disposal are the activities and actions required to manage waste from its inception to its final disposal. This includes the collection, treatment and disposal of waste, together with monitoring and regulation of the waste management process. The waste from all around the college is separated daily as wet and dry waste in different bags which are disposed separately. Dry waste includes paper, cardboard, glass tin cans etc. on the other hand; wet waste refers to organic waste such as vegetable, sanitary pads, left-over food etc. Separation of waste is essential as the amount of waste being generated today causes immense problem. The material was composted and evaluated as a fertilizing material. Disposal of these waste results in the production of good quality organic manure that can be used as soil amendments and source of plant nutrients. The biological reusable waste are processed as organic manure for the plants available in the college campus and the other solid waste generated in the college campus is taken to the community bin of Byabasaya Sanstha for recycling and disposal.



Photo-12. Vermi-Compost Unit



Photo-13. Packets of Organic manure



Photo-14. Liquid Waste Bin



Photo-15. Solid Collection Bin



Photo-16. Paper Classroom



Photo-17. Bamboo Bin in the College campus

13. Awareness and Plantation Programme organized by the college

Marangi Mahavidyalaya has been various awareness related to environment and plantation in the college campus and the nearby localities. The College has been regularly conducting tree plantation programmes, distribution of seedlings/saplings programme, and awareness rally through National Service Scheme (NSS) on the occasion of World Environment Day, Swachh Bharat Abhiyan etc. The college observed 70th Van Mahutsav' jointly with the Forest Department of Bokial Forest Division from 1 to 7 July, 2019.



Photo-18. Plantation on the occasion of 70th Van Mahutsav at Bokial, Golaghat

The college organized campaign against Single used Plastic' jointly with the Teachers' Unit and Students' Union Body on the occasion of 150th Gandhi Jayanti on 2 October, 2019.



Photo-19. Campaign against Single Use Plastic on the occasion of 150th Gandhi Jayanti

Cleanliness Programme was organized by the NSS Unit of the college at Phulanibari Gaon on 26th February 2020.



Photo-20. Cleanliness Programme at Phulanibari Gaon

Cleanliness Drive was organized by NSS Unit of the college on 30th December, 2021 at College Campus.



Photo-21. Cleanliness Drive at College campus

Plantation and distribution of saplings by NSS Unit of the college was organized on 5th June 2022 on the occasion of World Environment Day.



Photo-22. Plantation and distribution of saplings on the occasion of World Environment Day



Photo-23. Plantation Programme by the Department of History in the college premise on 4th June 2022



**Photo-24. Plantation Programme under Chief Minister's Institutional Plantation
Programme organized by NSS UNIT and ECO CLUB on 30-07-2022**

14. Electricity Consumption and Management

The College has started to adopt energy saving measures as a part of best practice. The college adopts renewable source of energy through installing solar street lights in the College entrance and the field. Currently, the college has 3 Nos. of Solar street lights. The authority also keeps 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 college as low as possible. Number of LED Bulbs and LED Tubes found in the college were 60 and 10 respectively.



Photo-25. Solar street light in the college campus

15. Conclusions

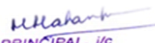
Green and Environment Audit is considered as one of the essential criterion to assess the green and environment-friendly approaches in relation to maintain sustainability in future. Under the able guidance of the Principal of the college, the institution has initiated a number of healthy and environment-friendly smart approaches to create awareness among the college fraternities including the faculties, office bearers, students and society. This holistic approach to maintain the ecologically sound environment signifies the contribution of Marangi Mahavidyalaya, Golaghat to the adjoining society is, thus, promising and equally adds beneficial impacts to restore overall environmental resources such as soil, water, air, noise and energy etc.

Further, as the environment is under rapid risks of lots of environmental and climate-related threats, the present strategies and awareness programmes that are being organized by the college to maintain the environment clean and green would hold an iconic example towards development of sustainability and climate smart ecosystem and environment.

Annexure-1

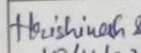
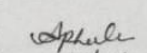
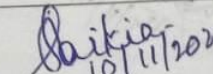
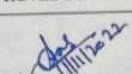
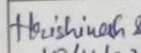
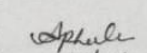
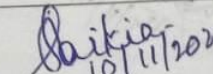
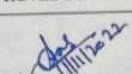
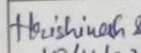
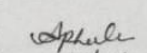
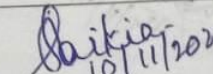
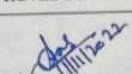
Certificate of Water and Soil Test Report

 CSIR-NORTH-EAST INSTITUTE OF SCIENCE & TECHNOLOGY JORHAT - 785 006, ASSAM	
	
Name of the Division : Analytical Chemistry Group, MSTD	Report No. CSIR-NEIST-Jorhat/QSP/MR/20/AnC/TR- 3438/11-2022
TEST REPORT OF WATER SAMPLE	DATE 10/11/2022
	PAGE 1 of 4
INDEX	
CONTENTS	
1. SCOPE	: Physical and Chemical analysis of water and soil samples supplied by: Mohan Boruah Principal In-Charge, Morongi Mahavidyalaya P.O. Lettekujan, Golaghat, Assam
REFERENCE	: Ref No: MM/Water & Soil Analysis/634; Dated: 19.10.2022
2. TEST RESULTS	: Enclosed.
3. CONCLUSION	
TEST CONDUCTED BY	CHECKED BY
Hrishinach L. 10/11/22 H. Sarmah (Tech. Asst.)	Dr. P. J. Saikia 10/11/2022 (GL, Analytical Chemistry Group, MSTD)
Dr. A. Phukan 10/11/22 (Sr.Tech. Officer)	APPROVED BY
	Dr. A. M. Das 11/11/22 (Chairman, Testing Report Committee)
Released By	
Signature & Date	


PRINCIPAL, IC
 Morongi Mahavidyalaya

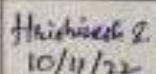
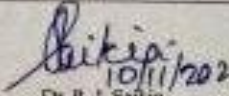
Annexure-II

Certificate of Water and Soil sample analysis

 CSIR-NORTH-EAST INSTITUTE OF SCIENCE & TECHNOLOGY JORHAT – 785 006, ASSAM																																									
Name of the Division : Analytical Chemistry Group, MSTD																																									
Report No. CSIR-NEIST-Jorhat/QSP/MR/20/AnC/TR- 3438/11-2022																																									
TEST REPORT OF WATER SAMPLE.																																									
DATE 10/11/2022																																									
PAGE 2 of 4																																									
1. SCOPE																																									
1.1 Service/Job Register No. & Date of Receipt : 1491/2022; 20/10/2022																																									
1.2 Requested by : Mohan Boruah (Name & Address of the Agency/ Client) Principal In-Charge, Morongi Mahavidyalaya P.O. Lettekujan, Golaghat, Assam																																									
1.3 Description of the Test : Physical and Chemical analysis.																																									
1.4 Sample Identification : Water & Soil sample.																																									
1.5 Environmental Conditions : Temperature : Room Temperature Humidity :																																									
1.6.1 Test Method : IS: 3025																																									
1.6.2 Reference Standard & Year of Publication : IS: 10500, 2012																																									
1.6.3 Any other Standard : NIL.																																									
1.6.4 Any other Method : NIL.																																									
1.7 Equipment Used																																									
<table border="1"> <thead> <tr> <th>Equipment Name</th> <th>(a) pH</th> <th>(b) EC-TDS Analyzer</th> <th>(c) Nephelo/ Turbidity Meter</th> <th>(d) Spectrophotometer</th> <th>(e) AAS</th> <th>(f) CHN Analyser</th> <th>Basic Accuracy</th> </tr> </thead> <tbody> <tr> <td>Make</td> <td>: Eutech</td> <td>ELICO</td> <td>Altis</td> <td>AnalyticJena</td> <td>AnalyticJena</td> <td>Scaler</td> <td></td> </tr> <tr> <td>Model</td> <td>: PH 510</td> <td>CM-183</td> <td>----</td> <td>SPECORD 210+</td> <td>Zenit 700P</td> <td>----</td> <td></td> </tr> <tr> <td>Calibration Due on :</td> <td>: Auto Calibrated.</td> <td>Auto Calibrated</td> <td>Auto Calibrated</td> <td>Auto Calibrated</td> <td>Auto Calibrated</td> <td></td> <td></td> </tr> <tr> <td>Traceable to</td> <td>: Wet Chem Lab</td> <td>Wet Chem Lab</td> <td>Wet Chem Lab</td> <td>Balance Room</td> <td>AAS Room</td> <td>Animal House</td> <td></td> </tr> </tbody> </table>		Equipment Name	(a) pH	(b) EC-TDS Analyzer	(c) Nephelo/ Turbidity Meter	(d) Spectrophotometer	(e) AAS	(f) CHN Analyser	Basic Accuracy	Make	: Eutech	ELICO	Altis	AnalyticJena	AnalyticJena	Scaler		Model	: PH 510	CM-183	----	SPECORD 210+	Zenit 700P	----		Calibration Due on :	: Auto Calibrated.	Auto Calibrated	Auto Calibrated	Auto Calibrated	Auto Calibrated			Traceable to	: Wet Chem Lab	Wet Chem Lab	Wet Chem Lab	Balance Room	AAS Room	Animal House	
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Traceable to	: Wet Chem Lab	Wet Chem Lab	Wet Chem Lab	Balance Room	AAS Room	Animal House																																			
1.8 Location of Test : Analytical Chemistry Group, MSTD																																									
<table border="1"> <thead> <tr> <th>TEST CONDUCTED BY</th> <th>CHECKED BY</th> <th>APPROVED BY</th> </tr> </thead> <tbody> <tr> <td>  10/11/22 H. Sarmah (Tech. Asst.) </td> <td>  10/11/22 Dr. A. Phukan (Sr.Tech. Officer) </td> <td>  10/11/2022 Dr. P. J. Saikia (GL, Analytical Chemistry Group, MSTD) </td> </tr> <tr> <td colspan="2"></td> <td>  10/11/22 Dr. A. M. Das (Chairman, Testing Report Committee) </td> </tr> </tbody> </table>		TEST CONDUCTED BY	CHECKED BY	APPROVED BY	 10/11/22 H. Sarmah (Tech. Asst.)	 10/11/22 Dr. A. Phukan (Sr.Tech. Officer)	 10/11/2022 Dr. P. J. Saikia (GL, Analytical Chemistry Group, MSTD)			 10/11/22 Dr. A. M. Das (Chairman, Testing Report Committee)																															
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		 10/11/22 Dr. A. M. Das (Chairman, Testing Report Committee)																																							

Annexure-III

Physical and chemical testing report of water

 CSIR-NORTH-EAST INSTITUTE OF SCIENCE & TECHNOLOGY JORHAT - 785 006, ASSAM				
Name of the Division : Analytical Chemistry Group, MSTD		Report No. CSIR-NEIST-Jorhat/QSP/MR/20/AnC/TR- 3438/11-2022		
TEST REPORT OF WATER SAMPLE,		DATE 10/11/2022	PAGE 3 of 4	
2. RESULT				
Sl. No.	Sample Identification Details :	Dimensional Detail / Parameters.	Strength/ Tested Value with Unit.	Remarks Value as Per IS : 10500, 2012
01.	Water Sample	01) pH 02) Turbidity (NTU) 03) Total Hardness as CaCO_3 04) Calcium as Ca 05) Magnesium as Mg 06) Iron as Fe 07) Sulphate as SO_4 08) Chloride as Cl 09) Phenolphthalein Alkalinity 10) Total Alkalinity 11) Total Dissolved Solids 12) Total Suspended Solids 13) Arsenic	6.20 at 25.1°C Not detected 34.3 mg/l Trace (< 1.0 mg/l) Trace (< 1.0 mg/l) Trace (< 0.01 mg/l) 6.1 mg/l 16.8 mg/l Not detected 2.5 mg/l 25.73 mg/l 94.0 mg/l 1.18 µg/l	6.5 - 8.5 1 NTU (MAX) 200 mg/l (MAX) 75 mg/l (MAX) 30 mg/l (MAX) 0.3 mg/l (MAX) 200 mg/l (MAX) 250 mg/l (MAX) --- 200 mg/l (MAX) 500 mg/l (MAX) --- 10 µg/l (MAX)
TEST CONDUCTED BY  10/11/22 H. Sarma (Tech. Asst.)		CHECKED BY  10/11/2022 Dr. P. J. Sankar (GL, Analytical Chemistry Group, MSTD)	APPROVED BY  11/11/2022 Dr. A. M. Das (Chairman, Testing Report Committee)	

Report of chemical analysis of Soil samples

M. Mahant
PRINCIPAL, i/c
Marangi Mahavidyalaya

Annexure V:

Energy consumption bill



Assam Power Distribution Company Limited
NAME OF ELECTRICAL SUB-DIVISION / IRCA: GOLAGHAT2
CIN: U40109AS2003SGC007242
GSTIN: 18AAHCL1354J1ZJ
ELECTRICITY BILL

Website: www.apdcl.org

Centralized Customer Care Number: 1912

Consumer Name: PRINCIPAL, MARANGI MAHABIDYALAY Address: P. O. LETEKUJAN, GOLAGHAT	Consumer Number: 18500023593 Old Consumer Number: 181000023593 DTR Number: 005 Pole Number: 000 Connected Load in KW: 5.0 Contracted Demand in KVA: 5.0 Load Security null Meter Number: AP878096	Bill Amount: 6860.0 Due Date: 20-Jan-2023 Bill Number: 901794564 Bill Period: 01-Dec-2022 To 31-Dec-2022 Bill Date: 05-Jan-2023 Number of Days: 31 Meter Status: RUNNING Billing Status: NORMAL
Contact Number: 7002801965 Email: Tariff Category: LT V(A) GENERAL PURPOSE (OTHER Supply Voltage Level: LT		



Meter Reading Details

Reading Type	Meter Number	MF	Previous Reading in KWh	Previous Export in KWh	Current Reading in KWh	Current Export in KWh	Difference Reading in KWh	Difference Export in KWh
KWH (Normal)	AP878096	1.0	5748.0	0.0	6123.0	0.0	375.0	0.0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

Units Consumed	PF Penalty/Rebate	LT Metering Penalty @ 3%	DTR Penalty @ 10%	HT Rebate @ 3%	Billable Units in KWh
375.0	0.0				375.0
0.0	0.0				0.0
Recorded Demand (in KVA)	0.0	Maximum Demand (in KVA)	0.0	Billing Demand (in KVA)	5.0
Power on Hours	0.0	Freeze Amount	0.0	Availability Percentage	

Billing Details

Current Demand	Outstanding Amount	Adjustment Amount	Government Subsidy	Solar Rebate	Net Bill Amount
Rs. 3569.90	Rs. 3290.00	Rs. 0.00	Rs. 0.0	0.0	Rs. 6860.0

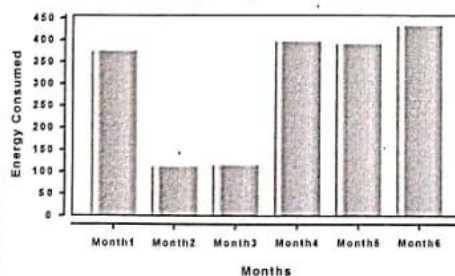
In Words: Rupees Six Thousand Eight Hundred Sixty Only

PLEASE PAY YOUR BILL ON TIME AND HELP US TO SERVE YOU BETTER

Charges Breakup

Details	Units	Rate	Amount
Energy Charge	375.0	6.55	2456.25
	0.0	0.0	0.00
	0.0	0.0	0.00
Total Energy Charge			2456.25
Energy Charge Re-Estimated			0.00
Demand/Fixed Charge	5.0	155.0	779.36
FPPPA Charge		0.30	112.5
Electricity Duty		5.0	162.31
Govt. Subsidy		0.0	0.0
Meter Rent		0.0	0.0
Transformer M.D. Charge			
Overdrawal Penalty			0.0
Adjustment Amount			0.0
Charges for dishonoured cheque			0.0
Arrear Principal			3265.23
Arrear Surcharge			24.77
Current Surcharge			48.98
Misc. Arrear			0.0
Rebate if paid before due date			0.0
Payable amount before due date			6860.0
Payable amount after due date			6860.0

Energy Consumption (Last Month's Bill)



Checked by E&OE:

Prepared by: 40013248

Signature with seal

U. Mahanta
PRINCIPAL, i/c
Marang Mahavidyalaya