

# **Green and Environment Audit Report 2022**

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**GOLAGHAT COMMERCE COLLEGE, GOLAGHAT**



**PREPARED BY :**

**Green and environment Audit Team  
Golaghat Commerce College  
Golaghat  
2022**



# GOLAGHAT COMMERCE COLLEGE

Jyoti Nagar, Golaghat, Assam, Pin -785621

(NAAC - B)

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## Foreword

Educational Institutes must aim to minimize waste discharge and use the available resources sustainably for a green environment. Golaghat Commerce College is committed to maintain a clean and green college campus by incorporating sustainable and eco-friendly initiatives at the core of all its activities and endeavors. In order to assess the environmental performance of our institution and to analyse the possible solutions for converting the campus of Golaghat Commerce College to an eco-campus, the college had decided to conduct an external Green Audit. The responsibility of conducting the audit was entrusted to Rain Forest Research Institute, Jorhat, Assam. A committee was constituted in the college to prepare a report to be submitted to the auditing agency. The study focused on indicators like consumption of energy in terms of electricity, quality of soil and water, waste management practices, etc. Based on the study, this report pertaining to environmental management plan with strength, weaknesses have been prepared for inspection and verification by the auditing agency.

Signature

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## **Acknowledgement**

Green and Environment Audit Assessment Committee, Golaghat Commerce College hereby express our gratitude to the Principal, Golaghat Commerce College for assigning this important work of preparing a report for conducting Green and Environment Audit by Rain Forest Research Institute, Jorhat. We appreciate the cooperation extended to our team during the entire process of study.

Our special thanks are due to the teaching and non teaching staff of the college for giving us necessary inputs to carry out this vital exercise of preparing the report for Green and Environment Audit. We are also thankful to other staff members who were actively involved in the process.

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## 1. Introduction

### 1.1 About the College

Golaghat Commerce College, Golaghat is one of the pioneer institutions for higher education in the field of commerce and arts in this region. It was established in 1972 with commerce stream and later in the year 1989-90 arts stream was started. At present the college is contributing both in the field of arts and commerce with 1078 students and 59 teachers. The institution is affiliated to Dibrugarh University.

The college is located at Jyotinagar, Golaghat, Assam which is a semi urban area. It is in 1 km from Golaghat town and located in the midst of a residential area. The college is spread in 19 bighas of land which includes college buildings, girls and boys hostels and a playground.

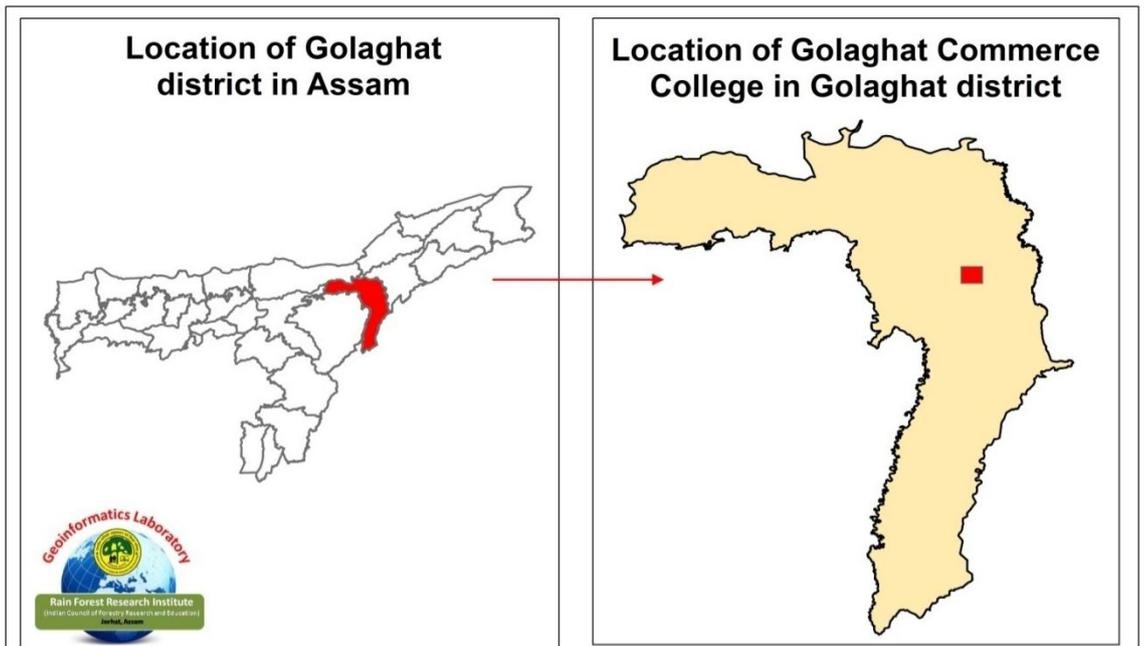
### 1.2 Campus Infrastructure

The college campus has an administrative building, academic block, library, Rashtriya Uchchar Shiksha Abhiyan (RUSA) building, NCC building, indoor stadium, canteen and skill development centre. Most of the buildings are a combination of old Assam type pattern and RCC building.

The fundamental aim of the college is to provide sound learning to young minds under circumstances to ensure all round development of their personalities. It encourages students to achieve academic excellence to take up suitable career and also to develop extracurricular activities and traits to contribute for enrichment of their family and society.



Photo 1: Main gate of the college



**Google map of Golaghat Commerce College**



Figure-1: Location Map of Golaghat Commerce College

## **1.3 Vision and Mission**

### **1.3.1 Vision**

To create conscious, integrate and wholesome human beings who remain fixed to their goal and the ever-changing values and perspective of life so as to enable them to work for sustainable and holistic development of the society with a view to meeting the challenges and opportunities of life in the noblest and most disciplined manner.

### **1.3.2 Mission**

- To cater to the academic and professional needs of the students through value based quality education
- To promote the marginalized students in order to uphold social equality
- To create ethical human capital in the form of globally competent entrepreneurs, professionals and enterprising citizens

## **1.4 Environmental policy of the college**

- ❖ To establish Rain Water Harvesting Unit
- ❖ To Maintain dry and wet dustbin
- ❖ To Minimize use of plastics and papers
- ❖ To Minimize wastage of water and electricity
- ❖ Use of renewable energy
- ❖ Recycling of organic waste and establishment of vermicompost unit
- ❖ Plantation for reducing air pollution and mitigate carbon emission

## **2.Introduction to Green Audit**

Green Audit is a process of systematic identification, quantification, recording and reporting of environmental quality and diversity of the concerned place. The process of modernization has led to several environmental crises. On this backdrop it becomes essential to adopt a system of Green Campus and follow environment friendly methods in process of work. Thus, it is imperative for the college to evaluate its contribution for a sustainable future by reducing pollution in all fields. The National Assessment and Accreditation Council (NAAC), New Delhi has made it mandatory that all Higher Educational Institutions to ensure that they contribute towards reduction of global warming and adoption of environment friendly measures.

## **2.1 Objectives of the Study**

The process of Green Audit adopted in the college aims to promote environment management and conservation in and around the College Campus. The objectives of Green Audit are as follows:

- ❖ To document the flora and fauna diversity of the college.
- ❖ To know about the environmental condition of the college, viz., air, water and soil.
- ❖ To estimate the energy consumption of the college.
- ❖ To monitor waste generation and management in the college campus.
- ❖ To ensure optimum utilization of resources to reduce carbon footprint.
- ❖ To suggest measures for clean and green environment.

## **3. Methodology**

### **3.1 Onsite Visit**

All the team members of Green Audit Committee of the college visited the places physically, inspected, instructed the concerned for improvement and safety measures were undertaken wherever necessary to minimize the impact on environment.

### **3.2 Survey and Analysis**

The Green Audit Committee arranged to send the water and soil samples to the authorized Laboratories/institutes for analysis.

## **4. Water Quality Assessment and Management**

Water is used in the college for various purposes like drinking, gardening, cleaning, washing clothes, utensils, preparing food, cleaning and maintaining toilets. The main source of water is ground water which needs to be filtered due to hard water quality. RO filters have been installed in library, nearby many departments, auditorium and canteen. A number of large cooler cum filters have been installed for use of students.

The water quality of Golaghat Commerce College was tested by District Level Laboratory under Public Health Engineering Department (PHED), Golaghat Division, Golaghat, Assam. As per their report the physical and chemical quality of the water of college premises is within the permissible limit. Turbidity, pH and iron content found in the water of Golaghat commerce college were 4 NTU, 6.65 and 0.32ppm respectively. The process of water testing would be conducted even in future also. A Rain Water Harvesting plant has been set up in the college to conserve water. Water is collected in a tank having capacity of 1000 liters. Leakage of water from RO's and taps was taken care of.

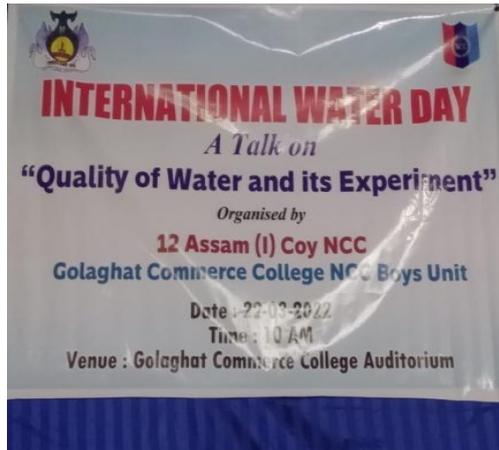


Photo 2a & b: International Water Day Celebration in the College, 22/03/22





Photo 3: Rain Water Harvesting in the College

### **5. Soil Quality Management**

It involves practices and treatments to protect soil and enhance its performance. In order to conserve and improve soil quality, plantation programmes are being conducted by the college on regular interval and most of the lands in the college are covered by grasses to avoid soil erosion. During gardening organic wastes are added in the soil to maintain soil quality. The use of plastic and paper is minimized within the college campus.





Photo 4: Grass coverage in the Play Ground of the college

## **6. Air Quality and Management**

The college is situated in a semi urban area and free from any hazardous pollution but greenhouse gases are emitted by vehicles, air conditioners and refrigerators. To mitigate the situation many plants have been planted over the year in the college premises. The college campus is a ‘No Smoking’ area and the rooms of the college are well ventilated with ventilators and exhaust fans. Green Diwali revolution programme was observed at Golaghat Commerce College with the help of ex-students of the college on 4 and 5 November 2021. The main objective of the programme was

to make awareness among the students to conserve natural biome and biodiversity, minimize sound and air pollution. Cycle rally was also organized to minimize air pollution and make the students aware about pollution free environment.



Photo 5: (A) Green Diwali revolution programme, 4<sup>th</sup>& 5<sup>th</sup> November,2021(B) Cycle Rally in College Week, 28<sup>th</sup> February 2022 for generation of awareness about environment.

## 7. Waste Management

Solid waste generated in the process of different works can be channeled towards green use by recycling and reuse. These wastes are harmful for humans and animals and put threat to the health of all the stakeholders. Generation of bio degradable and non-bio degradable waste and its proper disposal is a challenge. The college has been trying to make itself plastic free by creating awareness among students, teachers and other stakeholders. Waste in the form of newspaper, other paper records are stored in proper places and disposed off timely. Dustbins are maintained in the college premises to separate dry and liquid wastes. There are 15 dry dustbins and 5 wet dustbins. The solid waste is disposed off through Municipality on day to day basis. Plastic wastes, metal waste is stored and is given to scrap agents. Bio degradable wastes are dumped in pit. The college has started vermicompost plant for renewable use of the organic waste. NSS, NCC and various departments of the college regularly conducts cleanliness drive to clean the campus and also create awareness among the students. Initiative to make the college premises plastic free and minimize the use of paper has also been started. Important old papers must be sent for pulping and recycling units can be set up. More dustbins can be provided in the college campus

depending on number of people. The toilets and bathrooms of college and hostel have proper drainage connected to Municipal drainage system.





Photo 6a & b: Dustbins in the college premises

### **7.1 E- Waste Management**

Electronic and electrical equipment generate e-waste in the college. The defective items are being stored and given to scrap agents for disposal. The e-waste generation in the college is very few. Damaged computers and other electronic items are being handed over to authorized agents. Old computers are repaired and reused.

### **8. Noise Pollution Management**

Being located in a semi -urban area, the noise pollution in the campus and hostel is minimum. The entrance of the college has been declared as “No Horn Zone”. The area around library is declared as “Silence Zone”.



Photo 7a, b & c: Noise Pollution Management in the college

## 9. Electricity Consumption and Management

Energy is primary input requirement for operation of an organization and is consumed on a wide scale. The efficient use of energy and its sustainable use are of prime importance to sustain in the long run. Presently, the college uses electricity of 120KW for college and the hostels generated by APDCL, Government of Assam. During power cuts the college relies on the generators with the capacity of 25 KW along with 5 solar lights. Besides electricity, the college uses solar

lamps for generation of power in the campus. College premises along with the hostels uses CFL bulbs, LED lights, Tube lights, Fans, Air Conditioner, Electrical Equipment, Desktop and Laptops, Xerox Machine, Printers, Water Pumps, Television and Generators. To preserve energy the college uses CFL and LED bulbs in most of the academic, administrative rooms, hostels and verandas. The use of AC's limited in the college premises to generate minimum greenhouse gases.

In order to reduce consumption of electricity, the college must install more solar panels and other source of renewable energy. Old tubes and bulbs must be replaced with new LED connections and the power supply to the college must be cut down after completion of classes to reduce unnecessary wastage of power. Replacement old electrical appliances, turning off electrical equipments when not in use are simple ways to conserve energy.

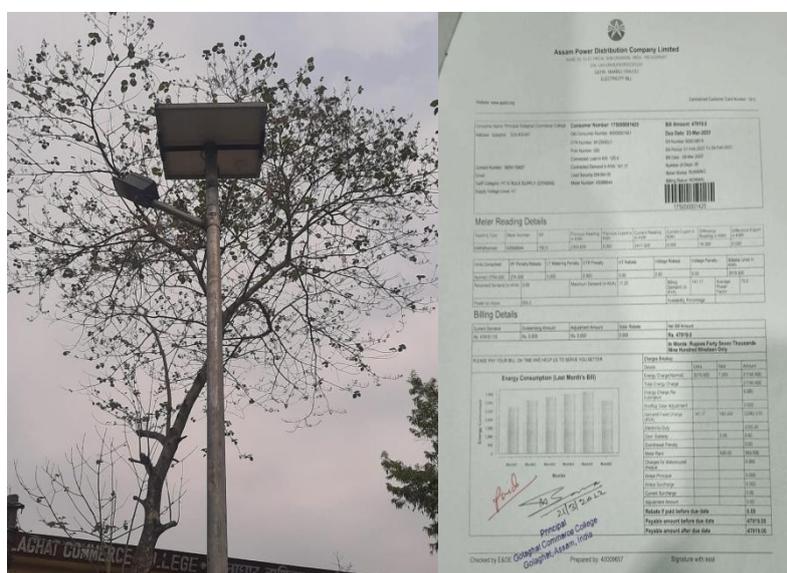


Photo 8a & b: Solar light and energy consumption in the college.

## 10. Biodiversity Status of the campus

The list of trees planted in the college campus along with their year of plantation is given below.

Table-1: Name and number of the trees planted in the college campus

SN.	Common Name/Local Name	Scientific Name	Total Number of trees	Year of Plantation
1	Sasi	<i>Aquilaria malaccensis</i>	98	2013-2022
2	Eucalyptus	<i>Eucalyptus globulus</i>	14	1980
3	Silikha	<i>Terminalia chebula</i>	2	2012
4	Guava	<i>Psidium guajava</i>	12	2015
5	Mango	<i>Mangifera indica</i>	5	1978
6	Krishnachura	<i>Delonix regia</i>	3	1982
7	Bokul	<i>Mimusops elengi</i>	30	2011
8	Neem	<i>Azadirachta indica</i>	5	2019

9	Amlokhi	<i>Phyllanthus emblica</i>	6	1989
10	Arjun	<i>Terminalia arjuna</i>	2	2003
11	Night Jasmine	<i>Nyctanthes arbor-tristis</i>	6	2017
12	Bogori	<i>Ziziphus jujuba</i>	5	2018
13	Blackboard	<i>Alstonia scholaris</i>	4	2009
14	Custard Apple	<i>Annona squamosa</i>	1	2002
15	Bor/banyan	<i>Ficus benghalensis</i>	1	1969
16	Gomari	<i>Gmelina arborea</i>	5	1993
17	Outenga	<i>Dillenia indica</i>	1	2019
18	Debodaru	<i>Monoon longifolium</i>	17	1996
19	Pine	<i>Pinus sp.</i>	2	2001
20	Bottle Brush	<i>Callistemon citrinus</i>	3	1990
21	Litchi	<i>Litchi chinensis</i>	1	2017
22	Poma	<i>Chukrasia tabularis</i>	2	2021
23	Soalu	<i>Litsea monopetala</i>	4	1985
24	Jamu	<i>Syzygium cumini</i>	4	1999
25	Jackfruit	<i>Artocarpus heterophyllus</i>	2	2008
26	Coconut	<i>Cocos nucifera</i>	1	2017
27	Kaasarakasaru	<i>Vitex glabrata</i>	1	2010
28	Bel/wood apple	<i>Aegle marmelos</i>	1	2003
29	Kordoi/Star fruit	<i>Averrhoa carambola</i>	1	2019
30	Acacia	<i>Acacia sp.</i>	4	2006
31	Ximolu/Cotton tree	<i>Bombax ceiba</i>	1	1993
32	Nahor	<i>Mesua ferrea</i>	3	1997
33	Papaya	<i>Carica papaya</i>	2	2021
34	Kodom	<i>Neolamarckia cadamba</i>	1	1998
35	Radhachura	<i>Caesalpinia pulcherrima</i>	1	1992
36	Artocarpus	<i>Artocarpus sp.</i>	1	1985
37	Moila tree	<i>Mallotus tetracoccus</i>	1	2011
38	Gohar		1	1996
39	Olive tree	<i>Olea europaea</i>	3	2013

Table-2: Name of the medicinal plants, flowers and herbs in the college campus

SN.	Common name	Scientific name
1	Curry leaf plant	<i>Murraya koenigii</i>
2	Lemon	<i>Citrus limon</i>
3	Manimuni	<i>Centella asiatica</i>
4	Tengechitenga	<i>Oxalis corniculata</i>
5	Kosu	<i>Colocasia esculanta</i>
6	Dubori bon	<i>Cynodactylon</i>
7	Bayleaf	<i>Laurus nobilis</i>
8	Kaitiakhutura	<i>Amaranthus spinosus</i>
9	Joba	<i>Hibiscus syriacus</i>
10	Periwinkle	<i>Catharanthus roseus</i>
11	Aloe vera	<i>Aloe barbadensis</i>
12	Peace lily	<i>Spathiphyllum sp.</i>

13	Snake plant	<i>Dracaena trifasciata</i>
14	Money plant	<i>Epipremnum aureum</i>
15	Tomato	<i>Solanum lycopersicum</i>
16	Duportenga	<i>Bryophyllum pinnatum</i>
17	Cactus	<i>Cactus sp.</i>
18	Durun bon	<i>Leucas linifolia</i>
19	Kathanda/ Crape Jasmine	<i>Tabernaemontana divaricata</i>
20	Orange	<i>Citrus X sinensis</i>
21	Kamini kanchan	<i>Murraya paniculata</i>
22	Tagar	<i>Jasminumsp.</i>
23	Mauritius hemp	<i>Furcraeafoetida</i>
24	Sago palm	<i>Cycas revolute</i>
25	Patbahar	<i>Codiaeum variegatum</i>
26	Lajuki Lota	<i>Mimosa pudica</i>
27	Akon/milkweed	<i>Calotropis gigantean</i>
28	Pategoja	<i>Kalanchoe pinnata</i>

## 11. Human Health and Safety

The college along with its different wings viz. Women's Cell, NCC and NSS has been conducting different programmes for improving the health and safety of the nearby community in collaboration with different government departments. The college organized anti-Tobacco awareness programme in collaboration with Golaghat District Tobacco and TB Control Cell and Bishnujyoti Social and Cultural Organization Golaghat on 8 November 2021 at Golaghat Commerce College. The college held Covid Vaccination Camp and Blood Donation Camp in the college campus. The college also celebrated "International Water Day" at Begenakhowa, Golaghat on 23 March 2022.

Table-3: The list of programmes conducted relating to human health is as follows

SN.	Topic	Venue	Date
1	Anti-Tobacco Awareness Program	Golaghat Commerce College	08-11-2021
2	Covid Vaccination Camp		05-01-2022
3	Blood Donation Camp		03-02-2022
4	International Water Day	Begenakhowa, Golaghat	23-03-2022

# Anti tobacco awareness program held

## CORRESPONDENT

**Golaghat, Nov 8:** To create awareness among the youth regarding ill effects of tobacco consuming an awareness program was held at Golaghat Commerce College recently. The program was organized by Golaghat District Tobacco and TB Control Cell in association with Golaghat Commerce College and Bishnujyoti Social and Cultural Organisation Golaghat. In the program the Nodal Officer of Golaghat District Tobacco and TB Control Cell Dr Sunita Ekka stated about the ill effects of tobacco consumption and said that tobacco is a major factor of Tuberculosis disease and dreaded Cancer disease. She expressed her worries regarding the increasing number of tobacco consumption among the youth. In the program Principal of Golaghat Commerce College Dr Utpal Sharma appealed to the students to make a tobacco free healthy society and to create awareness among the people especially the youth regarding ill effects of tobacco consumption. In the program teachers, students and staff of Golaghat Commerce College, President of Bishnujyoti Organisation Rupa Saikia, Secretary Rashmita Saikia along with several other members were present.



Photo 9a & b: Anti tobacco awareness program & Blood Donation Camp



Photo 10a & b: Blood Donation Camp& awareness program



Photo 11a & b: Covid Vaccination Camp



Photo 12a & b: Awareness Program on Clean drinking Water



Photo 13a & b: Safety and Health Management

## 12. Best Practices

The best practices adopted by the college for preserving the environment are as follows

- (a) The vermicompost measure is a good initiative taken by college for waste management.
- (b) Planting of trees on different occasion by the college each year contributes in reduction of greenhouse gas.
- (c) College has taken a step towards using alternate renewable energy by setting up solar lights.
- (d) The regular participation of NCC, NSS and students of different departments along with their teachers is a good move towards cleanliness and creating awareness.

## 13. Plantation Programmes

Plantation programme was organized by Department of Geography, Golaghat Commerce College in its campus for beautification on 26 March 2022. All the students and teachers of the College participated in the programme.



Photo 14a: Plantation program in the college



Photo 14 b: Plantation program in the college

### 13. Vermicompost Plant

A project of vermicompost and organic pesticide preparation centre was established in 03.04.2017 in the Golaghat Commerce College and few training program on production of vermicompost and organic pesticides were conducted.

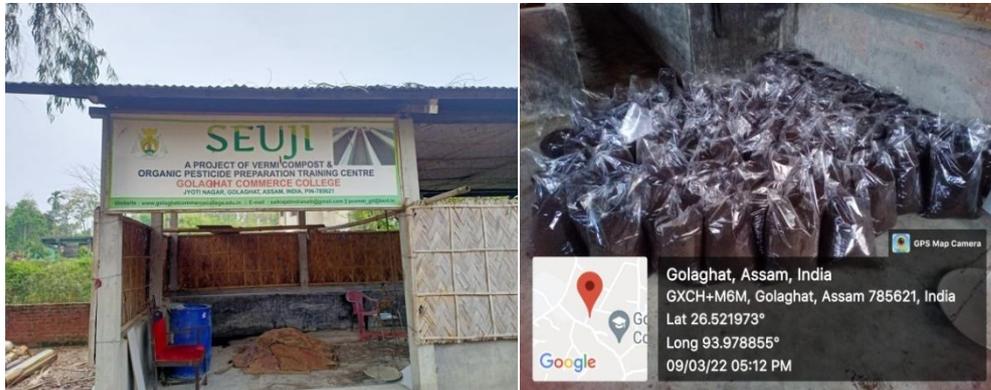


Photo 15a, b & c: Vermicompost plant and packaging of vermicompost

## Annexure

### Annexure –I: Certificate on Water Quality

**DISTRICT LEVEL LABORATORY (PHE) GOLAGHAT DIVISION  
GOLAGHAT, ASSAM**

Receipt No. **2003**  
Water Analysis Report Of Golaghat Commerce College

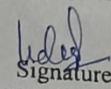
01. Name of Collector :  
02. Date of Collection : 22/04/22  
03. Date of Despatch : 22/04/22  
04. Date of Testing : 22/04/22  
05. Type of Source : Clear  
06. Type of Analysis : Physical  Chemical  Bacteriological

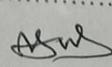


TEST	PERMISSIBLE LIMIT	RESULT
01. Turbidity	1.0 – 5.0	4 NTU
02. Total Dissolved Solid	500 – 2000	-
03. PH Value	6.5 – 8.5	6.65
04. Iron	0.3 – 1.0	0.32 Ppm
05. Hardness	200 – 600	145
06. Calcium	75 – 200	40.04
07. Magnesium	30 – 100	25.5
08. Alkalinity	200 – 600	240
09. Chloride	250 – 1000	-
10. Nitrate	45 (No relaxation)	3.1
11. Sulphate	200 – 400	12
12. Residual Chlorine	0.2 – 1.0	-
13. Arsenic	0.01 (No relaxation)	-
14. Fluoride	1.0 – 1.5	ND
15. BACTERIOLOGICAL		

RESULT	COLIFORM	ECOLI	RESULT
a) Excellent	No Coliforms/100 ml	Nil	done by FTK
b) Satisfactory	1-2 Coliforms/100 ml	Nil	
c) Suspicious	3-10 Coliforms/100 ml	Nil	
d) Unsatisfactory	above 10 coliforms/100 ml	Nil	

ADVIC: Report as per as sample received.

  
Signature  
Asstt. Chemist

  
Signature  
In-charge, Laboratory

**Annexure –II: Photographs**



Photo 16a & b: Way to the college and a Fishery of the College



Photo 17a & b: Memorial of Founder of the College and College Office building



Photo 18a & b: Play Ground of the college and a quotation “Clean campus Green Campus”



Photo 19a & b: Green Audit Team in work and college canteen



Photo 20a & b: Quotations on the walls of classrooms for maintaining clean environment



Photo 21a & b: *Neolamarckia cadamba* and *Eucalyptus globulus* tree in the campus



Photo 22a & b: Flowers and fruit trees in the campus



Photo 23a & b: Flowers in the campus



Photo 24a & b: Flowers in the campus



Photo 26a, b & c: *Citrus limon*, *Colocasia esculanta*, and *Leucas linifolia* plant in the campus



Photo 27a, b & c: *Mimosa pudica*, *Kalanchoe pinnata* and *Catharanthus roseus* in the campus



Photo 28a & b: *Laurus nobilis* and *Oxalis corniculata*

  
Principal  
Golaghat Commerce College  
Golaghat, Assam, India

