

GREEN AUDIT REPORT

2022-2023



Submitted To

The Principal
Jogananda Deva Satradhikar Goswami College
Bokakhat, Assam
Pin: 785612

Submitted By



JKM Consultancy Service

Solution for Green Audit

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ACKNOWLEDGEMENT

At first, we would like to thank Jogananda Deva Satradhikar Goswami College, management for their cooperation that was extended to us during the entire process.

Our special thanks goes to Dr. Jayanta Gogoi, Principal, Jogananda Deva Satradhikar Goswami College, Bokakhat for giving us necessary inputs to carry out this vital exercise of Green Audit. We are also thankful to other staff members who were actively involved while collecting the data and conducting field measurements.

GREEN AUDIT ASSESMENT TEAM

(INTERNAL)

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Principal, JDSG College,
Bokakhat.

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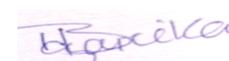
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GREEN AUDIT CERTIFICATE

This is to certify that a Green Audit for Jogananda Deva Satradhikar Goswami College, Bokakhat, Assam has been conducted on 10th of June,2023 to assess Environment cost and Environment Impact Assessment and Carbon credit with a view to take sustainable steps to reduce the carbon footprint left by the college and to make environment friendly model of administration.



Dr. Dulen Saikia

Chairperson



Mrs. Pinaki Hazarika

Coordinator



JKM Consultancy Service



JKM Consultancy Service

Dr. Dulen Saikia
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INTRODUCTION

Green audit is also widely known as Environmental Audit. Green Audit can be better understood as: Compliance of Environmental Laws, Audit of Environment Cost and Environment Impact Assessment, and Carbon Credit. We believe that saving ‘Mother Earth’ is an integral part of education and that the carbon footprint left by the college is to be reduced by sustainable steps and an environment friendly model of administration. Green audit is a valuable means for a college to determine how and where they are using the most energy or water or other 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. Institutional self-enquiry is a natural and necessary outgrowth of a quality educational institution. 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.

In recent time, the Green Audit of an institution has been becoming important for self-assessment of the institution which reflects the role of the institution in mitigating the present environmental problems. Many institutions undertake lots of good measures to resolve these problems but are not documented due to lack of green documentation awareness. All these non-scholastic efforts of the administrations play an important role in ensuring the green quotient of the campus is intact. 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.

OBJECTIVES

The main objectives of carrying out Green Audit are:

- To map the Geographical Location of the college.
- To document the floral and faunal diversity of the college.
- To record the meteorological parameter of the college as well as Dibrugarh region where the college is situated.
- To document the waste disposal system.

METHODOLOGY

The purpose of the green audit of Jogananda Deva Satradhikar Goswami College, Bokakhat, is to ensure that the practices followed in the campus are in accordance with the Green Policy of the country. The methodology includes:

- Collection of data.
- Physical inspection of the campus.
- Observation and review of the documentation and data analysis.

ABOUT THE COLLEGE

Jogananda Deva Satradhikar Goswami (JDSG) College, Bokakhat is one of the prominent institutions of higher education in the district of Golaghat. Situated in a beautiful natural ambience by the side of N.H. 37, in the close vicinity of the Kaziranga National Park-the World Heritage Site, the college has been playing a pivotal role in educating rural youths and in contributing towards creating a good citizenry in the greater Bokakhat sub-divisional area ever since its establishment in 1964. The College, recognized by the UGC under relevant sections of the UGC Act, also happens to be the last one in the western part among the affiliated colleges under Dibrugarh University. It has a large feeding area. Students primarily from the deprived and denied sections of the society generally seek admission in the college.

VISION

“Education for justice and peace”

OBSERVATIONS

JDSG College, Bokakhat is located in west block of Golaghat district of Assam. The transportation system leading to the college is very good. It is worth-mentioning that the college is fully equipped with well-furnished buildings and a big playground with necessary civic amenities. The college possesses many plantation areas which have a great diversity of plant species performing a variety of functions. Most of these tree species are planted in different periods of time through various plantation programmes organized by the college authority and have become an integral part of the college. The trees of the college are prominent features that are planted to maintain the greenery and aesthetic values, store carbon and stabilize the soil. Many species of birds are dependent on these trees mainly for food and shelter. Nectar of flowers and plants is a favourite of birds and many insects. Leaf – covered branches keep many animals, such as birds and squirrels, out of reach of predators. Different species display a seemingly endless variety of shapes, forms, texture and vibrant colours. Even individual trees vary their appearance throughout the course of the year as the seasons change. They also remind us the glorious history of our institution in particular. We often make an emotional connection with these trees and sometime become personally attached to the ones that we see every day. 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.

The college also has a large feeding area. Thus, the college has been playing a significant role in maintaining the environment of the entire surrounding areas. The various Plantation Plots and Plant Diversity of JDSG college that maintains the greenery in the campus has been given in the report.

PLANTATION PLOTS OF JDSG COLLEGE, BOKAKHAT

1. PLANTATION PLOT OF HYBRID NAPIER GRASS

Cultivation area – 5 Bighas



2. PLANTATION PLOTS OF TEA PLANTS

No. of Tea Plantation Plots – 3

Total No. of Tea Plants -400



3. PLANTATION PLOT OF ROSE PLANTS

Total No. of Rose Plants-700



4. PLANTATION PLOT OF BANANA PLANTS

No. of Plot -01

Toal Number of Banana Plants- 160



5. PLANTATION PLOT OF LEMON PLANTS

No. of Plot- 01

Toal Number of Lemon Plants- 120



6. PLANTATION OF NAHOR (*Mesua ferrea* L.) PLANTS

No. of Plot- 02



7. A LARGE GRASSLAND AREA



TREE DIVERSITY OF JDSG COLLEGE, BOKAKHAT

List of the Plants-

SI No	Local Name	Scientific Name	Family
1	Nahor	<i>Mesua ferrea</i> L.	Guttiferae
2	Arjun	<i>Terminalia arjuna</i> L.	Combretaceae
3	Simolu	<i>Bombax malabarica</i>	Bombacaceae
4	Ghora Neem	<i>Melia azadirach</i> L.	Meliaceae
5	Moha Neem	<i>Melia azadirachta</i> L.	Meliaceae
6	Aam	<i>Mangifera indica</i> L.	Anacardiaceae
7	Dimoru	<i>Ficus Glomerata</i>	Moraceae
8	Bottle brush	<i>Callistemon citrinus</i>	Myrtaceae
9	Sissoo	<i>Dalbergia sissoo</i> Roxb.	Papilionaceae
10	Medelua	<i>Dalbergia asamica</i> Benth.	Caesalpinaceae
11	Papaya	<i>Carica papaya</i>	Caricaceae
12	Bokul	<i>Mimusops elengi</i>	Sapotaceae
13	Sewali	<i>Nyctanthes arbor-tritis</i>	Oleaceae
14	Fern tree	<i>Jacrandia mimosifolia</i>	Bignoniaceae
15	Boga kotora	<i>Bauhinia variegata</i> L.	Caesalpinaceae
16	Krishnasura	<i>Delonix regia</i>	Caesalpinaceae
17	Kornikar	<i>Casia fistula</i> L.	Caesalpinaceae
18	Siris	<i>Albizia lebbeck</i> L.	Mimosaceae
19	Khejri	<i>Prosopis spicigera</i> L.	Mimosaceae
20	Shilikha	<i>Terminalia chelibua</i> Roxb.	Combretaceae
22	Guava	<i>Psidium guajava</i>	Myrtaceae
23	Eucalyptus	<i>Eucalyptus maculata</i>	Myrtaceae
24	Kadam Tree	<i>Anthocephalus cadama</i> Mig.	Rubiaceae
25	Bokul Tree	<i>Mimosops elengi</i> Linn.	Helotropiaceae
26	Sotiana	<i>Alstonia scholaris</i>	Apocynaceae
27	Aamlokhi	<i>Phyllanthus emblica</i>	Euphorbiaceae
28	Teak	<i>Tectona grandis</i> L.	Verbenaceae

29	Gomari	<i>Gmelina arborea</i> Roxb.	Verbenaceae
30	Castor	<i>Ricinus communis</i> Lin.	Euphorbiaceae
32	Borgos	<i>Ficus benghalensis</i> L	Moraceae
33	Dimoru	<i>Ficus glomerata</i>	Moraceae
34	Kothal gos	<i>Artocarpus heterophylla</i>	Moraceae
35	Dalchini	<i>Cinnamomum obtusifolium</i>	Lauraceae
36	Kothal	<i>Artocarpus heterophylla</i>	Moraceae
37	Khoi	<i>Streblus asper</i>	Moraceae
38	Thuja	<i>Thuja orientalis</i>	Cupressaceae
39	Cookie Pine Tree	<i>Araucaria cookie</i>	Pinaceae
40	Banana (Kol Gos)	<i>Musa sapientum</i> Lin.	Musaceae
41	Seni -kol	<i>Musa acuminata</i>	Musaceae
42	Narikol	<i>Cocos nucifera</i> Lin.	Arecaceae
43	Barmuda grass	<i>Eleusine indica</i>	Poaceae
44	Kajinemu	<i>Citrus jambhiri</i>	Rutaceae
45	Gulnemu	<i>Citrus aurantifolia</i>	Rutaceae
46	Korja tenga	<i>Carissa carandus</i>	Rutaceae
47	Bel Gos	<i>Aegel marmelos</i>	Rutaceae
48	Sojina (Drumstick)	<i>Moringa oleifera</i>	Moringaceae
49	Debodaru	<i>Polyalthia longifolia</i>	Annonaceae
50	Ahom bogori	<i>Prunus communis</i> Lin.	Rosaceae
51	Nora bogori	<i>Prunus domestica</i> L.	Rosaceae
52	Gulab	<i>Rosa rubiginosa</i>	Rosaceae
53	Suwalu	<i>Litsea polyantha</i>	Lauraceae
54	Bottle brush	<i>Calistemon linearis</i>	Myrtaceae
55	Chamkathal	<i>Artocarpus chaplasha</i>	Moraceae
56	Sanci Gos	<i>Aqualoria agollocha</i>	Thymelaeaceae
57	Joba	<i>Hibiscus rosa-sinensis</i> Lin.	Malvaceae
58	Acacia	<i>Acacia moniliformis</i> Lin.	Myrtaceae
59	Napier Grass	<i>Pennisetum purpureum</i>	Poaceae
60	Pomegranate	<i>Punica granatum</i>	Lythraceae
61	Jamu	<i>Syzygium cumini</i>	Myrtaceae
62	Aparajita	<i>Clitoria ternatea</i>	Fabaceae
63	Nuni	<i>Morus alba</i>	Moraceae
64	Tulsi	<i>Ocimum sanctum</i>	Lamiaceae
65	Narahingho(Curry Leaves)	<i>Murraya koenigii</i>	Rutaceae
66	Masundari	<i>Houttuynia cordata</i>	Saururaceae
67	Dupor tenga	<i>Bryophyllum sp</i>	Crassulaceae

68	Vedailota	<i>Padaeria foetida</i>	Rubiaceae
71	Amora	<i>Spondius pinnata</i>	Anacardiaceae
72	Nayantora	<i>Catharanthus roseus</i>	Apocyanaceae
73	Areca palm	<i>Dyopsis lutescens</i>	Arecaceae
74	Boga Chandan	<i>Santalum album L</i>	Santalaceae

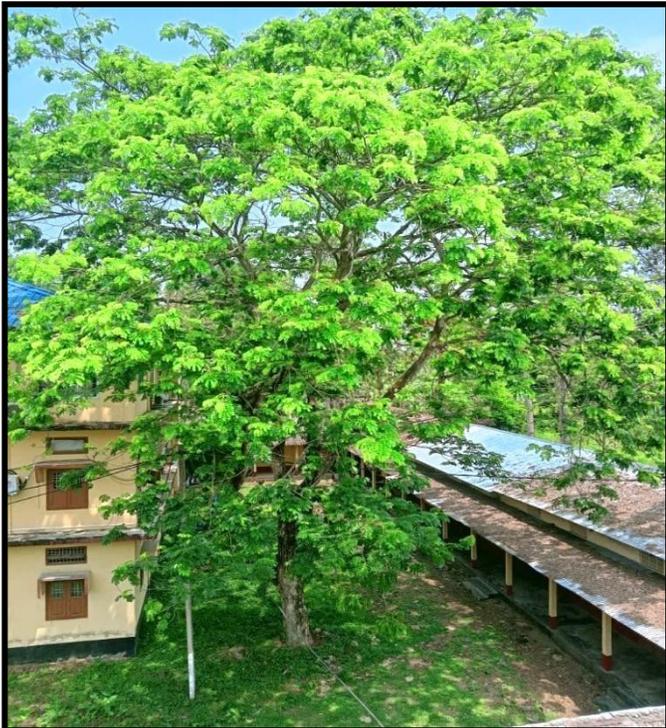
PHOTO GALLERY



Mesua ferrea L. (Nahor)



Prunus domestica L. (Norabogori)



Rain Tree



Psidium guajava (Modhuri)



Ficus benghalensis L (Borgos)



Murraya koenigii (Norosingho)



Cinnamomum obtusifolium (Dalchini)



Cocos nucifera (Coconut)



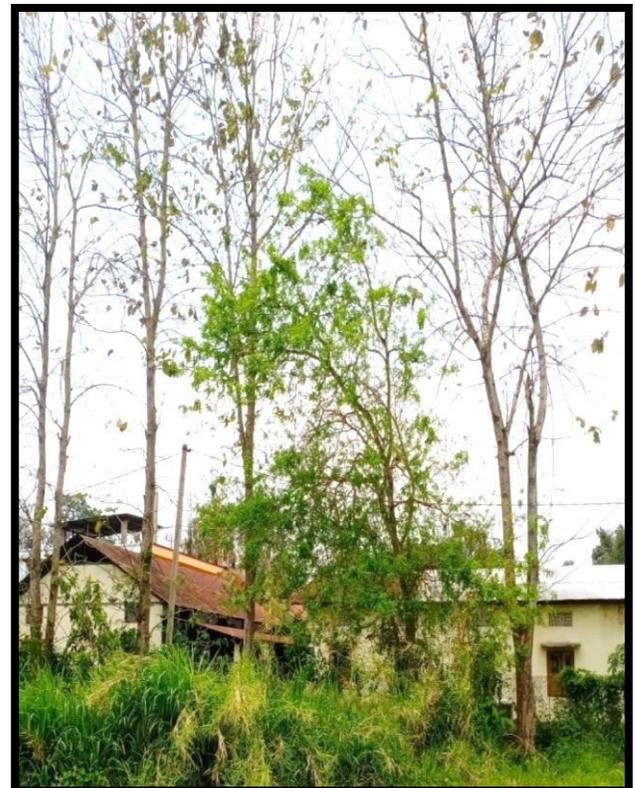
Santalum album L (Boga Chandan)



Nyctanthes arbor-tritis (Xewali)



Polyalthia longifolia (Debodaru)



Bombax malabarica (Ximolu)

FAUNAL DIVERSITY OF JDSG COLLEGE

The JDSG College, Bokakhat is located in the west part of Golaghat district, Assam. The climate here is mild, and generally warm and temperate. The summers have much more rainfall. The temperature here averages 23.0 °C | 73.5 °F. The rainfall here is around 3137 mm | 123.5 inch per year.

The climatic conditions in Bokakhat as a whole, and particularly in, JDSG College are ideal for a diverse range of flora and fauna to thrive and contribute to the rich biodiversity of the district.

The following faunal diversity has been studied and documented in JDSG College.

Table: Common and Scientific names of birds and animals

S.No	Common Name	Scientific Name
1.	Common Myna	<i>Acridotheres tristis</i>
2.	White breasted waterhen	<i>Amaurornis phoenicurus</i>
3.	House Sparrow	<i>Passer domesticus</i>
4.	Crow	<i>Corvus sp.</i>
5.	Cuckoo	<i>Cuculidae</i>
6.	Snake	<i>Naja naja</i>
7.	Cattle egret	<i>Bubulcus ibis</i>
8.	Butter Fly	Danaus Genutia
9.	Common pigeon	<i>Columba livia</i>
10.	Garden tiger moth	<i>Arctia caja</i>
11	Bat	<i>Chiroptera</i>
12	Indian owl	<i>Bubo benghalensis</i>
13	Leech	<i>Hirudinea</i>
14	Earthworm	<i>Eisenia fetida</i>
15	Goat	<i>Capra aegagrus hircus</i>
16	Ceylon hawk cuckoo	<i>Hierococcyx varius.</i>
17	Cow	<i>Bos Taurus</i>
18	Deer	<i>Cervidae</i>

NOISE LEVEL IN THE SURROUNDING OF JDSG COLLEGE, BOKAKHAT

Noise measurement, also known as sound level monitoring, is a process that determines the magnitude of noise in a specific area, such as an industrial or residential area. As noise pollution has increased exponentially in recent years, this process is part of environmental monitoring and testing. Sound or noise has two important properties:

- **Loudness:** The intensity of a person's perception of sound is defined as loudness. Decibels are used to quantify it. A whisper is about 20 dB, a library is about 30 dB, normal conversation is about 35-60 dB, heavy street traffic is about 60-80 dB, boiler factories are about 120 dB, jet planes during take-off are about 150 dB, and rocket engines are about 180 dB. The loudest sound a person can tolerate without feeling ill is around 80 decibels (dB). Sounds above 80 decibels (dB) can be considered Pollutants because they harm the hearing system. The WHO has established 45 decibels as the safe noise level for cities. Noise levels of up to 65 dB are considered tolerable by international standards. Sones are another way to express loudness. One sone is equal to 40 decibels of sound pressure at 1000 hertz. The number of vibrations per second is defined as frequency. Hertz is the abbreviation for it (Hz).

- **Frequency:** The frequency of sound is defined as the number of pressure variations per second that occur when sound travels through air and is measured in Hertz (Hz). The higher the frequency, the higher pitched the sound is perceived to be.

MATERIALS, STUDY AREA & METHODS:

Noise level meter or noise measuring app (Sound meter), was used to measure the noise level. Noise test pro detect of any noise, music or sound in your surroundings. It will tell you maximum, minimum and average decibels

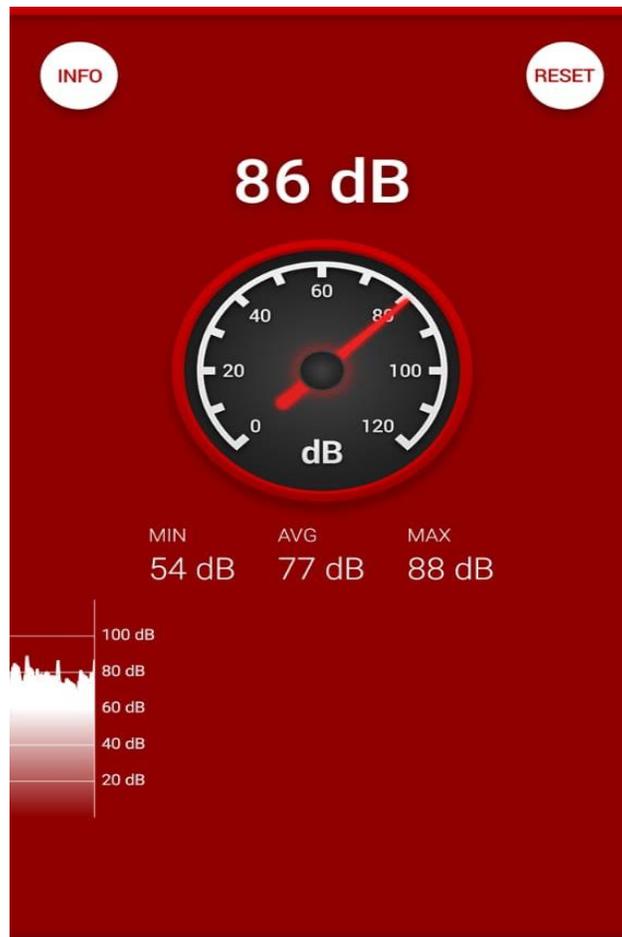


Figure: Noise Measurement by sound meter app

DESCRIPTION OF THE COLLEGE SITE:

The JDSG College, Bokakhat is located in the western part of Golaghat District of Assam.

It is situated in a beautiful natural ambience by the side of N.H. 37, in the close vicinity of the Kaziranga National Park, the World Heritage Site.



MEASUREMENT PROCEDURE:

The noise level was measured at various important locations of the college area. The measurements were taken for 60 seconds at each location during the day (9 a.m.-3 p.m.) and are recorded. Screen shots of noise measurements were taken on the app immediately at the 60th second of each measurement.

RESULTS:

The results of the experiments at different places have been tabulated in the following Table

Table 1: Measurements of Noise in and around JDSG College, Bokakhat

<i>PLACE</i>	<i>MEASUREMENT (Duration in Sec.)</i>	<i>MINIMUM (dBA)</i>	<i>Maximum (dBA)</i>	<i>AVERAGE (dBA)</i>
Library	60	49	88	75
IQAC room	60	32	72	66
Classroom	60	54	88	78
Administrative Building	60	60	89	76
College gate	60	34	71	63
Canteen	60	33	87	60

Source: The measurements were taken with the help of sound meter app. The measurements of noise have been recorded in and outside of college area:

In Campus – 32-89(dBA)

Out Campus- 34-71 (dBA)

WEATHER REPORT OF JDSG COLLEGE

WEATHER DATA MONTH WISE GOLAGHAT DISTRICT (Source: Google):

The JDSG College, Bokakhat is located in the western part of Golaghat District of Assam.

The climate in Golaghat is warm and temperate. When compared with winter, the summers have much more rainfall. According to the Köppen-Geiger classification, the prevailing climate in this region is categorized as Cwa. The temperature here averages 23.4 °C | 74.1 °F. The annual rainfall is 3130 mm | 123.2 inches. The given location is in the northern hemisphere. Summer begins here at the end of June and ends in September. The months of summer are: June, July, August, September.

The driest month is December, with 20 mm | 0.8 inches of rain. In June, the precipitation reaches its peak, with an average of 513 mm | 20.2 inch.

GOLAGHAT WEATHER BY MONTH // WEATHER AVERAGES

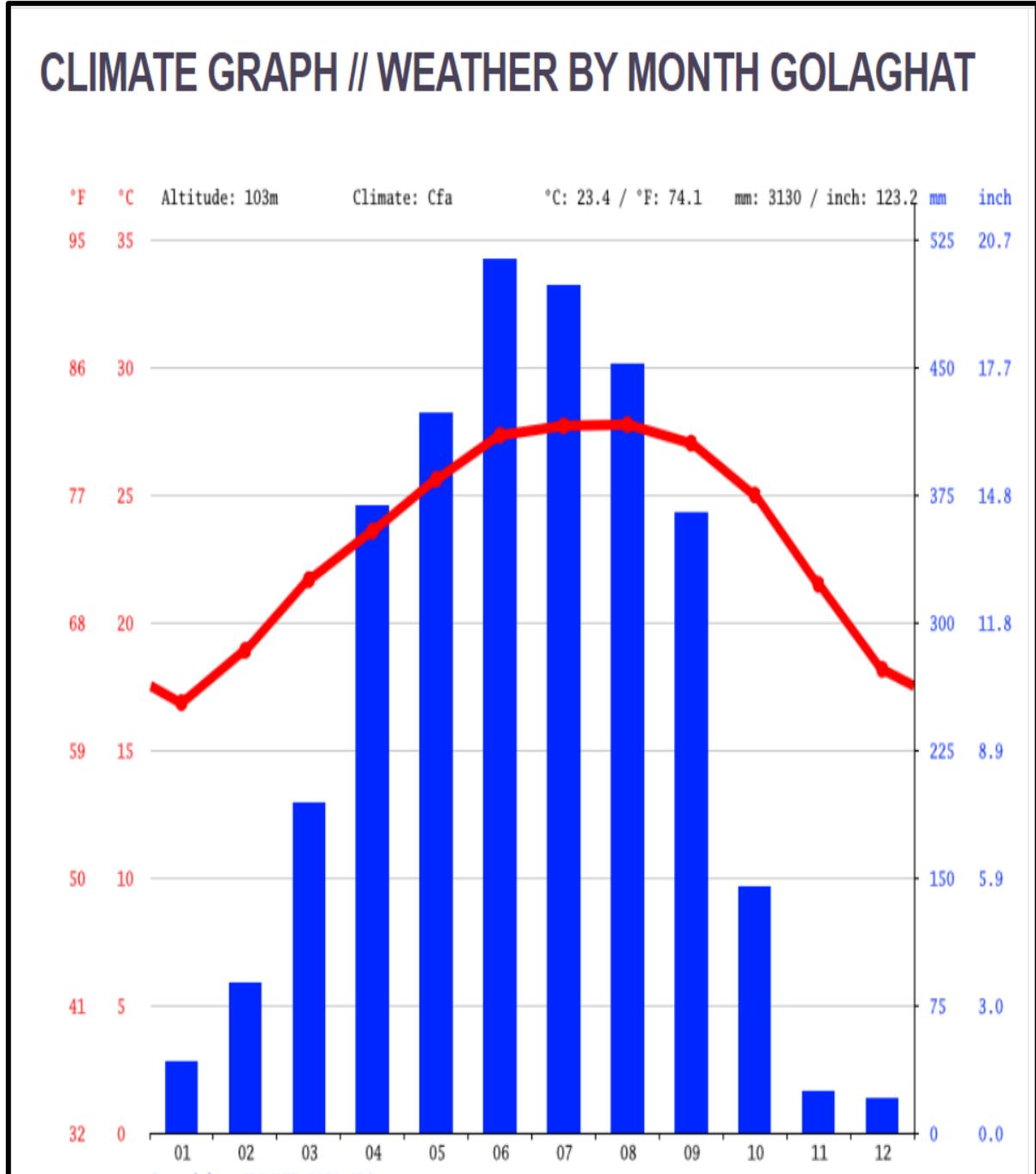


	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature °C (°F)	16.9 °C (62.3) °F	18.9 °C (66) °F	21.7 °C (71) °F	23.6 °C (74.4) °F	25.6 °C (78.1) °F	27.3 °C (81.2) °F	27.7 °C (81.8) °F	27.7 °C (81.9) °F	27 °C (80.6) °F	25 °C (77) °F	21.5 °C (70.7) °F	18.2 °C (64.7) °F
Min. Temperature °C (°F)	11.7 °C (53) °F	13.9 °C (57) °F	16.8 °C (62.2) °F	19.8 °C (67.6) °F	22.4 °C (72.3) °F	24.7 °C (76.4) °F	25.2 °C (77.3) °F	25.1 °C (77.1) °F	24.2 °C (75.6) °F	21.7 °C (71) °F	17.3 °C (63.1) °F	13.4 °C (56.1) °F
Max. Temperature °C (°F)	21.7 °C (71.1) °F	23.7 °C (74.7) °F	26.4 °C (79.4) °F	27.6 °C (81.7) °F	29.1 °C (84.5) °F	30.5 °C (86.8) °F	30.6 °C (87.1) °F	30.8 °C (87.4) °F	30.1 °C (86.2) °F	28.3 °C (83) °F	25.5 °C (77.9) °F	22.7 °C (72.9) °F
Precipitation / Rainfall mm (in)	42 (1)	88 (3)	194 (7)	368 (14)	423 (16)	513 (20)	498 (19)	452 (17)	364 (14)	144 (5)	24 (0)	20 (0)
Humidity(%)	73%	70%	69%	78%	82%	85%	85%	84%	84%	81%	75%	75%
Rainy days (d)	5	8	11	15	18	20	21	21	18	9	3	3
avg. Sun hours (hours)	8.4	8.7	9.0	7.8	8.5	9.2	9.6	9.2	8.8	8.8	8.9	8.4

Data: 1991 - 2021 Min. Temperature °C (°F), Max. Temperature °C (°F), Precipitation / Rainfall mm (in), Humidity, Rainy days. Data: 1999 - 2019: avg. Sun hours

Table: Weather report of Golaghat District for the period of 2022-23

CLIMATE GRAPH MONTH WISE



WASTE DISPOSAL IN THE COLLEGE CAMPUS

Generation of wastes from tree droppings and lawn management is a major solid waste generated in the campus. They are segregated at source by providing separate dustbins for disposal of bio-degradable and plastic waste. The biodegradable wastes are used in the vermicompost tank for producing Vermi-compost. Metal waste and wooden waste is stored and given to authorized scrap for further processing. The solid waste is collected by the municipal cooperation and disposed by their method.



DUSTBINS LOCATED IN VARIOUS AREAS IN THE CAMPUS

OTHER IMPORTANT FEATURES OF THE COLLEGE

The College recognizes its responsibility towards the environment and the need to promote sustainable use of resources. For a strong environmental consciousness, various ecological activities are pursued within campus premises like-

a) RAIN WATER HARVESTING SYSTEM:

JDSG College, Bokakhat has Rainwater harvesting system which is a precious means to collect the rainwater for future usage. Harvesting and collection of rainwater is an adequate strategy that can be used to meet the problem of water globally. This technique has manifold advantages and meets the requirement of water in the scarcity period.



RAIN WATER HARVESTING SYSTEM

b) VERMICOMPOST UNIT:

JDSG College, Bokakhat has its own Vermicompost Production Unit. The biodegradable waste collected from the college surroundings are used in the vermicompost unit to produce the organic manure (Vermicompost) which is then utilized in the garden area.



VERMICOMPOST PRODUCTION UNIT

c) SOLAR PANEL:

For harnessing renewable energy sources, steps have been initiated by the college to save electrical energy by installation of Solar Panels of 4 KW, ensuring procurement of energy efficient equipment.



SOLAR PANEL

d) POLY HOUSE:

A poly house is under construction in the college campus in order to grow plants in a controlled climatic condition. It has an advantage of growing crops throughout the year, have less pest attacks and quality growth.



POLY HOUSE

JKM/GA/06-23/08

Green Audit Certificate

is awarded for 2022-23 to the esteemed institute
Jogananda Deva Satradhikar Goswami College
Bokakhat, Assam-785612

This is to certify that Jogananda Deva Satradhikar Goswami College, Bokakhat has successfully undergone green audit on 10th of June, 2023 to assess the green initiative planning and efforts carried out in the campus to keep environment friendly atmosphere to the stake holders

This certification is valid till 30-06-2023

Dr. Dulen Saikia
Chairperson

Dulen Saikia
Dr. Dulen Saikia
Chairperson, G-Audit
JKM Consultancy Service



JKM Consultancy Service
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Mrs. Pinaki Hazarika
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