

ENVIRONMENT AND ENERGY AUDIT REPORT
OF
K. C. DAS COMMERCE COLLEGE



GUWAHATI – 781 008

ASSAM

www.kdcollege.ac.in

2021-22



INTRODUCTION:

Green audit refers to reporting and analysis of different components of environmental diversity. The process involves systematic identification and quantification, recording, reporting and analysis of components of diversity of environment of an organization. It also envisages good environmental friendly practices by accounting the environmental practices within and outside of the organization. The Green audit also find out the uses of resources, including water and energy, where and how these are used, so that the institute can adopt to most efficient ways of resource use.

The green Audit contributes better understanding of Green impact by generating health consciousness and support environmental awareness, values and ethics. It is most desirable that the institution of higher education should evaluate its contribution to a sustainable future environment

Rapid urbanization, deteriorating environment and global economic predicament at all levels has resulted in various ecological crises the most defining crisis of the present time is global warming leading to climate change. It is happening even more quickly than we expect. But we have the ways by which we can restrict and even reverse the climate changes. Secretary General of UN opined that “the climate emergency is a race we are losing, but it is a race we can win”.

In this background, it is imperative to implement “Green Campus System” by all the institutes of education to ameliorate sustainable development and sequestration of carbon, by reducing emission of greenhouse gases specifically the CO₂

The National Assessment and Accreditation Council (NAAC) has made it mandatory that all Higher Educational Institutions should submit an annual Green Audit Report. Moreover, it is part



of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through carbon footprint reduction measures.

OBJECTIVES:

The purpose of the green audit is to ensure that the practices followed in the college campus are in accordance with the Green Policy of the country

The reason of the present green audit is to identify, quantify, describe and prioritize framework of Environment Sustainability. The main objectives are

1. Mapping the geographical location
2. Documentation of the environmental condition of, air and water and to note the status of campus in relation to noiseless, smokeless and plastic or non-degradable free conditions
3. Estimating the Energy requirements
4. To document the waste disposal system
5. To document efforts of the college for maintain health of all the stake holders
6. To document the floral and faunal diversity of the college
7. To report the expenditure on green initiatives

METHODOLOGY:

The methodology includes: collection of data, physical inspection of the campus, observation and review of the documentation and data analysis.



ABOUT THE COLLEGE

K. C. Das Commerce College, a premier institute of higher education imparting mainly commerce, management and computer education to around three thousand (3000) students not only from Assam but North East and few other States of India as well, was established in 1983. The College has been offering UG Courses in Commerce, Arts, Science, BBA, BCA, and PG Courses in Commerce and Computer Science (PGDCA) with thirteen academic departments. In addition to this, the College has distance learning centres affiliated to Indira Gandhi National Open University (IGNOU) and Gauhati University (IDOL).

Vision of the College

- Catering to the need of Commerce education at the tertiary level and to tap the intrinsic potential of aspiring youths of the State.
- Aspires to uphold the ethos of national policies of education, stay relevant across time and contribute towards nation building and development.
- Seeks to make the students courageous enough to appreciate creativity, inclusiveness, innovation, integrity and quality as well as hardworking enough to acquire these traits, be skillful, employable and adapt to the contemporary challenges.
- Desires to promote excellence in teaching, research, interdisciplinary education, leadership and outreach. Our cooperation of instinct and intellect founded upon human values strolls perfectly with our motto:

‘To Strive, To Seek, To Learn and not to Yield.’



Mission of the College

- To enrich students through quality education and thereby empower them.
- To be a model learning institution with a working environment in which the quality of life, mutual support and teamwork on campus are rich and participatory.
- To make higher education accessible to the underprivileged section of the society.
- To encourage students develop and realize their innate potential in co-curricular fields through participation in cultural, extension, literary, sports activities etc.
- To emphasize on sustaining interdisciplinary research and education not only within and across academic fields, but also across institutional, national and cultural boundaries.
- To work hard and stay relevant under any education regime and achieve scholastic brilliance to meet the needs and expectations of the society.
- To sensitize students play a constructive role and contribute towards nation building with honesty, integrity, civilized discourse and good behaviour.
- To enable the guardians to assess their own children and help them to reach their full potential.
- To help teachers improve themselves through self-assessment and professional development.

Goals and Objectives:

In order to realise our **Vision and Mission**, certain goals and objectives have been outlined:

- Encourage students carry out self-assessment and share the needs if any, with teachers and Principal.



- Provide extra academic support to students to better their previous results.
- Provide opportunities of education, skills enhancement and employability through regular and value-added courses and tutorials.
- Enhance learning of the students through innovative educational environment.
- To enable students to develop a sense of culture, patriotism and morality through human values.
- Encourage students develop and realize their innate potential in co-curricular fields through participation in cultural, extension, literary, sports activities etc.
- To encourage and develop research culture among the faculty members.

GREEN AUDITING:

K.C. Das Commerce college has keenly adopted Green Campus concept to ensure environment conservation and sustainability and infused the perception of both these amongst the students. The college is striving to achieve the basic principle, viz. reduction of environmental footprint, while creating atmosphere where students can learn and be healthy.

GENERAL OVERVIEW OF THE LANDUSE

The college is in an Urban landscape with high human population density of 13190/km². Further, the area has 20% of its population is in the age group 20 – 29 years, indicating a considerable youth population. The area is also an extremely busy commercial hub of the city of Guwahati. The college is constructed on a land filled waste marshy land. It is situated at : 26.17396° North Latitude and 91.74187° East Latitude.

Table1: Land use area in the college

CATEGORIES OF LAND	AREA (m ²)
USE PLANTATION AREA	192.06
BUILT UP AREA (INCLUDE ROADS)	1803.60
OPEN AREA	2436.57
TOTAL AREA	4432.23

Fig 1: Land use Pattern



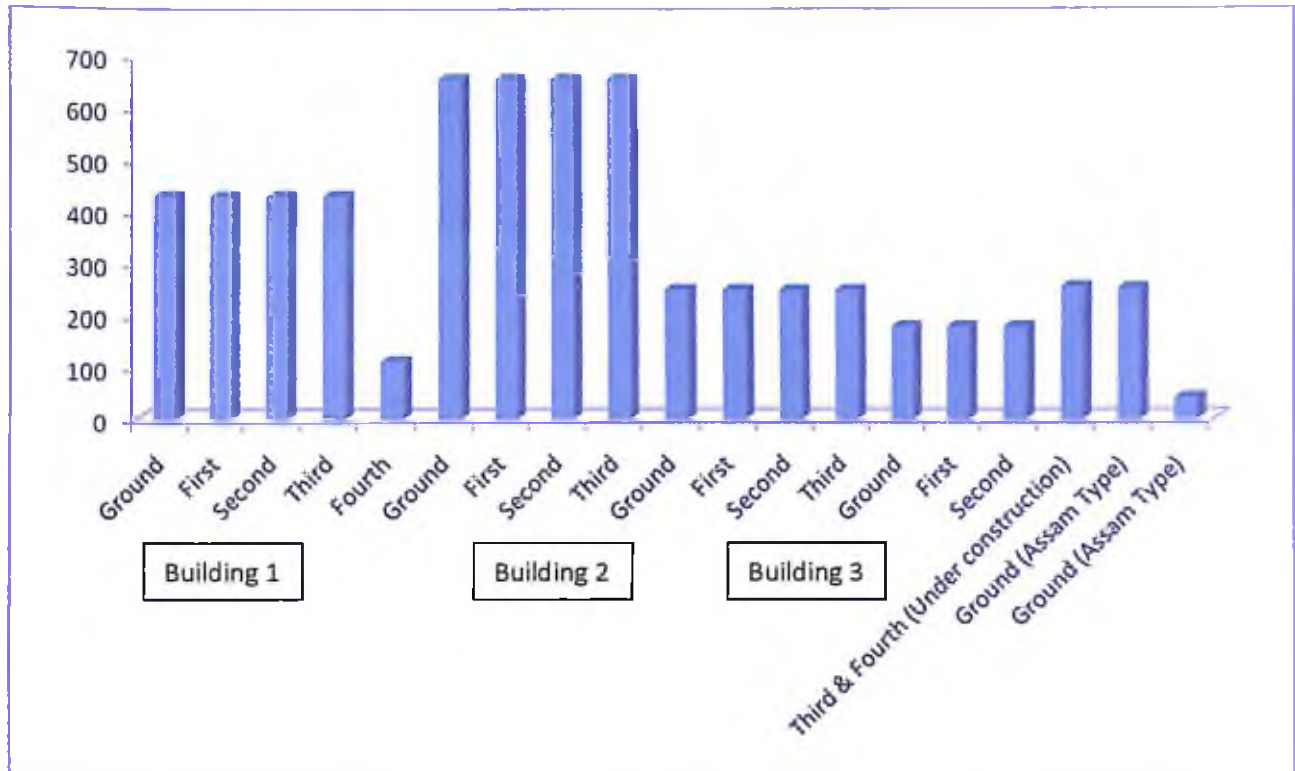
LAND USE (BUILT UP AREA) ANALYSIS: The built-up area covers four buildings, Canteen, Security quarter with a total floor area of 6401.10 including Main Administrative Block, Library, Faculty rooms, Departments, Students' rest and recreation centres, Class rooms and Conference Hall.



Table 2: Area occupied by various buildings at K. C Das Commerce College, Guwahati

Building Name	Floor	Floor area
1 (North-East)	Ground	430
	First	430
	Second	430
	Third	430
	Fourth	110
2 (West)	Ground	654.5
	First	654.5
	Second	654.5
	Third	654.5
3 (South-East)	Ground	248
	First	248
	Second	248
	Third	248
New Building	Ground	177.5
	First	177.5
	Second	177.5
	Third & Fourth (Under construction)	255
Canteen	Ground (Assam Type)	252
Residential (Security Quarter)	Ground (Assam Type)	41.6
Total (Built up area)		6401.1

Fig. 2: Area covered under different buildings and floors



FINDINGS

K.C. Das College, established in 1983 maintains ecofriendly environment. The college is carrying out regular plantation programme where both shed and fruit trees are planted, keeping in view of maintaining an indigenous floral complex community. Further, college maintains aesthetic gardens and overall conducive healthy academic and ecological environment. Though the college has paucity of space, utilization of space keeping ample open space is noteworthy. It maintains 60% of available land as open area and plantation



BIODIVERSITY OF THE CAMPUS

The college is established by filling waste marshy area, thus there is very little natural vegetation. But through plantation activity a moderate species rich floral diversity is maintained. Noteworthy plants, except the ornamental plants (Floriculture) include Hilika (*Terminalia chebula*), Mango (*Mangifera indica*), Jack fruit (*Artocarpus heterophyllus*), Goldmohur (*Delonix regia*), Neem (*Azadirachta indica*), Amlokhi (*Phyllanthus emblica*, Indian Gooseberry), Jalpai (*Elaeocarpus serratus*, Indian Olive), Guava (*Psidium guayava*), Devadaru (*Cedrus deodara*), Opposite leaf fig (*Ficus hispida*), Sacred fig (*Ficus religiosa*), False Ashoka (*Monoon* sp) etc. Besides, Sensitive plant (*Mimosa* sp), Saga tree (*Adenanthera pavonina*), Taro (*Calocasia* sp), Asian taro (*Alocasia* sp) and Mushrooms growing during rainy days also say the healthy ecosystem maintained in the campus. Faunal complex recorded include scores of butterfly species namely, Giant Golden Orb Weaver (*Nephila pilipes*), Plain Tiger Butterfly (*Danaus chrysippus*), Common Mime Swallowtail (*Papilio clytia*), Common Mormon Swallow tail (*Papilio polytes*), Spotted Zebra (*Graphium megarus*), Dusky partwing (*Psolos fuligo*), Common castor butterfly (*Ariadnemerione*), Jungle glory (*Thaumuntis diores*), Long brand Bushbrown (*Mycalesis visala*). Further, Pantropical Huntsmen spider (*Heteropoda venatoria*), Indian black ant (*Camponotus compressus*), Yellow crazy ant (*Anoplolepis gracilipes*), Asian honey bee (*Apis cerana*), Oriental beetle (*Exomala orientalis*), Aphis (*Apis* sp), Giant ghost (*Bradynopyga geminate*), Hooded darlet (*Agriocnemis kalinga*), American cockroach (*Periplaneta americana*) are also recorded from the campus., the Giant African land snail (*Lissachatina fulica*) earthworm (*Lampitomaauritiis*), Common Asian Toad (*Duttaphrynus melanostictus*), Terai cricket frog (*Minervarya teraaiensis*), Pierre Cricket frog (*Minervarya pierrei*), narrow-mouthed frog (*Microhyla ornata*), Indian bull frog (*Hoplobatrachus tigerinus*), Copes Assam frog (*Hydrophylax leptoglossa*), Bhamo frog



(*Humerana humeralis*), Common tree frog (*Polypedates leucomystax*), Chequered keel back (*Xenochrophis piscator*), Indian rat snake (*Ptyas mucosus*), Wolf snake (*Lycodon aulicus*), Monocellate cobra (*Naja kauthia*), Oriental Garden lizard (*calotes versicolor*), Asian house gecko (*Hemidactylus frenatus*), White spotted skink (*Riopa albopunctata*), Spotted skink (*Spenomorphus maculatus*) Indian grey mongoose (*Herpestes edwardsii*). The avian fauna of the campus is also recorded to be very highly diversified and includes around 30 species of which noteworthy are White Throated Kingfisher, Chestnut Tailed Starling, Blue Throated Barbet, Coppersmith Barbet, Rose Ring Parakeet, Adjutant Stork, Intermediate Egret, Cattle Egret, White Breasted Waterhen, Scaly Breasted Munia, Red Vented Bulbul, Barn Swallow, Swiftlet, House Sparrow, Tree Sparrow, Magpie Robin, Pond Heron, Black Drongo, Brown Shrike, Crow, Purple Sunbird, Crested Myna, Common Myna, Rock Pigeon, Cinereous Tit, Spotted Dove, Woodpecker, Cormorants, Purple Heron, Common Kestrel, Asian Koel, and Whistling Duck

WEATHER AND CLIMATE

K. C. Das Commerce College is situated at the heart of the city and the average climatic state of Guwahati is warm and subtropical. The average annual temperature is 24.0° C and the average annual rainfall is 3038 mm. In comparison other parts of the country the Guwahati has a high percentage humidity the highest occurs in July. Even in the driest period the relative humidity is maintained at more than 55%

Table 3: Monthly weather averages of Guwahati (Temperature in °C, Rainfall in mm, Relative Humidity (RH) in %, Rainy days in number)

Mean Temp	17.6	20.2	23.9	25.1	26.1	27.3	27.5	27	27.0	25.3	22.0	18.9
Rain	13	26	68	179	323	551	690	618	398	141	21	10
RH	73	65	57	73	83	87	89	88	87	83	76	74
Rainy Days	2	4	7	14	20	21	21	21	19	11	3	1

Fig 3. Mean Temperature in different months in Guwahati

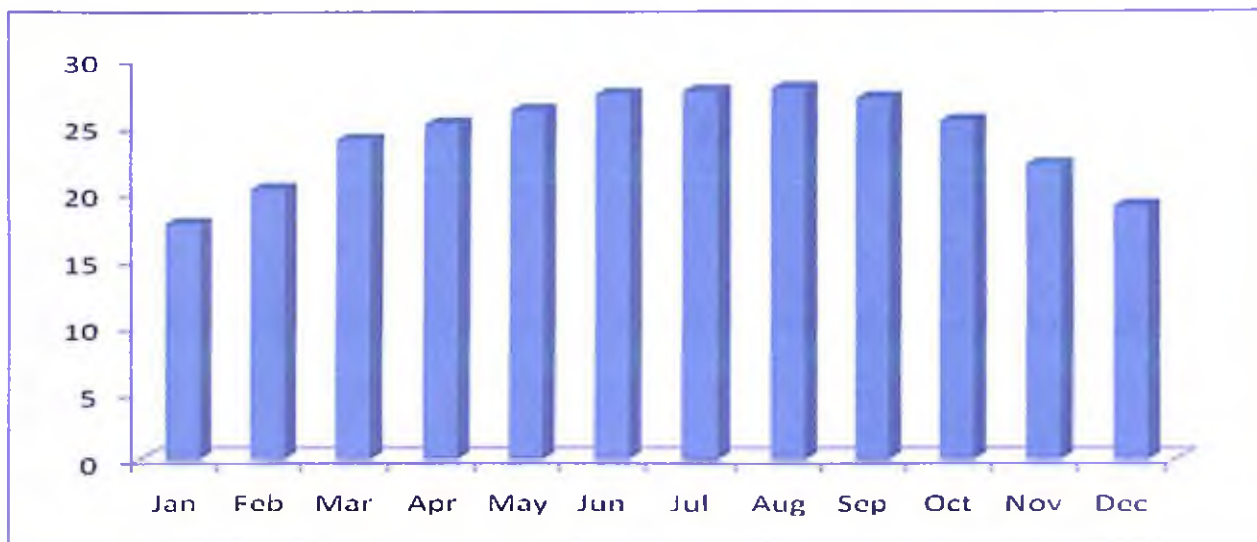
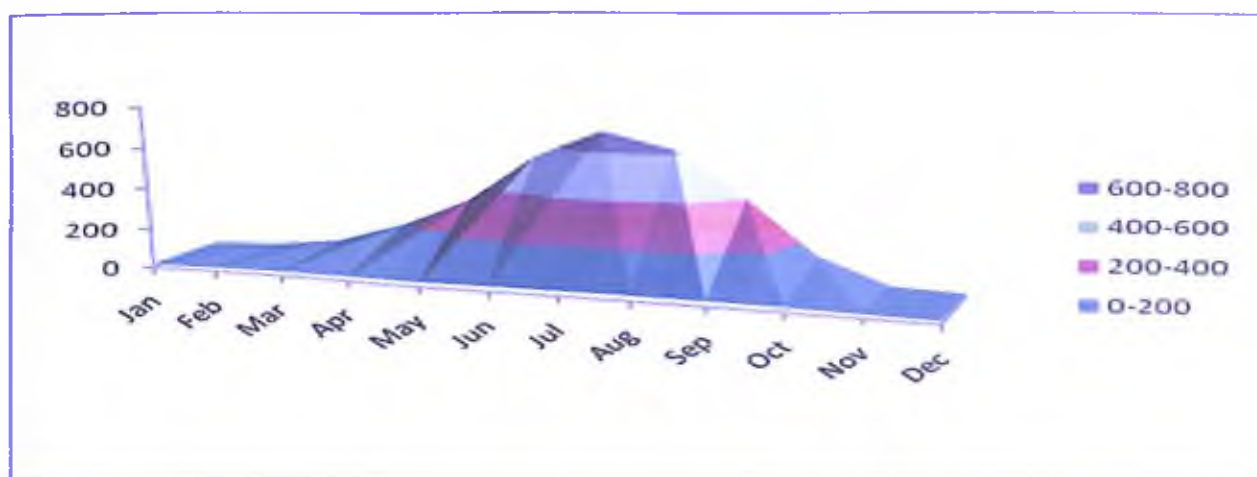


Fig 4. Mean rainfall month wise in Guwahati





AIR QUALITY

Air quality of Guwahati is reported to be Unhealthy for Sensitive Groups. The Fine particulate matter ($PM_{2.5}$) is much higher than the recommended limit of WHO. The PM_{25} is an air pollutant that is a concern for people's health. However due to the presence of canopy of pollutant absorbing trees, it may be assumed as an island of less pollution at the heart of the business hub of the city of Guwahati.

WATER QUALITY REPORT

Evaluation of quality of both drinking water and other potable water helps in detecting contaminants and preventing diseases. The College has taken steps in monitoring water quality to ensure that drinking water is safe, clean and free from bacteria and contaminants. The result of the water quality test itself provide evidence of seriousness of the college authority to maintain health of all stake holders

The overhead water of the tank, which is supplied via pipe to be use from tap, was also evaluated. The turbidity and total alkalinity are found to be higher than maximum permissible limit. However, main concern is the presence of fluoride (0.5 mg/l). Though it is beyond the maximum permissible limit, it is most probable that it will increase, as the college is drawing ground water for its daily use. This may be a factor of serious health concern The College authority should look into the matters seriously so that the parameters addressed are maintained at safe level.



Table 4: Report on analysis of Drinking water (State Public Health Laboratory)

GOVT. OF ASSAM
STATE PUBLIC HEALTH LABORATORY, ASSAM
BAMMUNIMADAM, GUWAHATI-21

Email: foodanalyst@sphlassam.org Website: www.sphlassam.org
Office Contact No. +91 7099015100

No.VII-152/pt-II/2020-22/ 5777 Dated Guwahati, the 17/10 /2022

REPORT ON ANALYSIS OF DRINKING WATER (IS 10500:2012)

Customer Name & Address : K.C. Das Commercial College, Add. Chatribari Guwahati-781008, Assam, Dist. Kamrup (M) (Assam).

Your No. : 2

Laboratory Code No. : Chem. 1110/22

Sample Description : Aquaguard

Date of Receipt : 22/09/2022

Date of Analysis : Start: 13/10/2022 End: 13/10/2022

Sl. No.	Parameter	Nature of method used	Result	Desirable limit
1	Appearance	-	Clear	Clear
2	Odour	FSSAI Manual for Water Analysis, 2016, Sec A, 1, 2. Pg- 15	Unobjectionable	Unobjectionable
3	Taste	-	--	Agreeable
4	Turbidity, NTU	FSSAI Manual for Water Analysis, 2016, Sec A, I, 5.1. Pg- 26	0	5(Max) (mg/l)
5	pH	FSSAI Manual for Water Analysis, 2016, Sec A, II, 3.A. Pg- 17	6.5	6.5 to 8.5 (mg/l)
6	Total hardness (as CaCO ₃), mg/l	FSSAI Manual for Water Analysis, 2016, Sec A, II, 8.A. Pg- 99	42	200(Max) (mg/l)
7	Iron (as fe), mg/l	FSSAI Manual	0.02	0.30 (Max) (mg/l)
8	Chlorides (as Cl), mg/l	FSSAI Manual for Water Analysis, 2016, Sec A, II, 5.A. Pg- 76	3	250 (Max) (mg/l)
9	Residual free Chlorine, mg/l	FSSAI Manual for Water Analysis, 2016, Sec A, II, 11.A. Pg- 116	Nll	0.20 (Max) (mg/l)

Page 1 of 2



Sample ID: Chem. 1110/22

10	Fluoride (as F), mg/l	FSSAI Manual for Water Analysis, 2016, Sec A, II, 7.1.A. Pg- 90	0.1	1.0 (Max) (mg/l)
11	Dissolved Solids, mg/l	FSSAI Manual for Water Analysis, 2016, Sec A, 1, 6.A. Pg- 29	34	500 (Max) (mg/l)
12	Calcium (as Ca) mg/l	FSSAI Manual for Water Analysis, 2016, Sec A, II, 14.A. Pg- 14	4.0	75 (Max) (mg/l)
13	Magnesium (as Mg), mg/l	FSSAI Manual for Water Analysis, 2016, Sec A, II, 6.1. Pg- 85	7.8	30 (Max) (mg/l)
14	Manganese (as Mn), mg/l	FSSAI Manual	Nil	0.10 (Max) (mg/l)
15	Sulphate (as SO ₄), mg/l	FSSAI Manual for Water Analysis, 2016, Sec A, II, 10.A. Pg- 107	8	200 (Max) (mg/l)
16	Nitrates (as NO ₃), mg/l	FSSAI Manual	Nil	45 (Max) (mg/l)
17	Alkalinity as (CaCO ₃) mg/l	FSSAI Manual for Water Analysis, 2016, Sec A, II, 9 Pg- 104	30	200 (Max) (mg/l)

Note: Results are only with respect to the items tested. All tests are performed in the laboratory location only. Results apply to the sample as received.

Opinion: The sample is chemically satisfactory with respect to the tests carried out.



(A. Gopin)

Food Analyst to the Govt. of Assam
Bamunimaidam, Guwahati- 21


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---End of Report---



Table 5: Report on analysis of overhead tank water (State Public Health Laboratory)

Sample ID: Chem. 1109/22


GOVT. OF ASSAM
STATE PUBLIC HEALTH LABORATORY, ASSAM
BAMMUNIMAMIDAM, GUWAHATI-21
 Email: foodanalyst@sphlassam.org Website: www.sphlassam.org
 Office Contact No. +91 7099015100
 No VII-152/pt-II/2020-22/ 5776 Dated Guwahati, the 17/10 /2022

REPORT ON ANALYSIS OF DRINKING WATER (IS 10500:2012)

Customer Name & Address : K.C. Das Commerce College, Add. Chatribari Guwahati-781008, Assam, Dist. Kamrup (M) (Assam).

Your No. : 1

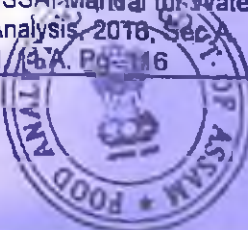
Laboratory Code No. : Chem. 1109/22

Sample Description : Boring water (Raw)

Date of Receipt : 22/09/2022

Date of Analysis : Start: 13/10/2022 End: 13/10/2022

Sl. No.	Parameter	Nature of method used	Result	Desirable limit
1	Appearance	-	Turbid	Clear
2	Odour	FSSAI Manual for Water Analysis, 2016, Sec A, 1, 2. Pg- 15	Unobjectionable	Unobjectionable
3	Taste	-	--	Agreeable
4	Turbidity, NTU	FSSAI Manual for Water Analysis, 2016, Sec A, I, 5.1. Pg- 26	23	5(Max) (mg/l)
5	pH	FSSAI Manual for Water Analysis, 2016, Sec A, II, 3.A. Pg- 17	6.5	6.5 to 8.5 (mg/l)
6	Total hardness (as CaCO ₃), mg/l	FSSAI Manual for Water Analysis, 2016, Sec A, II, 8.A. Pg- 99	170	200(Max) (mg/l)
7	Iron (as fe), mg/l	FSSAI Manual	0.95	0.30 (Max) (mg/l)
8	Chlorides (as Cl), mg/l	FSSAI Manual for Water Analysis, 2016, Sec A, II, 5.A. Pg- 76	8	250 (Max) (mg/l)
9	Residual free Chlorine, mg/l	FSSAI Manual for Water Analysis, 2016, Sec A, II, 3.A. Pg- 16	Nil	0.20 (Max) (mg/l)



Page 1 of 2



Sample ID: Chem. 1109/22

10	Fluoride (as F), mg/l	FSSAI Manual for Water Analysis, 2016, Sec A, II, 7.1 A. Pg- 90	0.5	1.0 (Max) (mg/l)
11	Dissolved Solids, mg/l	FSSAI Manual for Water Analysis, 2016, Sec A, 1, 6.A. Pg- 29	202	500 (Max) (mg/l)
12	Calcium (as Ca) mg/l	FSSAI Manual for Water Analysis, 2016, Sec A, II, 14.A. Pg- 14	67.2	75 (Max) (mg/l)
13	Magnesium (as Mg), mg/l	FSSAI Manual for Water Analysis, 2016, Sec A, II, 6.1. Pg- 85	18.05	30 (Max) (mg/l)
14	Manganese (as Mn), mg/l	FSSAI Manual	Nil	0.10 (Max) (mg/l)
15	Sulphate (as SO ₄), mg/l	FSSAI Manual for Water Analysis, 2016, Sec A, II, 10 A Pg- 107	22.1	200 (Max) (mg/l)
16	Nitrates (as NO ₃), mg/l	FSSAI Manual	Nil	45 (Max) (mg/l)
17	Alkalinity as (CaCO ₃) mg/l	FSSAI Manual for Water Analysis, 2016, Sec A, II, 9 Pg- 104	237.5	200 (Max) (mg/l)

Note: Results are only with respect to the items tested. All tests are performed in the laboratory location only. Results apply to the sample as received.

Opinion: The sample is chemically unsatisfactory & needs proper treatment.



(A. Gogoi)
Food Analyst to the Govt. of Assam
Bamunimaidam, Guwahati- 21

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---End of Report---



NOISE LEVEL OF THE CAMPUS

In academic campus noise Free State is essential to uphold conducive scholastic environment. Noise is defined as unwanted sound causes exasperation and may have impact on health and also affects the teaching – learning process. WHO classifies noise above 65 decibels (dB) as noise pollution and less than 35 dB ideal for classrooms.

From the data collected, it is evident that mostly the noise level in the campus is below 65 dB and, in the classrooms, during teaching is around ideal level. Due to its location away from the traffic and barrier of buildings in eastern and western boundaries, and also vacant marsh on the north and west, spun of traffic, construction and other activities are greatly reduced

Class Room: 36 dB (26 – 66 dB)

Passage: 40 dB (26 – 66 dB)

Open space 65 dB (61 – 69 dB)

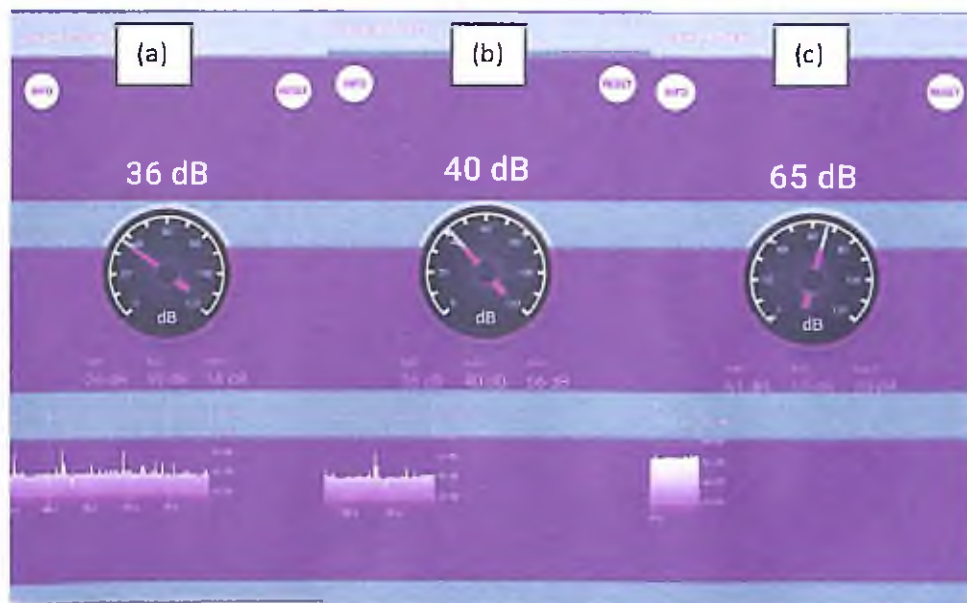


Fig 5 Noise level - (a) in class room (b) Passage (c) Open space

WASTE MANAGEMENT

It involves activities to manage waste from its source to final disposal or recycling. The College is generating around 19 m³ volume of total waste. The waste from all around the college is separated daily as degradable and non-degradable waster and are disposed separately. Different

colour bins for collecting various grades of wastes as specified by the Pollution Boards are placed in each floor of the main Building (Bld1, Bld 2 & Bld 3) as well as in the canteen.

The bins of different colours are specified as below

Green Bins: Organic materials like food waste, prunings, fruit and vegetables so they can be for composting, which can be used as soil amendments and source of plant nutrients.

Blue Bins: Papers, Cardboard, etc. which can be recycled

Red Bins: Drinking glassware, broken crockery, cling wrap, plastic bags, packing straps, sticky tape, glazed wrappers and

Yellow Bins: Glass Bottles, Cardboard, Newspaper, Plastic, used Paper, Aluminium Cans, Milk & Juice Cartons and Disposable Coffee

With smart initiatives of Eco club, waste management is helping college to achieve a higher level of environmental performance. The College is conducting regular campaigning and hands on activities through Eco Club and Environmental science classes, involving students and faculty, to inculcate effective waste management system amongst the stake holders.

By reusing the clean paper and card boards, also by refilling the cartridges of the printers the college is contributing to the conservation of natural resources and reducing waste generation.

Presently, waste generated in the college campus is taken to the community bin of

The College authority has declared the entire campus as “Plastic Free Zone”.

The e-waste produced as on date are computer cabinet (5), monitor- CRT (9) & LED (3), UPS (15), Key board (25), Hard disc (25), mother Board (25) and SMPS (25) and another 28 UPS dismantled and sold. The e-waste is sent to recycler and a detailed Annual return have been (see below)



Fig 6: Bins of different colours placed in the college campus



Table 6: Annual return on disposal of e waste

FORM-3

[See rules 4(5), 5(5), 8(6), 9(4), 10(8), 11(9), 13(1)(xi), 13(2)(v), 13(3)(vii) and 13(4)(v)]

FORM FOR FILING ANNUAL RETURNS

[To be submitted by producer or manufacturer or refurbisher or dismantler or recycler by 30th day of June following the financial year to which that return relates]

Quantity in Metric Tonnes (MT) and numbers

1	Name and address of the producer or manufacturer or refurbisher or dismantler or recycler			
2	Name of the authorized person and complete address with telephone and fax numbers and e-mail address			
3	Total quantity of e-waste collected or channelized to recyclers or dismantlers for processing during the year for each category of electrical and electronic equipment listed in the Schedule I (Attach list) by PRODUCERS			
	Details of the above	Type	Quantity	No.
(A)*	BULK CONSUMERS: Quantity of e-waste	(i) Computer cabinet	0.05	25
		(ii) Monitor-CRT	0.1	9
		-LED	0.006	3
		(iii) UPS	0.1	15
		(iv) Keyboard	0.009	25
		(v) Hard Disk	0.013	25



		(vi) Motherboard	0.006	25
		(vii) SMPS	0.05	25
3(B)*	REFURBISHERS: Quantity of e-waste	Nil		
3(C)*	DISMANTLERS: i. Quantity of e-waste processed (code wise); ii. Details of materials or components recovered and sold; iii. Quantity of e-waste sent to recycler; iv. Residual quantity of e-waste sent to Treatment, Storage and Disposal Facility	ii. Sold a) UPS	0.14	28
3(D)*	RECYCLERS: i. Quantity of e-waste processed (code wise); ii. Details of materials recovered and sold in the market; iii. Details of residue sent to Treatment, Storage and Disposal Facility.	ii. Sold b) UPS	0.14	28
4	Name and full address of the destination with respect to 3(A)-3(D) above.	Mr. Pankaj Dey Mr. Sailen Dey		
5	Type and quantity of materials segregated or recovered from e-waste of different codes as applicable to 3(A)-3(D)	Type	Quantity	

✓ Enclose the list of recyclers to whom e-waste have been sent for recycling.



ELECTRICAL POWER CONSUMPTION: The college has total connected load of 100 KW. The average consumption is 55315 KWh (units) of electricity annually. The authority adopts a policy of reducing electric energy consumption keeps on replacing all the old filament bulbs and old tube-lights by LED bulbs and LED tubes and bulky high-power consuming fans by energy efficient fans.

There are 25 Air conditioners (23 1.5 Ton capacity & 2 2 Ton capacity) fitted in the college. The percentage of coverage under AC is only 13.79% of the total built up area.

Table 7: Floor area (room wise) coverage under AC

Room	Area under AC coverage (m ²)
Principal's Chamber	48.36
Office	69.88
Conference Hall	71.57
IQAC	44.60
Union Room	42.12
Faculty Room I (Ground floor)	88.08
Placement Cell	47.20
Examination Branch	45.65
Library	47.88
Accounts branch	29.76
Faculty room II (1 st Floor)	88.08
Vice Principal's Chamber	27.9
IGNOU	27.9
Room no 6	83.65
BBA	47.08
BCA	24.23
M.Com	48.52
Total	882.46



Table 8: Energy consuming appliances fitted/used in the college

Item	Number
Tube light	174
Fans	263
Exhaust	17
Refrigerator	2
Oven	1
AC	25
TV	3
Computer and accessories	89
N computing device with monitor and UPS	10
Projector	13
Scanner	5
Fax	1
Note counting Machine	2
Barcode Reader Machine	2
Punching Machine	1
Microphone	24
LAN tester	1
Web Camera	1
Water purifier	6
Water Heater	1
Water Pump	2
Sanitary Vending Machine & destroyer	4 + 1
Halogen Light	3
Street Light	6
Printer	30
Photostat Machine	8
CCTV	64
Server	3



K C Das Commerce College has taken a noteworthy step by installing On Grid Solar Connectivity with a capacity of 30 KW. The total energy produce by On-Grid Solar system annually is 10800 kwh

The energy from this solar installation is supporting to offset the daytime peak electricity demand of the college from the ASEB connection. With the installation of 30 KWp On-grid connected solar rooftop plant the College is able to offset about 25%of its energy usage from the ASEB and marching towards greener option, reducing its carbon footprint.

Students are made aware about responsible use of electrical energy. Un necessary use of any appliance is strictly controlled. Posters are used inside and outside the classrooms to sensitize the students for responsible energy use.

The college is suggested to install occupancy sensor light in the common areas. It is also desirable that the college should prescribe minimum and maximum set point of ACs.



Fig. 7: Roof top on grid solar panel, K.C. Das Commerce College

CARBON FOOT PRINT

Carbon footprint of an organisation is the measure of emission of greenhouse gases (mainly CO₂) within its boundary. It is audited to find out the sources of emission and ways to minimise its amount and impact. Carbon footprint due to electricity consumption was found to be 47.02 metric tons per year at K.C. Das Commerce College campus.

Transportation vehicles contribute 1.01 metric tons per year. It is calculated based on number of four wheelers and two wheelers entering into the campus, travel distance within the campus and number of working and class days per year. Overall carbon footprint stands at 48.03 metric tons per year.

Carbon foot print calculation

Electricity: Input value (in KWh/Yr) X 0.85 (Emission Factor) = Output value in (Kg of CO₂)

Petrol: Input Value(In Litres/Yr) X 2.296(Emission Factor) = Output value in (Kg of CO₂)

TRANSPORTATION

The college does not have any transportation facility. The faculty, staff and students commute on their own. Out of 79 employees (both administrative and academic) little more than 50% come to the college with their own vehicle (44 nos). Few of them use on sharing basis. All the vehicles have up to date PUC. The students and faculty are encouraged to use public transport, cycles and Electric Vehicle (EV). Around 5% students use two wheelers of which few are EV. Students are not allowed in the campus in four-wheeler

Ventilation and Exhaust systems in Buildings

The college rooms are well ventilated to maintain internal temperatures, moisture, and obnoxious odours and matters. In addition, exhaust fans are also fixed in strategic locations to remove stale air with fresh air along with moderating the optimum temperature to the occupants

Sanitary pad vending machine& destroyer: The college authority is very much concern about the health of the students and faculties, specifically girls and women, and fitted four Sanitary Napkin Destroyer machine, atleast one in each floor. Additionally, one Sanitary napkin vending machine is fixed attached to their lavatory, for use of ladies' faculties



Fig. 7: Vending Machine (Ladies Faculty washroom)



WATER MANAGEMENT

In order to conserve water resources K.C. Das Commerce College is taking commendable steps to manage rain water and wastewater

The college has introduced rain water harvesting with a storage capacity of 3.66 m x 2.14 m x 1.55 m. Maintaining alternate pave blocks in the foot passage allows water percolation. Further it has a recharge bore (6" x 1080") from where potable water is drawn and stored in overhead two tanks of 55.8 m³ and 37.2 m³. On working days overall water requirement is 186 m³. In cleaning, gardening and construction works waste and harvested water are mostly used. For conserving water efficient fixtures with flow restrictions, water use efficient toilets with two levels of flushing facilities are fixed in some locations (partial). Moreover, regular maintenance and repairing of taps, pipes and other water gadgets are practiced. The college promotes responsible water use via policies and campaigns through eco club and also in environmental programmes

FIRE FIGTING

19 Fire extinguishers are fixed at about 20 to 25 metres apart in all the buildings of the college. In addition sand filled buckets are also fixed near canteen. The students are made aware about management of fire disaster



Fig. 8: Fire Extinguisher fixed in front of the office



OTHER SAFETY MEASURES

The college has also provide special measures for the safety of the students specifically for the Divyangians. Thies include

Anti skid Tiles

Elevator

Separate Toilet facilities for Divyangjan

Ramp facilities for Divyangjan

PHILANTHROPIC ACTIVITIES

The college conducted following activities generating social responsibility mindset amongst students

Table 8: Disaster related Relief Activities

Sl. No.	Activity	Agency Involved	Place	Year
1.	Flood Relief Camp	K.C. Das Commerce College Teacher's Unit	Mayong	2016
2.	Flood Relief Camp	K.C. Das Commerce College Health & Hygiene Awareness Cell with NSS Wing of the College	Kamalpur, Athgaon, Changsari	20 th July, 2019
3.	Covid 19 Awareness Camp	K.C. Das Commerce College Health & Hygiene Awareness Cell with NSS Wing of the College	Neighbouring areas of the College	19 th March, 2020
4.	Flood Relief Camp		Raha, Nagaon	2022



Table 9: NCC/NSS Activities/Red Ribbon Club/College Activities

Sl No	Activity	Place	Conducted by	year
1	Free Health Checkup Camp	Najirakhat	NSS	2017
2	Blood donation Camp	College Campus	Red Ribbon Club	2016
3	Cancer Awareness Camp	College Campus	K.C. Das Commerce College in association with Deepshikha Foundation	2017
4	Blood Donation Camp	College Campus	Red Ribbon Club Blood Donation Camp in collaboration with Blood Bank, GMCH and nari Shakti Foundation Assam	2017
5	Association Drug Abuse Awareness Camp cum Health Camp	College Campus	IQAC in collaboration with All Assam Police Association	2019
6	Blood Donation Camp	College Campus	Red Ribbon Club in collaboration with the Blood Bank, Mahendra Mohan Choudhury Hospital and Marwari Yuva Manch	2019
7	Blood Donation Camp (Participated)	Red Cross Hospital, Chandmari	Red Cross Society	2021

Photos of Some of the Plants in the College Campus



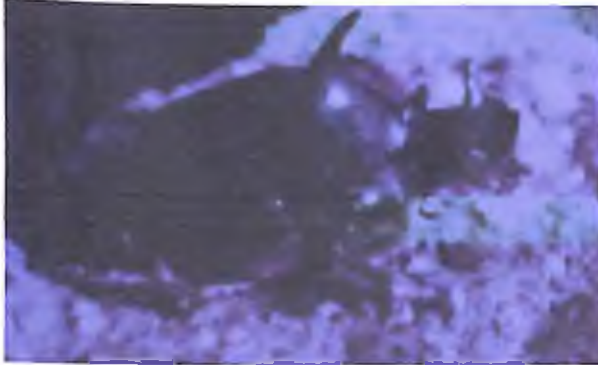
Photos of few animals recorded from the campus



Photos of few animals recorded from the campus



Photos of few animals recorded from the campus



Photos of few animals recorded from the campus



Photos of few animals recorded from the campus





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