Sir M. Visvesvaraya Institute of Technology
Bangalore – 562 157

INDEX SHEET

AUDIT – GREEN, ENVIRONMENT, ENERGY

CRITERIA NO.: 7 **SUBCRITERIA NO.: 7.1.3**

PRINCIPAL
Sir M. VISVESVARAYA INSTITUTE OF TECHNOLOGY
Krishnadevarayanagar, Hunasamaranahalli,
International Airport Road, Bangalore-562 157.

GREEN, ENERGY, AND ENVIRONMENT AUDIT REPORT

SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY, BENGALURU

PREPARED BY
NISARGA CONSULTANTS,
BELAGAVI
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Green, Energy, and Environment Audit Report

Sir M Visvesvaraya Institute of Technology, Bengaluru

By,

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**Basavaraj Complex, APMC Road, Sadashiv Nagar,
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GREEN AUDIT CERTIFICATE

This Certificate is Presented To

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Our team of Environmental Engineers have analyzed Green, Energy, and Environment practices followed by the Institution.

PRADEEP NAGAMALLI
B.E., M.TECH. (ENV. ENGG.)
NISARGA CONSULTANTS
DATE: 23.01.2023

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Green Cover Details

Green Cover

Plants and trees are essential for any educational institution. Green cover makes the campus aesthetically pleasing and also helps in providing good environment for the students. Planting saplings and maintaining the same has to be done periodically.

Observations:

This campus has a green area with various plants and trees of different species. The Green club/Eco club unit of the college have been moving a step towards creating a greener campus with different programs and plantation activities. The campus is rich in biodiversity.

The institute is situated in 133 acres and has huge plantation. Ample green space has been dedicated in the campus. Regular plantation, maintenance and land scaping is being carried out.

List of trees and plants in the campus.

Sl. No.	Scientific Name	Common Name	Quantity
1	*Polyalthea longifolia*	Ashoka Mara	108
2	*Phyllanthus emblica*	Bettada Nalli	31
3	*Terminalia arjuna*	Arjuna Mara	1
4	*Acacia auriculiformes*	Bangala Jali	292
5	*Sapindus mukorissi*	Antuvala gida	2
6	*Ficus benghalensis*	Banyan Tree	5
7	*Bambus vulgaris*	Bamboo	7
8	*Seavola taccada*	Bhadrakshi mara	2
9	*Bahunia purpurea*	Basavana Pada	23
10	*Aegle manmelo correa*	Bilva vruksha	5
11	*Diospy melanoxycon*	Beedi leaf tree	1
12	*Albezia odorotismo*	Base mara	16
13	*Bombax ceiba*	Booruga mara	6
14	*Thespesia popular*	Burgari mara	1
15	*Callistemin spp.*	Bottle brush mara	3
16	*Pithecellobium dulce*	Manila tamarind	5
17	*Persea americana*	Mosaru kayi mara	1
18	*Cacsalpinia pulcherima*	Kengige mara	4
19	*Cassia specta bulis*	Pagada Thanjadi	21
20	*Cassia siamia*	Pagada Thanjadi	19
21	*Picea abies*	Christmas mara	2
22	*Cocos nucifera*	Coconut	32
23	*Peltophorum pterocarpum*	Bettada Hunase	11
24	*Magnolia champaca*	Sampige mara	25
25	*Tecoma carpensis*	Kolave hoo	1
26	*Dalbersia latifolia*	Dalbegia mara	5
27	*Dalbersia Sissoo*	Sissoo mara	1

28	*Encalyptur globulns*	Neeligiri mara	144
29	*Phoenix syevestris*	Eechalu mara	3
30	*Pterocarpus mauritiana*	Honne Mara	1
31	*Alstomia macrophylle*	Addasarpa	1
32	*Borassus flabellifer*	Elachikayi mara	1
33	*Ficus*	Atti mara	11
34	*Delonix regia*	Kattikayi mara	12
35	*Psidium guajava*	Chepekayi mara	1
36	*Madhuca longifolia*	Ippe mara	9
37	*Holoptelea integrifolia*	Thapasi mara	2
38	*Jacaranda mimosifolia*	Jacaranda mara	41
39	*Artocarpus heterophyllus*	Halasina mara	2
40	*Syzygium jambulica*	Jammunerale	39
41	*Neolamarcika cadamba*	Kadamba mara	2
42	*Khaya senegalensis*	Kaya mara	3
43	*Ficus tinctoria*	Kallathi mara	1
44	*Kigelia africana*	Kigelia mara	12
45	*Lagerstroemia speciosa*	Arasina thiga	11
46	*Swetania marcopala*	Mahagani	4
47	*Mangiferia indica*	Mango	3
48	*Acacia mangium*	Mangium mara	3301
49	*Millingtonia hortensis*	Akasha mallige	1
50	*Butea monosperma*	Muttuga mara	4
51	*Azadirachta indica*	Bevina mara	35
52	*Ficus religiosa*	Arali mara	14
53	*Pongamia pinnata*	Honge mara	104
54	*Withania coagulans*	Panner mara	1
55	*Samanca saman*	Male mara	1
56	*Annona reticulata*	Ram pal	3

57	*Roystonea regia*	Royal palm	21
58	*Santalum album*	Sandal wood	18
59	*Spathodea campanulate*	Uchkayi mara	20
60	*Prosopis cineraria*	Banni mara	1
61	*Grevillea robusta*	Silver oak	390
62	*Simarouba glauca*	Simarouba mara	4
63	*Muntingia calabura*	Gasa Gase mara	12
64	*Annona reticulata*	Custard apple	3
65	*Leucaena lcucicephala*	Chigaru soppu mara	6
66	*Tamarindus indica*	Hunse mara	16
67	*Tectona grandis*	Thegade mara	4033
68	*Tabebuia rosea*	Rosy trumped tree	17
69	*Tabebuia argentea*	Caribbean trumped tree	43
70	*Sterculia foetida*	Wild badam	1

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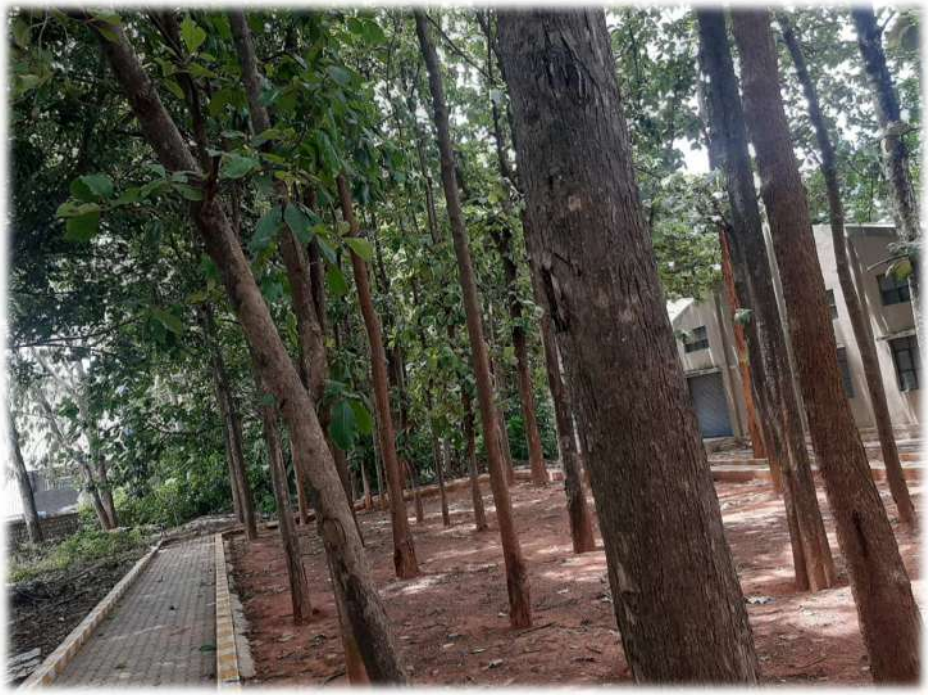


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Biodiversity in the campus:

Biodiversity is the natural world around us, and the variety of all of the different kinds of organisms - the plants, animals, insects and microorganisms that live on our planet.

Observations:

Sir M Visvesvaraya Institute of Technology has maintained a sufficient green cover in the campus. This helps in maintaining the biodiversity balance around. Many bird species can be spotted in the campus. Cats and other species can also be seen in the campus. Bees play an important role in pollination, flowers in the camps attract many species of bees. There are many ant hills in the campus, indicating the wide varieties of insects, reptiles etc. During our visit we could spot numerous butterflies in the campus.

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Environment Management Details

Water Management

Quality and Quantity of water is one of the most important parameters in a Green Campus. Water Quality and Quantity differs from place to place depending on the condition of the water source from which it is drawn. Presence of contaminants in the water can lead to health issues of the consumers. Basic monitoring of the quality of water is necessary from the health point of view of the campus occupants. Meticulous Water Management plan of the water available is also imperative for sustainable resource utilization.

Observation:

1. The main source of water for the campus is one bore well and city corporation water supply with sufficient water for the college throughout the year. The water from the borewell and underground water tanks are pumped to the overhead tank situated on the top floor of the building and then supplied. Drinking water from the Filter cum Cooler was tested for TDS, temperature and pH.

2. Rainwater harvesting has be implemented in the campus and water is recharged to ground.

Source	Inlet			Outlet		
	TDS (ppm)	pH	Temperature (^{O}C)	TDS (ppm)	pH	Temperature (^{O}C)
1	150	7.5	28	40	7.3	24

Sl. No.	**Parameter**	**Response**
1	Source of water for campus	Borewells
2	No. of open Wells/Borewells	10
3	Capacity of underground water tank	494701 lts
4	Number of water tanks (Overhead tank)	13 + 12
5	Capacity of water tank (Overhead tank)	489617 lts
6	Quantity of water pumped every day	NA
7	No. of drinking water filters	> 25
8	Water usage for gardening	Yes
9	Waste water sources	Labs and toilets
10	Use of waste water	Gardening
11	Fate of waste water from labs	STP
12	Whether waste water from labs mixed with ground water	No
13	Any treatment for lab waste water	STP
14	Whether any green methods practiced in labs	Yes
15	Rain water harvest available?	Yes
16	Any leaky taps	No
17	Amount of water lost per day	No
18	Are there any signs/posters reminding peoples to turn off the water?	Yes

Source of water
(borewell in the campus)

Overhead water storage tank

Drinking water filters and coolers have been placed in every floor

Drinking water filters and coolers have been placed in every floor

Poster related to 'Save water'

Rainwater Harvesting unit

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Conducts to carry Rainwater from rooftop to rainwater harvesting pond

Pond for Rainwater collection and ground water table recharge

Waste Management:

Anthropogenic activities generate waste, and it is the way these wastes are managed and disposed of, which can cause risks to the nature and to health. Waste generated causes pollution which is unpleasing and results in large amounts of litter which in turn cause environmental problems. Solid waste is generally classified into three categories: bio-degradable, non-biodegradable and hazardous waste. Bio-degradable wastes include food wastes, canteen waste, wastes from toilets, etc. Non-biodegradable wastes include what is usually thrown away in homes and schools such as plastic, tins and glass bottles, etc., Hazardous waste is waste that is likely to be a threat to health or the environment like chemicals from research labs, batteries, etc.,

Improper handling of these wastes such as dumping in pits or burning them, may cause harmful discharge of contaminants into soil and water supplies. Special attention should be given to the handling and management of such waste generated in the institutions.

Observations:

In this campus, the waste generated is managed as mentioned below:

Bio-degradable Waste:

- Bio-degradable waste (sewage) from toilets is connected to STP/UGD.
- Treated wastewater from STP (Sewage Treatment Plant) is used for gardening in the campus. The details of Sewage Treatment Plant are mentioned below.

Non-Bio-degradable Waste:

- Paper, plastics generated by the campus is collected by the waste collection vehicle of BBMP/village panchayat.
- Educational posters related to water conservation, waste minimization, waste segregation have been put in the campus to create awareness.
- E-Waste is sent to recycler.

Recommendations:

Based on the observations made during our site visit, following recommendations have been made by us:

- Dry leaves from plants and trees can be composted in the campus.
- Poster related to 'Avoid using single use Plastics' can be placed in the campus.

Awareness poster regarding 'Wastage of Food' placed in Hostel mess

Sewage Treatment Plant

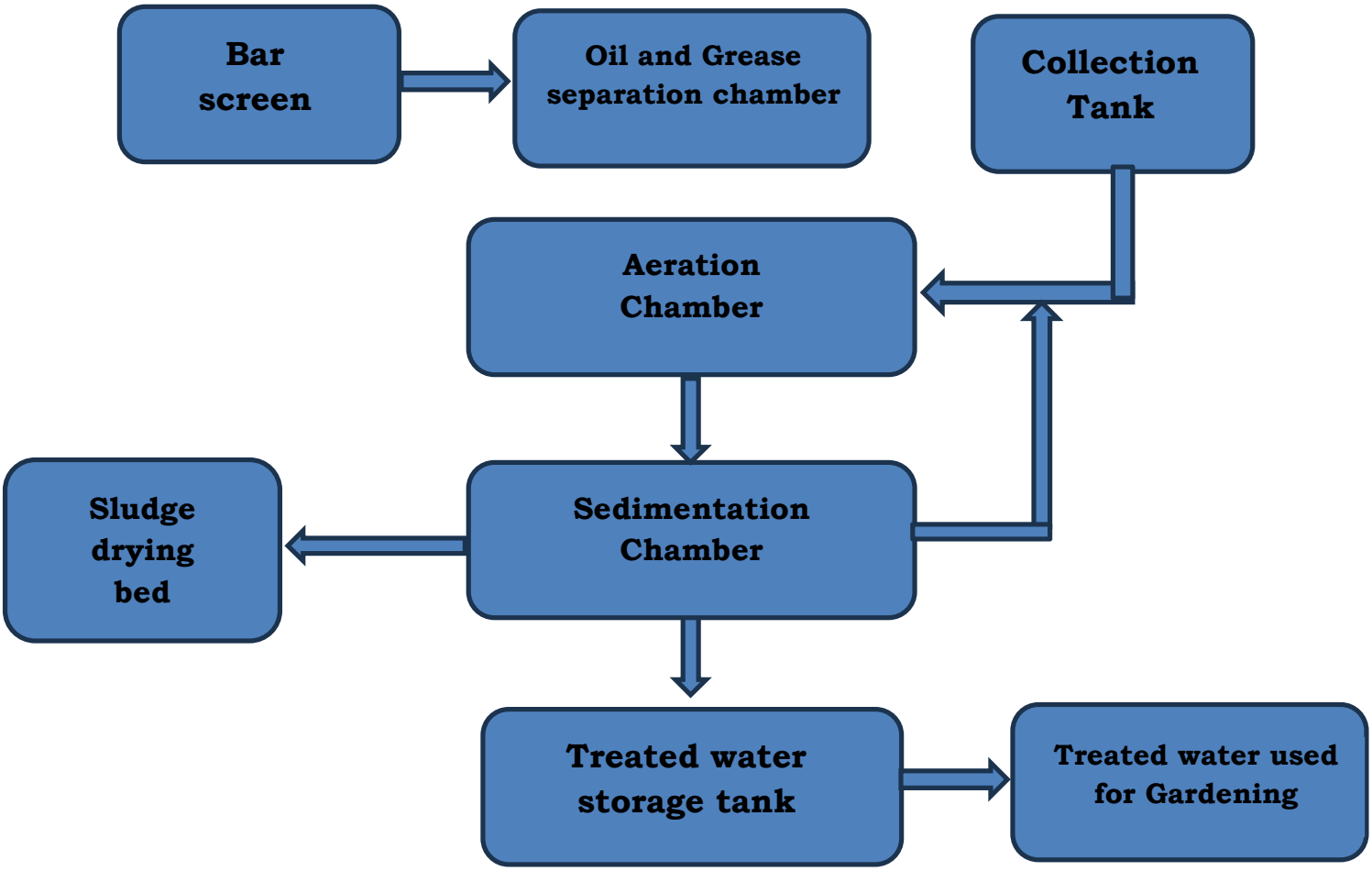
Waste water from washrooms, urinals, toilets, kitchen generally termed as sewage can be treated and be reused. Treated sewage can be used for gardening, flushing and so on. This helps in minimizing the use or fresh waster for flushing and gardening.

Observations:

Sewage treatment plant has been installed in the camps. The STP treats the waste water generated in the campus. Treated wastewater is used for gardening within the campus.

Sl. No.	Details	Remarks
1	Wastewater Source	Toilets, Labs, Canteen, Mess
2	Use of waste water	Treated wastewater for gardening
3	Fate of waste water from labs	Treated in STP
4	Weather waste water from labs is mixed with other wastewater sources	Yes
5	Any treatment for lab waste?	NA
6	Disposal of wastewater	Reuse after proper treatment
7	Use of treated wastewater from STP	
8	Capacity of STP in the campus	20 KLD

Treatment process involved in 200 KLD and 125 KLD STP installed in the campus



Treatment units in STP

Sewage treatment plants involve unit operations and unit process. The role of each unit is as follows:

Bar Screens:

The bar screen chamber is used to separate plastics and other non-decomposable matter from incoming waste water to prevent clogging of pipelines and pumps thereby causing break-downs. The bar screen chamber consists of two screens i.e., a coarse screen followed by a fine screen which are inverted at an inclined angle.

Oil and Grease separation chambers:

Oil and grit chamber is used to separate the oil, grit and grease present in the water. It is an extension of the bar screen chamber but the tank bottom is deeper. It consists of a baffle placed in the middle of the tank. The baffle is constructed a few feet above the bottom of the tank. Oil and grease accumulated above the water on the inlet side of the tank and are to be periodically removed. The grit accumulates as sediment at the bottom of the tank and is removed by a pump which feeds it into the filter press.

Collection tank:

Sewage after primary treatment is to be sent to secondary and tertiary treatment. Further process are unit operations and sewage have to be stored in the collection tank before subjecting to biological treatment.

Aeration Chamber:

Aeration chamber is a biological waste-water treatment system which is used to remove organic matter and is used to treat organic matter, generating a bio sludge.

Sedimentation Chamber and sludge drying beds:

Sedimentation chamber helps in separating biosolids/sludge from treated waste water. The sludge is then sent to sludge drying beds. Dried sludge is used as manure for plantation in the campus.

Treated wastewater storage tank:

Wastewater after biological treatment from MBR (Membrane Bioreactor) is stored in storage tank before use. Treated wastewater/sewage can be used for gardening and flushing.

Sewage Treatment Plant for treating sewage

Dust bins placed for waste segregation and collection.

Dust bins have been placed in the classrooms and corridors.
Sperate bins have been placed for wet and dry waste.

Dust bins have been placed in the classrooms and corridors.
Sperate bins have been placed for wet and dry waste.

Air Quality

Air quality plays a major role in day-to-day life. People spend more time indoors. Indoor air quality is the air quality within and around buildings and structures. Indoor air quality is known to affect the health, comfort, and well-being of building occupants. Poor indoor air quality has been linked to sick building syndrome, reduced productivity, and impaired learning in schools and colleges.

Observations:

Particulate matter, HCOH, TVOC, Temperature and humidity was measured in all the classrooms, staff rooms and library. It was observed that the concentrations of PM 1, PM 2.5 and PM 10 were found to be negligible at that instant.

New Computer Science Block

Ground floor

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
101	10	18	19	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
102	11	19	19		
103	10	20	19		
104	11	20	18		
105	8	19	18		
106	11	18	18		
107	11	14	19		
108	9	13	20		
109	10	13	20		
110	10	14	21		
111	7	15	20		
112	10	18	21		
113	11	15	20		
114	12	15	19		
115	11	14	19		
116	8	15	18		
117	10	16	19		
118	8	18	19		

New Computer Science Block

Basement Floor

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
1	9	15	20	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
2	11	18	20		
3	10	19	20		
4	9	18	19		
5	11	18	19		
6	10	18	18		
7	12	19	18		
8	13	20	19		
9	11	19	19		
10	11	18	19		
11	10	18	18		
12	12	15	21		
13	11	15	18		
14	10	14	19		
15	11	15	19		
16	11	16	19		
17	10	18	19		

New Computer Science Block

First Floor

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
201	12	19	21	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
202	11	18	22		
203	10	18	19		
204	11	18	19		
205	11	19	21		
206	10	20	22		
207	10	19	21		
208	11	18	21		
209	10	18	22		
210	11	17	22		
211	8	16	22		
212	8	15	20		
213	8	14	19		
214	10	15	19		
215	11	14	18		
216	11	14	19		
217	10	14	18		

New Computer Science Block

Second Floor

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
301	9	20	19	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
302	11	18	21		
303	10	20	21		
304	9	19	20		
305	11	19	20		
306	10	18	18		
307	12	14	19		
308	13	13	21		
309	11	13	22		
310	11	14	21		
311	10	15	18		
312	12	18	19		
313	11	15	19		
314	10	15	19		
315	11	14	20		
316	11	15	21		
317	10	16	22		
318	10	18	21		
319	11	19	21		
320	10	18	22		

New Computer Science Block

Third Floor

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
401	8	17	20	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
402	11	16	20		
403	10	15	18		
404	10	20	19		
405	11	19	21		
406	10	18	22		
407	11	18	21		
408	8	18	18		
409	11	19	19		
410	11	20	19		
411	9	20	19		
412	10	19	20		
413	10	18	21		
414	7	20	22		
415	10	18	21		
416	11	18	21		
417	12	19	22		
418	11	20	19		
419	8	20	18		
420	10	20	22		

First Block (Science Block)

Ground Floor

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
1	9	16	21	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
2	10	19	22		
3	11	18	21		
4	8	19	19		
5	11	19	19		
6	10	18	18		
7	12	19	18		
8	13	20	19		
9	11	19	19		
10	11	18	19		
11	10	18	18		
12	12	15	21		
13	11	15	18		
14	10	14	19		

First Block (Science Block)

First floor

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
101	9	19	20	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
102	10	18	20		
103	11	21	20		
104	12	21	19		
105	8	20	18		
106	11	19	19		
107	11	16	19		
108	9	13	20		
109	10	13	20		
110	10	14	21		
111	7	15	20		
112	10	18	21		
113	11	15	20		
114	12	15	19		
115	11	14	19		

First Block (Science Block)

Second Floor

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
201	10	18	20	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
202	12	19	23		
203	9	20	18		
204	11	17	20		
205	11	18	22		
206	10	19	22		
207	10	19	21		
208	11	18	21		
209	10	18	22		
210	11	17	22		
211	8	16	22		

Second Block (Mechanical Dept.)

Ground Floor

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
1	12	18	20	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
2	13	19	19		
3	11	20	18		
4	11	19	21		
5	12	18	18		
6	10	18	18		
7	12	18	18		
8	11	21	19		
9	10	19	19		
10	11	18	19		
11	10	18	18		
12	12	15	22		
13	11	15	19		
14	10	14	17		

Second Block (Mechanical Dept.)

First floor

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
101	9	19	20	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
102	10	18	20		
103	11	21	21		
104	8	19	19		
105	8	18	19		
106	11	17	20		
107	11	14	19		
108	9	13	20		
109	10	13	20		
110	10	14	21		
111	7	15	20		
112	10	18	21		
113	11	15	20		

Second Block (Mechanical Dept.)

Second Floor

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
201	11	15	18	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
202	11	14	20		
203	9	15	21		
204	10	14	22		
205	10	18	21		
206	7	18	25		
207	10	19	20		
208	11	20	20		
209	10	19	18		
210	11	18	22		
211	8	18	22		

Mechanical Workshop

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
Workshop	10	15	20	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
Carpenter	11	15	21		
Thermal lab	8	14	22		
Transport office	11	15	21		
Auditorium	11	14	21		
DG Room	9	14	22		
Pannel room	10	16	20		

MBA, MCA, Biotechnology Block

Ground Floor (MBA)

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
1	10	15	21	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
2	11	17	21		
3	12	17	22		
4	12	18	22		
5	13	18	22		
6	10	19	20		
7	11	20	19		
8	12	20	19		
9	12	19	18		
10	11	18	19		
11	8	14	18		
12	9	13	19		
13	8	13	20		
13 (A)	9	14	20		
14	8	15	20		
15	9	15	19		
16	8	14	18		

MBA, MCA, Biotechnology Block

First Floor (MCA)

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
101	11	14	19	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
102	8	13	18		
103	9	13	19		
104	8	14	20		
105	9	15	20		
106	8	15	20		
107	8	15	19		
108	10	14	19		
109	11	15	18		
110	11	16	18		
111	12	18	19		
112	13	17	19		
113	10	16	19		
114	11	15	18		
115	10	16	21		
116	11	15	18		
117	8	18	19		

MBA, MCA, Biotechnology Block

Second Floor (Biotechnology)

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
201	12	18	19	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
202	13	17	19		
203	10	16	19		
204	11	15	18		
205	10	16	21		
206	11	15	18		
207	8	18	19		
208	11	19	19		
209	11	18	19		
210	9	18	19		
211	10	18	18		
212	10	19	18		
213	7	20	18		
214	10	19	19		
215	11	18	20		

Library

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
Internet Lab	12	18	19	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
TV room	13	17	19		
Reference section	10	16	19		
Book issue	11	15	18		
Extended ref. unit	10	16	21		

Hydraulics

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
Lab 1	8	18	19	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
Lab 2	11	19	19		

Third Block (Electrical and Civil Engineering)

Ground Floor (Dept. of Electrical Engineering)

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
1	10	18	19	<0.1 ppm	0.3 mg/m³ to 0.5 mg/m³
2	11	18	19		
3	11	17	19		
4	10	16	18		
5	10	15	21		
6	11	14	18		
7	10	15	19		
8	11	14	19		
9	8	14	19		

First Floor (Dept. of Electrical Engineering)

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
101	9	16	21	<0.1 ppm	0.3 mg/m³ to 0.5 mg/m³
102	11	15	21		
103	10	18	22		
104	12	19	22		
105	13	18	22		
106	11	18	20		
107	11	18	19		
108	10	19	19		
109	12	20	18		
110	11	19	18		
111	10	18	19		
112	11	18	19		

Third Block (Electrical and Civil Engineering)

Second Floor (Dept. of Civil Engineering)

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
201	10	14	18	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
202	11	15	20		
203	10	15	21		
204	11	13	22		
205	8	14	21		
206	11	13	25		
207	11	13	20		
208	9	14	20		
209	10	15	18		
210	10	15	19		
211	7	15	21		
212	10	14	22		
213	11	15	21		
214	12	14	18		

Third Block (Electrical and Civil Engineering)

Third Floor (Dept. of Civil Engineering)

Room				HCOH	TVOC
	PM 1	PM 2.5	PM 10		
301	11	13	20	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
302	9	13	21		
303	11	15	19		
304	11	15	18		
305	7	15	21		

The readings mentioned above are measured at that instant. Measurements in washrooms were assumed as the adjacent classroom/lab.

Light

The main part of the learning process is visual. The classroom is an arena for many activities, such as reading and writing, student or teacher presentations, tests, etc., hence, light plays a major role in classrooms. Well-lit classrooms are utmost essential in colleges. Working desks of the students require a minimum of light of 200 lux. Further, there may be certain zones that require specialized lighting. For example, the area in front of the board should have proper and separately switched presentation lighting.

Observations:

It was observed that all the classrooms are well lit. The light intensity was observed to be ranging from 250 lux to 350 lux.

Day light (Natural light) is the main source in the classrooms, staffrooms, library and so on. Infrastructure is very well planned to harness maximum natural light in all the places.

LED bulbs have been used extensively in the campus. Migration to LED tube lights and bulbs has been done in order to save electrical energy.

New Computer Science Block

Ground floor

Room	Light intensity in lux
101	260
102	250
103	280
104	280
105	260
106	268
107	300
108	310
109	295
110	300
111	350
112	260
113	350
114	250
115	280
116	290
117	300
118	350

New Computer Science Block

Basement Floor

Room	Light intensity in lux
1	350
2	260
3	350
4	250
5	280
6	290
7	300
8	350
9	350
10	250
11	300
12	300
13	330
14	300
15	330
16	350
17	330

New Computer Science Block

First Floor

Room	Light intensity in lux
201	300
202	300
203	330
204	300
205	330
206	350
207	330
208	350
209	350
210	200
211	300
212	300
213	350
214	500
215	330
216	300
217	330

New Computer Science Block

Second Floor

Room	Light intensity in lux
301	330
302	300
303	330
304	350
305	268
306	350
307	350
308	250
309	300
310	300
311	330
312	300
313	330
314	350
315	330
316	330
317	300
318	330
319	350
320	268

New Computer Science Block

Third Floor

Room	Light intensity in lux
401	300
402	330
403	350
404	268
405	350
406	350
407	250
408	300
409	300
410	260
411	250
412	280
413	280
414	260
415	268
416	300
417	310
418	295
419	300
420	350

First Block (Science Block)

Ground Floor

Room	Light intensity in lux
1	268
2	300
3	310
4	295
5	300
6	350
7	260
8	350
9	250
10	280
11	290
12	300
13	350
14	350

First Block (Science Block)

First floor

Room	Light intensity in lux
101	350
102	350
103	250
104	300
105	300
106	260
107	250
108	280
109	280
110	260
111	268
112	300
113	310
114	300
115	350

First Block (Science Block)

Second Floor

Room	Light intensity in lux
201	268
202	300
203	310
204	300
205	350
206	260
207	350
208	250
209	280
210	290
211	300

Second Block (Mechanical Dept.)

Ground Floor

Room	Light intensity in lux
1	300
2	350
3	350
4	350
5	268
6	350
7	350
8	250
9	300
10	250
11	300
12	300
13	260
14	250

Second Block (Mechanical Dept.)

First floor

Room	Light intensity in lux
101	280
102	280
103	260
104	268
105	300
106	310
107	300
108	350
109	260
110	350
111	250
112	280
113	290

Second Block (Mechanical Dept.)

Second Floor

Room	Light intensity in lux
201	300
202	350
203	260
204	350
205	250
206	280
207	290
208	300
209	350
210	350
211	350

Mechanical Workshop

Room	Light intensity in lux
Workshop	280
Carpenter	290
Thermal lab	300
Transport office	350
Auditorium	350
DG Room	350
Pannel room	290

MBA, MCA, Biotechnology Block

Ground Floor (MBA)

Room	Light intensity in lux
1	350
2	268
3	350
4	350
5	250
6	300
7	250
8	300
9	300
10	260
11	250
12	280
13	280
13 (A)	260
14	268
15	260
16	260

MBA, MCA, Biotechnology Block

First Floor (MCA)

Room	Light intensity in lux
101	300
102	250
103	280
104	290
105	250
106	280
107	290
108	300
109	350
110	350
111	350
112	268
113	350
114	350
115	250
116	300
117	250

MBA, MCA, Biotechnology Block

Second Floor (Biotechnology)

Room	Light intensity in lux
201	260
202	350
203	250
204	280
205	290
206	300
207	350
208	350
209	350
210	268
211	350
212	350
213	250
214	300
215	300

Library

Room	Light intensity in lux
Internet Lab	268
TV room	350
Reference section	350
Book issue	250
Extended ref. unit	260

Hydraulics

Room	Light intensity in lux
Lab 1	260
Lab 2	250

Third Block (Electrical and Civil Engineering)

Ground Floor (Dept. of Electrical Engineering)

Room	Light intensity in lux
1	290
2	300
3	350
4	350
5	350
6	268
7	350
8	350
9	270

First Floor (Dept. of Electrical Engineering)

Room	Light intensity in lux
101	300
102	260
103	250
104	280
105	280
106	260
107	268
108	300
109	310
110	300
111	350
112	260

Third Block (Electrical and Civil Engineering)

Second Floor (Dept. of Civil Engineering)

Room	Light intensity in lux
201	300
202	350
203	350
204	350
205	268
206	350
207	350
208	250
209	300
210	250
211	300
212	300
213	260
214	250

Third Block (Electrical and Civil Engineering)

Third Floor (Dept. of Civil Engineering)

Room	Light intensity in lux
301	350
302	350
303	250
304	300
305	250

The readings mentioned above are measured at that instant. Measurements in washrooms were assumed as the adjacent classroom/lab.

Noise

Noise is unwanted sound considered unpleasant, loud or disruptive to hearing. Unwanted sound is not preferred in any classroom. The Noise levels in the class room should be below 35 dB in an unoccupied classroom. Higher levels of noise in the classroom may distract the students.

Observations:

Noise levels were measured in the classrooms and were found to be in the range of 30 dB to 55 dB in an unoccupied classroom. The noise levels in classrooms with students were ranging about 55 dB to 72 dB.

New Computer Science Block

Ground floor

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
101	45	65
102	50	60
103	45	65
104	30	45
105	45	45
106	45	45
107	50	50
108	45	55
109	30	55
110	30	70
111	45	65
112	30	45
113	45	45
114	45	45
115	50	55
116	45	40
117	30	45
118	45	55

New Computer Science Block

Basement Floor

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
1	45	65
2	30	45
3	45	45
4	45	45
5	50	45
6	45	45
7	30	55
8	30	40
9	35	40
10	30	70
11	35	65
12	35	45
13	35	45
14	45	45
15	50	55
16	45	40
17	30	55

New Computer Science Block

First Floor

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
201	30	45
202	35	55
203	35	40
204	35	55
205	25	60
206	30	65
207	45	60
208	45	65
209	50	45
210	45	45
211	30	45
212	45	50
213	45	55
214	50	55
215	45	70
216	45	65
217	45	45

New Computer Science Block

Second Floor

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
301	45	45
302	45	45
303	50	55
304	45	40
305	45	55
306	45	60
307	50	65
308	45	60
309	30	65
310	45	45
311	45	45
312	50	45
313	45	50
314	45	55
315	50	55
316	30	65
317	35	60
318	30	40
319	35	70
320	35	65

New Computer Science Block

Third Floor

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
401	45	40
402	45	55
403	50	60
404	45	65
405	45	60
406	50	70
407	30	65
408	35	45
409	30	45
410	35	45
411	35	50
412	35	55
413	25	55
414	30	65
415	45	60
416	45	40
417	50	70
418	45	65
419	30	45
420	45	45

First Block (Science Block)

Ground Floor

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
1	35	40
2	30	70
3	35	65
4	35	45
5	35	45
6	45	45
7	50	55
8	45	40
9	30	55
10	45	60
11	45	65
12	50	60
13	45	65
14	30	45

First Block (Science Block)

First floor

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
101	30	65
102	45	60
103	45	65
104	50	45
105	45	45
106	30	45
107	45	50
108	45	55
109	50	55
110	45	70
111	45	65
112	45	45
113	50	45
114	45	45
115	30	55

First Block (Science Block)

Second Floor

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
201	35	55
202	35	40
203	35	55
204	25	60
205	30	65
206	45	60
207	45	65
208	50	45
209	45	45
210	30	45
211	45	50

Second Block (Mechanical Dept.)

Ground Floor

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
1	25	45
2	30	45
3	45	55
4	45	40
5	50	40
6	45	70
7	30	65
8	30	45
9	35	45
10	30	45
11	35	55
12	35	40
13	35	55
14	25	60

Second Block (Mechanical Dept.)

First floor

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
101	50	45
102	45	50
103	45	55
104	50	55
105	30	65
106	35	60
107	30	40
108	35	70
109	35	65
110	35	45
111	25	45
112	30	45
113	45	55

Second Block (Mechanical Dept.)

Second Floor

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
201	45	45
202	50	55
203	45	40
204	45	55
205	45	60
206	50	65
207	45	60
208	30	65
209	45	45
210	45	45
211	50	45

Mechanical Workshop

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
Workshop	35	50
Carpenter	35	55
Thermal lab	25	55
Transport office	30	65
Auditorium	45	60
DG Room	45	40
Pannel room	50	70

MBA, MCA, Biotechnology Block

Ground Floor (MBA)

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
1	45	40
2	45	55
3	50	60
4	45	65
5	45	60
6	50	70
7	30	65
8	35	45
9	30	45
10	35	45
11	35	50
12	35	55
13	25	55
13 (A)	30	65
14	45	60
15	45	40
16	50	70

MBA, MCA, Biotechnology Block

First Floor (MCA)

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
101	35	55
102	45	72
103	50	60
104	45	55
105	30	40
106	45	55
107	45	60
108	50	65
109	45	60
110	45	70
111	50	65
112	30	45
113	35	45
114	30	45
115	35	50
116	30	55
117	40	55

MBA, MCA, Biotechnology Block

Second Floor (Biotechnology)

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
201	45	60
202	30	50
203	35	65
204	35	60
205	25	40
206	30	70
207	45	65
208	45	45
209	50	45
210	45	45
211	30	55
212	45	40
213	45	55
214	50	60
215	45	65

Library

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
Internet Lab	50	70
TV room	30	65
Reference section	35	45
Book issue	30	45
Extended ref. unit	35	45

Hydraulics

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
Lab 1	45	65
Lab 2	45	60

Third Block (Electrical and Civil Engineering)

Ground Floor (Dept. of Electrical Engineering)

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
1	45	40
2	45	55
3	50	60
4	45	65
5	45	60
6	50	70
7	30	65
8	35	45
9	30	45

First Floor (Dept. of Electrical Engineering)

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
101	30	50
102	35	65
103	35	60
104	25	40
105	30	70
106	45	65
107	45	45
108	50	45
109	45	45
110	30	55
111	45	40
112	45	55

Third Block (Electrical and Civil Engineering)

Second Floor (Dept. of Civil Engineering)

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
201	45	60
202	50	65
203	45	60
204	45	70
205	50	65
206	30	45
207	35	45
208	30	45
209	35	50
210	30	55
211	40	55
212	40	60
213	45	65
214	40	70

Third Block (Electrical and Civil Engineering)

Third Floor (Dept. of Civil Engineering)

Room	Noise in decibel (Min.)	Noise in decibel (Max.)
301	35	55
302	45	72
303	50	60
304	45	55
305	30	40

The readings mentioned above are measured at that instant. Measurements in washrooms were assumed as the adjacent classroom/lab.

Electro Magnetic Radiations

Electromagnetic radiation (EMR) consists of waves of the electromagnetic (EM) field, propagating through space, carrying electromagnetic radiant energy. EMR is generated by electronic devices and constant exposure to EM radiations is not advisable.

Observations:

Electromagnetic radiations were measured in all the classrooms, staff rooms, and library. It was observed that the Electromagnetic radiations were zero in all these places.