

## **Criterion 7**

### **Institutional Values and Best Practices**

### **Key Indicator 7.1**

#### **Institutional Values and Social Responsibilities**

7.1.3 Quality audits on environment and energy regularly undertaken by the Institution. The institutional environment and energy initiatives are confirmed through the following

1. Green audit / Environment audit
2. Energy audit
3. Clean and green campus initiatives
4. Beyond the campus environmental promotion and sustainability activities

7.1.3 Quality audits on environment and energy regularly undertaken by the Institution. The institutional environment and energy initiatives are confirmed through the following

S.No	Description	Page.No
<b>7.1.3 -1 Green audit/ Environment audit</b>		
<b>7.1.3 -2 Energy audit</b>		
<b>1</b>	<b>Academic Year 2018-2019</b>	<b>4 - 66</b>
<b>2</b>	<b>Academic Year 2019-2020</b>	<b>67 - 129</b>
<b>3</b>	<b>Academic Year 2020-2021</b>	<b>Covid</b>
<b>4</b>	<b>Academic Year 2021-2022</b>	<b>130 - 190</b>
<b>5</b>	<b>Academic Year 2022-2023</b>	<b>191 - 261</b>
<b>6</b>	<b>7.1.3 – 3 Clean and Green Campus Initiatives</b>	<b>262 - 268</b>
<b>7</b>	<b>7.1.3 – 4 Beyond the campus environmental promotion and sustainability activities</b>	<b>268 - 283</b>

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**Key Indicator 7.1**  
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7.1.3 Quality audits on environment and energy regularly undertaken by the Institution. The institutional environment and energy initiatives are confirmed through the following

7.1.3\_1. Green Audit / Environment Audit

7.1.3\_2. Energy Audit

# Academic Year 2018-2019



# REPORT ON ENERGY, ENVIRONMENT AND GREEN AUDIT



## PERI INSTITUTE OF TECHNOLOGY

PERI KNOWLEDGE PARK, MANNIVAKKAM, WEST

TAMBARAM, CHENNAI- 600 048.

### AUDIT CONDUCTED AND REPORT PREPARED BY



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## ACKNOWLEDGEMENT

We thank management of PERI INSTITUTE OF TECHNOLOGY for awarding the Energy, Environment and Green Audit study at their facility at PERI Knowledge Park, Mannivakkam, West Tambaram, Chennai – 600 048 to NIN Energy India Private Limited. This report is the result of Energy Audit conducted at PERI INSTITUTE OF TECHNOLOGY January 2019.

We wish to thank the management of PERI INSTITUTE OF TECHNOLOGY for the support during the audit and for successful completion of the audit.

For NIN ENERGY INDIA PRIVATE LIMITED

(B. SENTHILKUMAR)

ACCREDITED ENERGY AUDITOR (AEA 023)

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## ABBREVIATIONS

<b>EE</b>	<b>Energy Efficiency</b>
<b>Dept</b>	Department
<b>EER</b>	Energy Efficiency Ratio
<b>INR</b>	Indian Rupees
<b>KLD</b>	Kilo Litre per day
<b>kWh</b>	Kilo Watt hour
<b>LED</b>	Light Emitting Diode
<b>LPG</b>	Liquified petroleum gas
<b>tCO2</b>	Tonne of Co2

## 1.0 INTRODUCTION ABOUT GREEN AUDIT

Green Audit is the process of assessing the environmental impact of an organization, process, project, product, etc.

Green Audit is assigned to the Criteria 7 of NAAC, National Assessment and Accreditation Council which is a self-governing organization of India that declares the institutions as Grade A, Grade B or Grade C according to the scores assigned at the time of accreditation.

## 2.0 OBJECTIVES

In recent time, the Green Audit of an institution has been becoming a paramount important for self-assessment of the institution which reflects the role of the institution in mitigating the present environmental problems.

The college has been putting efforts to keep our environment clean since its inception. Therefore, the purpose of the present green audit is to identify, quantify, describe, and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies, and standards.

The main objectives of carrying out Green Audit are:

- To map the Geographical Location of the college
- To document the floral and faunal diversity of the college
- To record the meteorological parameter of college
- To document the ambient environmental condition of weather, air, water, and noise of the college
- To document the waste disposal system
- To estimate the Energy requirements of the college
- To report the expenditure on green initiatives during the last five years

### 3.0 ABOUT THE COLLEGE / UNIVERSITY

PERI Institute of Technology (PERI IT) was established in 2010 by the PERI Educational and Charitable Trust with the objective of providing quality technical education. The Institute is built at Mannivakkam, Chennai in a sprawling area of 15 acres replete with A/C classrooms, well equipped labs, A/C transport, cafeteria, and a vast library.

PERI IT offers both B.E. and M.E. courses and is recognized as an institution offering technical education by AICTE, New Delhi. It is affiliated to Anna University of Technology, Chennai.

#### **GENESIS**

The PERI Educational and Charitable Trust was founded in 2007. The vision of the trust is to provide a world class nodal centre of education where academics, communication, comprehension, visualization, practical application, and leadership skills are imparted through encouraging research, training, and development in technical and non-technical areas.

As part of its vision, the trust established PERI Institute of Technology in 2010 with B.E. courses in Mechanical, Civil, Computers and EEE. In 2011, B.E. ECE was introduced. M.E. Applied Electronics and M.E. Computer Science were added in 2012. M.E. Power Electronics & Drives and M.E. Communication Systems were introduced in 2014.

PERI IT is the brainchild of Mr. Saravanan Periasamy, the founding President & CEO of PERI Software Solutions Inc., a leading multinational IT Consulting and Services Company based in USA and the Chairman of the PERI Educational and Charitable Trust. He is the source of inspiration and the pathfinder for this institution.

#### **ADMINISTRATIVE**

PERI IT is administered by a governing council which comprises of representatives of the PERI Educational & Charitable Trust, representatives of the State Government, the Anna University of Technology, Chennai, the All-India Council of Technical Education, New Delhi and eminent scholars and industrialists. The Governing Council is responsible for planning and monitoring all academic and administrative activities of PERI IT. The day-to-day management is conducted by an academic and administrative set up helmed by Mr. Saravanan Periasamy.

## 4.0 ABOUT NIN ENERGY INDIA PRIVATE LIMITED

NIN Energy India Private Limited is providing Energy Related services like Energy Audit, Power Quality Audit, Infrared Thermography, Thermal Audit, PAT Monitoring and Verification Audit, PAT Consultancy, Green Building Commissioning, Electrical Safety Audit, Internet of Things, Carbon Foot Printing, etc. We have experienced team and helping the customers to manage and reduce their energy consumption.

We are providing complete Energy Services under one roof at a competitive price. Our team members are having more than 10 years of experience in Energy, Renewable Energy and Environmental Engineering with good Academic background.

### Our Team Strength

- Accredited Energy Auditor by Bureau of Energy Efficiency, Government of India
- Certified Energy Auditors by Bureau of Energy Efficiency, Ministry of power
- Certified Measurement and Verification Professionals (CMVP) by EVO
- Certified Level II Thermographer
- Enlisted with Tamil Nādu Energy Development Agency (TEDA) as a system Integrator for Solar PV systems.
- Lead Auditors for ISO 50001 (Energy Management System)
- Lead Auditors for ISO 14064 (Green House Gas inventory and verification)
- Lead Auditors for ISO14000 (Environmental Management System)

## 4.1 AUDIT TEAM

The NIN Energy India private Limited team did the green audit assessment. Team details are as follows.

Name	Designation
Mr. B Senthil Kumar	Accredited Energy Auditor
Mr. T Karthikeyan	Certified Energy Auditor
Mr. S Senthamil Selvan	Sr. Engineer
Mr. S Harishragavendhar	Sr. Engineer



## 4.2 INSTRUMENTS USED FOR THE AUDIT

The NIN Energy India private Limited team did the green audit assessment. Instruments used for audit are as follows.

S. No	Name of the instrument
1	Air quality meter
2	Noise meter
3	Lux meter
4	Thermal Imager
5	Clamp meter

## 5.0 LOCATION OF THE INSTITUTION

Latitude

12.8859° N

Longitude

80.0608° E

## 6.0 GEOGRAPHICAL LOCATION WITH CAMPUS MAP IN SCALE

Land use data

CATEGORIES OF LAND USE	INDEX
<b>Alpha Block</b>	6117 Sq. ft
<b>Zeta Block</b>	23319 Sq. ft
<b>Omega Block</b>	12912 Sq. ft
<b>Sigma Block</b>	12912 Sq. ft
<b>Beta Block</b>	14463 Sq. ft
<b>Delta Block</b>	12143 Sq. ft
<b>Theta Block</b>	5159 Sq. ft
<b>Plantation Area</b>	206183 Sq. ft
<b>Total Area</b>	272.49 m <sup>2</sup>

## 7.0 ENVIRONMENTAL AUDIT

Carbon footprint is the total sum of greenhouse gases (GHG) emission caused by an organization, event, product, or person. As we are aware, the increasing concentration of GHGs in the atmosphere can accelerate climate change and global warming, it is very necessary to measure these emissions from our day-to-day activities. The first step towards managing GHG emissions is to measure them. There are some standards and guidelines to measure GHG emissions like GHG protocol, ISO 14064, the more comprehensive one Life Cycle Assessment (LCA), and market-based mechanisms. Out of them, ISO 14064 is an offset protocol and independent, voluntary GHG project accounting standard helps to quantify GHG emission of the organization, event, product, or person.

Our day-to-day activities are dependent on electricity which is mostly coming from coal-based power plants, Diesel and Petrol for our vehicles and LPG for cooking in our kitchen. All the energy we use is derived from these fossil fuels which are GHG intensive. The following Petrol, Diesel, and LPG.

### Floristic status of the institution:

The Current situation of planted trees are as follows:

Type of Trees	Total no of Trees
No of matured trees (Age more than 10 years)	94
No of Semi matured trees (Age below 10 years)	953
No of plants/herbs/Shrubs	286
No of medicinal plants	2
Any other plants details if any	3
<b>Total</b>	<b>1338</b>

### Carbon absorption by flora in the Institution

Carbon absorption capacity of one matured tree = 6.8 kg of CO<sub>2</sub>. Carbon absorption capacity of one full grown tree = 3.4 kg of CO<sub>2</sub>. In bushes it absorbs an average of 200 g of CO<sub>2</sub>. The carbon absorption capacity of a 10-sq.ft. area of lawn is 1 g CO<sub>2</sub>.

1. Therefore, the carbon absorption capacity of 94 matured trees in the campus of the Institution ( $94 \times 6.8 \text{ kg CO}_2/\text{Annum}$ ) = 639.2 kg of CO<sub>2</sub>/Annum.

2. The carbon absorption capacity of 953 semi-grown trees in campus of  $953 \times 3.4 \text{ kg CO}_2/\text{Annum}$ ) = 3240 kg of CO<sub>2</sub>/Annum.

3. There are 286 bushes of various species being raised in the gardens of the Institution, total carbon absorption was calculated to be  $286 \times 200 \text{ g CO}_2/\text{Annum}$  = 57 kg of CO<sub>2</sub>/Annum

**The grand total of carbon absorption by the flora in the campus is 3936 kg per year.**

#### CO<sub>2</sub> REDUCTION MEASURES:

Energy Saving measures	CO <sub>2</sub> reduction, Tons/Annum
Replace existing Conventional fan to BLDC Fan	86.53
Replace existing Wall mounted fan to BLDC Fan	3.06
Replace existing T8 36 to LED Light	19.98
<b>Total</b>	<b>109.57</b>

**Net Carbon emission of the campus**

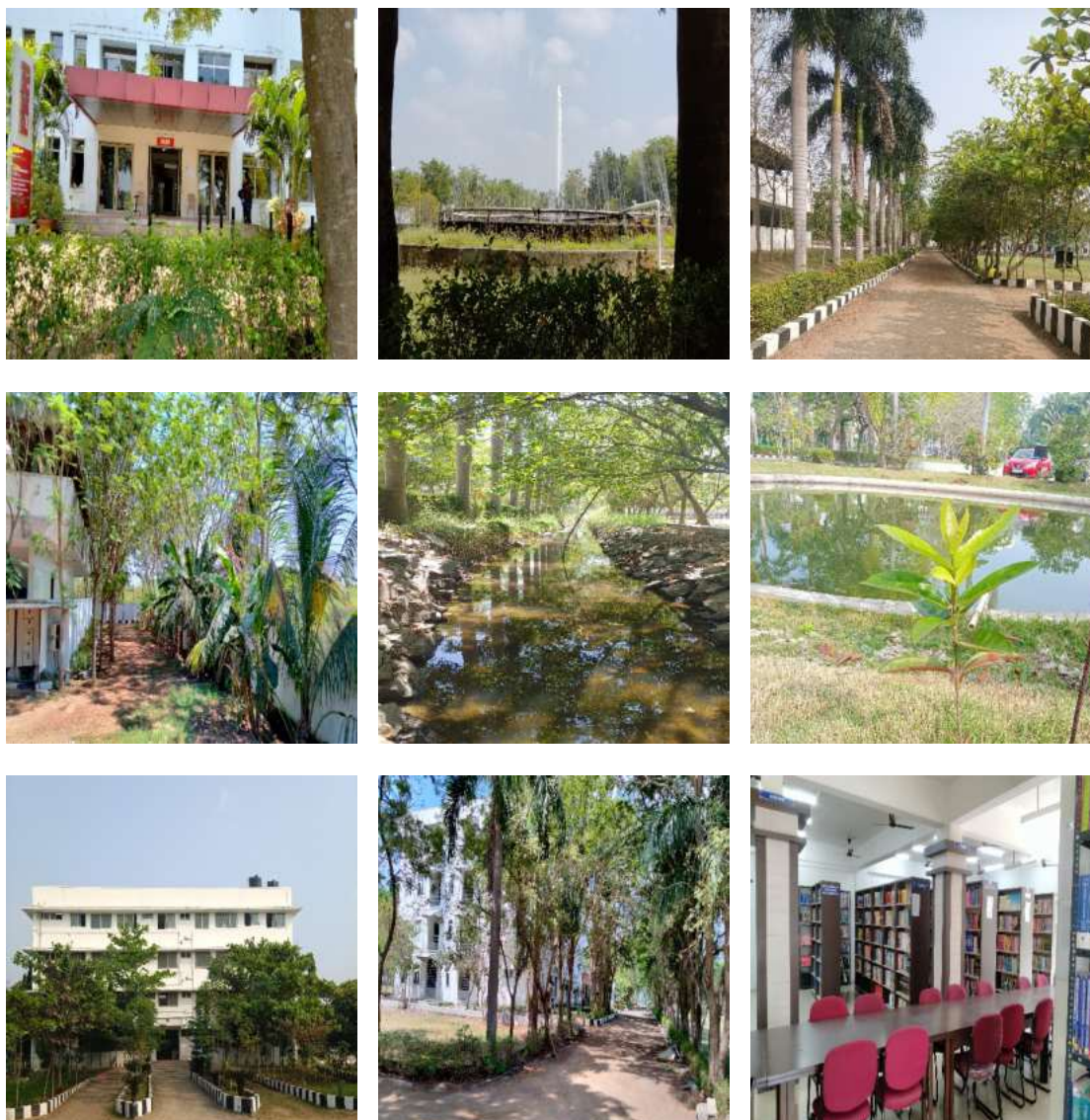
Description	Unit	Values
Carbon emitted due to the energy consumption in the campus	tCO <sub>2</sub> /year	325.14
Carbon absorption by mature trees, semi mature trees, bushes, and lawns	tCO <sub>2</sub> /year	-39.36
<b>Net carbon emission of the campus</b>	<b>tCO<sub>2</sub> /year</b>	<b>285.78</b>
Carbon reduction opportunities by energy saving projects	tCO <sub>2</sub> /year	176.21

## 8.0 GREEN AUDIT

The list of tree species available in site

S. No	Botanical Name	Common Name	Numbers
1.	Azedaraches indica	Neem Tree	17
2.	Albizia lebbeck	Rain tree	15
3.	Tectona grandis Linn.	Teak	15
4.	Grevillea robusta	Silver Oak	16
5.	Acacia arabica	Black catechu	17

## 9.0 THE INSTITUTIONAL INITIATIVES FOR GREENING THE CAMPUS ARE AS FOLLOWS



## 10.0 LAND USE ANALYSIS

GENERAL OVERVIEW OF THE CONCEPT OF LANDUSE Land use refers to man's activities and the various uses which are carried on and derived from land. Viewing the earth from space, it is now very crucial in man's activities on natural resource. In situations of rapid changes in land use, observations of the Earth from space give the information of human activities and utilization of the landscape. Remote sensing and GIS techniques are now providing new tools for advanced land use mapping and planning. The collection of remotely sensed data facilitates the synoptic analyses of earth system, functions, patterning, and change in the local, regional as well as at global scales over time. Satellite imagery particularly is a valuable tool for generating land use map.

## 11.0 LAND USE (BUILT UP AREA) ANALYSIS

S. No	Name of the Building	Year of Construction	No of Rooms	No. Of Labs
1	Alpha Block	2010	11	5
2	Beta Block	2010	36	27
3	Delta Block (Ground Floor+2)	2010	45	3
4	Delta Block (3rd Floor)	2013		
5	Theta Block	2010	Canteen and Library	
6	Omega Block (G.F)	2010	87	Boys Hostel
7	Omega Block (first to third)	2014		
8	Sigma Block (GF)	2015	24	Girls Hostel
9	Zeta Block (GF)	2016	11	6
10	Driver & Security Cabin	2011	1	0

## 12.0 STAFFS AND STUDENTS' DETAILS

The staff and student details are as follows.

<b>No of student's details</b>	<b>896</b>
<b>No of Teaching staff</b>	<b>74</b>
<b>No of Non-Teaching staff</b>	<b>20</b>

### 13.0 TREE DIVERSITY OF THE COLLEGE/ UNIVERSITY

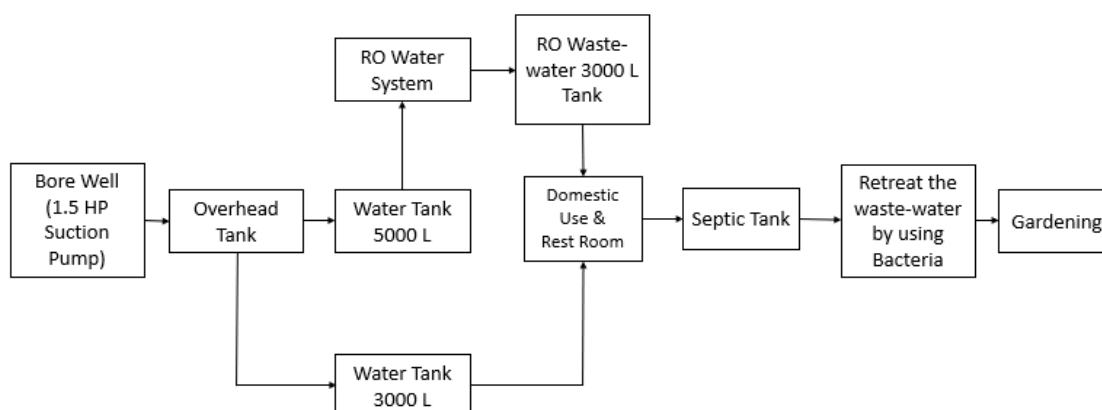
The list of tree species available in site

S. No	Botanical Name	Common Name	Numbers
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2.	Albizia lebbeck	Rain tree	15
3.	Tectona grandis Linn.	Teak	15
4.	Grevillea robusta	Silver Oak	16
5.	Acacia arabica	Black catechu	17

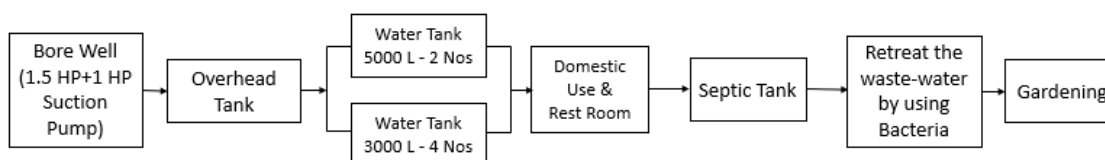
### 14.0 WATER AUDIT

#### 14.1 DIFFERENT SOURCES OF WATER AND QUANTITY RECEIVED ON MONTHLY BASIS AND AREAS OF UTILIZATION

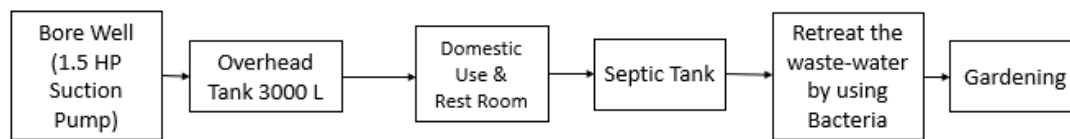
##### BETA BLOCK WATER RESOURCE LAYOUT



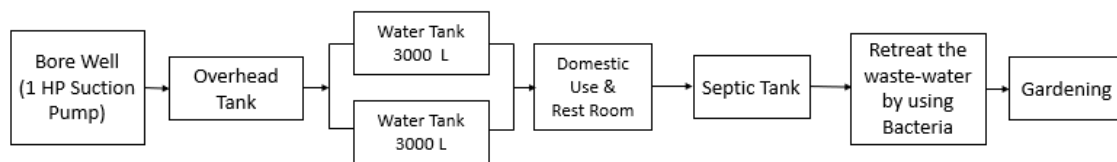
##### OMEGA BLOCK WATER RESOURCE LAYOUT



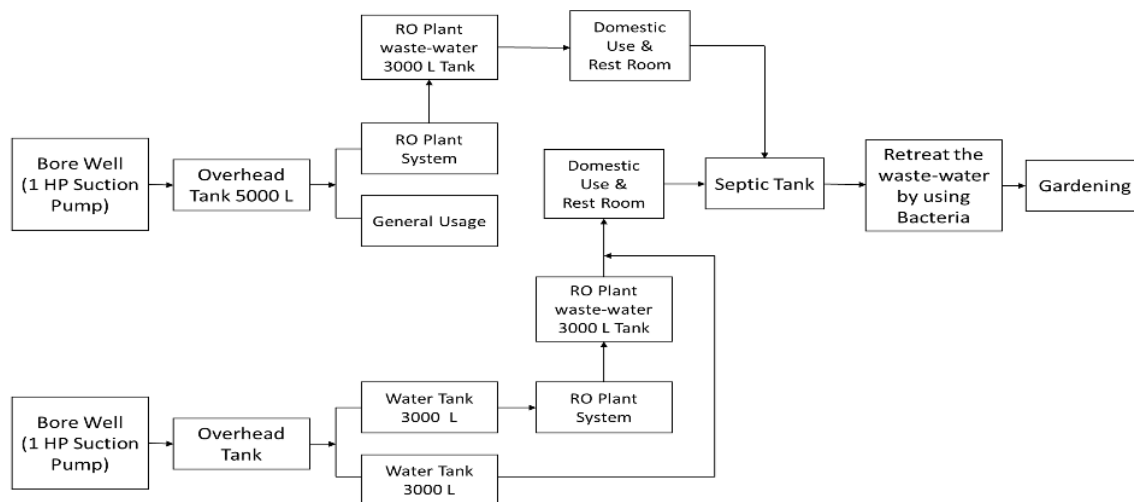
##### SIGMA BLOCK WATER RESOURCE LAYOUT



## ZETA BLOCK WATER RESOURCE LAYOUT



## DELTA BLOCK WATER RESOURCE LAYOUT



## ALPHA BLOCK WATER RESOURCE LAYOUT



S. No	Parameters	Response
1	Source of water	GROUND SIDE WATER
2	No of Wells	2
3	No of bore wells used	7
4	No of motors used	8
5	Overall average water consumption in the institution per day (in litres)	78,000 LITRES
6	Average drinking water consumption in the hostel per day (in litres)	890 LITRES
7	Average drinking water consumption in the college per day (in litres)	4,100 LITRES
8	Average Water consumption for washroom per day (in litres)	33,000 LITRES
9	Average Water consumption for gardening per day (in litres)	44,000 LITRES

## COOKING

LPG CYLINDER		
S. No	Description	Details
1	No of students in a hostel	330
2	Average LPG cylinder usage per day	6 PER WEEK
3	Average LPG cylinder usage per month	24
4	Average LPG cylinder usage per Year	288
5	Cost of one LPG cylinder	1400 RS (19 KGS)
6	Food wasted by students/staff per day?	160 KG PER DAY

## REST ROOM (TOILETS)

HYGIENIC MEASURES		
S. No	Description	Details
1	No of rest rooms available in the campus	32 NOS
2	Availability of lighting and ventilation facilities?	YES
3	Frequency of cleaning the rest rooms per day / week?	PER DAY ONES



## 14.2 WATER CONSERVATION FACILITIES AVAILABLE IN THE INSTITUTION

### 14.2.1 Rainwater harvesting



### 14.2.2 Borewell /Open well recharge



## 15.0 TYPES OF DEGRADABLE AND NON-DEGRADABLE WASTE

The college's degradable and non-degradable waste given to municipality corporation.

## 16.0 LUX LEVEL

The lux level survey is carried out in various location of campus and details are as follows.

S. No	Block	Floor	Location	Average Lux level	Recommended lux level as per standard
1	BETA	Ground floor	BG-3_ Manufacturing technology	101	300
2	BETA	Ground floor	Engines lab and Thermal lab	276	300
3	BETA	Ground floor	BG-1_ Electrical machines lab	165	300
4	BETA	Ground floor	Engineering practical lab (Mechanical)	124	300
5	BETA	Ground floor	Gents rest room	85	100
6	BETA	Ground floor	Hydraulics' and FM Lab	156	300
7	BETA	Ground floor	Mechanical HOD room	186	300
8	BETA	Ground floor	CSE Project lab	240	300
9	BETA	First floor	BF-8	324	300
10	BETA	First floor	Project lab	101	300
11	BETA	First floor	BF-4_ Microprocessor lab	164	300
12	BETA	First floor	Conference hall	110	300
13	BETA	Second floor	BS-7_ Tutorial room	94	300
14	BETA	Second floor	Communication lab	504	300
15	BETA	Third floor	IOT Lab	408	300
16	BETA	Third floor	Classroom	346	300
17	DELTA	Ground floor	Classroom	215	300
18	DELTA	Ground floor	Computer science lab	236	300
19	DELTA	Ground floor	Staff room	247	300
20	DELTA	First floor	DF-3	219	300
21	DELTA	First floor	DF-3	225	300
22	DELTA	First floor	DF-1_ Staff room	146	300
23	DELTA	First floor	Chemistry lab	254	300
24	DELTA	First floor	DF-6_ Physics lab	247	300
25	DELTA	Second floor	DS-10_ Classroom	106	300
26	DELTA	Second floor	Lecture hall	308	300
27	DELTA	Third floor	DT-7 classroom	214	300
28	DELTA	Third floor	DT-1 Classroom	235	300
29	THETA	Ground floor	Library	249	300
30	THETA	First floor	Canteen	308	300
31	ZETA	Ground floor	Classroom	267	300
32	ZETA	Ground floor	Classroom	257	300
33	ZETA	Ground floor	Lab-1	624	300
34	ZETA	Ground floor	Lab-2	508	300
35	ZETA	Ground floor	Lab-4	326	300
36	ZETA	Ground floor	Lab-5	274	300
37	OMEGA	Ground floor	Boys hostel_ Rooms	256	200
38	OMEGA	Ground floor	Boys hostel_ Canteen	108	200

S. No	Block	Floor	Location	Average Lux level	Recommended lux level as per standard
39	ALPHA	Ground floor	Waiting hall	76	300
40	ALPHA	Ground floor	Admin office	57	300
41	ALPHA	Ground floor	Lab	165	300
42	ALPHA	Ground floor	Classroom	106	300
43	GAMMA	Ground floor	Ladies hostel_ Rooms	138	200
44	GAMMA	Ground floor	Ladies hostel_ Rooms	238	200

**Remarks:**

It is observed that over all lux level is good in campus. Only few areas lux level needs to be improved by adding addition light.

## 17.0 AIR QUALITY OF THE COLLEGE

The Air (Prevention and Control of Pollution) Act 1981 was enacted by the Central Government with the objective of arresting the deterioration of air quality. The Air (Prevention and Control of Pollution) Act 1981 describes the main functions of the Central Pollution Control Board (CPCB) as follows:

- To Advise the Central Government on any matter concerning the improvement of the quality the air and the prevention, control, and abatement of air pollution.
- To plan and cause to be executed a nation-wide programme for the prevention, control, and abatement of air pollution.
- To provide technical assistance and guidance to the State Pollution Control Board.
- To carry out and sponsor investigations and research related to prevention, control, and abatement of air pollution.
- To collect, compile and publish technical and statistical data related to air pollution; and
- To lay down and annul standards for the quality of air.

### Particulate Matter (PM10 & PM2.5)

A mixture of particles with liquid droplets in the air forms particulate matter. PM 10 are particles that have a size of less than or equal to 10 microns whereas PM2.5 are ultra-fine particles having a size of less than or equal to 2.5 microns.

**Sources:**

Particulate Matter is released from constructions, smoking, cleanings, renovations, demolitions, constructions, natural hazards such as earthquakes, volcanic eruptions, and emissions from industries such as brick kilns, paper & pulp, etc.

#### Related effects:

These particles, when inhaled, can penetrate deeper into the respiratory system, and cause respiratory ailments such as asthma, coughing, sneezing, irritation in the airways, eyes, nose, throat irritation, etc. Studies have also shown links between PM exposure and diabetes.

The air quality details are as follows.

S. No	Block	Floor	Location	Air Quality level		
				PM 1.0	PM 2.5	PM 10
1	BETA	Ground floor	BG-3_ Manufacturing technology	44	63	75
2	BETA	Ground floor	Engines lab and Thermal lab	40	66	74
3	BETA	Ground floor	BG-1_ Electrical machines lab	34	63	89
4	BETA	Ground floor	Engineering practical lab (Mechanical)	32	93	75
5	BETA	Ground floor	Gents rest room	44	57	74
6	BETA	Ground floor	Hydraulics' and FM Lab	34	61	75
7	BETA	Ground floor	Mechanical HOD room	36	70	82
8	BETA	Ground floor	CSE Project lab	31	70	97
9	BETA	First floor	BF-8	33	63	85
10	BETA	First floor	Project lab	41	66	82
11	BETA	First floor	BF-4_ Microprocessor lab	44	66	97
12	BETA	First floor	Conference hall	32	70	97
13	BETA	Second floor	BS-7_ Tutorial room	36	57	85
14	BETA	Second floor	Communication lab	47	61	89
15	BETA	Third floor	IOT Lab	43	71	82
16	BETA	Third floor	Classroom	43	70	75
17	DELTA	Ground floor	Classroom	44	66	97
18	DELTA	Ground floor	Computer science lab	32	70	97

S. No	Block	Floor	Location	Air Quality level		
				PM 1.0	PM 2.5	PM 10
19	DELTA	Ground floor	Staff room	44	70	74
20	DELTA	First floor	DF-3	34	87	75
21	DELTA	First floor	DF-3	29	93	74
22	DELTA	First floor	DF-1_ Staff room	36	57	85
23	DELTA	First floor	Chemistry lab	47	61	89
24	DELTA	First floor	DF-6_ Physics lab	40	66	72
25	DELTA	Second floor	DS-10_ Classroom	47	61	89
26	DELTA	Second floor	Lecture hall	43	71	82
27	DELTA	Third floor	DT-7 classroom	43	70	75
28	DELTA	Third floor	DT-1 Classroom	44	66	97
29	THETA	Ground floor	Library	32	70	97
30	THETA	First floor	Canteen	44	70	74
31	ZETA	Ground floor	Classroom	34	87	75
32	ZETA	Ground floor	Classroom	29	93	74
33	ZETA	Ground floor	Lab-1	32	70	97
34	ZETA	Ground floor	Lab-2	44	70	74
35	ZETA	Ground floor	Lab-4	34	87	75
36	ZETA	Ground floor	Lab-5	29	93	74
37	OMEGA	Ground floor	Boys hostel_ Rooms	36	57	85
38	OMEGA	Ground floor	Boys hostel_ Canteen	29	93	74
39	ALPHA	Ground floor	Waiting hall	36	57	85
40	ALPHA	Ground floor	Admin office	44	66	97
41	ALPHA	Ground floor	Lab	43	68	74
42	ALPHA	Ground floor	Classroom	37	57	75
43	GAMMA	Ground floor	Ladies hostel_ Rooms	35	63	74
44	GAMMA	Ground floor	Ladies hostel_ Rooms	41	66	85

**Remarks:**

It is observed that Air quality is found to be satisfactory.

## 18.0 NOISE LEVEL IN THE SURROUNDING OF COLLEGE

### THE NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000

(The Principal Rules were published in the Gazette of India, vide S.O. 123(E), dated 14.2.2000 and subsequently amended vide S.O. 1046(E), dated 22.11.2000, S.O. 1088(E), dated 11.10.2002, S.O. 1569 (E), dated 19.09.2006 and S.O. 50 (E) dated 11.01.2010 under the Environment (Protection) Act, 1986.)

#### Ambient Air Quality Standards in respect of Noise

Area Code	Category Of Area/Zone	Limits In dB(A) Leq*	
		Day Time	Night-time
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

**Note: -**

1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
2. Night-time shall mean from 10.00 p.m. to 6.00 a.m.
3. Silence zone is an area comprising not less than 100 metres around hospitals, educational institutions, courts, religious places, or any other area which is declared as such by the competent authority.
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.
5. \* dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.
6. A “decibel” is a unit in which noise is measured.
7. “A”, in dB(A) Leq, denotes the frequency weighting in the measurement of
8. noise and corresponds to frequency response characteristics of the human ear.

9. Leq: It is an energy mean of the noise level over a specified period.

The noise level in the campus details are as follows.

S. No	Block	Floor	Location	Noise level, dB
1	BETA	Ground floor	BG-3_ Manufacturing technology	58
2	BETA	Ground floor	Engines lab and Thermal lab	84
3	BETA	Ground floor	BG-1_ Electrical machines lab	94
4	BETA	Ground floor	Engineering practical lab (Mechanical)	76
5	BETA	Ground floor	Gents rest room	83
6	BETA	Ground floor	Hydraulics' and FM Lab	81
7	BETA	Ground floor	Mechanical HOD room	107
8	BETA	Ground floor	CSE Project lab	89
9	BETA	First floor	BF-8	85
10	BETA	First floor	Project lab	76
11	BETA	First floor	BF-4_ Microprocessor lab	81
12	BETA	First floor	Conference hall	80
13	BETA	Second floor	BS-7_ Tutorial room	126
14	BETA	Second floor	Communication lab	84
15	BETA	Third floor	IOT Lab	91
16	BETA	Third floor	Classroom	82
17	DELTA	Ground floor	Classroom	87
18	DELTA	Ground floor	Computer science lab	89
19	DELTA	Ground floor	Staff room	75
20	DELTA	First floor	DF-3	79
21	DELTA	First floor	DF-3	104
22	DELTA	First floor	DF-1_ Staff room	91
23	DELTA	First floor	Chemistry lab	79
24	DELTA	First floor	DF-6_ Physics lab	93
25	DELTA	Second floor	DS-10_ Classroom	52
26	DELTA	Second floor	Lecture hall	74
27	DELTA	Third floor	DT-7 classroom	106
28	DELTA	Third floor	DT-1 Classroom	85
29	THETA	Ground floor	Library	76
30	THETA	First floor	Canteen	101
31	ZETA	Ground floor	Classroom	79
32	ZETA	Ground floor	Classroom	78
33	ZETA	Ground floor	Lab-1	94
34	ZETA	Ground floor	Lab-2	82
35	ZETA	Ground floor	Lab-4	68
36	ZETA	Ground floor	Lab-5	99

S. No	Block	Floor	Location	Noise level, dB
37	OMEGA	Ground floor	Boys hostel_ Rooms	74
38	OMEGA	Ground floor	Boys hostel_ Canteen	79
39	ALPHA	Ground floor	Waiting hall	99
40	ALPHA	Ground floor	Admin office	81
41	ALPHA	Ground floor	Lab	83
42	ALPHA	Ground floor	Classroom	97
43	GAMMA	Ground floor	Ladies hostel_ Rooms	79
44	GAMMA	Ground floor	Ladies hostel_ Rooms	89

**Remarks:**

It is observed that few areas noise level is higher than 65 db. It is recommended to reduce the noise level in mentioned location.

## 19.0 ENERGY AUDIT

The plant receives two LT EB supply from TNEB. The LT Supply details as follows.

<b>Source Of Power Supply</b>	:	<b>TNEB</b>
<b>Electric Power Supply is received from TANGEDCO</b>	:	<b>LT supply</b>
<b>Service number</b>	:	<b>09-571-001-3041 and 09-571-001-6732</b>
<b>Sanction Load, kW</b>	:	<b>112</b>
<b>Annual Electricity Consumption, kWh</b>	:	<b>382514.6457</b>
<b>Unit charges, Rs/kWh</b>	:	<b>6.35</b>

The one-year Electricity Bills for 2018-19 bill has been analysed and details as follows.

<b>SERVICE NUMBER: 09-571-001-3041 and 09-571-001-6732</b>		
<b>Month</b>	<b>Consumed Units, kWh</b>	<b>Total bill, INR</b>
<b>Jan-18</b>	22538	143114
<b>Feb-18</b>	22538	143114
<b>Mar-18</b>	33685	213897
<b>Apr-18</b>	33685	213897
<b>May-18</b>	41863	265829
<b>Jun-18</b>	36422	231279

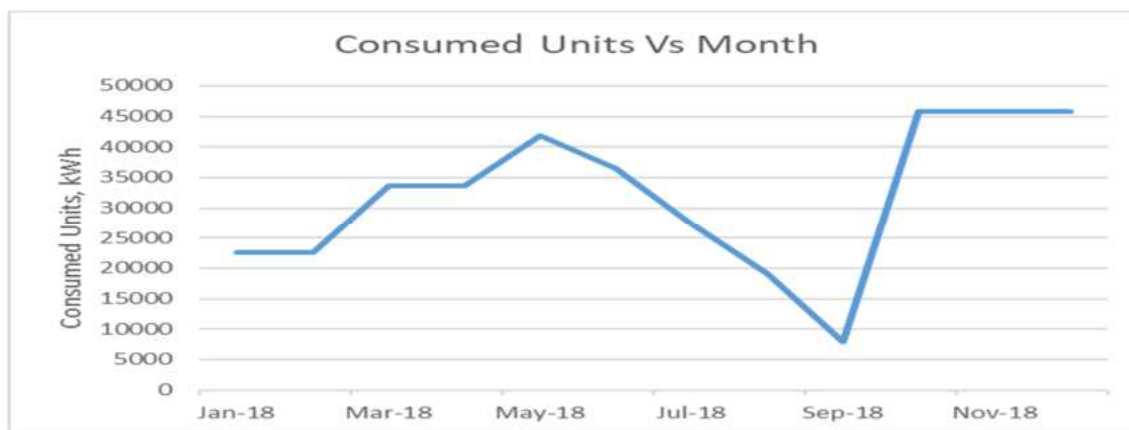


SERVICE NUMBER: 09-571-001-3041 and 09-571-001-6732		
Month	Consumed Units, kWh	Total bill, INR
Jul-18	27346	173646
Aug-18	19130	121478
Sep-18	7829	49717
Oct-18	45827	290999
Nov-18	45827	290999
Dec-18	45827	290999

**Remarks:**

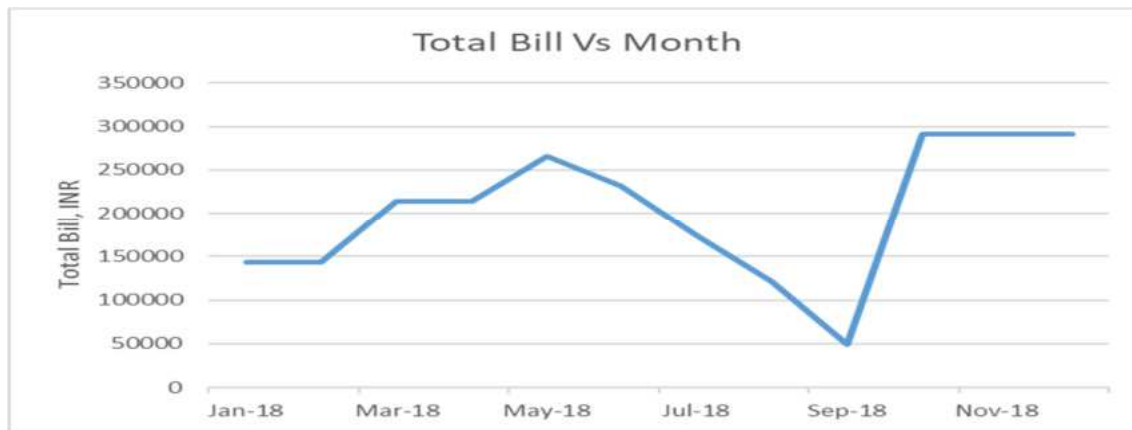
The plant had only few month EB Bills. We taken average with available bills.

The units consumed over the period of one year is shown below.



The maximum unit is consumed in the month of October 2018 and minimum unit is consumed in the month of December 2022.

The bill details over the period of one year is shown below.



The maximum bill is paid in the month of December 2018 and minimum in the month of September 2018

## 20.0 LIGHT DETAILS

The light details of the campus are as follows.

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS				NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT					
1	BETA BLOCK	Ground floor	BG1	T8 36			12	20	8 HOURS
2	BETA BLOCK	Ground floor	BG 2	T8 36			4	20	8 HOURS
3	BETA BLOCK	Ground floor	BG3	T8 36			6	20	8 HOURS
4	BETA BLOCK	Ground floor	BG4	T8 36			3	20	8 HOURS
5	BETA BLOCK	Ground floor	BG5	T8 36			2	20	8 HOURS
6	BETA BLOCK	Ground floor	BG6	T8 36			6	20	8 HOURS
7	BETA BLOCK	Ground floor	BG7	T8 36			3	20	8 HOURS
8	BETA BLOCK	Ground floor	BG8	T8 36			1	20	8 HOURS
9	BETA BLOCK	Ground floor	BG9	T8 36			1	20	8 HOURS
10	BETA BLOCK	Ground floor	BG10	T8 36			7	20	8 HOURS
11	BETA BLOCK	Ground floor	BG11	T8 36			2	20	8 HOURS
12	BETA BLOCK	Ground floor	BG12	T8 36			6	20	8 HOURS
13	BETA BLOCK	Ground floor	BG13	T8 36			4	20	8 HOURS
14	BETA BLOCK	Ground floor	BG14	T8 36			1	20	8 HOURS
15	BETA BLOCK	Ground floor	BG15	T8 36			2	20	8 HOURS
16	BETA BLOCK	Ground floor	BG16	T8 36			11	20	8 HOURS
17	BETA BLOCK	FRIST FLOOR	BF11	T8 36			6	20	8 HOURS
18	BETA BLOCK	FRIST FLOOR	BF12	T8 36			8	20	8 HOURS
19	BETA BLOCK	FRIST FLOOR	BF13	T8 36			6	20	8 HOURS
20	BETA BLOCK	FRIST FLOOR	BF14	T8 36			2	20	8 HOURS
21	BETA BLOCK	FRIST FLOOR	BF15	T8 36			1	20	8 HOURS
22	BETA BLOCK	FRIST FLOOR	BF16	T8 36			3	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS				NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT					
23	BETA BLOCK	FRIST FLOOR	BF17	T8 36			1	20	8 HOURS
24	BETA BLOCK	FRIST FLOOR	BF18	T8 36			3	20	8 HOURS
25	BETA BLOCK	FRIST FLOOR	BF19	T8 36			3	20	8 HOURS
26	BETA BLOCK	FRIST FLOOR	BF20	T8 36			5	20	8 HOURS
27	BETA BLOCK	FRIST FLOOR	BF21	T8 36			2	20	8 HOURS
28	BETA BLOCK	FRIST FLOOR	BF1	T8 36			3	20	8 HOURS
29	BETA BLOCK	FRIST FLOOR	BF2	T8 36			4	20	8 HOURS
30	BETA BLOCK	FRIST FLOOR	BF3	T8 36			4	20	8 HOURS
31	BETA BLOCK	FRIST FLOOR	BF4	T8 36			7	20	8 HOURS
32	BETA BLOCK	FRIST FLOOR	BF5	T8 36			7	20	8 HOURS
33	BETA BLOCK	FRIST FLOOR	BF6	T8 36			1	20	8 HOURS
34	BETA BLOCK	FRIST FLOOR	BF7	PL LIGHT			29	36	8 HOURS
35	BETA BLOCK	FRIST FLOOR	BF8	T8 36			3	20	8 HOURS
36	BETA BLOCK	FRIST FLOOR	BF9	T8 36			1	20	8 HOURS
37	BETA BLOCK	FRIST FLOOR	BF10	T8 36			1	20	8 HOURS
38	BETA BLOCK	SECOND FLOOR	BS1	T8 36			5	20	8 HOURS
39	BETA BLOCK	SECOND FLOOR	BS2	T8 36			4	20	8 HOURS
40	BETA BLOCK	SECOND FLOOR	BS3	FALSE CEILING LIGHT			9	20	8 HOURS
41	BETA BLOCK	SECOND FLOOR	BS4	FALSE CEILING LIGHT			9	20	8 HOURS
42	BETA BLOCK	SECOND FLOOR	BS5	FALSE CEILING LIGHT			9	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS				NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT					
43	BETA BLOCK	SECOND FLOOR	BS6	T8 36			5	20	8 HOURS
44	BETA BLOCK	SECOND FLOOR	BS7	T8 36			2	20	8 HOURS
45	BETA BLOCK	SECOND FLOOR	BS8	T8 36			4	20	8 HOURS
46	BETA BLOCK	SECOND FLOOR	BS9	T8 36			4	20	8 HOURS
47	BETA BLOCK	SECOND FLOOR	BS10	T8 36			1	36	8 HOURS
48	BETA BLOCK	SECOND FLOOR	BS11	T8 36			6	20	8 HOURS
49	BETA BLOCK	SECOND FLOOR	BS12	T8 36			6	20	8 HOURS
50	BETA BLOCK	SECOND FLOOR	BS13	T8 36			5	20	8 HOURS
51	BETA BLOCK	SECOND FLOOR	BS13	T8 36			1	20	8 HOURS
52	BETA BLOCK	SECOND FLOOR	BS14	T8 36			5	20	8 HOURS
53	BETA BLOCK	SECOND FLOOR	BS15	T8 36			1	20	8 HOURS
54	BETA BLOCK	SECOND FLOOR	BS16	T8 36			3	20	8 HOURS
55	BETA BLOCK	SECOND FLOOR	BS17	T8 36			4	20	8 HOURS
56	BETA BLOCK	SECOND FLOOR	BS18	T8 36			1	20	8 HOURS
57	BETA BLOCK	SECOND FLOOR	BS19	T8 36			10	20	8 HOURS
58	BETA BLOCK	Third floor	BT1	T8 36			6	20	8 HOURS
59	BETA BLOCK	Third floor	BT2	T8 36			7	20	8 HOURS
60	BETA BLOCK	Third floor	BT3	T8 36			7	20	8 HOURS
61	BETA BLOCK	Third floor	BT4	T8 36			3	20	8 HOURS
62	BETA BLOCK	Third floor	BT5	T8 36			6	20	8 HOURS
63	BETA BLOCK	Third floor	BT6	T8 36			4	20	8 HOURS
64	BETA BLOCK	Third floor	BT7	T8 36			3	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS				NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT					
65	BETA BLOCK	Third floor	BT8	T8 36			1	20	8 HOURS
66	BETA BLOCK	Third floor	BT9	T8 36			1	20	8 HOURS
67	BETA BLOCK	Third floor	BT10	T8 36			7	20	8 HOURS
68	BETA BLOCK	Third floor	BT11	T8 36			7	20	8 HOURS
69	BETA BLOCK	Third floor	BT12	T8 36			5	20	8 HOURS
70	BETA BLOCK	Third floor	BT13	T8 36			4	20	8 HOURS
71	BETA BLOCK	Third floor	BT14	T8 36			1	20	8 HOURS
72	BETA BLOCK	Third floor	BT15	T8 36			3	20	8 HOURS
73	BETA BLOCK	Third floor	BT16	T8 36			1	20	8 HOURS
74	BETA BLOCK	Third floor	BT17	T8 36			3	20	8 HOURS
75	BETA BLOCK	Third floor	BT18	T8 36			4	20	8 HOURS
76	BETA BLOCK	Third floor	BT19	T8 36			3	20	8 HOURS
77	BETA BLOCK	Third floor	BT20	T8 36			3	20	8 HOURS
78	BETA BLOCK	Third floor	BT21	T8 36			4	20	8 HOURS
79	BETA BLOCK	Third floor	BT22	T8 36			4	20	8 HOURS
80	BETA BLOCK	Third floor	BT23	T8 36			3	20	8 HOURS
81	BETA BLOCK	Third floor	BT24	T8 36			13	20	8 HOURS
82	DELTA BLOCK	Ground floor	DG1	T8 36			4	20	8 HOURS
83	DELTA BLOCK	Ground floor	DG2	T8 36			4	20	8 HOURS
84	DELTA BLOCK	Ground floor	DG3	T8 36			4	20	8 HOURS
85	DELTA BLOCK	Ground floor	DG4	T8 36			4	20	8 HOURS
86	DELTA BLOCK	Ground floor	DG5	T8 36			4	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS			NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT				
87	DELTA BLOCK	Ground floor	DG6	T8 36		4	20	8 HOURS
88	DELTA BLOCK	Ground floor	DG7	T8 36		4	20	8 HOURS
89	DELTA BLOCK	Ground floor	DG8	T8 36		4	20	8 HOURS
90	DELTA BLOCK	Ground floor	DG9	T8 36		4	20	8 HOURS
91	DELTA BLOCK	Ground floor	DG10	T8 36		2	20	8 HOURS
92	DELTA BLOCK	Ground floor	DG11	T8 36		2	20	8 HOURS
93	DELTA BLOCK	Ground floor	DG12	T8 36		1	20	8 HOURS
94	DELTA BLOCK	Ground floor	DG13	T8 36		1	20	8 HOURS
95	DELTA BLOCK	Ground floor	DG14	T8 36		8	20	8 HOURS
96	DELTA BLOCK	Ground floor	DG15	T8 36		7	20	8 HOURS
97	DELTA BLOCK	Ground floor	DG16	T8 36		3	20	8 HOURS
98	DELTA BLOCK	Ground floor	DG17	T8 36		4	20	8 HOURS
99	DELTA BLOCK	Ground floor	DG18	T8 36		8	20	8 HOURS
100	DELTA BLOCK	Ground floor	DG PASSAGE AREA	T8 36		25	20	8 HOURS
101	DELTA BLOCK	FRIST FLOOR	DF1	T8 36		10	20	8 HOURS
102	DELTA BLOCK	FRIST FLOOR	DF2	T8 36		8	20	8 HOURS
103	DELTA BLOCK	FRIST FLOOR	DF3	T8 36		5	20	8 HOURS
104	DELTA BLOCK	FRIST FLOOR	DF4	T8 36		8	20	8 HOURS
105	DELTA BLOCK	FRIST FLOOR	DF5	T8 36		9	20	8 HOURS
106	DELTA BLOCK	FRIST FLOOR	DF6	T8 36		10	20	8 HOURS
107	DELTA BLOCK	FRIST FLOOR	DF7	T8 36		5	20	8 HOURS
108	DELTA BLOCK	FRIST FLOOR	DF8	T8 36		6	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS			NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT				
109	DELTA BLOCK	FRIST FLOOR	DF9	T8 36	2	20	8 HOURS	
110	DELTA BLOCK	FRIST FLOOR	DF PASSAGE AREA	T8 36	4	20	8 HOURS	
111	DELTA BLOCK	SECOND FLOOR	DS 1	T8 36	6	20	8 HOURS	
112	DELTA BLOCK	SECOND FLOOR	DS 2	T8 36	5	20	8 HOURS	
113	DELTA BLOCK	SECOND FLOOR	DS 3	T8 36	3	20	8 HOURS	
114	DELTA BLOCK	SECOND FLOOR	DS 4	T8 36	5	20	8 HOURS	
115	DELTA BLOCK	SECOND FLOOR	DS 5	T8 36	4	20	8 HOURS	
116	DELTA BLOCK	SECOND FLOOR	DS 6	T8 36	4	20	8 HOURS	
117	DELTA BLOCK	SECOND FLOOR	DS 7	T8 36	5	20	8 HOURS	
118	DELTA BLOCK	SECOND FLOOR	DS 8	T8 36	4	20	8 HOURS	
119	DELTA BLOCK	SECOND FLOOR	DS 9	T8 36	5	20	8 HOURS	
120	DELTA BLOCK	SECOND FLOOR	DS 10	T8 36	5	20	8 HOURS	
121	DELTA BLOCK	SECOND FLOOR	DS PASSAGE AREA	T8 36	6	20	8 HOURS	
122	DELTA BLOCK	Third floor	DT1	T8 36	3	20	8 HOURS	
123	DELTA BLOCK	Third floor	DT2	T8 36	4	20	8 HOURS	
124	DELTA BLOCK	Third floor	DT3	T8 36	3	20	8 HOURS	
125	DELTA BLOCK	Third floor	DT4	T8 36	3	20	8 HOURS	
126	DELTA BLOCK	Third floor	DT5	T8 36	5	20	8 HOURS	
127	DELTA BLOCK	Third floor	DT6	T8 36	4	20	8 HOURS	
128	DELTA BLOCK	Third floor	DT7	T8 36	6	20	8 HOURS	
129	DELTA BLOCK	Third floor	DT8	T8 36	15	20	8 HOURS	
130	DELTA BLOCK	Third floor	DT9	T8 36	4	20	8 HOURS	



LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
131	DELTA BLOCK	Third floor	DT10	T8 36	4	20	8 HOURS
132	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 1	T8 36	1	20	8 HOURS
133	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 2	T8 36	2	20	8 HOURS
134	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 3	T8 36	2	20	8 HOURS
135	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 4	T8 36	2	20	8 HOURS
136	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 5	T8 36	2	20	8 HOURS
137	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 6	T8 36	1	20	8 HOURS
138	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 7	T8 36	2	20	8 HOURS
139	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 8	T8 36	2	20	8 HOURS
140	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 9	T8 36	2	20	8 HOURS
141	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 10	T8 36	2	20	8 HOURS
142	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 11	T8 36	2	20	8 HOURS
143	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 12	T8 36	2	20	8 HOURS
144	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 13	T8 36	2	20	8 HOURS
145	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 14	T8 36	2	20	8 HOURS
146	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 15	T8 36	2	20	8 HOURS
147	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 16	T8 36	2	20	8 HOURS
148	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 17	T8 36	2	20	8 HOURS
149	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 18	T8 36	2	20	8 HOURS
150	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 19	T8 36	2	20	8 HOURS
151	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 20	T8 36	2	20	8 HOURS
152	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 21	T8 36	2	20	8 HOURS

LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
153	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 22	T8 36	2	20	8 HOURS
154	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 23	T8 36	1	20	8 HOURS
155	OMEGA BLOCK	GROUND FLOOR	2 COMMON REST ROOM (MEN)	T8 36	10	20	8 HOURS
156	OMEGA BLOCK	GROUND FLOOR	PASSAGE AREA	T8 36	10	20	8 HOURS
157	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 1	T8 36	1	20	8 HOURS
158	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 2	T8 36	2	20	8 HOURS
159	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 3	T8 36	2	20	8 HOURS
160	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 4	T8 36	2	20	8 HOURS
161	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 5	T8 36	2	20	8 HOURS
162	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 6	T8 36	2	20	8 HOURS
163	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 7	T8 36	2	20	8 HOURS
164	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 8	T8 36	2	20	8 HOURS
165	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 9	T8 36	2	20	8 HOURS
166	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 10	T8 36	2	20	8 HOURS
167	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 11	T8 36	2	20	8 HOURS
168	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 12	T8 36	2	20	8 HOURS
169	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 13	T8 36	1	20	8 HOURS
170	OMEGA BLOCK	FRIST FLOOR	PASSAGE AREA	T8 36	8	20	8 HOURS
171	OMEGA BLOCK	FRIST FLOOR	1 COMMON REST ROOM (MEN)	T8 36	5	20	8 HOURS
172	OMEGA BLOCK	FRIST FLOOR	DINING HALL	T8 36	16	20	8 HOURS

LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
173	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 1	T8 36	1	20	8 HOURS
174	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 2	T8 36	2	20	8 HOURS
175	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 3	T8 36	2	20	8 HOURS
176	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 4	T8 36	2	20	8 HOURS
177	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 5	T8 36	2	20	8 HOURS
178	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 6	T8 36	2	20	8 HOURS
179	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 7	T8 36	2	20	8 HOURS
180	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 8	T8 36	2	20	8 HOURS
181	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 9	T8 36	2	20	8 HOURS
182	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 10	T8 36	2	20	8 HOURS
183	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 11	T8 36	2	20	8 HOURS
184	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 12	T8 36	2	20	8 HOURS
185	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 13	T8 36	2	20	8 HOURS
186	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 14	T8 36	2	20	8 HOURS
187	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 15	T8 36	2	20	8 HOURS
188	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 16	T8 36	2	20	8 HOURS
189	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 17	T8 36	2	20	8 HOURS
190	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 18	T8 36	2	20	8 HOURS
191	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 19	T8 36	2	20	8 HOURS
192	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 20	T8 36	2	20	8 HOURS
193	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 21	T8 36	2	20	8 HOURS
194	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 22	T8 36	2	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS			NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT				
195	OMEGA BLOCK	SECOND FLOOR	2 COMMON REST ROOM (MEN)	T8 36	10	20	8 HOURS	
196	OMEGA BLOCK	SECOND FLOOR	PASSAGE AREA	T8 36	10	20	8 HOURS	
197	OMEGA BLOCK	Third floor	ROOM NUMBER 1	T8 36	1	20	8 HOURS	
198	OMEGA BLOCK	Third floor	ROOM NUMBER 2	T8 36	2	20	8 HOURS	
199	OMEGA BLOCK	Third floor	ROOM NUMBER 3	T8 36	2	20	8 HOURS	
200	OMEGA BLOCK	Third floor	ROOM NUMBER 4	T8 36	2	20	8 HOURS	
201	OMEGA BLOCK	Third floor	ROOM NUMBER 5	T8 36	2	20	8 HOURS	
202	OMEGA BLOCK	Third floor	ROOM NUMBER 6	T8 36	2	20	8 HOURS	
203	OMEGA BLOCK	Third floor	ROOM NUMBER 7	T8 36	2	20	8 HOURS	
204	OMEGA BLOCK	Third floor	ROOM NUMBER 8	T8 36	2	20	8 HOURS	
205	OMEGA BLOCK	Third floor	ROOM NUMBER 9	T8 36	2	20	8 HOURS	
206	OMEGA BLOCK	Third floor	ROOM NUMBER 10	T8 36	2	20	8 HOURS	
207	OMEGA BLOCK	Third floor	ROOM NUMBER 11	T8 36	2	20	8 HOURS	
208	OMEGA BLOCK	Third floor	ROOM NUMBER 12	T8 36	2	20	8 HOURS	
209	OMEGA BLOCK	Third floor	ROOM NUMBER 13	T8 36	2	20	8 HOURS	
210	OMEGA BLOCK	Third floor	ROOM NUMBER 14	T8 36	2	20	8 HOURS	
211	OMEGA BLOCK	Third floor	ROOM NUMBER 15	T8 36	2	20	8 HOURS	
212	OMEGA BLOCK	Third floor	ROOM NUMBER 16	T8 36	2	20	8 HOURS	
213	OMEGA BLOCK	Third floor	ROOM NUMBER 17	T8 36	2	20	8 HOURS	
214	OMEGA BLOCK	Third floor	ROOM NUMBER 18	T8 36	2	20	8 HOURS	
215	OMEGA BLOCK	Third floor	ROOM NUMBER 19	T8 36	2	20	8 HOURS	

LIGHT DETAILS								
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS	
216	OMEGA BLOCK	Third floor	ROOM NUMBER 20	T8 36	2	20	8 HOURS	
217	OMEGA BLOCK	Third floor	ROOM NUMBER 21	T8 36	2	20	8 HOURS	
218	OMEGA BLOCK	Third floor	ROOM NUMBER 22	T8 36	2	20	8 HOURS	
219	OMEGA BLOCK	SECOND FLOOR	2 COMMON REST ROOM (MEN)	T8 36	10	20	8 HOURS	
220	OMEGA BLOCK	SECOND FLOOR	PASSAGE AREA	T8 36	10	20	8 HOURS	
221	ZEETA	GROUND FLOOR	ZG1	T8 36	9	20	8 HOURS	
222	ZEETA	GROUND FLOOR	ZG2	T8 36	9	20	8 HOURS	
223	ZEETA	GROUND FLOOR	ZG3	T8 36	9	20	8 HOURS	
224	ZEETA	GROUND FLOOR	ZG4	T8 36	9	20	8 HOURS	
225	ZEETA	GROUND FLOOR	ZG5	T8 36	9	20	8 HOURS	
226	ZEETA	GROUND FLOOR	ZG6	T8 36	9	20	8 HOURS	
227	ZEETA	GROUND FLOOR	ZG7	T8 36	9	20	8 HOURS	
228	ZEETA	GROUND FLOOR	ZG8	T8 36	9	20	8 HOURS	
229	ZEETA	GROUND FLOOR	ZG9	T8 36	9	20	8 HOURS	
230	ZEETA	GROUND FLOOR	ZG10	T8 36	9	20	8 HOURS	
231	ZEETA	GROUND FLOOR	ZG11	T8 36	9	20	8 HOURS	
232	ZEETA	GROUND FLOOR	ZG12	T8 36	9	20	8 HOURS	
233	ZEETA	GROUND FLOOR	ZG13	T8 36	9	20	8 HOURS	
234	ZEETA	GROUND FLOOR	ZG14	T8 36	9	20	8 HOURS	
235	ZEETA	GROUND FLOOR	ZG15	T8 36	2	20	8 HOURS	
236	ZEETA	GROUND FLOOR	ZG16	T8 36	2	20	8 HOURS	

LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
237	ZEETA	GROUND FLOOR	ZG17	T8 36	2	20	8 HOURS
238	ZEETA	GROUND FLOOR	ZG18	T8 36	4	20	8 HOURS
239	ZEETA	GROUND FLOOR	PASSAGE AREA	T8 36	11	20	8 HOURS
240	ZEETA	GROUND FLOOR	MEN REST ROOM	T8 36	5	20	8 HOURS
241	ZEETA	GROUND FLOOR	WOMENS REST ROOM	T8 36	5	20	8 HOURS
242	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 1	T8 36	2	20	8 HOURS
243	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 2	T8 36	2	20	8 HOURS
244	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 3	T8 36	2	20	8 HOURS
245	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 4	T8 36	2	20	8 HOURS
246	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 5	T8 36	2	20	8 HOURS
247	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 6	T8 36	2	20	8 HOURS
248	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 7	T8 36	2	20	8 HOURS
249	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 8	T8 36	2	20	8 HOURS
250	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 9	T8 36	2	20	8 HOURS
251	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 10	T8 36	2	20	8 HOURS
252	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 11	T8 36	2	20	8 HOURS
253	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 12	T8 36	2	20	8 HOURS
254	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 13	T8 36	2	20	8 HOURS
255	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 14	T8 36	2	20	8 HOURS
256	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 15	T8 36	2	20	8 HOURS
257	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 16	T8 36	2	20	8 HOURS
258	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 17	T8 36	2	20	8 HOURS

LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
259	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 18	T8 36	2	20	8 HOURS
260	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 19	T8 36	2	20	8 HOURS
261	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 20	T8 36	2	20	8 HOURS
262	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 21	T8 36	2	20	8 HOURS
263	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 22	T8 36	2	20	8 HOURS
264	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 23	T8 36	2	20	8 HOURS
265	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 24	T8 36	2	20	8 HOURS
266	ALPHA BLOCK	GROUND FLOOR	2 WOMENS REAST ROOM	T8 36	10	20	8 HOURS
267	ALPHA BLOCK	GROUND FLOOR	PASSAGE AREA	FALSE CEILING LIGHT	10	20	8 HOURS
268	ALPHA BLOCK	GROUND FLOOR	STAFF ROOMS	T8 36	16	20	8 HOURS
269	ALPHA BLOCK	GROUND FLOOR	SRATT ROOM S	FALSE CEILING LIGHT	14	20	8 HOURS
270	ALPHA BLOCK	GROUND FLOOR	2 REST ROOM	T8 36	5	20	8 HOURS
271	ALPHA BLOCK	FRIST FLOOR	PASSAGE AREA /STAFF ROOM	T8 36	20	20	8 HOURS
272	ALPHA BLOCK	FRIST FLOOR	SOFTWARE ROOM	FALSE CEILING LIGHT	21	20	8 HOURS
273	ALPHA BLOCK	FRIST FLOOR	2 REST ROOMS	T8 36	5	20	8 HOURS
274	ALPHA BLOCK	SECOND FLOOR	PASSAGE AREA	T8 36	5	20	8 HOURS
275	ALPHA BLOCK	SECOND FLOOR	ROOMS	FALSE CEILING LIGHT	53	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS			
			LOCATION	TYPE OF LIGHT	NO OF LIGHTS	OPERATING HOURS
276	THETA BLOCK	Ground floor	DINING AREA AND LIBRARY	T8 36	45	20
277	THETA BLOCK	FRIST FLOOR	DINING AREA	T8 36	27	20

## 21.0 CONVENTIONAL FAN DETSILS

The conventional fan details area as follows.

S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS			
			LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
1	BETA BKLOCK	GROUND FLOOR	BG1	7	80	8 HOURS
2	BETA BKLOCK	GROUND FLOOR	BG2	4	80	8 HOURS
3	BETA BKLOCK	GROUND FLOOR	BG3	8	80	8 HOURS
4	BETA BKLOCK	GROUND FLOOR	BG4	3	80	8 HOURS
5	BETA BKLOCK	GROUND FLOOR	BG5	2	80	8 HOURS
6	BETA BKLOCK	GROUND FLOOR	BG6	6	80	8 HOURS
7	BETA BKLOCK	GROUND FLOOR	BG8	1	80	8 HOURS
8	BETA BKLOCK	GROUND FLOOR	BG9	1	80	8 HOURS
9	BETA BKLOCK	GROUND FLOOR	BG10	5	80	8 HOURS
10	BETA BKLOCK	GROUND FLOOR	BG11	1	80	8 HOURS
11	BETA BKLOCK	GROUND FLOOR	BG12	6	80	8 HOURS
12	BETA BKLOCK	GROUND FLOOR	BG13	4	80	8 HOURS



CEILING FAN DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
13	BETA BKLOCK	GROUND FLOOR	BG15	1	80	8 HOURS
14	BETA BKLOCK	GROUND FLOOR	BG16	2	80	8 HOURS
15	BETA BKLOCK	FRIST FLOOR	BF1	2	80	8 HOURS
16	BETA BKLOCK	FRIST FLOOR	BF2	4	80	8 HOURS
17	BETA BKLOCK	FRIST FLOOR	BF3	2	80	8 HOURS
18	BETA BKLOCK	FRIST FLOOR	BF4	4	80	8 HOURS
19	BETA BKLOCK	FRIST FLOOR	BF5	5	80	8 HOURS
20	BETA BKLOCK	FRIST FLOOR	BF6	5	80	8 HOURS
21	BETA BKLOCK	FRIST FLOOR	BF9	1	80	8 HOURS
22	BETA BKLOCK	FRIST FLOOR	BF10	1	80	8 HOURS
23	BETA BKLOCK	FRIST FLOOR	BF11	6	80	8 HOURS
24	BETA BKLOCK	FRIST FLOOR	BF12	1	80	8 HOURS
25	BETA BKLOCK	FRIST FLOOR	BF13	6	80	8 HOURS
26	BETA BKLOCK	FRIST FLOOR	BF14	2	80	8 HOURS
27	BETA BKLOCK	FRIST FLOOR	BF17	2	80	8 HOURS
28	BETA BKLOCK	FRIST FLOOR	BF18	2	80	8 HOURS
29	BETA BKLOCK	FRIST FLOOR	BF19	2	80	8 HOURS
30	BETA BKLOCK	FRIST FLOOR	BF20	1	80	8 HOURS
31	BETA BKLOCK	SECOND FLOOR	BS1	6	80	8 HOURS
32	BETA BKLOCK	SECOND FLOOR	BS2	6	80	8 HOURS
33	BETA BKLOCK	SECOND FLOOR	BS3	7	80	8 HOURS
34	BETA BKLOCK	SECOND FLOOR	BS4	6	80	8 HOURS
35	BETA BKLOCK	SECOND FLOOR	BS5	6	80	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS			
			LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
36	BETA BKLOCK	SECOND FLOOR	BS6	6	80	8 HOURS
37	BETA BKLOCK	SECOND FLOOR	BS7	1	80	8 HOURS
38	BETA BKLOCK	SECOND FLOOR	BS8	6	80	8 HOURS
39	BETA BKLOCK	SECOND FLOOR	BS9	4	80	8 HOURS
40	BETA BKLOCK	SECOND FLOOR	BS10	1	80	8 HOURS
41	BETA BKLOCK	SECOND FLOOR	BS11	6	80	8 HOURS
42	BETA BKLOCK	SECOND FLOOR	BS12	5	80	8 HOURS
43	BETA BKLOCK	SECOND FLOOR	BS13	6	80	8 HOURS
44	BETA BKLOCK	SECOND FLOOR	BS14	6	80	8 HOURS
45	BETA BKLOCK	SECOND FLOOR	BS16	4	80	8 HOURS
46	BETA BKLOCK	SECOND FLOOR	BS17	3	80	8 HOURS
47	BETA BKLOCK	SECOND FLOOR	BS18	1	80	8 HOURS
48	BETA BKLOCK	Third floor	BT1	6	80	8 HOURS
49	BETA BKLOCK	Third floor	BT2	8	80	8 HOURS
50	BETA BKLOCK	Third floor	BT3	7	80	8 HOURS
51	BETA BKLOCK	Third floor	BT4	3	80	8 HOURS
52	BETA BKLOCK	Third floor	BT5	6	80	8 HOURS
53	BETA BKLOCK	Third floor	BT6	6	80	8 HOURS
54	BETA BKLOCK	Third floor	BT9	7	80	8 HOURS
55	BETA BKLOCK	Third floor	BT10	9	80	8 HOURS
56	BETA BKLOCK	Third floor	BT11	1	80	8 HOURS
57	BETA BKLOCK	Third floor	BT12	7	80	8 HOURS
58	BETA BKLOCK	Third floor	BT13	4	80	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS			
			LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
59	BETA BKLOCK	Third floor	BT16	1	80	8 HOURS
60	BETA BKLOCK	Third floor	BT17	3	80	8 HOURS
61	BETA BKLOCK	Third floor	BT18	3	80	8 HOURS
62	BETA BKLOCK	Third floor	BT19	3	80	8 HOURS
63	BETA BKLOCK	Third floor	BT20	3	80	8 HOURS
64	BETA BKLOCK	Third floor	BT21	3	80	8 HOURS
65	BETA BKLOCK	Third floor	BT22	3	80	8 HOURS
66	BETA BKLOCK	Third floor	BT23	3	80	8 HOURS
67	DELTA BLOCK	Ground floor	DG1	5	80	8 HOURS
68	DELTA BLOCK	Ground floor	DG2	5	80	8 HOURS
69	DELTA BLOCK	Ground floor	DG3	5	80	8 HOURS
70	DELTA BLOCK	Ground floor	DG4	5	80	8 HOURS
71	DELTA BLOCK	Ground floor	DG5	5	80	8 HOURS
72	DELTA BLOCK	Ground floor	DG6	5	80	8 HOURS
73	DELTA BLOCK	Ground floor	DG7	5	80	8 HOURS
74	DELTA BLOCK	Ground floor	DG8	5	80	8 HOURS
75	DELTA BLOCK	Ground floor	DG9	5	80	8 HOURS
76	DELTA BLOCK	Ground floor	DG10	2	80	8 HOURS
77	DELTA BLOCK	Ground floor	DG11	3	80	8 HOURS
78	DELTA BLOCK	Ground floor	DG12	1	80	8 HOURS
79	DELTA BLOCK	Ground floor	DG13	1	80	8 HOURS
80	DELTA BLOCK	Ground floor	DG14	10	80	8 HOURS
81	DELTA BLOCK	Ground floor	DG15	1	80	8 HOURS

S. NO		NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS		LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
82		DELTA BLOCK	Ground floor			DG16	3	80	8 HOURS
83		DELTA BLOCK	Ground floor			DG17	5	80	8 HOURS
84		DELTA BLOCK	Ground floor			DG18	1	80	8 HOURS
85		DELTA BLOCK	FRIST FLOOR			DF1	13	80	8 HOURS
86		DELTA BLOCK	FRIST FLOOR			DF2	10	80	8 HOURS
87		DELTA BLOCK	FRIST FLOOR			DF3	7	80	8 HOURS
88		DELTA BLOCK	FRIST FLOOR			DF4	8	80	8 HOURS
89		DELTA BLOCK	FRIST FLOOR			DF5	14	80	8 HOURS
90		DELTA BLOCK	FRIST FLOOR			DF6	14	80	8 HOURS
91		DELTA BLOCK	FRIST FLOOR			DF7	6	80	8 HOURS
92		DELTA BLOCK	FRIST FLOOR			DF8	4	80	8 HOURS
93		DELTA BLOCK	FRIST FLOOR			DF9	2	80	8 HOURS
94		DELTA BLOCK	SECOND FLOOR			DS1	8	80	8 HOURS
95		DELTA BLOCK	SECOND FLOOR			DS2	6	80	8 HOURS
96		DELTA BLOCK	SECOND FLOOR			DS3	3	80	8 HOURS
97		DELTA BLOCK	SECOND FLOOR			DS4	10	80	8 HOURS
98		DELTA BLOCK	SECOND FLOOR			DS5	6	80	8 HOURS
99		DELTA BLOCK	SECOND FLOOR			DS6	6	80	8 HOURS
100		DELTA BLOCK	SECOND FLOOR			DS7	6	80	8 HOURS
101		DELTA BLOCK	SECOND FLOOR			DS8	7	80	8 HOURS
102		DELTA BLOCK	SECOND FLOOR			DS9	6	80	8 HOURS
103		DELTA BLOCK	SECOND FLOOR			DS10	9	80	8 HOURS
104		DELTA BLOCK	Third floor			DT1	6	80	8 HOURS

CEILING FAN DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
105	DELTA BLOCK	Third floor	DT2	8	80	8 HOURS
106	DELTA BLOCK	Third floor	DT4	4	80	8 HOURS
107	DELTA BLOCK	Third floor	DT5	6	80	8 HOURS
108	DELTA BLOCK	Third floor	DT6	6	80	8 HOURS
109	DELTA BLOCK	Third floor	DT7	6	80	8 HOURS
110	DELTA BLOCK	Third floor	DT9	7	80	8 HOURS
111	DELTA BLOCK	Third floor	DT10	8	80	8 HOURS
112	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 1	1	80	8 HOURS
113	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 2	3	80	8 HOURS
114	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 3	3	80	8 HOURS
115	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 4	3	80	8 HOURS
116	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 5	3	80	8 HOURS
117	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 6	1	80	8 HOURS
118	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 7	3	80	8 HOURS
119	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 8	3	80	8 HOURS
120	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 9	3	80	8 HOURS
121	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 10	3	80	8 HOURS
122	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 11	3	80	8 HOURS
123	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 12	3	80	8 HOURS
124	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 13	3	80	8 HOURS
125	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 14	3	80	8 HOURS
126	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 15	3	80	8 HOURS
127	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 16	3	80	8 HOURS

CEILING FAN DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
128	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 17	3	80	8 HOURS
129	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 18	3	80	8 HOURS
130	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 19	3	80	8 HOURS
131	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 20	3	80	8 HOURS
132	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 21	3	80	8 HOURS
133	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 22	3	80	8 HOURS
134	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 23	1	80	8 HOURS
135	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 1	3	80	8 HOURS
136	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 2	3	80	8 HOURS
137	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 3	3	80	8 HOURS
138	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 4	3	80	8 HOURS
139	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 5	3	80	8 HOURS
140	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 6	3	80	8 HOURS
141	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 7	3	80	8 HOURS
142	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 8	3	80	8 HOURS
143	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 9	3	80	8 HOURS
144	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 10	3	80	8 HOURS
145	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 11	3	80	8 HOURS
146	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 12	3	80	8 HOURS
147	OMEGA BLOCK	FRIST FLOOR	DINING HALL	18	80	8 HOURS
148	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 1	1	80	8 HOURS
149	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 2	3	80	8 HOURS
150	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 3	3	80	8 HOURS

CEILING FAN DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
151	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 4	3	80	8 HOURS
152	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 5	3	80	8 HOURS
153	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 6	3	80	8 HOURS
154	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 7	3	80	8 HOURS
155	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 8	3	80	8 HOURS
156	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 9	3	80	8 HOURS
157	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 10	3	80	8 HOURS
158	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 11	3	80	8 HOURS
159	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 12	3	80	8 HOURS
160	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 13	3	80	8 HOURS
161	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 14	3	80	8 HOURS
162	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 15	3	80	8 HOURS
163	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 16	3	80	8 HOURS
164	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 17	3	80	8 HOURS
165	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 18	3	80	8 HOURS
166	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 19	3	80	8 HOURS
167	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 20	3	80	8 HOURS
168	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 21	3	80	8 HOURS
169	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 22	3	80	8 HOURS
170	OMEGA BLOCK	Third floor	ROOM NUMBER 1	1	80	8 HOURS
171	OMEGA BLOCK	Third floor	ROOM NUMBER 2	3	80	8 HOURS
172	OMEGA BLOCK	Third floor	ROOM NUMBER 3	3	80	8 HOURS
173	OMEGA BLOCK	Third floor	ROOM NUMBER 4	3	80	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS				
			LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS	
174	OMEGA BLOCK	Third floor	ROOM NUMBER 5	3	80	8 HOURS	
175	OMEGA BLOCK	Third floor	ROOM NUMBER 6	3	80	8 HOURS	
176	OMEGA BLOCK	Third floor	ROOM NUMBER 7	3	80	8 HOURS	
177	OMEGA BLOCK	Third floor	ROOM NUMBER 8	3	80	8 HOURS	
178	OMEGA BLOCK	Third floor	ROOM NUMBER 9	3	80	8 HOURS	
179	OMEGA BLOCK	Third floor	ROOM NUMBER 10	3	80	8 HOURS	
180	OMEGA BLOCK	Third floor	ROOM NUMBER 11	3	80	8 HOURS	
181	OMEGA BLOCK	Third floor	ROOM NUMBER 12	3	80	8 HOURS	
182	OMEGA BLOCK	Third floor	ROOM NUMBER 13	3	80	8 HOURS	
183	OMEGA BLOCK	Third floor	ROOM NUMBER 14	3	80	8 HOURS	
184	OMEGA BLOCK	Third floor	ROOM NUMBER 15	3	80	8 HOURS	
185	OMEGA BLOCK	Third floor	ROOM NUMBER 16	3	80	8 HOURS	
186	OMEGA BLOCK	Third floor	ROOM NUMBER 17	3	80	8 HOURS	
187	OMEGA BLOCK	Third floor	ROOM NUMBER 18	3	80	8 HOURS	
188	OMEGA BLOCK	Third floor	ROOM NUMBER 19	3	80	8 HOURS	
189	OMEGA BLOCK	Third floor	ROOM NUMBER 20	3	80	8 HOURS	
190	OMEGA BLOCK	Third floor	ROOM NUMBER 21	3	80	8 HOURS	
191	OMEGA BLOCK	Third floor	ROOM NUMBER 22	3	80	8 HOURS	
192	ZEETA	GROUND FLOOR	ZG1	6	80	8 HOURS	
193	ZEETA	GROUND FLOOR	ZG2	6	80	8 HOURS	
194	ZEETA	GROUND FLOOR	ZG3	6	80	8 HOURS	
195	ZEETA	GROUND FLOOR	ZG4	9	80	8 HOURS	
196	ZEETA	GROUND FLOOR	ZG5	3	80	8 HOURS	



S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS			
			LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
197	ZEETA	GROUND FLOOR	ZG6	6	80	8 HOURS
198	ZEETA	GROUND FLOOR	ZG7	6	80	8 HOURS
199	ZEETA	GROUND FLOOR	ZG8	6	80	8 HOURS
200	ZEETA	GROUND FLOOR	ZG9	6	80	8 HOURS
201	ZEETA	GROUND FLOOR	ZG10	6	80	8 HOURS
202	ZEETA	GROUND FLOOR	ZG11	4	80	8 HOURS
203	ZEETA	GROUND FLOOR	ZG12	4	80	8 HOURS
204	ZEETA	GROUND FLOOR	ZG13	4	80	8 HOURS
205	ZEETA	GROUND FLOOR	ZG14	5	80	8 HOURS
206	ZEETA	GROUND FLOOR	ZG15	1	80	8 HOURS
207	ZEETA	GROUND FLOOR	ZG16	1	80	8 HOURS
208	ZEETA	GROUND FLOOR	ZG17	1	80	8 HOURS
209	ZEETA	GROUND FLOOR	ZG18	4	80	8 HOURS
210	ZEETA	GROUND FLOOR	PASSAGE AREA	1	80	8 HOURS
211	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 1	3	80	8 HOURS
212	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 2	3	80	8 HOURS
213	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 3	3	80	8 HOURS
214	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 4	3	80	8 HOURS
215	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 5	3	80	8 HOURS
216	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 6	3	80	8 HOURS
217	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 7	3	80	8 HOURS
218	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 8	1	80	8 HOURS
219	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 9	2	80	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS			NO OF FANS	WATTAGE	OPERATING HOURS
			LOCATION					
220	Sigma BLOCK	GROUND FLOOR		ROOM NUMBER 10	3	80	8 HOURS	
221	Sigma BLOCK	GROUND FLOOR		ROOM NUMBER 11	3	80	8 HOURS	
222	Sigma BLOCK	GROUND FLOOR		ROOM NUMBER 12	3	80	8 HOURS	
223	Sigma BLOCK	GROUND FLOOR		ROOM NUMBER 13	3	80	8 HOURS	
224	Sigma BLOCK	GROUND FLOOR		ROOM NUMBER 14	3	80	8 HOURS	
225	Sigma BLOCK	GROUND FLOOR		ROOM NUMBER 15	3	80	8 HOURS	
226	Sigma BLOCK	GROUND FLOOR		ROOM NUMBER 16	3	80	8 HOURS	
227	Sigma BLOCK	GROUND FLOOR		ROOM NUMBER 17	3	80	8 HOURS	
228	Sigma BLOCK	GROUND FLOOR		ROOM NUMBER 18	3	80	8 HOURS	
229	Sigma BLOCK	GROUND FLOOR		ROOM NUMBER 19	3	80	8 HOURS	
230	Sigma BLOCK	GROUND FLOOR		ROOM NUMBER 20	3	80	8 HOURS	
231	Sigma BLOCK	GROUND FLOOR		ROOM NUMBER 21	3	80	8 HOURS	
232	Sigma BLOCK	GROUND FLOOR		ROOM NUMBER 22	3	80	8 HOURS	
233	Sigma BLOCK	GROUND FLOOR		ROOM NUMBER 23	1	80	8 HOURS	
234	Sigma BLOCK	GROUND FLOOR		ROOM NUMBER 24	1	80	8 HOURS	
235	ALPHA BLOCK	GROUND FLOOR		STAFF ROOMS	17	80	8 HOURS	
236	ALPHA BLOCK	FRIST FLOOR		STAFF ROOMS	18	80	8 HOURS	
237	THETA BLOCK	Ground floor	DINING AREA AND LIBRARY		39	80	8 HOURS	
238	THETA BLOCK	FRIST FLOOR		DINING AREA	18	80	8 HOURS	

## 22.0 AIR CONDITIONER DETAILS

The air conditioner details area are follows.

AIR CONDITIONER DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	MAKE	MODEL (Split / Window)	NO OF AC'S	OPERATING HOURS
1	BETA BLOCK	GROUND FLOOR	SEVER ROOM	HITACHI	SPLIT	1	8 HOURS
2	BETA BLOCK	FRIST FLOOR	PLACEMENT OFFICE	HITACHI	SPLIT	1	8 HOURS
3	BETA BLOCK	FRIST FLOOR	MEETING ROOM	CARRIER	DUCTED A/C (5 TON)	1	8 HOURS
4	BETA BLOCK	FRIST FLOOR	MEETING ROOM	CARRIER	DUCTED A/C (8 TON)	1	8 HOURS
5	DELTA BLOCK	GROUND FLOOR	PRINCIPAL ROOM	HITACHI	SPLIT	1	8 HOURS
6	DELTA BLOCK	GROUND FLOOR	COMPUTER LAB	HITACHI	SPLIT	1	8 HOURS
7	DELTA BLOCK	GROUND FLOOR	COMPUTER LAB	HITACHI	SPLIT	1	8 HOURS
8	DELTA BLOCK	THIRD FLOOR	MEETING ROOM	CARRIER	DUCTED A/C (5 TON)	1	8 HOURS
9	ZEETA BLOCK	GROUND FLOOR	LAB	HITACHI	SPLIT	1	8 HOURS
10	ALPHA BLOCK	GROUND FLOOR	PRINCIPAL ROOM	HITACHI	SPLIT	1	8 HOURS
11	ALPHA BLOCK	GROUND FLOOR	STAFF ROOM	HITACHI	SPLIT	1	8 HOURS
12	ALPHA BLOCK	GROUND FLOOR	STAFF ROOM	HITACHI	SPLIT	1	8 HOURS
13	ALPHA BLOCK	FRIST FLOOR	SEVER ROOM	HITACHI	SPLIT	1	8 HOURS
14	ALPHA BLOCK	FRIST FLOOR	STAFF ROOM	HITACHI	SPLIT	1	8 HOURS
15	ALPHA BLOCK	FRIST FLOOR	STAFF ROOM	HITACHI	SPLIT	1	8 HOURS
16	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	LG	SPLIT	1	8 HOURS
17	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	WESTER	SPLIT	1	8 HOURS
18	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	WESTER	SPLIT	1	8 HOURS
19	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	HITACHI	SPLIT	1	8 HOURS
20	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	general	SPLIT	1	8 HOURS

AIR CONDITIONER DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	MAKE	MODEL (Split / Window)	NO OF AC'S
21	ALPHA BLOCK	FRIST FLOOR	STAFF ROOM	HITACHI	SPLIT	1
22	ALPHA BLOCK	SECOND FLOOR	CHIRMAN SIR ROOM	CARRIER	SPLIT	1
23	ALPHA BLOCK	SECOND FLOOR	CHIRMAN SIR ROOM	CARRIER	SPLIT	1
24	ALPHA BLOCK	SECOND FLOOR	COO SIR ROOM	CARRIER	SPLIT	1
25	ALPHA BLOCK	SECOND FLOOR	DINING HALL	CARRIER	SPLIT	1
26	ALPHA BLOCK	SECOND FLOOR	GUEST ROOM	CARRIER	SPLIT	1
						OPERATING HOURS
						8HOURS
						8HOURS
						8HOURS
						8HOURS
						8HOURS
						8HOURS

## 23.0 WALL MOUNTED FAN DETAILS

The wall mounted fan details are as follows.

WALL MOUNTED FAN DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
1	ALPHA	GROUND FLOOR	STAFF ROOM 1	1	120	8 HOURS
2	ALPHA	GROUND FLOOR	STAFF ROOM 2	1	120	8 HOURS
3	ALPHA	GROUND FLOOR	STAFF ROOM 3	1	120	8 HOURS
4	ALPHA	GROUND FLOOR	STAFF ROOM 4	1	120	8 HOURS
5	ALPHA	GROUND FLOOR	STAFF ROOM 5	1	120	8 HOURS
6	ALPHA	FRIST FLOOR	SEVER ROOM	1	120	8 HOURS
7	ALPHA	FRIST FLOOR	SOFTWARE ROOM	8	120	8 HOURS
8	ALPHA	SECOND FLOOR	LAB	4	120	8 HOURS
9	ZEETA BLOCK	GROUND FLOOR	STAFF ROOM 1	1	120	8 HOURS
10	ZEETA BLOCK	GROUND FLOOR	STAFF ROOM 2	1	120	8 HOURS

## 24.0 EXECUTIVE SUMMARY

S. No	Energy Efficiency Measures	Estimate annual Energy Savings, kWh/Annum	Estimated Investment, INR	Monetary Savings, INR	Simple payback Period, Months
1	Replace existing T8 36 Tube light 36W to 18W LED Light	23,508	2,61,200	1,49,276	21
2	Replace existing 1018 Nos of 80W Ceiling fan to 30W Energy efficient BLDC Fan	101800	3563000	6,46,430	66
3	Replace existing 20 Nos of 120W Wall mounted fan to 30W Energy efficient BLDC Fan	3,600	70,000	22,860	37
<b>Total</b>		1,28,908	38,94,200	8,18,566	41

<b>Annual Electrical Energy consumption, kWh/Annum</b>	<b>3,82,515</b>
<b>Annual Electrical Energy Savings, kWh/Annum</b>	128908
<b>Electrical Energy Savings, %</b>	<b>33.7</b>

## 25.0 ENERGY CONSERVATIVE MEASURES

### 25.1 Replace existing Conventional fan to BLDC Fan

**Observation:**

During audit it was observed that conventional ceiling fans were used for ventilation purposes.

**Recommendation:**

It is recommended to replace those conventional ceiling fans with Energy efficient BLDC fans to observe the following energy savings.

**Estimated Savings:**

Replace existing Conventional fan to BLDC Fan		
Description	Units	Values
Quantity of existing Conventional fan	Nos	1,018
Wattage of Conventional fan	W	80
Present operating hours	Hours/Annum	2,000
Average unit cost	INR/kWh	6.35
Energy Consumption by existing Conventional fan	kWh/Annum	1,62,880
Wattage of BLDC Fan	W	30
Energy Consumption by BLDC Fan	kWh/Annum	61,080
Cost of one BLDC Fan	INR	3,500
Energy savings	kWh/Annum	1,01,800
Cost Savings	INR/Annum	6,46,430
Investment	INR	35,63,000
Payback Period	Months	66

## 25.2 Replace existing Wall mounted fan to BLDC Fan

### **Observation:**

During audit it was observed that conventional wall mounted fans were used for ventilation purposes.

### **Recommendation:**

It is recommended to replace the conventional fan to BLDC fan to reduce energy consumption.

### **Estimated Savings:**

Replace existing Wall mounted fan to BLDC Fan		
Description	Units	Values
Quantity of existing Wall mounted fan	Nos	20
Wattage of Wall Mounted fan	W	120
Present operating hours	Hours/Annum	2,000
Average unit cost	INR/kWh	6.35
Energy Consumption by existing Wall mounted fan	kWh/Annum	4,800
Wattage of BLDC Fan	W	30
Energy Consumption by BLDC Fan	kWh/Annum	1,200
Cost of one BLDC Fan	INR	3,500
Energy savings	kWh/Annum	3,600
Cost Savings	INR/Annum	22,860
Investment	INR	70,000
Payback Period	Months	37



### 25.3 Replace Existing CFL light to LED light.

#### Observation:

During audit it was observed that few T8 36 Tube light was used for illumination purpose. T8 36 Tube light consumes high power than LED Lights.


#### Recommendation:

It is recommended to replace those T8 36 Tube lights with LED lights for better lumens and to lower the power consumption. The lumens of T8 36 Tube light are 63 per watt whereas the lumens of LED light are 120 per watt.


#### Estimated Savings:

Replace existing T8 36 Tube light to LED Light		
Description	Units	Values
Quantity of existing T8 36 Tube light	Nos	653
Wattage of T8 36 Tube light	W	36
Present operating hours	Hours/Annum	2,000
Average unit cost	INR/kWh	6.35
Energy Consumption by existing T8 36 Tube light Lights	kWh/Annum	47,016
Wattage of LED	W	18
Energy Consumption by LED	kWh/Annum	23,508
Cost of one LED	INR	400
Energy savings	kWh/Annum	23,508
Cost Savings	INR/Annum	1,49,276
Investment	INR	2,61,200
Payback Period	Months	21

## 26.0 ACCREDITED ENERGY AUDITOR CERTIFICATES

 **BUREAU OF ENERGY EFFICIENCY**

Examination Registration No. : EA-3201  
Accreditation Registration No. : AEA-0023



## Certificate of Accreditation

This is to certify that Mr./Ms. B. Senthikumar having its trade/registered office at Chennai has been given accreditation as accredited energy auditor. The certificate shall be effective from 26<sup>th</sup> day of February 2013.


The certificate is subject to the provisions of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

This certificate shall be valid until it is cancelled under regulation 9 of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

On cancellation, the certificate of accreditation shall be surrendered to the Bureau within fifteen days from the date of receipt of order of cancellation.

Your name has been entered at AEA No. 0023 in the register of list of accredited energy auditors. Your name shall be liable to be struck out on the grounds specified in regulation 8 of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

Given under the seal of the Bureau of Energy Efficiency, Ministry of Power, this 26<sup>th</sup> day of May 2014.

  
Secretary,  
Bureau of Energy Efficiency  
New Delhi



In association with



THIS IS TO CERTIFY THAT

*B. Senthil Kumar*

has successfully completed a course approved by the  
Institute of Environmental Management & Assessment in

**ADVANCED EMS AUDITOR**

**(ISO 14001:2004)**

(achieving an overall mark of 75%)

13<sup>th</sup> to 17<sup>th</sup> October 2008

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A handwritten signature in blue ink, appearing to read 'Geoff Hull'.

Signed for iqms

A handwritten signature in blue ink, appearing to be a stylized name.

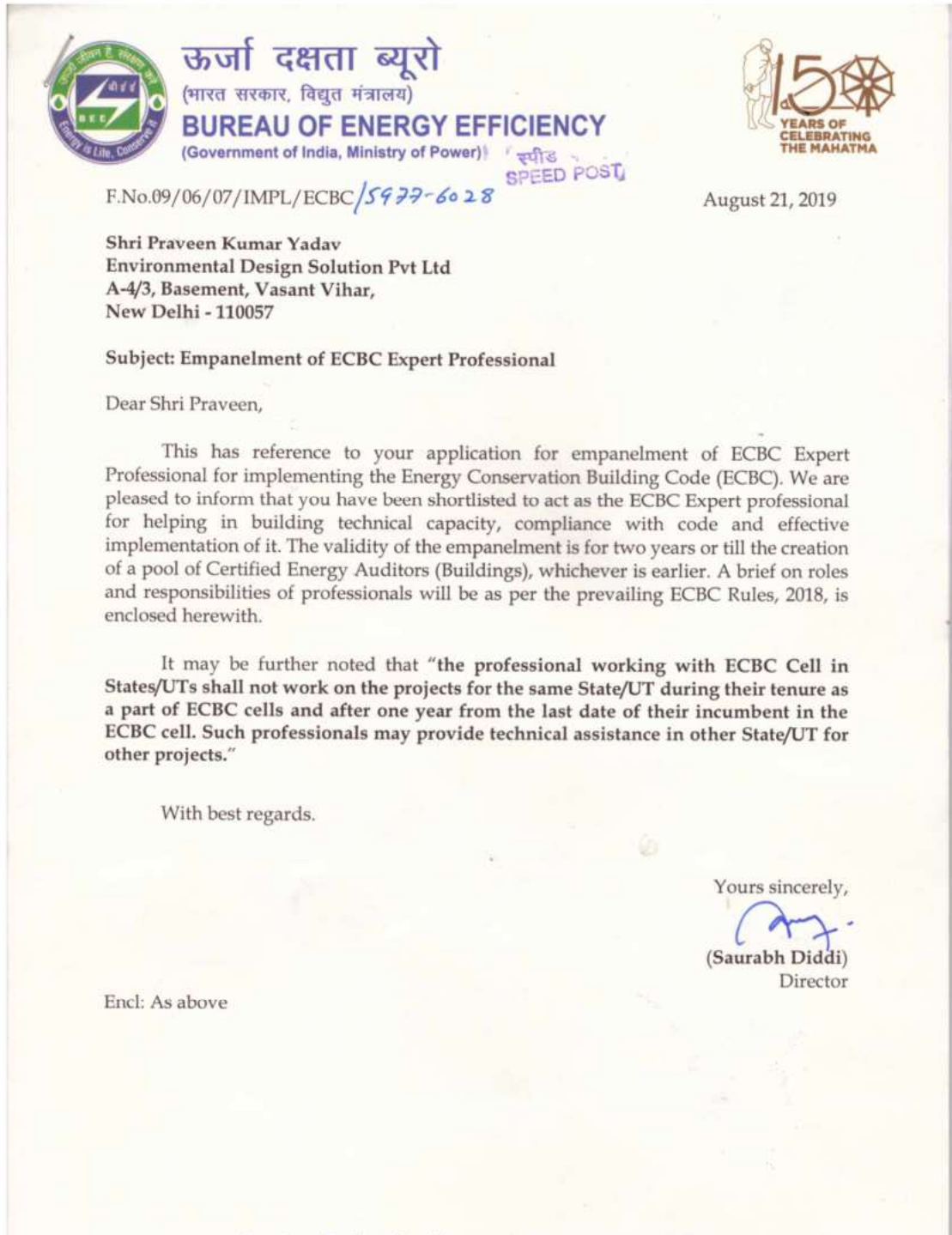
Signed for Swiso India Private Limited

**IQ – EMS42357**


CERTIFICATE NUMBER

iqms Course No: IQM/EMS407308/UK approved by IEMA









# Certificate of Compliance

This is to certify that

## NIN Energy India Private Limited

JUSA Complex, New No 47, Old No 21/2, Ponnamman Koil Street, Kottur,  
Chennai - 600085 (Tamil Nadu), India.

has been assessed by RSI and found to comply with the requirements of

### ISO/IEC 17020:2012

Operation of various types of bodies performing inspection - Requirements

for the following activities:

**Mandatory Energy Audit, Environment Audit, Green Audit, PAT Measurement and Verification (M&V),  
Power Quality Audit, Infrared Thermography, Electrical Safety Audit, Energy Management Training,  
Energy Management System, Measurement & Verification, Green Building Services,  
Renewable Energy Services, Carbon Foot Printing and Water Audit**


**Certificaat Nummer / Certificate No. : IE-BV-2207-5410**


Datum Van Publicatie / Date of Issue : 27/07/2022  
Vervaldatum / Date of Expiry : 26/07/2025  
1st Annual surveillance audit due on : 26/06/2023  
IInd Annual surveillance audit due on : 26/06/2024

**Royal Stancert B.V.**  
Feitelijke Beoordelingen - Wereldwijde Beoordelingen  
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This certificate remains the property of **Royal Stancert B.V.** and must be returned whenever demanded.  
The validity of this certificate can be verified at <http://www.royalstancert.org>. **Royal Stancert B.V.** is an independent system, product and personal assessment body accredited by Global Euro Accreditation Centre, Georgia. (GCIN - 654). Email: [info@royalstancert.org](mailto:info@royalstancert.org)

  
Director (Certification)

  
PAC-GEAC-1506-299

# Academic Year

## 2019-2020

# REPORT ON ENERGY, ENVIRONMENT AND GREEN AUDIT



## PERI INSTITUTE OF TECHNOLOGY

PERI KNOWLEDGE PARK, MANNIVAKKAM, WEST

TAMBARAM, CHENNAI- 600 048.

AUDIT CONDUCTED AND REPORT PREPARED BY



NIN ENERGY INDIA PRIVATE LIMITED  
JUSA COMPLEX, NEW NO 47, OLD NO 21/2  
PONNIAMMAN KOIL STREET, KOTTUR,  
CHENNAI-600085  
TAMILNADU, INDIA

JANUARY 2020

Dr. R. PALSON KENNEDY, M.E., Ph.D.  
PRINCIPAL  
PERI INSTITUTE OF TECHNOLOGY  
Mannivakkam, Chennai - 600 048



## ACKNOWLEDGEMENT

We thank management of PERI INSTITUTE OF TECHNOLOGY for awarding the Energy, Environment and Green Audit study at their facility at PERI Knowledge Park, Mannivakkam, West Tambaram, Chennai – 600 048 to NIN Energy India Private Limited. This report is the result of Energy Audit conducted at PERI INSTITUTE OF TECHNOLOGY January 2020.

We wish to thank the management of PERI INSTITUTE OF TECHNOLOGY for the support during the audit and for successful completion of the audit.

For NIN ENERGY INDIA PRIVATE LIMITED

(B. SENTHILKUMAR)

ACCREDITED ENERGY AUDITOR (AEA 023)

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## ABBREVIATIONS

<b>EE</b>	<b>Energy Efficiency</b>
<b>Dept</b>	Department
<b>EER</b>	Energy Efficiency Ratio
<b>INR</b>	Indian Rupees
<b>KLD</b>	Kilo Litre per day
<b>kWh</b>	Kilo Watt hour
<b>LED</b>	Light Emitting Diode
<b>LPG</b>	Liquified petroleum gas
<b>tCO2</b>	Tonne of Co2

## 1.0 INTRODUCTION ABOUT GREEN AUDIT

Green Audit is the process of assessing the environmental impact of an organization, process, project, product, etc.

Green Audit is assigned to the Criteria 7 of NAAC, National Assessment and Accreditation Council which is a self-governing organization of India that declares the institutions as Grade A, Grade B or Grade C according to the scores assigned at the time of accreditation.

## 2.0 OBJECTIVES

In recent time, the Green Audit of an institution has been becoming a paramount important for self-assessment of the institution which reflects the role of the institution in mitigating the present environmental problems.

The college has been putting efforts to keep our environment clean since its inception. Therefore, the purpose of the present green audit is to identify, quantify, describe, and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards.

The main objectives of carrying out Green Audit are:

- To map the Geographical Location of the college
- To document the floral and faunal diversity of the college
- To record the meteorological parameter of college
- To document the ambient environmental condition of weather, air, water, and noise of the college
- To document the waste disposal system
- To estimate the Energy requirements of the college
- To report the expenditure on green initiatives during the last five years

### 3.0 ABOUT THE COLLEGE / UNIVERSITY

PERI Institute of Technology (PERI IT) was established in 2010 by the PERI Educational and Charitable Trust with the objective of providing quality technical education. The Institute is built at Mannivakkam, Chennai in a sprawling area of 15 acres replete with A/C classrooms, well equipped labs, A/C transport, cafeteria, and a vast library.

PERI IT offers both B.E. and M.E. courses and is recognized as an institution offering technical education by AICTE, New Delhi. It is affiliated to Anna University of Technology, Chennai.

#### **GENESIS**

The PERI Educational and Charitable Trust was founded in 2007. The vision of the trust is to provide a world class nodal centre of education where academics, communication, comprehension, visualization, practical application, and leadership skills are imparted through encouraging research, training, and development in technical and non-technical areas.

As part of its vision, the trust established PERI Institute of Technology in 2010 with B.E. courses in Mechanical, Civil, Computers and EEE. In 2011, B.E. ECE was introduced. M.E. Applied Electronics and M.E. Computer Science were added in 2012. M.E. Power Electronics & Drives and M.E. Communication Systems were introduced in 2014.

PERI IT is the brainchild of Mr. Saravanan Periasamy, the founding President & CEO of PERI Software Solutions Inc., a leading multinational IT Consulting and Services Company based in USA and the Chairman of the PERI Educational and Charitable Trust. He is the source of inspiration and the pathfinder for this institution.

#### **ADMINISTRATIVE**

PERI IT is administered by a governing council which comprises of representatives of the PERI Educational & Charitable Trust, representatives of the State Government, the Anna University of Technology, Chennai, the All-India Council of Technical Education, New Delhi and eminent scholars and industrialists. The Governing Council is responsible for planning and monitoring all academic and administrative activities of PERI IT. The day-to-day management is conducted by an academic and administrative set up helmed by Mr. Saravanan Periasamy.

## 4.0 ABOUT NIN ENERGY INDIA PRIVATE LIMITED

NIN Energy India Private Limited is providing Energy Related services like Energy Audit, Power Quality Audit, Infrared Thermography, Thermal Audit, PAT Monitoring and Verification Audit, PAT Consultancy, Green Building Commissioning, Electrical Safety Audit, Internet of Things, Carbon Foot Printing, etc. We have experienced team and helping the customers to manage and reduce their energy consumption.

We are providing complete Energy Services under one roof at a competitive price. Our team members are having more than 10 years of experience in Energy, Renewable Energy and Environmental Engineering with good Academic background.

### Our Team Strength

- Accredited Energy Auditor by Bureau of Energy Efficiency, Government of India
- Certified Energy Auditors by Bureau of Energy Efficiency, Ministry of power
- Certified Measurement and Verification Professionals (CMVP) by EVO
- Certified Level II Thermographer
- Enlisted with Tamil Nādu Energy Development Agency (TEDA) as a system Integrator for Solar PV systems.
- Lead Auditors for ISO 50001 (Energy Management System)
- Lead Auditors for ISO 14064 (Green House Gas inventory and verification)
- Lead Auditors for ISO14000 (Environmental Management System)

## 4.1 AUDIT TEAM

The NIN Energy India private Limited team did the green audit assessment. Team details are as follows.

Name	Designation
Mr. B Senthil Kumar	Accredited Energy Auditor
Mr. T Karthikeyan	Certified Energy Auditor
Mr. S Senthamil Selvan	Sr. Engineer
Mr. S Harishragavendhar	Sr. Engineer

## 4.2 INSTRUMENTS USED FOR THE AUDIT

The NIN Energy India private Limited team did the green audit assessment. Instruments used for audit are as follows.

S. No	Name of the instrument
1	Air quality meter
2	Noise meter
3	Lux meter
4	Thermal Imager
5	Clamp meter

## 5.0 LOCATION OF THE INSTITUTION

Latitude

12.8859° N

Longitude

80.0608° E

## 6.0 GEOGRAPHICAL LOCATION WITH CAMPUS MAP IN SCALE

Land use data

CATEGORIES OF LAND USE	INDEX
<b>Alpha Block</b>	6117 Sq. ft
<b>Zeta Block</b>	23319 Sq. ft
<b>Omega Block</b>	12912 Sq. ft
<b>Sigma Block</b>	12912 Sq. ft
<b>Beta Block</b>	14463 Sq. ft
<b>Delta Block</b>	12143 Sq. ft
<b>Theta Block</b>	5159 Sq. ft
<b>Plantation Area</b>	206183 Sq. ft
<b>Total Area</b>	272.49 m <sup>2</sup>



## 7.0 ENVIRONMENTAL AUDIT

Carbon footprint is the total sum of greenhouse gases (GHG) emission caused by an organization, event, product, or person. As we are aware, the increasing concentration of GHGs in the atmosphere can accelerate climate change and global warming, it is very necessary to measure these emissions from our day-to-day activities. The first step towards managing GHG emissions is to measure them. There are some standards and guidelines to measure GHG emissions like GHG protocol, ISO 14064, the more comprehensive one Life Cycle Assessment (LCA), and market-based mechanisms. Out of them, ISO 14064 is an offset protocol and independent, voluntary GHG project accounting standard helps to quantify GHG emission of the organization, event, product, or person.

Our day-to-day activities are dependent on electricity which is mostly coming from coal-based power plants, Diesel and Petrol for our vehicles and LPG for cooking in our kitchen. All the energy we use is derived from these fossil fuels which are GHG intensive. The following Petrol, Diesel, and LPG.

**Floristic status of the institution:**

The Current situation of planted trees are as follows:

Type of Trees	Total no of Trees
No of matured trees (Age more than 10 years)	119
No of Semi matured trees (Age below 10 years)	1257
No of plants/herbs/Shrubs	354
No of medicinal plants	2
Any other plants details if any	5
<b>Total</b>	<b>1737</b>

### Carbon absorption by flora in the Institution

Carbon absorption capacity of one matured tree = 6.8 kg of CO<sub>2</sub>. Carbon absorption capacity of one full grown tree = 3.4 kg of CO<sub>2</sub>. In bushes it absorbs an average of 200 g of CO<sub>2</sub>. The carbon absorption capacity of a 10-sq.ft. area of lawn is 1 g CO<sub>2</sub>.

1. Therefore, the carbon absorption capacity of 119 matured trees in the campus of the Institution ( $119 \times 6.8 \text{ kg CO}_2/\text{Annum}$ ) = 809.2 kg of CO<sub>2</sub>/Annum.

2. The carbon absorption capacity of 1257 semi-grown trees in campus of  $1257 \times 3.4 \text{ kg CO}_2/\text{Annum}$ ) = 4274 kg of CO<sub>2</sub>/Annum.

3. There are 354 bushes of various species being raised in the gardens of the Institution, total carbon absorption was calculated to be  $354 \times 200 \text{ g CO}_2/\text{Annum} = 71 \text{ kg of CO}_2/\text{Annum}$

**The grand total of carbon absorption by the flora in the campus is 5154 kg per year.**

#### CO2 REDUCTION MEASURES:

Energy Saving measures	CO2 reduction, Tons/Annum
Replace existing Conventional fan to BLDC Fan	86.53
Replace existing Wall mounted fan to BLDC Fan	3.06
Replace existing T8 36 to LED Light	14.44
<b>Total</b>	<b>104.03</b>

**Net Carbon emission of the campus**

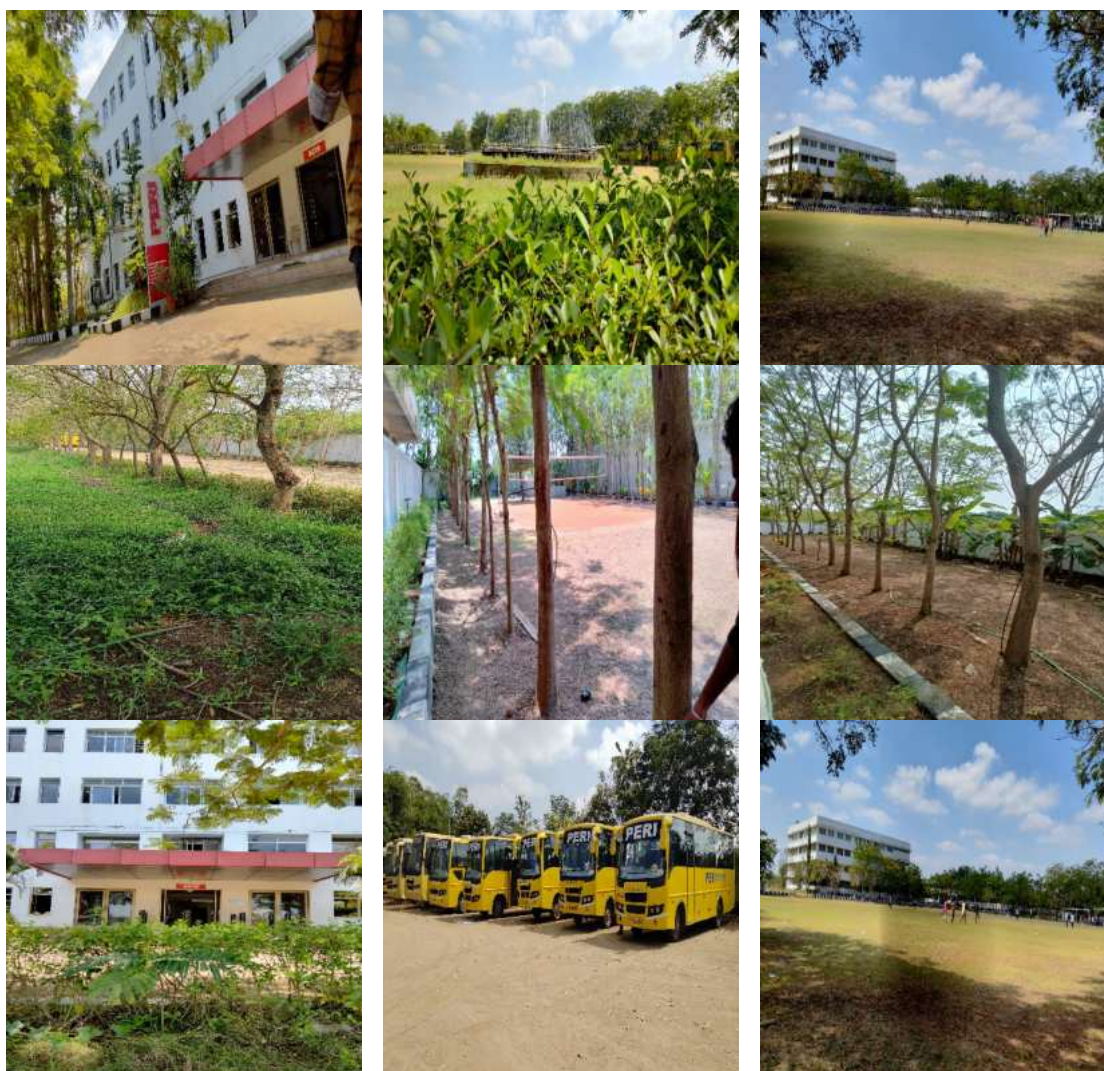
Description	Unit	Values
Carbon emitted due to the energy consumption in the campus	tCO <sub>2</sub> /year	223.92
Carbon absorption by mature trees, semi mature trees, bushes, and lawns	tCO <sub>2</sub> /year	-51.54
<b>Net carbon emission of the campus</b>	<b>tCO<sub>2</sub> /year</b>	<b>172.38</b>
Carbon reduction opportunities by energy saving projects	tCO <sub>2</sub> /year	68.35

## 8.0 GREEN AUDIT

The list of tree species available in site

S. No	Botanical Name	Common Name	Numbers
1.	Azedaraches indica	Neem Tree	19
2.	Albizia lebbeck	Rain tree	11
3.	Tectona grandis Linn.	Teak	17
4.	Grevillea robusta	Silver Oak	18
5.	Acacia arabica	Black catechu	18

## 9.0 THE INSTITUTIONAL INITIATIVES FOR GREENING THE CAMPUS ARE AS FOLLOWS



## 10.0 LAND USE ANALYSIS

GENERAL OVERVIEW OF THE CONCEPT OF LANDUSE Land use refers to man's activities and the various uses which are carried on and derived from land. Viewing the earth from space, it is now very crucial in man's activities on natural resource. In situations of rapid changes in land use, observations of the Earth from space give the information of human activities and utilization of the landscape. Remote sensing and GIS techniques are now providing new tools for advanced land use mapping and planning. The collection of remotely sensed data facilitates the synoptic analyses of earth system, functions, patterning, and change in the local, regional as well as at global scales over time. Satellite imagery particularly is a valuable tool for generating land use map.

## 11.0 LAND USE (BUILT UP AREA) ANALYSIS

S. No	Name of the Building	Year of Construction	No of Rooms	No. Of Labs
1	Alpha Block	2010	11	5
2	Beta Block	2010	36	27
3	Delta Block (Ground Floor+2)	2010	45	3
4	Delta Block (3rd Floor)	2013		
5	Theta Block	2010	Canteen and Library	
6	Omega Block (G.F)	2010	87	Boys Hostel
7	Omega Block (first to third)	2014		
8	Sigma Block (GF)	2015	24	Girls Hostel
9	Zeta Block (GF)	2016	11	6
10	Driver & Security Cabin	2011	1	0

## 12.0 STAFFS AND STUDENTS' DETAILS

The staff and student details are as follows.

<b>No of student's details</b>	<b>931</b>
<b>No of Teaching staff</b>	<b>79</b>
<b>No of Non-Teaching staff</b>	<b>21</b>

### 13.0 TREE DIVERSITY OF THE COLLEGE/ UNIVERSITY

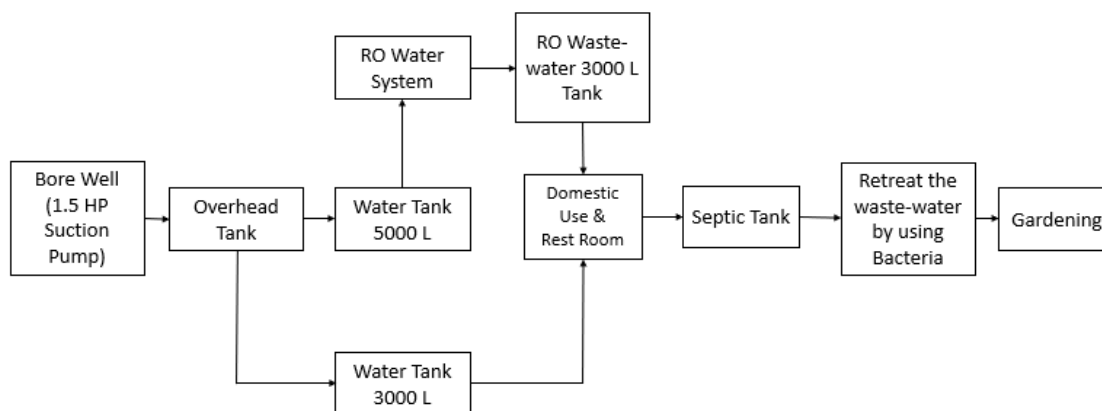
The list of tree species available in site

S. No	Botanical Name	Common Name	Numbers
1.	Azadirachata indica	Neem Tree	19
2.	Albizia lebbeck	Rain tree	11
3.	Tectona grandis Linn.	Teak	17
4.	Grevillea robusta	Silver Oak	18
5.	Acacia arabica	Black catechu	18

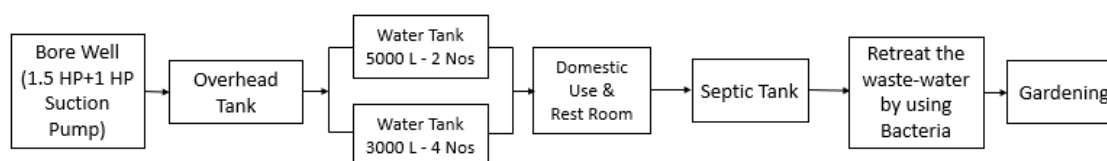
### 14.0 WATER AUDIT

#### 14.1 DIFFERENT SOURCES OF WATER AND QUANTITY RECEIVED ON MONTHLY BASIS AND AREAS OF UTILIZATION

##### BETA BLOCK WATER RESOURCE LAYOUT



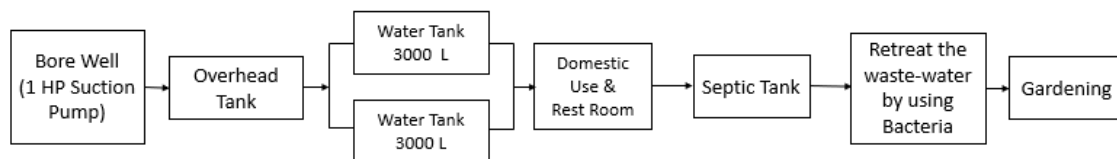
##### OMEGA BLOCK WATER RESOURCE LAYOUT



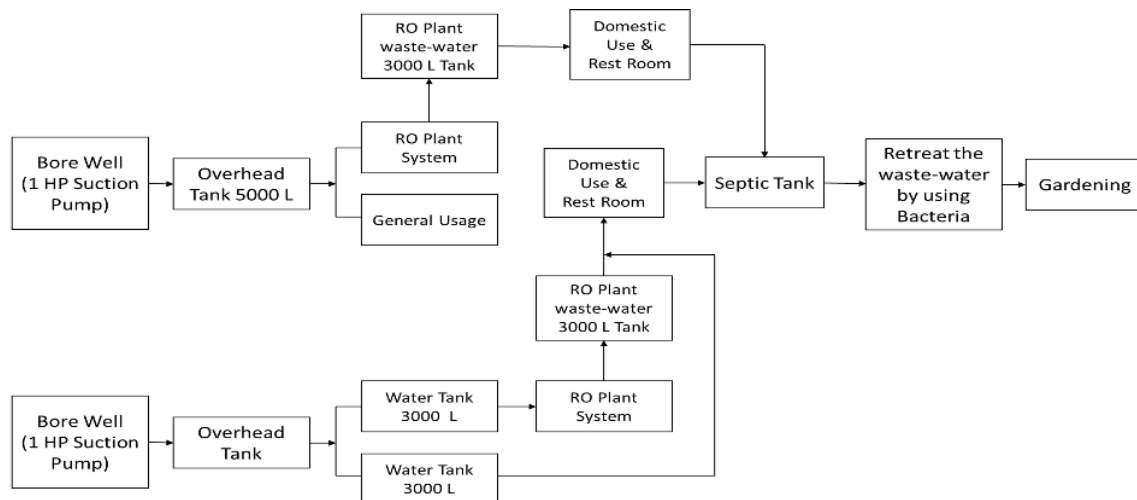
## SIGMA BLOCK WATER RESOURCE LAYOUT



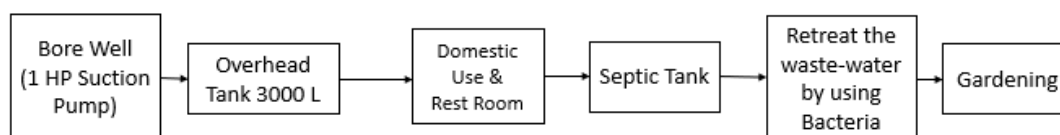
## ZETA BLOCK WATER RESOURCE LAYOUT



## DELTA BLOCK WATER RESOURCE LAYOUT



## ALPHA BLOCK WATER RESOURCE LAYOUT



S. No	Parameters	Response
1	Source of water	GROUND SIDE WATER
2	No of Wells	2
3	No of bore wells used	7
4	No of motors used	8
5	Overall average water consumption in the institution per day (in litres)	85,000 LITRES
6	Average drinking water consumption in the hostel per day (in litres)	950 LITRES
7	Average drinking water consumption in the college per day (in litres)	4,700 LITRES
8	Average Water consumption for washroom per day (in litres)	36,000 LITRES
9	Average Water consumption for gardening per day (in litres)	47,000 LITRES

## COOKING

LPG CYLINDER		
S. No	Description	Details
1	No of students in a hostel	374
2	Average LPG cylinder usage per day	7 PER WEEK
3	Average LPG cylinder usage per month	28
4	Average LPG cylinder usage per Year	336
5	Cost of one LPG cylinder	1,400 RS (19 KGS)
6	Food wasted by students/staff per day?	160 KG PER DAY

## REST ROOM (TOILETS)

HYGIENIC MEASURES		
S. No	Description	Details
1	No of rest rooms available in the campus	32 NOS
2	Availability of lighting and ventilation facilities?	YES
3	Frequency of cleaning the rest rooms per day / week?	PER DAY ONES



## 15.0 TYPES OF DEGRADABLE AND NON-DEGRADABLE WASTE

The college's degradable and non-degradable waste given to municipality corporation.

## 16.0 LUX LEVEL

The lux level survey is carried out in various location of campus and details are as follows.

S. No	Block	Floor	Location	Average Lux level	Recommended lux level as per standard
1	BETA	Ground floor	BG-3_ Manufacturing technology	95	300
2	BETA	Ground floor	Engines lab and Thermal lab	185	300
3	BETA	Ground floor	BG-1_ Electrical machines lab	145	300
4	BETA	Ground floor	Engineering practical lab (Mechanical)	106	300
5	BETA	Ground floor	Gents rest room	78	100
6	BETA	Ground floor	Hydraulics' and FM Lab	137	300
7	BETA	Ground floor	Mechanical HOD room	127	300
8	BETA	Ground floor	CSE Project lab	229	300
9	BETA	First floor	BF-8	301	300
10	BETA	First floor	Project lab	81	300
11	BETA	First floor	BF-4_ Microprocessor lab	161	300
12	BETA	First floor	Conference hall	127	300
13	BETA	Second floor	BS-7_ Tutorial room	106	300
14	BETA	Second floor	Communication lab	472	300
15	BETA	Third floor	IOT Lab	429	300
16	BETA	Third floor	Classroom	324	300
17	DELTA	Ground floor	Classroom	187	300
18	DELTA	Ground floor	Computer science lab	197	300
19	DELTA	Ground floor	Staff room	149	300
20	DELTA	First floor	DF-3	197	300
21	DELTA	First floor	DF-3	210	300
22	DELTA	First floor	DF-1_ Staff room	241	300
23	DELTA	First floor	Chemistry lab	217	300
24	DELTA	First floor	DF-6_ Physics lab	172	300
25	DELTA	Second floor	DS-10_ Classroom	154	300
26	DELTA	Second floor	Lecture hall	264	300
27	DELTA	Third floor	DT-7 classroom	172	300
28	DELTA	Third floor	DT-1 Classroom	167	300
29	THETA	Ground floor	Library	249	300
30	THETA	First floor	Canteen	297	300
31	ZETA	Ground floor	Classroom	241	300



S. No	Block	Floor	Location	Average Lux level	Recommended lux level as per standard
32	ZETA	Ground floor	Classroom	267	300
33	ZETA	Ground floor	Lab-1	574	300
34	ZETA	Ground floor	Lab-2	526	300
35	ZETA	Ground floor	Lab-4	318	300
36	ZETA	Ground floor	Lab-5	264	300
37	OMEGA	Ground floor	Boys hostel_ Rooms	238	200
38	OMEGA	Ground floor	Boys hostel_ Canteen	125	200
39	ALPHA	Ground floor	Waiting hall	61	300
40	ALPHA	Ground floor	Admin office	43	300
41	ALPHA	Ground floor	Lab	164	300
42	ALPHA	Ground floor	Classroom	90	300
43	GAMMA	Ground floor	Ladies hostel_ Rooms	128	200
44	GAMMA	Ground floor	Ladies hostel_ Rooms	264	200

**Remarks:**

It is observed that over all lux level is good in campus. Only few areas lux level needs to be improved by adding addition light.

## 17.0 AIR QUALITY OF THE COLLEGE

The Air (Prevention and Control of Pollution) Act 1981 was enacted by the Central Government with the objective of arresting the deterioration of air quality. The Air (Prevention and Control of Pollution) Act 1981 describes the main functions of the Central Pollution Control Board (CPCB) as follows:

- To Advise the Central Government on any matter concerning the improvement of the quality the air and the prevention, control, and abatement of air pollution.
- To plan and cause to be executed a nation-wide programme for the prevention, control and abatement of air pollution.
- To provide technical assistance and guidance to the State Pollution Control Board.
- To carry out and sponsor investigations and research related to prevention, control and abatement of air pollution.
- To collect, compile and publish technical and statistical data related to air pollution; and
- To lay down and annul standards for the quality of air.

### **Particulate Matter (PM10 & PM2.5)**

A mixture of particles with liquid droplets in the air forms particulate matter. PM 10 are particles that have a size of less than or equal to 10 microns whereas PM2.5 are ultra-fine particles having a size of less than or equal to 2.5 microns.

#### **Sources:**

Particulate Matter is released from constructions, smoking, cleanings, renovations, demolitions, constructions, natural hazards such as earthquakes, volcanic eruptions, and emissions from industries such as brick kilns, paper & pulp, etc.

#### **Related effects:**

These particles, when inhaled, can penetrate deeper into the respiratory system, and cause respiratory ailments such as asthma, coughing, sneezing, irritation in the airways, eyes, nose, throat irritation, etc. Studies have also shown links between PM exposure and diabetes.

The air quality details are as follows.

S. No	Block	Floor	Location	Air Quality level		
				PM 1.0	PM 2.5	PM 10
1	BETA	Ground floor	BG-3_ Manufacturing technology	43	57	105
2	BETA	Ground floor	Engines lab and Thermal lab	37	63	75
3	BETA	Ground floor	BG-1_ Electrical machines lab	32	89	74
4	BETA	Ground floor	Engineering practical lab (Mechanical)	46	71	74
5	BETA	Ground floor	Gents rest room	44	63	75
6	BETA	Ground floor	Hydraulics' and FM Lab	40	66	74
7	BETA	Ground floor	Mechanical HOD room	44	66	89
8	BETA	Ground floor	CSE Project lab	39	68	85
9	BETA	First floor	BF-8	32	71	82
10	BETA	First floor	Project lab	46	57	85
11	BETA	First floor	BF-4_ Microprocessor lab	34	63	89
12	BETA	First floor	Conference hall	44	70	82
13	BETA	Second floor	BS-7_ Tutorial room	49	87	75
14	BETA	Second floor	Communication lab	45	63	74
15	BETA	Third floor	IOT Lab	41	66	85
16	BETA	Third floor	Classroom	43	66	89
17	DELTA	Ground floor	Classroom	47	68	82
18	DELTA	Ground floor	Computer science lab	32	71	75
19	DELTA	Ground floor	Staff room	44	70	74
20	DELTA	First floor	DF-3	34	87	75
21	DELTA	First floor	DF-3	29	93	74
22	DELTA	First floor	DF-1_ Staff room	36	57	85
23	DELTA	First floor	Chemistry lab	47	61	89
24	DELTA	First floor	DF-6_ Physics lab	43	71	82
25	DELTA	Second floor	DS-10_ Classroom	43	70	75
26	DELTA	Second floor	Lecture hall	35	63	74

S. No	Block	Floor	Location	Air Quality level		
				PM 1.0	PM 2.5	PM 10
27	DELTA	Third floor	DT-7 classroom	37	66	85
28	DELTA	Third floor	DT-1 Classroom	40	66	72
29	THETA	Ground floor	Library	33	68	74
30	THETA	First floor	Canteen	35	71	89
31	ZETA	Ground floor	Classroom	36	70	82
32	ZETA	Ground floor	Classroom	31	70	97
33	ZETA	Ground floor	Lab-1	39	87	74
34	ZETA	Ground floor	Lab-2	37	93	75
35	ZETA	Ground floor	Lab-4	38	57	74
36	ZETA	Ground floor	Lab-5	33	63	85
37	OMEGA	Ground floor	Boys hostel_ Rooms	41	66	82
38	OMEGA	Ground floor	Boys hostel_ Canteen	44	66	97
39	ALPHA	Ground floor	Waiting hall	43	68	74
40	ALPHA	Ground floor	Admin office	37	57	75
41	ALPHA	Ground floor	Lab	35	63	74
42	ALPHA	Ground floor	Classroom	41	66	85
43	GAMMA	Ground floor	Ladies hostel_ Rooms	42	66	82
44	GAMMA	Ground floor	Ladies hostel_ Rooms	37	68	85

**Remarks:**

It is observed that Air quality is found to be satisfactory.

## 18.0 NOISE LEVEL IN THE SURROUNDING OF COLLEGE

### THE NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000

(The Principal Rules were published in the Gazette of India, vide S.O. 123(E), dated 14.2.2000 and subsequently amended vide S.O. 1046(E), dated 22.11.2000, S.O. 1088(E), dated 11.10.2002, S.O. 1569 (E), dated 19.09.2006 and S.O. 50 (E) dated 11.01.2010 under the Environment (Protection) Act, 1986.)

#### Ambient Air Quality Standards in respect of Noise

Area Code	Category Of Area/Zone	Limits In dB(A) Leq*	
		Day Time	Night-time
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

#### Note: -

1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
2. Night-time shall mean from 10.00 p.m. to 6.00 a.m.
3. Silence zone is an area comprising not less than 100 metres around hospitals, educational institutions, courts, religious places, or any other area which is declared as such by the competent authority.
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.
5. \* dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.
6. A "decibel" is a unit in which noise is measured.
7. "A", in dB(A) Leq, denotes the frequency weighting in the measurement of
8. noise and corresponds to frequency response characteristics of the human ear.
9. Leq: It is an energy mean of the noise level over a specified period.

The noise level in the campus details are as follows.

S. No	Block	Floor	Location	Noise level, dB
1	BETA	Ground floor	BG-3_ Manufacturing technology	57
2	BETA	Ground floor	Engines lab and Thermal lab	79
3	BETA	Ground floor	BG-1_ Electrical machines lab	84
4	BETA	Ground floor	Engineering practical lab (Mechanical)	87
5	BETA	Ground floor	Gents rest room	95
6	BETA	Ground floor	Hydraulics' and FM Lab	95
7	BETA	Ground floor	Mechanical HOD room	96
8	BETA	Ground floor	CSE Project lab	84
9	BETA	First floor	BF-8	76
10	BETA	First floor	Project lab	64
11	BETA	First floor	BF-4_ Microprocessor lab	87
12	BETA	First floor	Conference hall	85
13	BETA	Second floor	BS-7_ Tutorial room	118
14	BETA	Second floor	Communication lab	96
15	BETA	Third floor	IOT Lab	95
16	BETA	Third floor	Classroom	74
17	DELTA	Ground floor	Classroom	84
18	DELTA	Ground floor	Computer science lab	95
19	DELTA	Ground floor	Staff room	74
20	DELTA	First floor	DF-3	86
21	DELTA	First floor	DF-3	94
22	DELTA	First floor	DF-1_ Staff room	97
23	DELTA	First floor	Chemistry lab	84
24	DELTA	First floor	DF-6_ Physics lab	85
25	DELTA	Second floor	DS-10_ Classroom	64
26	DELTA	Second floor	Lecture hall	62
27	DELTA	Third floor	DT-7 classroom	98
28	DELTA	Third floor	DT-1 Classroom	92
29	THETA	Ground floor	Library	72
30	THETA	First floor	Canteen	94
31	ZETA	Ground floor	Classroom	81
32	ZETA	Ground floor	Classroom	72
33	ZETA	Ground floor	Lab-1	94
34	ZETA	Ground floor	Lab-2	83
35	ZETA	Ground floor	Lab-4	92
36	ZETA	Ground floor	Lab-5	85

S. No	Block	Floor	Location	Noise level, dB
37	OMEGA	Ground floor	Boys hostel_ Rooms	74
38	OMEGA	Ground floor	Boys hostel_ Canteen	86
39	ALPHA	Ground floor	Waiting hall	94
40	ALPHA	Ground floor	Admin office	82
41	ALPHA	Ground floor	Lab	90
42	ALPHA	Ground floor	Classroom	91
43	GAMMA	Ground floor	Ladies hostel_ Rooms	70
44	GAMMA	Ground floor	Ladies hostel_ Rooms	82

**Remarks:**

It is observed that few areas noise level is higher than 65 db. It is recommended to reduce the noise level in mentioned location.

## 19.0 ENERGY AUDIT

The plant receives two LT EB supply from TNEB. The LT Supply details as follows.

Source Of Power Supply	:	TNEB
Electric Power Supply is received from TANGEDCO	:	LT supply
Service number	:	09-571-001-3041
Sanction Load, kW	:	112
Annual Electricity Consumption, kWh	:	212013.0709
Unit charges, Rs/kWh	:	6.35

The one-year Electricity Bills for 2021-22 bill has been analysed and details as follows.

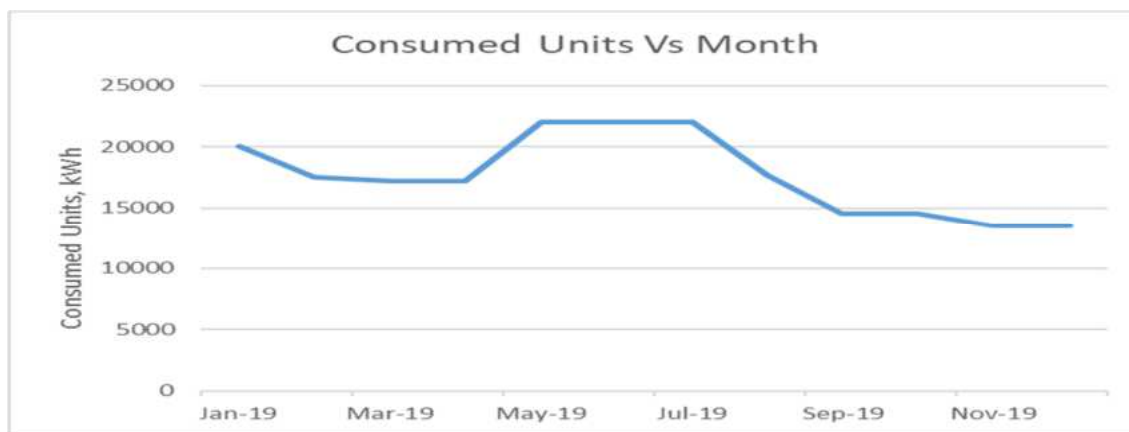
SERVICE NUMBER: 09-571-001-3041		
Month	Consumed Units, kWh	Total bill, INR
Jan-19	20081	127517
Feb-19	17543	111401
Mar-19	17226	109386
Apr-19	17226	109386
May-19	22046	139994
Jun-19	22046	139994
Jul-19	22046	139994
Aug-19	17705	112427
Sep-19	14529	92258

SERVICE NUMBER: 09-571-001-3041		
Month	Consumed Units, kWh	Total bill, INR
Oct-19	14529	92258
Nov-19	13517	85834
Dec-19	13517	85834

**Remarks:**

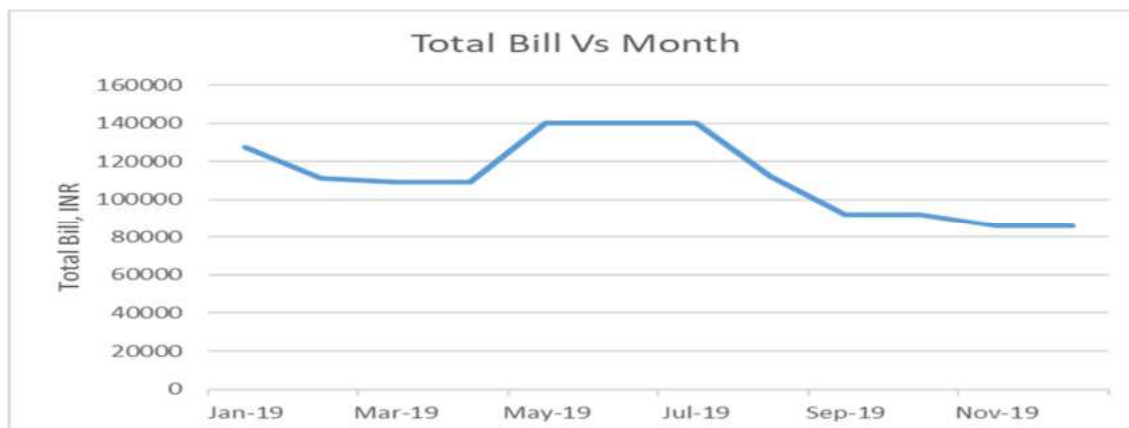
The plant has only few month EB Bills. We taken average with available EB Bills.

The units consumed over the period of one year is shown below.



The maximum unit is consumed in the month of May 2019 and minimum unit is consumed in the month of December 2019.

The bill details over the period of one year is shown below.



The maximum bill is paid in the month of May 2019 and minimum in the month of December 2019.



**Source of Electricity - 2**

The plant receives two LT EB supply from TNEB. The LT Supply details as follows.

<b>Source Of Power Supply</b>	<b>:</b>	<b>TNEB</b>
<b>Electric Power Supply is received from TANGEDCO</b>	<b>:</b>	<b>LT supply</b>
<b>Service number</b>	<b>:</b>	<b>09-571-001-6732</b>
<b>Sanction Load, kW</b>	<b>:</b>	<b>112</b>
<b>Annual Electricity Consumption, kWh</b>	<b>:</b>	<b>51427.24</b>
<b>Unit charges, Rs/kWh</b>	<b>:</b>	<b>6.35</b>

- The average consumed units, kWh is 51427.
- The average bill payment of month is 163282.

## 20.0 LIGHT DETAILS

The light details of the campus are as follows.

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS			NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT				
1	BETA BLOCK	Ground floor	BG1	T8 36		12	20	8 HOURS
2	BETA BLOCK	Ground floor	BG 2	T8 36		4	20	8 HOURS
3	BETA BLOCK	Ground floor	BG3	T8 36		6	20	8 HOURS
4	BETA BLOCK	Ground floor	BG4	T8 36		3	20	8 HOURS
5	BETA BLOCK	Ground floor	BG5	T8 36		2	20	8 HOURS
6	BETA BLOCK	Ground floor	BG6	T8 36		6	20	8 HOURS
7	BETA BLOCK	Ground floor	BG7	T8 36		3	20	8 HOURS
8	BETA BLOCK	Ground floor	BG8	T8 36		1	20	8 HOURS
9	BETA BLOCK	Ground floor	BG9	T8 36		1	20	8 HOURS
10	BETA BLOCK	Ground floor	BG10	T8 36		7	20	8 HOURS
11	BETA BLOCK	Ground floor	BG11	T8 36		2	20	8 HOURS
12	BETA BLOCK	Ground floor	BG12	T8 36		6	20	8 HOURS
13	BETA BLOCK	Ground floor	BG13	T8 36		4	20	8 HOURS
14	BETA BLOCK	Ground floor	BG14	T8 36		1	20	8 HOURS
15	BETA BLOCK	Ground floor	BG15	T8 36		2	20	8 HOURS
16	BETA BLOCK	Ground floor	BG16	T8 36		11	20	8 HOURS
17	BETA BLOCK	FRIST FLOOR	BF11	T8 36		6	20	8 HOURS
18	BETA BLOCK	FRIST FLOOR	BF12	T8 36		8	20	8 HOURS
19	BETA BLOCK	FRIST FLOOR	BF13	T8 36		6	20	8 HOURS
20	BETA BLOCK	FRIST FLOOR	BF14	T8 36		2	20	8 HOURS
21	BETA BLOCK	FRIST FLOOR	BF15	T8 36		1	20	8 HOURS
22	BETA BLOCK	FRIST FLOOR	BF16	T8 36		3	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS				NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT					
23	BETA BLOCK	FRIST FLOOR	BF17	T8 36			1	20	8 HOURS
24	BETA BLOCK	FRIST FLOOR	BF18	T8 36			3	20	8 HOURS
25	BETA BLOCK	FRIST FLOOR	BF19	T8 36			3	20	8 HOURS
26	BETA BLOCK	FRIST FLOOR	BF20	T8 36			5	20	8 HOURS
27	BETA BLOCK	FRIST FLOOR	BF21	T8 36			2	20	8 HOURS
28	BETA BLOCK	FRIST FLOOR	BF1	T8 36			3	20	8 HOURS
29	BETA BLOCK	FRIST FLOOR	BF2	T8 36			4	20	8 HOURS
30	BETA BLOCK	FRIST FLOOR	BF3	T8 36			4	20	8 HOURS
31	BETA BLOCK	FRIST FLOOR	BF4	T8 36			7	20	8 HOURS
32	BETA BLOCK	FRIST FLOOR	BF5	T8 36			7	20	8 HOURS
33	BETA BLOCK	FRIST FLOOR	BF6	T8 36			1	20	8 HOURS
34	BETA BLOCK	FRIST FLOOR	BF7	PL LIGHT			29	36	8 HOURS
35	BETA BLOCK	FRIST FLOOR	BF8	T8 36			3	20	8 HOURS
36	BETA BLOCK	FRIST FLOOR	BF9	T8 36			1	20	8 HOURS
37	BETA BLOCK	FRIST FLOOR	BF10	T8 36			1	20	8 HOURS
38	BETA BLOCK	SECOND FLOOR	BS1	T8 36			5	20	8 HOURS
39	BETA BLOCK	SECOND FLOOR	BS2	T8 36			4	20	8 HOURS
40	BETA BLOCK	SECOND FLOOR	BS3	FALSE CEILING LIGHT			9	20	8 HOURS
41	BETA BLOCK	SECOND FLOOR	BS4	FALSE CEILING LIGHT			9	20	8 HOURS
42	BETA BLOCK	SECOND FLOOR	BS5	FALSE CEILING LIGHT			9	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS				NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT					
43	BETA BLOCK	SECOND FLOOR	BS6	T8 36			5	20	8 HOURS
44	BETA BLOCK	SECOND FLOOR	BS7	T8 36			2	20	8 HOURS
45	BETA BLOCK	SECOND FLOOR	BS8	T8 36			4	20	8 HOURS
46	BETA BLOCK	SECOND FLOOR	BS9	T8 36			4	20	8 HOURS
47	BETA BLOCK	SECOND FLOOR	BS10	T8 36			1	36	8 HOURS
48	BETA BLOCK	SECOND FLOOR	BS11	T8 36			6	20	8 HOURS
49	BETA BLOCK	SECOND FLOOR	BS12	T8 36			6	20	8 HOURS
50	BETA BLOCK	SECOND FLOOR	BS13	T8 36			5	20	8 HOURS
51	BETA BLOCK	SECOND FLOOR	BS13	T8 36			1	20	8 HOURS
52	BETA BLOCK	SECOND FLOOR	BS14	T8 36			5	20	8 HOURS
53	BETA BLOCK	SECOND FLOOR	BS15	T8 36			1	20	8 HOURS
54	BETA BLOCK	SECOND FLOOR	BS16	T8 36			3	20	8 HOURS
55	BETA BLOCK	SECOND FLOOR	BS17	T8 36			4	20	8 HOURS
56	BETA BLOCK	SECOND FLOOR	BS18	T8 36			1	20	8 HOURS
57	BETA BLOCK	SECOND FLOOR	BS19	T8 36			10	20	8 HOURS
58	BETA BLOCK	Third floor	BT1	T8 36			6	20	8 HOURS
59	BETA BLOCK	Third floor	BT2	T8 36			7	20	8 HOURS
60	BETA BLOCK	Third floor	BT3	T8 36			7	20	8 HOURS
61	BETA BLOCK	Third floor	BT4	T8 36			3	20	8 HOURS
62	BETA BLOCK	Third floor	BT5	T8 36			6	20	8 HOURS
63	BETA BLOCK	Third floor	BT6	T8 36			4	20	8 HOURS
64	BETA BLOCK	Third floor	BT7	T8 36			3	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS				NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT					
65	BETA BLOCK	Third floor	BT8	T8 36			1	20	8 HOURS
66	BETA BLOCK	Third floor	BT9	T8 36			1	20	8 HOURS
67	BETA BLOCK	Third floor	BT10	T8 36			7	20	8 HOURS
68	BETA BLOCK	Third floor	BT11	T8 36			7	20	8 HOURS
69	BETA BLOCK	Third floor	BT12	T8 36			5	20	8 HOURS
70	BETA BLOCK	Third floor	BT13	T8 36			4	20	8 HOURS
71	BETA BLOCK	Third floor	BT14	T8 36			1	20	8 HOURS
72	BETA BLOCK	Third floor	BT15	T8 36			3	20	8 HOURS
73	BETA BLOCK	Third floor	BT16	T8 36			1	20	8 HOURS
74	BETA BLOCK	Third floor	BT17	T8 36			3	20	8 HOURS
75	BETA BLOCK	Third floor	BT18	T8 36			4	20	8 HOURS
76	BETA BLOCK	Third floor	BT19	T8 36			3	20	8 HOURS
77	BETA BLOCK	Third floor	BT20	T8 36			3	20	8 HOURS
78	BETA BLOCK	Third floor	BT21	T8 36			4	20	8 HOURS
79	BETA BLOCK	Third floor	BT22	T8 36			4	20	8 HOURS
80	BETA BLOCK	Third floor	BT23	T8 36			3	20	8 HOURS
81	BETA BLOCK	Third floor	BT24	T8 36			13	20	8 HOURS
82	DELTA BLOCK	Ground floor	DG1	T8 36			4	20	8 HOURS
83	DELTA BLOCK	Ground floor	DG2	T8 36			4	20	8 HOURS
84	DELTA BLOCK	Ground floor	DG3	T8 36			4	20	8 HOURS
85	DELTA BLOCK	Ground floor	DG4	T8 36			4	20	8 HOURS
86	DELTA BLOCK	Ground floor	DG5	T8 36			4	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS			NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT				
87	DELTA BLOCK	Ground floor	DG6	T8 36		4	20	8 HOURS
88	DELTA BLOCK	Ground floor	DG7	T8 36		4	20	8 HOURS
89	DELTA BLOCK	Ground floor	DG8	T8 36		4	20	8 HOURS
90	DELTA BLOCK	Ground floor	DG9	T8 36		4	20	8 HOURS
91	DELTA BLOCK	Ground floor	DG10	T8 36		2	20	8 HOURS
92	DELTA BLOCK	Ground floor	DG11	T8 36		2	20	8 HOURS
93	DELTA BLOCK	Ground floor	DG12	T8 36		1	20	8 HOURS
94	DELTA BLOCK	Ground floor	DG13	T8 36		1	20	8 HOURS
95	DELTA BLOCK	Ground floor	DG14	T8 36		8	20	8 HOURS
96	DELTA BLOCK	Ground floor	DG15	T8 36		7	20	8 HOURS
97	DELTA BLOCK	Ground floor	DG16	T8 36		3	20	8 HOURS
98	DELTA BLOCK	Ground floor	DG17	T8 36		4	20	8 HOURS
99	DELTA BLOCK	Ground floor	DG18	T8 36		8	20	8 HOURS
100	DELTA BLOCK	Ground floor	DG PASSAGE AREA	T8 36		25	20	8 HOURS
101	DELTA BLOCK	FRIST FLOOR	DF1	T8 36		10	20	8 HOURS
102	DELTA BLOCK	FRIST FLOOR	DF2	T8 36		8	20	8 HOURS
103	DELTA BLOCK	FRIST FLOOR	DF3	T8 36		5	20	8 HOURS
104	DELTA BLOCK	FRIST FLOOR	DF4	T8 36		8	20	8 HOURS
105	DELTA BLOCK	FRIST FLOOR	DF5	T8 36		9	20	8 HOURS
106	DELTA BLOCK	FRIST FLOOR	DF6	T8 36		10	20	8 HOURS
107	DELTA BLOCK	FRIST FLOOR	DF7	T8 36		5	20	8 HOURS
108	DELTA BLOCK	FRIST FLOOR	DF8	T8 36		6	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS			NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT				
109	DELTA BLOCK	FRIST FLOOR	DF9	T8 36	2	20	8 HOURS	
110	DELTA BLOCK	FRIST FLOOR	DF PASSAGE AREA	T8 36	4	20	8 HOURS	
111	DELTA BLOCK	SECOND FLOOR	DS 1	T8 36	6	20	8 HOURS	
112	DELTA BLOCK	SECOND FLOOR	DS 2	T8 36	5	20	8 HOURS	
113	DELTA BLOCK	SECOND FLOOR	DS 3	T8 36	3	20	8 HOURS	
114	DELTA BLOCK	SECOND FLOOR	DS 4	T8 36	5	20	8 HOURS	
115	DELTA BLOCK	SECOND FLOOR	DS 5	T8 36	4	20	8 HOURS	
116	DELTA BLOCK	SECOND FLOOR	DS 6	T8 36	4	20	8 HOURS	
117	DELTA BLOCK	SECOND FLOOR	DS 7	T8 36	5	20	8 HOURS	
118	DELTA BLOCK	SECOND FLOOR	DS 8	T8 36	4	20	8 HOURS	
119	DELTA BLOCK	SECOND FLOOR	DS 9	T8 36	5	20	8 HOURS	
120	DELTA BLOCK	SECOND FLOOR	DS 10	T8 36	5	20	8 HOURS	
121	DELTA BLOCK	SECOND FLOOR	DS PASSAGE AREA	T8 36	6	20	8 HOURS	
122	DELTA BLOCK	Third floor	DT1	T8 36	3	20	8 HOURS	
123	DELTA BLOCK	Third floor	DT2	T8 36	4	20	8 HOURS	
124	DELTA BLOCK	Third floor	DT3	T8 36	3	20	8 HOURS	
125	DELTA BLOCK	Third floor	DT4	T8 36	3	20	8 HOURS	
126	DELTA BLOCK	Third floor	DT5	T8 36	5	20	8 HOURS	
127	DELTA BLOCK	Third floor	DT6	T8 36	4	20	8 HOURS	
128	DELTA BLOCK	Third floor	DT7	T8 36	6	20	8 HOURS	
129	DELTA BLOCK	Third floor	DT8	T8 36	15	20	8 HOURS	
130	DELTA BLOCK	Third floor	DT9	T8 36	4	20	8 HOURS	

LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
131	DELTA BLOCK	Third floor	DT10	T8 36	4	20	8 HOURS
132	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 1	T8 36	1	20	8 HOURS
133	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 2	T8 36	2	20	8 HOURS
134	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 3	T8 36	2	20	8 HOURS
135	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 4	T8 36	2	20	8 HOURS
136	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 5	T8 36	2	20	8 HOURS
137	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 6	T8 36	1	20	8 HOURS
138	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 7	T8 36	2	20	8 HOURS
139	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 8	T8 36	2	20	8 HOURS
140	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 9	T8 36	2	20	8 HOURS
141	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 10	T8 36	2	20	8 HOURS
142	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 11	T8 36	2	20	8 HOURS
143	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 12	T8 36	2	20	8 HOURS
144	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 13	T8 36	2	20	8 HOURS
145	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 14	T8 36	2	20	8 HOURS
146	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 15	T8 36	2	20	8 HOURS
147	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 16	T8 36	2	20	8 HOURS
148	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 17	T8 36	2	20	8 HOURS
149	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 18	T8 36	2	20	8 HOURS
150	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 19	T8 36	2	20	8 HOURS
151	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 20	T8 36	2	20	8 HOURS
152	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 21	T8 36	2	20	8 HOURS



LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
153	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 22	T8 36	2	20	8 HOURS
154	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 23	T8 36	1	20	8 HOURS
155	OMEGA BLOCK	GROUND FLOOR	2 COMMON REST ROOM (MEN)	T8 36	10	20	8 HOURS
156	OMEGA BLOCK	GROUND FLOOR	PASSAGE AREA	T8 36	10	20	8 HOURS
157	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 1	T8 36	1	20	8 HOURS
158	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 2	T8 36	2	20	8 HOURS
159	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 3	T8 36	2	20	8 HOURS
160	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 4	T8 36	2	20	8 HOURS
161	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 5	T8 36	2	20	8 HOURS
162	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 6	T8 36	2	20	8 HOURS
163	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 7	T8 36	2	20	8 HOURS
164	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 8	T8 36	2	20	8 HOURS
165	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 9	T8 36	2	20	8 HOURS
166	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 10	T8 36	2	20	8 HOURS
167	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 11	T8 36	2	20	8 HOURS
168	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 12	T8 36	2	20	8 HOURS
169	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 13	T8 36	1	20	8 HOURS
170	OMEGA BLOCK	FRIST FLOOR	PASSAGE AREA	T8 36	8	20	8 HOURS
171	OMEGA BLOCK	FRIST FLOOR	1 COMMON REST ROOM (MEN)	T8 36	5	20	8 HOURS
172	OMEGA BLOCK	FRIST FLOOR	DINING HALL	T8 36	16	20	8 HOURS

LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
173	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 1	T8 36	1	20	8 HOURS
174	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 2	T8 36	2	20	8 HOURS
175	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 3	T8 36	2	20	8 HOURS
176	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 4	T8 36	2	20	8 HOURS
177	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 5	T8 36	2	20	8 HOURS
178	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 6	T8 36	2	20	8 HOURS
179	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 7	T8 36	2	20	8 HOURS
180	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 8	T8 36	2	20	8 HOURS
181	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 9	T8 36	2	20	8 HOURS
182	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 10	T8 36	2	20	8 HOURS
183	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 11	T8 36	2	20	8 HOURS
184	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 12	T8 36	2	20	8 HOURS
185	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 13	T8 36	2	20	8 HOURS
186	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 14	T8 36	2	20	8 HOURS
187	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 15	T8 36	2	20	8 HOURS
188	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 16	T8 36	2	20	8 HOURS
189	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 17	T8 36	2	20	8 HOURS
190	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 18	T8 36	2	20	8 HOURS
191	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 19	T8 36	2	20	8 HOURS
192	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 20	T8 36	2	20	8 HOURS
193	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 21	T8 36	2	20	8 HOURS
194	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 22	T8 36	2	20	8 HOURS

LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
195	OMEGA BLOCK	SECOND FLOOR	2 COMMON REST ROOM (MEN)	T8 36	10	20	8 HOURS
196	OMEGA BLOCK	SECOND FLOOR	PASSAGE AREA	T8 36	10	20	8 HOURS
197	OMEGA BLOCK	Third floor	ROOM NUMBER 1	T8 36	1	20	8 HOURS
198	OMEGA BLOCK	Third floor	ROOM NUMBER 2	T8 36	2	20	8 HOURS
199	OMEGA BLOCK	Third floor	ROOM NUMBER 3	T8 36	2	20	8 HOURS
200	OMEGA BLOCK	Third floor	ROOM NUMBER 4	T8 36	2	20	8 HOURS
201	OMEGA BLOCK	Third floor	ROOM NUMBER 5	T8 36	2	20	8 HOURS
202	OMEGA BLOCK	Third floor	ROOM NUMBER 6	T8 36	2	20	8 HOURS
203	OMEGA BLOCK	Third floor	ROOM NUMBER 7	T8 36	2	20	8 HOURS
204	OMEGA BLOCK	Third floor	ROOM NUMBER 8	T8 36	2	20	8 HOURS
205	OMEGA BLOCK	Third floor	ROOM NUMBER 9	T8 36	2	20	8 HOURS
206	OMEGA BLOCK	Third floor	ROOM NUMBER 10	T8 36	2	20	8 HOURS
207	OMEGA BLOCK	Third floor	ROOM NUMBER 11	T8 36	2	20	8 HOURS
208	OMEGA BLOCK	Third floor	ROOM NUMBER 12	T8 36	2	20	8 HOURS
209	OMEGA BLOCK	Third floor	ROOM NUMBER 13	T8 36	2	20	8 HOURS
210	OMEGA BLOCK	Third floor	ROOM NUMBER 14	T8 36	2	20	8 HOURS
211	OMEGA BLOCK	Third floor	ROOM NUMBER 15	T8 36	2	20	8 HOURS
212	OMEGA BLOCK	Third floor	ROOM NUMBER 16	T8 36	2	20	8 HOURS
213	OMEGA BLOCK	Third floor	ROOM NUMBER 17	T8 36	2	20	8 HOURS
214	OMEGA BLOCK	Third floor	ROOM NUMBER 18	T8 36	2	20	8 HOURS
215	OMEGA BLOCK	Third floor	ROOM NUMBER 19	T8 36	2	20	8 HOURS

LIGHT DETAILS								
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS	
216	OMEGA BLOCK	Third floor	ROOM NUMBER 20	T8 36	2	20	8 HOURS	
217	OMEGA BLOCK	Third floor	ROOM NUMBER 21	T8 36	2	20	8 HOURS	
218	OMEGA BLOCK	Third floor	ROOM NUMBER 22	T8 36	2	20	8 HOURS	
219	OMEGA BLOCK	SECOND FLOOR	2 COMMON REST ROOM (MEN)	T8 36	10	20	8 HOURS	
220	OMEGA BLOCK	SECOND FLOOR	PASSAGE AREA	T8 36	10	20	8 HOURS	
221	ZEETA	GROUND FLOOR	ZG1	T8 36	9	20	8 HOURS	
222	ZEETA	GROUND FLOOR	ZG2	T8 36	9	20	8 HOURS	
223	ZEETA	GROUND FLOOR	ZG3	T8 36	9	20	8 HOURS	
224	ZEETA	GROUND FLOOR	ZG4	T8 36	9	20	8 HOURS	
225	ZEETA	GROUND FLOOR	ZG5	T8 36	9	20	8 HOURS	
226	ZEETA	GROUND FLOOR	ZG6	T8 36	9	20	8 HOURS	
227	ZEETA	GROUND FLOOR	ZG7	T8 36	9	20	8 HOURS	
228	ZEETA	GROUND FLOOR	ZG8	T8 36	9	20	8 HOURS	
229	ZEETA	GROUND FLOOR	ZG9	T8 36	9	20	8 HOURS	
230	ZEETA	GROUND FLOOR	ZG10	T8 36	9	20	8 HOURS	
231	ZEETA	GROUND FLOOR	ZG11	T8 36	9	20	8 HOURS	
232	ZEETA	GROUND FLOOR	ZG12	T8 36	9	20	8 HOURS	
233	ZEETA	GROUND FLOOR	ZG13	T8 36	9	20	8 HOURS	
234	ZEETA	GROUND FLOOR	ZG14	T8 36	9	20	8 HOURS	
235	ZEETA	GROUND FLOOR	ZG15	T8 36	2	20	8 HOURS	
236	ZEETA	GROUND FLOOR	ZG16	T8 36	2	20	8 HOURS	

LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
237	ZEETA	GROUND FLOOR	ZG17	T8 36	2	20	8 HOURS
238	ZEETA	GROUND FLOOR	ZG18	T8 36	4	20	8 HOURS
239	ZEETA	GROUND FLOOR	PASSAGE AREA	T8 36	11	20	8 HOURS
240	ZEETA	GROUND FLOOR	MEN REST ROOM	T8 36	5	20	8 HOURS
241	ZEETA	GROUND FLOOR	WOMENS REST ROOM	T8 36	5	20	8 HOURS
242	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 1	LED TUBE LIGHT	2	20	8 HOURS
243	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 2	LED TUBE LIGHT	2	20	8 HOURS
244	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 3	LED TUBE LIGHT	2	20	8 HOURS
245	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 4	LED TUBE LIGHT	2	20	8 HOURS
246	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 5	LED TUBE LIGHT	2	20	8 HOURS
247	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 6	LED TUBE LIGHT	2	20	8 HOURS
248	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 7	LED TUBE LIGHT	2	20	8 HOURS
249	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 8	LED TUBE LIGHT	2	20	8 HOURS
250	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 9	LED TUBE LIGHT	2	20	8 HOURS
251	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 10	LED TUBE LIGHT	2	20	8 HOURS
252	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 11	LED TUBE LIGHT	2	20	8 HOURS
253	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 12	LED TUBE LIGHT	2	20	8 HOURS
254	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 13	LED TUBE LIGHT	2	20	8 HOURS
255	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 14	LED TUBE LIGHT	2	20	8 HOURS
256	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 15	LED TUBE LIGHT	2	20	8 HOURS
257	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 16	LED TUBE LIGHT	2	20	8 HOURS
258	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 17	LED TUBE LIGHT	2	20	8 HOURS

LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
259	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 18	LED TUBE LIGHT	2	20	8 HOURS
260	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 19	LED TUBE LIGHT	2	20	8 HOURS
261	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 20	LED TUBE LIGHT	2	20	8 HOURS
262	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 21	LED TUBE LIGHT	2	20	8 HOURS
263	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 22	LED TUBE LIGHT	2	20	8 HOURS
264	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 23	LED TUBE LIGHT	2	20	8 HOURS
265	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 24	LED TUBE LIGHT	2	20	8 HOURS
266	ALPHA BLOCK	GROUND FLOOR	2 WOMENS REAST ROOM	LED TUBE LIGHT	10	20	8 HOURS
267	ALPHA BLOCK	GROUND FLOOR	PASSAGE AREA	FALSE CEILING LIGHT	10	20	8 HOURS
268	ALPHA BLOCK	GROUND FLOOR	STAFF ROOMS	LED TUBE LIGHT	16	20	8 HOURS
269	ALPHA BLOCK	GROUND FLOOR	SRATT ROOM S	FALSE CEILING LIGHT	14	20	8 HOURS
270	ALPHA BLOCK	GROUND FLOOR	2 REST ROOM	LED TUBE LIGHT	5	20	8 HOURS
271	ALPHA BLOCK	FRIST FLOOR	PASSAGE AREA /STAFF ROOM	LED TUBE LIGHT	20	20	8 HOURS
272	ALPHA BLOCK	FRIST FLOOR	SOFTWARE ROOM	FALSE CEILING LIGHT	21	20	8 HOURS
273	ALPHA BLOCK	FRIST FLOOR	2 REST ROOMS	LED TUBE LIGHT	5	20	8 HOURS
274	ALPHA BLOCK	SECOND FLOOR	PASSAGE AREA	LED TUBE LIGHT	5	20	8 HOURS
275	ALPHA BLOCK	SECOND FLOOR	ROOMS	FALSE CEILING LIGHT	53	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS			
			LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE
276	THETA BLOCK	Ground floor	DINING AREA AND LIBRARY	LED TUBE LIGHT	45	20
277	THETA BLOCK	FRIST FLOOR	DINING AREA	LED TUBE LIGHT	27	20

## 21.0 CONVENTIONAL FAN DETSILS

The conventional fan details area as follows.

S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS			
			LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
1	BETA BKLOCK	GROUND FLOOR	BG1	7	80	8 HOURS
2	BETA BKLOCK	GROUND FLOOR	BG2	4	80	8 HOURS
3	BETA BKLOCK	GROUND FLOOR	BG3	8	80	8 HOURS
4	BETA BKLOCK	GROUND FLOOR	BG4	3	80	8 HOURS
5	BETA BKLOCK	GROUND FLOOR	BG5	2	80	8 HOURS
6	BETA BKLOCK	GROUND FLOOR	BG6	6	80	8 HOURS
7	BETA BKLOCK	GROUND FLOOR	BG8	1	80	8 HOURS
8	BETA BKLOCK	GROUND FLOOR	BG9	1	80	8 HOURS
9	BETA BKLOCK	GROUND FLOOR	BG10	5	80	8 HOURS
10	BETA BKLOCK	GROUND FLOOR	BG11	1	80	8 HOURS
11	BETA BKLOCK	GROUND FLOOR	BG12	6	80	8 HOURS
12	BETA BKLOCK	GROUND FLOOR	BG13	4	80	8 HOURS

S. NO		CEILING FAN DETAILS				
NAME OF THE BLOCK		FLOOR	LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
13	BETA BKLOCK	GROUND FLOOR	BG15	1	80	8 HOURS
14	BETA BKLOCK	GROUND FLOOR	BG16	2	80	8 HOURS
15	BETA BKLOCK	FRIST FLOOR	BF1	2	80	8 HOURS
16	BETA BKLOCK	FRIST FLOOR	BF2	4	80	8 HOURS
17	BETA BKLOCK	FRIST FLOOR	BF3	2	80	8 HOURS
18	BETA BKLOCK	FRIST FLOOR	BF4	4	80	8 HOURS
19	BETA BKLOCK	FRIST FLOOR	BF5	5	80	8 HOURS
20	BETA BKLOCK	FRIST FLOOR	BF6	5	80	8 HOURS
21	BETA BKLOCK	FRIST FLOOR	BF9	1	80	8 HOURS
22	BETA BKLOCK	FRIST FLOOR	BF10	1	80	8 HOURS
23	BETA BKLOCK	FRIST FLOOR	BF11	6	80	8 HOURS
24	BETA BKLOCK	FRIST FLOOR	BF12	1	80	8 HOURS
25	BETA BKLOCK	FRIST FLOOR	BF13	6	80	8 HOURS
26	BETA BKLOCK	FRIST FLOOR	BF14	2	80	8 HOURS
27	BETA BKLOCK	FRIST FLOOR	BF17	2	80	8 HOURS
28	BETA BKLOCK	FRIST FLOOR	BF18	2	80	8 HOURS
29	BETA BKLOCK	FRIST FLOOR	BF19	2	80	8 HOURS
30	BETA BKLOCK	FRIST FLOOR	BF20	1	80	8 HOURS
31	BETA BKLOCK	SECOND FLOOR	BS1	6	80	8 HOURS
32	BETA BKLOCK	SECOND FLOOR	BS2	6	80	8 HOURS
33	BETA BKLOCK	SECOND FLOOR	BS3	7	80	8 HOURS
34	BETA BKLOCK	SECOND FLOOR	BS4	6	80	8 HOURS
35	BETA BKLOCK	SECOND FLOOR	BS5	6	80	8 HOURS



S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS			
			LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
36	BETA BKLOCK	SECOND FLOOR	BS6	6	80	8 HOURS
37	BETA BKLOCK	SECOND FLOOR	BS7	1	80	8 HOURS
38	BETA BKLOCK	SECOND FLOOR	BS8	6	80	8 HOURS
39	BETA BKLOCK	SECOND FLOOR	BS9	4	80	8 HOURS
40	BETA BKLOCK	SECOND FLOOR	BS10	1	80	8 HOURS
41	BETA BKLOCK	SECOND FLOOR	BS11	6	80	8 HOURS
42	BETA BKLOCK	SECOND FLOOR	BS12	5	80	8 HOURS
43	BETA BKLOCK	SECOND FLOOR	BS13	6	80	8 HOURS
44	BETA BKLOCK	SECOND FLOOR	BS14	6	80	8 HOURS
45	BETA BKLOCK	SECOND FLOOR	BS16	4	80	8 HOURS
46	BETA BKLOCK	SECOND FLOOR	BS17	3	80	8 HOURS
47	BETA BKLOCK	SECOND FLOOR	BS18	1	80	8 HOURS
48	BETA BKLOCK	Third floor	BT1	6	80	8 HOURS
49	BETA BKLOCK	Third floor	BT2	8	80	8 HOURS
50	BETA BKLOCK	Third floor	BT3	7	80	8 HOURS
51	BETA BKLOCK	Third floor	BT4	3	80	8 HOURS
52	BETA BKLOCK	Third floor	BT5	6	80	8 HOURS
53	BETA BKLOCK	Third floor	BT6	6	80	8 HOURS
54	BETA BKLOCK	Third floor	BT9	7	80	8 HOURS
55	BETA BKLOCK	Third floor	BT10	9	80	8 HOURS
56	BETA BKLOCK	Third floor	BT11	1	80	8 HOURS
57	BETA BKLOCK	Third floor	BT12	7	80	8 HOURS
58	BETA BKLOCK	Third floor	BT13	4	80	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS			
			LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
59	BETA BKLOCK	Third floor	BT16	1	80	8 HOURS
60	BETA BKLOCK	Third floor	BT17	3	80	8 HOURS
61	BETA BKLOCK	Third floor	BT18	3	80	8 HOURS
62	BETA BKLOCK	Third floor	BT19	3	80	8 HOURS
63	BETA BKLOCK	Third floor	BT20	3	80	8 HOURS
64	BETA BKLOCK	Third floor	BT21	3	80	8 HOURS
65	BETA BKLOCK	Third floor	BT22	3	80	8 HOURS
66	BETA BKLOCK	Third floor	BT23	3	80	8 HOURS
67	DELTA BLOCK	Ground floor	DG1	5	80	8 HOURS
68	DELTA BLOCK	Ground floor	DG2	5	80	8 HOURS
69	DELTA BLOCK	Ground floor	DG3	5	80	8 HOURS
70	DELTA BLOCK	Ground floor	DG4	5	80	8 HOURS
71	DELTA BLOCK	Ground floor	DG5	5	80	8 HOURS
72	DELTA BLOCK	Ground floor	DG6	5	80	8 HOURS
73	DELTA BLOCK	Ground floor	DG7	5	80	8 HOURS
74	DELTA BLOCK	Ground floor	DG8	5	80	8 HOURS
75	DELTA BLOCK	Ground floor	DG9	5	80	8 HOURS
76	DELTA BLOCK	Ground floor	DG10	2	80	8 HOURS
77	DELTA BLOCK	Ground floor	DG11	3	80	8 HOURS
78	DELTA BLOCK	Ground floor	DG12	1	80	8 HOURS
79	DELTA BLOCK	Ground floor	DG13	1	80	8 HOURS
80	DELTA BLOCK	Ground floor	DG14	10	80	8 HOURS
81	DELTA BLOCK	Ground floor	DG15	1	80	8 HOURS

S. NO		NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS		LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
82		DELTA BLOCK	Ground floor			DG16	3	80	8 HOURS
83		DELTA BLOCK	Ground floor			DG17	5	80	8 HOURS
84		DELTA BLOCK	Ground floor			DG18	1	80	8 HOURS
85		DELTA BLOCK	FRIST FLOOR			DF1	13	80	8 HOURS
86		DELTA BLOCK	FRIST FLOOR			DF2	10	80	8 HOURS
87		DELTA BLOCK	FRIST FLOOR			DF3	7	80	8 HOURS
88		DELTA BLOCK	FRIST FLOOR			DF4	8	80	8 HOURS
89		DELTA BLOCK	FRIST FLOOR			DF5	14	80	8 HOURS
90		DELTA BLOCK	FRIST FLOOR			DF6	14	80	8 HOURS
91		DELTA BLOCK	FRIST FLOOR			DF7	6	80	8 HOURS
92		DELTA BLOCK	FRIST FLOOR			DF8	4	80	8 HOURS
93		DELTA BLOCK	FRIST FLOOR			DF9	2	80	8 HOURS
94		DELTA BLOCK	SECOND FLOOR			DS1	8	80	8 HOURS
95		DELTA BLOCK	SECOND FLOOR			DS2	6	80	8 HOURS
96		DELTA BLOCK	SECOND FLOOR			DS3	3	80	8 HOURS
97		DELTA BLOCK	SECOND FLOOR			DS4	10	80	8 HOURS
98		DELTA BLOCK	SECOND FLOOR			DS5	6	80	8 HOURS
99		DELTA BLOCK	SECOND FLOOR			DS6	6	80	8 HOURS
100		DELTA BLOCK	SECOND FLOOR			DS7	6	80	8 HOURS
101		DELTA BLOCK	SECOND FLOOR			DS8	7	80	8 HOURS
102		DELTA BLOCK	SECOND FLOOR			DS9	6	80	8 HOURS
103		DELTA BLOCK	SECOND FLOOR			DS10	9	80	8 HOURS
104		DELTA BLOCK	Third floor			DT1	6	80	8 HOURS

CEILING FAN DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
105	DELTA BLOCK	Third floor	DT2	8	80	8 HOURS
106	DELTA BLOCK	Third floor	DT4	4	80	8 HOURS
107	DELTA BLOCK	Third floor	DT5	6	80	8 HOURS
108	DELTA BLOCK	Third floor	DT6	6	80	8 HOURS
109	DELTA BLOCK	Third floor	DT7	6	80	8 HOURS
110	DELTA BLOCK	Third floor	DT9	7	80	8 HOURS
111	DELTA BLOCK	Third floor	DT10	8	80	8 HOURS
112	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 1	1	80	8 HOURS
113	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 2	3	80	8 HOURS
114	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 3	3	80	8 HOURS
115	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 4	3	80	8 HOURS
116	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 5	3	80	8 HOURS
117	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 6	1	80	8 HOURS
118	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 7	3	80	8 HOURS
119	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 8	3	80	8 HOURS
120	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 9	3	80	8 HOURS
121	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 10	3	80	8 HOURS
122	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 11	3	80	8 HOURS
123	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 12	3	80	8 HOURS
124	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 13	3	80	8 HOURS
125	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 14	3	80	8 HOURS
126	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 15	3	80	8 HOURS
127	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 16	3	80	8 HOURS

CEILING FAN DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
128	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 17	3	80	8 HOURS
129	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 18	3	80	8 HOURS
130	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 19	3	80	8 HOURS
131	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 20	3	80	8 HOURS
132	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 21	3	80	8 HOURS
133	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 22	3	80	8 HOURS
134	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 23	1	80	8 HOURS
135	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 1	3	80	8 HOURS
136	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 2	3	80	8 HOURS
137	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 3	3	80	8 HOURS
138	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 4	3	80	8 HOURS
139	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 5	3	80	8 HOURS
140	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 6	3	80	8 HOURS
141	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 7	3	80	8 HOURS
142	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 8	3	80	8 HOURS
143	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 9	3	80	8 HOURS
144	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 10	3	80	8 HOURS
145	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 11	3	80	8 HOURS
146	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 12	3	80	8 HOURS
147	OMEGA BLOCK	FRIST FLOOR	DINING HALL	18	80	8 HOURS
148	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 1	1	80	8 HOURS
149	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 2	3	80	8 HOURS
150	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 3	3	80	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS			
			LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
151	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 4	3	80	8 HOURS
152	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 5	3	80	8 HOURS
153	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 6	3	80	8 HOURS
154	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 7	3	80	8 HOURS
155	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 8	3	80	8 HOURS
156	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 9	3	80	8 HOURS
157	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 10	3	80	8 HOURS
158	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 11	3	80	8 HOURS
159	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 12	3	80	8 HOURS
160	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 13	3	80	8 HOURS
161	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 14	3	80	8 HOURS
162	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 15	3	80	8 HOURS
163	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 16	3	80	8 HOURS
164	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 17	3	80	8 HOURS
165	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 18	3	80	8 HOURS
166	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 19	3	80	8 HOURS
167	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 20	3	80	8 HOURS
168	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 21	3	80	8 HOURS
169	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 22	3	80	8 HOURS
170	OMEGA BLOCK	Third floor	ROOM NUMBER 1	1	80	8 HOURS
171	OMEGA BLOCK	Third floor	ROOM NUMBER 2	3	80	8 HOURS
172	OMEGA BLOCK	Third floor	ROOM NUMBER 3	3	80	8 HOURS
173	OMEGA BLOCK	Third floor	ROOM NUMBER 4	3	80	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS				
			LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS	
174	OMEGA BLOCK	Third floor	ROOM NUMBER 5	3	80	8 HOURS	
175	OMEGA BLOCK	Third floor	ROOM NUMBER 6	3	80	8 HOURS	
176	OMEGA BLOCK	Third floor	ROOM NUMBER 7	3	80	8 HOURS	
177	OMEGA BLOCK	Third floor	ROOM NUMBER 8	3	80	8 HOURS	
178	OMEGA BLOCK	Third floor	ROOM NUMBER 9	3	80	8 HOURS	
179	OMEGA BLOCK	Third floor	ROOM NUMBER 10	3	80	8 HOURS	
180	OMEGA BLOCK	Third floor	ROOM NUMBER 11	3	80	8 HOURS	
181	OMEGA BLOCK	Third floor	ROOM NUMBER 12	3	80	8 HOURS	
182	OMEGA BLOCK	Third floor	ROOM NUMBER 13	3	80	8 HOURS	
183	OMEGA BLOCK	Third floor	ROOM NUMBER 14	3	80	8 HOURS	
184	OMEGA BLOCK	Third floor	ROOM NUMBER 15	3	80	8 HOURS	
185	OMEGA BLOCK	Third floor	ROOM NUMBER 16	3	80	8 HOURS	
186	OMEGA BLOCK	Third floor	ROOM NUMBER 17	3	80	8 HOURS	
187	OMEGA BLOCK	Third floor	ROOM NUMBER 18	3	80	8 HOURS	
188	OMEGA BLOCK	Third floor	ROOM NUMBER 19	3	80	8 HOURS	
189	OMEGA BLOCK	Third floor	ROOM NUMBER 20	3	80	8 HOURS	
190	OMEGA BLOCK	Third floor	ROOM NUMBER 21	3	80	8 HOURS	
191	OMEGA BLOCK	Third floor	ROOM NUMBER 22	3	80	8 HOURS	
192	ZEETA	GROUND FLOOR	ZG1	6	80	8 HOURS	
193	ZEETA	GROUND FLOOR	ZG2	6	80	8 HOURS	
194	ZEETA	GROUND FLOOR	ZG3	6	80	8 HOURS	
195	ZEETA	GROUND FLOOR	ZG4	9	80	8 HOURS	
196	ZEETA	GROUND FLOOR	ZG5	3	80	8 HOURS	

S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS			
			LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
197	ZEETA	GROUND FLOOR	ZG6	6	80	8 HOURS
198	ZEETA	GROUND FLOOR	ZG7	6	80	8 HOURS
199	ZEETA	GROUND FLOOR	ZG8	6	80	8 HOURS
200	ZEETA	GROUND FLOOR	ZG9	6	80	8 HOURS
201	ZEETA	GROUND FLOOR	ZG10	6	80	8 HOURS
202	ZEETA	GROUND FLOOR	ZG11	4	80	8 HOURS
203	ZEETA	GROUND FLOOR	ZG12	4	80	8 HOURS
204	ZEETA	GROUND FLOOR	ZG13	4	80	8 HOURS
205	ZEETA	GROUND FLOOR	ZG14	5	80	8 HOURS
206	ZEETA	GROUND FLOOR	ZG15	1	80	8 HOURS
207	ZEETA	GROUND FLOOR	ZG16	1	80	8 HOURS
208	ZEETA	GROUND FLOOR	ZG17	1	80	8 HOURS
209	ZEETA	GROUND FLOOR	ZG18	4	80	8 HOURS
210	ZEETA	GROUND FLOOR	PASSAGE AREA	1	80	8 HOURS
211	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 1	3	80	8 HOURS
212	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 2	3	80	8 HOURS
213	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 3	3	80	8 HOURS
214	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 4	3	80	8 HOURS
215	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 5	3	80	8 HOURS
216	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 6	3	80	8 HOURS
217	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 7	3	80	8 HOURS
218	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 8	1	80	8 HOURS
219	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 9	2	80	8 HOURS



S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS			
			LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
220	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 10	3	80	8 HOURS
221	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 11	3	80	8 HOURS
222	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 12	3	80	8 HOURS
223	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 13	3	80	8 HOURS
224	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 14	3	80	8 HOURS
225	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 15	3	80	8 HOURS
226	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 16	3	80	8 HOURS
227	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 17	3	80	8 HOURS
228	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 18	3	80	8 HOURS
229	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 19	3	80	8 HOURS
230	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 20	3	80	8 HOURS
231	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 21	3	80	8 HOURS
232	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 22	3	80	8 HOURS
233	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 23	1	80	8 HOURS
234	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 24	1	80	8 HOURS
235	ALPHA BLOCK	GROUND FLOOR	STAFF ROOMS	17	80	8 HOURS
236	ALPHA BLOCK	FRIST FLOOR	STAFF ROOMS	18	80	8 HOURS
237	THETA BLOCK	Ground floor	DINING AREA AND LIBRARY	39	80	8 HOURS
238	THETA BLOCK	FRIST FLOOR	DINING AREA	18	80	8 HOURS

## 22.0 AIR CONDITIONER DETAILS

The air conditioner details area are follows.

AIR CONDITIONER DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	MAKE	MODEL (Split / Window)	NO OF AC'S	OPERATING HOURS
1	BETA BLOCK	GROUND FLOOR	SEVER ROOM	HITACHI	SPLIT	1	8 HOURS
2	BETA BLOCK	FRIST FLOOR	PLACEMENT OFFICE	HITACHI	SPLIT	1	8 HOURS
3	BETA BLOCK	FRIST FLOOR	MEETING ROOM	CARRIER	DUCTED A/C (5 TON)	1	8 HOURS
4	BETA BLOCK	FRIST FLOOR	MEETING ROOM	CARRIER	DUCTED A/C (8 TON)	1	8 HOURS
5	DELTA BLOCK	GROUND FLOOR	PRINCIPAL ROOM	HITACHI	SPLIT	1	8 HOURS
6	DELTA BLOCK	GROUND FLOOR	COMPUTER LAB	HITACHI	SPLIT	1	8 HOURS
7	DELTA BLOCK	GROUND FLOOR	COMPUTER LAB	HITACHI	SPLIT	1	8 HOURS
8	DELTA BLOCK	THIRD FLOOR	MEETING ROOM	CARRIER	DUCTED A/C (5 TON)	1	8 HOURS
9	ZEETA BLOCK	GROUND FLOOR	LAB	HITACHI	SPLIT	1	8 HOURS
10	ALPHA BLOCK	GROUND FLOOR	PRINCIPAL ROOM	HITACHI	SPLIT	1	8 HOURS
11	ALPHA BLOCK	GROUND FLOOR	STAFF ROOM	HITACHI	SPLIT	1	8 HOURS
12	ALPHA BLOCK	GROUND FLOOR	STAFF ROOM	HITACHI	SPLIT	1	8 HOURS
13	ALPHA BLOCK	FRIST FLOOR	SEVER ROOM	HITACHI	SPLIT	1	8 HOURS
14	ALPHA BLOCK	FRIST FLOOR	STAFF ROOM	HITACHI	SPLIT	1	8 HOURS
15	ALPHA BLOCK	FRIST FLOOR	STAFF ROOM	HITACHI	SPLIT	1	8 HOURS
16	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	LG	SPLIT	1	8 HOURS
17	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	WESTER	SPLIT	1	8 HOURS
18	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	WESTER	SPLIT	1	8 HOURS
19	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	HITACHI	SPLIT	1	8 HOURS
20	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	general	SPLIT	1	8 HOURS

AIR CONDITIONER DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	MAKE	MODEL (Split / Window)	NO OF AC'S	OPERATING HOURS
21	ALPHA BLOCK	FRIST FLOOR	STAFF ROOM	HITACHI	SPLIT	1	8HOURS
22	ALPHA BLOCK	SECOND FLOOR	CHIRMAN SIR ROOM	CARRIER	SPLIT	1	8HOURS
23	ALPHA BLOCK	SECOND FLOOR	CHIRMAN SIR ROOM	CARRIER	SPLIT	1	8HOURS
24	ALPHA BLOCK	SECOND FLOOR	COO SIR ROOM	CARRIER	SPLIT	1	8HOURS
25	ALPHA BLOCK	SECOND FLOOR	DINING HALL	CARRIER	SPLIT	1	8HOURS
26	ALPHA BLOCK	SECOND FLOOR	GUEST ROOM	CARRIER	SPLIT	1	8HOURS

## 23.0 WALL MOUNTED FAN DETAILS

The wall mounted fan details are as follows.

WALL MOUNTED FAN DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
1	ALPHA	GROUND FLOOR	STAFF ROOM 1	1	120	8 HOURS
2	ALPHA	GROUND FLOOR	STAFF ROOM 2	1	120	8 HOURS
3	ALPHA	GROUND FLOOR	STAFF ROOM 3	1	120	8 HOURS
4	ALPHA	GROUND FLOOR	STAFF ROOM 4	1	120	8 HOURS
5	ALPHA	GROUND FLOOR	STAFF ROOM 5	1	120	8 HOURS
6	ALPHA	FRIST FLOOR	SEVER ROOM	1	120	8 HOURS
7	ALPHA	FRIST FLOOR	SOFTWARE ROOM	8	120	8 HOURS
8	ALPHA	SECOND FLOOR	LAB	4	120	8 HOURS
9	ZEETA BLOCK	GROUND FLOOR	STAFF ROOM 1	1	120	8 HOURS
10	ZEETA BLOCK	GROUND FLOOR	STAFF ROOM 2	1	120	8 HOURS

## 24.0 EXECUTIVE SUMMARY

S. No	Energy Efficiency Measures	Estimate annual Energy Savings, kWh/Annum	Estimated Investment, INR	Monetary Savings, INR	Simple payback Period, Months
1	Replace existing T8 36 Tube light 36W to 18W LED Light	16,992	1,88,800	1,07,899	21
2	Replace existing 1018 Nos of 80W Ceiling fan to 30W Energy efficient BLDC Fan	101800	3563000	6,46,430	66
3	Replace existing 20 Nos of 120W Wall mounted fan to 30W Energy efficient BLDC Fan	3,600	70,000	22,860	37
<b>Total</b>		1,23,436	1,22,392	38,21,800	7,77,189

<b>Annual Electrical Energy consumption, kWh/Annum</b>	<b>2,63,440</b>
<b>Annual Electrical Energy Savings, kWh/Annum</b>	122392
<b>Electrical Energy Savings, %</b>	<b>46.5</b>

## 25.0 ENERGY CONSERVATIVE MEASURES

### 25.1 Replace existing Conventional fan to BLDC Fan

**Observation:**

During audit it was observed that conventional ceiling fans were used for ventilation purposes.

**Recommendation:**

It is recommended to replace those conventional ceiling fans with Energy efficient BLDC fans to observe the following energy savings.

**Estimated Savings:**

Replace existing Conventional fan to BLDC Fan		
Description	Units	Values
Quantity of existing Conventional fan	Nos	1,018
Wattage of Conventional fan	W	80
Present operating hours	Hours/Annum	2,000
Average unit cost	INR/kWh	6.35
Energy Consumption by existing Conventional fan	kWh/Annum	1,62,880
Wattage of BLDC Fan	W	30
Energy Consumption by BLDC Fan	kWh/Annum	61,080
Cost of one BLDC Fan	INR	3,500
Energy savings	kWh/Annum	1,01,800
Cost Savings	INR/Annum	6,46,430
Investment	INR	35,63,000
Payback Period	Months	66

## 25.2 Replace existing Wall mounted fan to BLDC Fan

### **Observation:**

During audit it was observed that conventional wall mounted fans were used for ventilation purposes.

### **Recommendation:**

It is recommended to replace the conventional fan to BLDC fan to reduce energy consumption.

### **Estimated Savings:**

Replace existing Wall mounted fan to BLDC Fan		
Description	Units	Values
Quantity of existing Wall mounted fan	Nos	20
Wattage of Wall Mounted fan	W	120
Present operating hours	Hours/Annum	2,000
Average unit cost	INR/kWh	6.35
Energy Consumption by existing Wall mounted fan	kWh/Annum	4,800
Wattage of BLDC Fan	W	30
Energy Consumption by BLDC Fan	kWh/Annum	1,200
Cost of one BLDC Fan	INR	3,500
Energy savings	kWh/Annum	3,600
Cost Savings	INR/Annum	22,860
Investment	INR	70,000
Payback Period	Months	37

### 25.3 Replace Existing CFL light to LED light.

#### Observation:

During audit it was observed that few T8 36 Tube light was used for illumination purpose. T8 36 Tube light consumes high power than LED Lights.

#### Recommendation:


It is recommended to replace those T8 36 Tube lights with LED lights for better lumens and to lower the power consumption. The lumens of T8 36 Tube light are 63 per watt whereas the lumens of LED light are 120 per watt.

#### Estimated Savings:


Replace existing T8 36 Tube light to LED Light		
Description	Units	Values
Quantity of existing T8 36 Tube light	Nos	472
Wattage of T8 36 Tube light	W	36
Present operating hours	Hours/Annum	2,000
Average unit cost	INR/kWh	6.35
Energy Consumption by existing T8 36 Tube light Lights	kWh/Annum	33,984
Wattage of LED	W	18
Energy Consumption by LED	kWh/Annum	16,992
Cost of one LED	INR	400
Energy savings	kWh/Annum	16,992
Cost Savings	INR/Annum	1,07,899
Investment	INR	1,88,800
Payback Period	Months	21



## 26.0 ACCREDITED ENERGY AUDITOR CERTIFICATES

 **BUREAU OF ENERGY EFFICIENCY**

Examination Registration No. : EA-3201  
Accreditation Registration No. : AEA-0023



## Certificate of Accreditation

This is to certify that Mr./Ms. B. Senthikumar having its trade/registered office at Chennai has been given accreditation as accredited energy auditor. The certificate shall be effective from 26<sup>th</sup> day of February 2013.


The certificate is subject to the provisions of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

This certificate shall be valid until it is cancelled under regulation 9 of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

On cancellation, the certificate of accreditation shall be surrendered to the Bureau within fifteen days from the date of receipt of order of cancellation.

Your name has been entered at AEA No. 0023 in the register of list of accredited energy auditors. Your name shall be liable to be struck out on the grounds specified in regulation 8 of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

Given under the seal of the Bureau of Energy Efficiency, Ministry of Power, this 26<sup>th</sup> day of May 2014.

  
Secretary,  
Bureau of Energy Efficiency  
New Delhi



In association with



THIS IS TO CERTIFY THAT

*B. Senthil Kumar*

has successfully completed a course approved by the  
Institute of Environmental Management & Assessment in

**ADVANCED EMS AUDITOR**  
**(ISO 14001:2004)**  
(achieving an overall mark of 75%)

13<sup>th</sup> to 17<sup>th</sup> October 2008

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Web: www.swisoindia.com

A handwritten signature in blue ink, appearing to read 'Geoff Hull'.

Signed for iqms

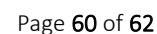
A handwritten signature in blue ink, appearing to be a stylized name.

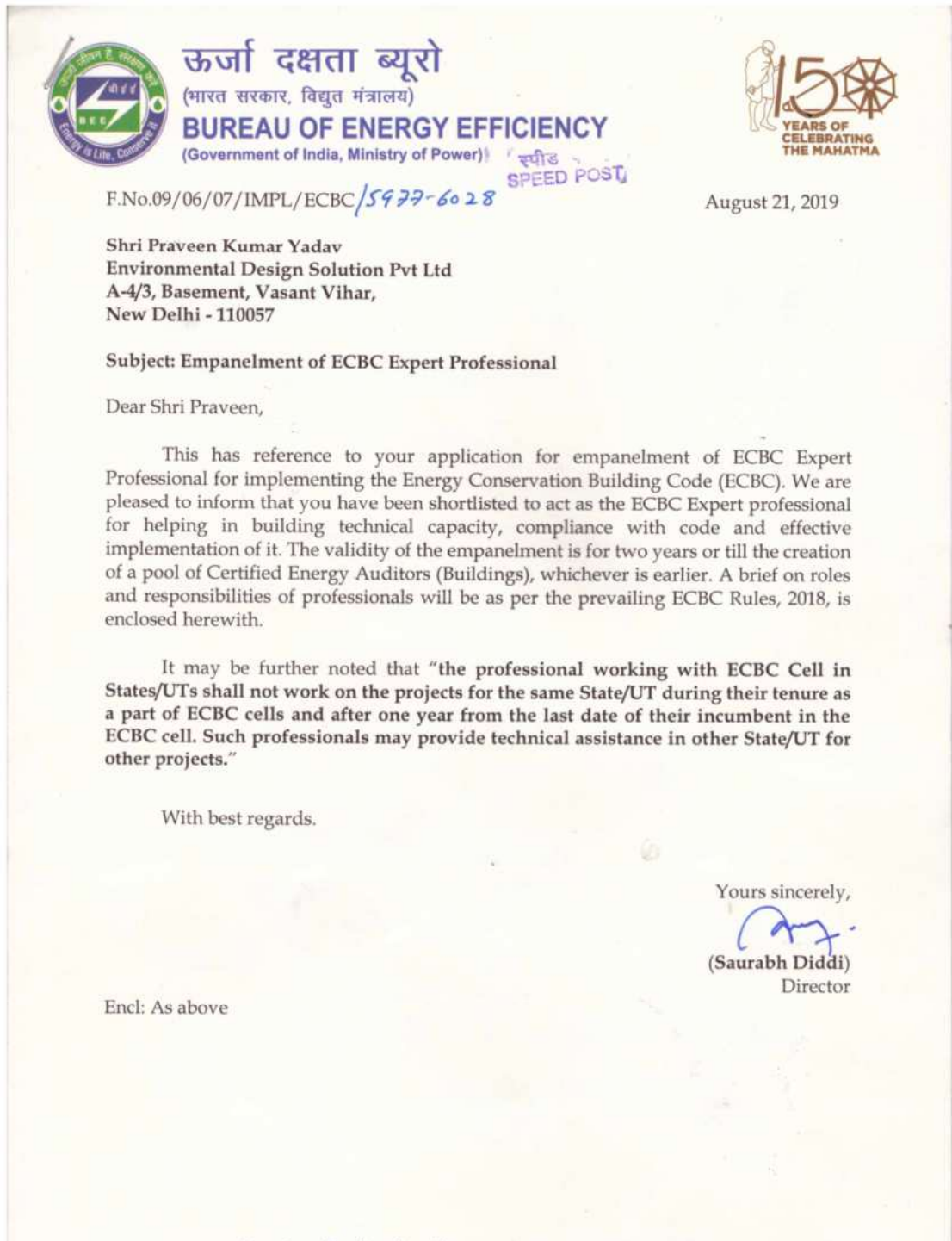
Signed for Swiso India Private Limited

**IQ – EMS42357**


CERTIFICATE NUMBER

iqms Course No: IQM/EMS407308/UK approved by IEMA









# Certificate of Compliance

This is to certify that

## NIN Energy India Private Limited

JUSA Complex, New No 47, Old No 21/2, Ponnamman Koil Street, Kottur,  
Chennai - 600085 (Tamil Nadu), India.

has been assessed by RSI and found to comply with the requirements of

### ISO/IEC 17020:2012

Operation of various types of bodies performing inspection - Requirements

for the following activities:

**Mandatory Energy Audit, Environment Audit, Green Audit, PAT Measurement and Verification (M&V),  
Power Quality Audit, Infrared Thermography, Electrical Safety Audit, Energy Management Training,  
Energy Management System, Measurement & Verification, Green Building Services,  
Renewable Energy Services, Carbon Foot Printing and Water Audit**


**Certificaat Nummer / Certificate No. : IE-BV-2207-5410**


Datum Van Publicatie / Date of Issue : 27/07/2022  
Vervaldatum / Date of Expiry : 26/07/2025  
1st Annual surveillance audit due on : 26/06/2023  
IInd Annual surveillance audit due on : 26/06/2024

**Royal Stancert B.V.**  
Feitelijke Beoordelingen - Wereldwijde Beoordelingen  
Certificaat Nummer / Certificate No. : Q-xx-xxxx-xxxx

Regd. Office - Joop Geesinkweg 701, 1114 AB Amsterdam, The Netherlands.  
(KvK-Nummer 71431802 / RSIN 858713159 - Rechtsvorm - Besloten Vennootschap).

This certificate remains the property of **Royal Stancert B.V.** and must be returned whenever demanded.  
The validity of this certificate can be verified at <http://www.royalstancert.org>. **Royal Stancert B.V.** is an independent system, product and personal assessment body accredited by Global Euro Accreditation Centre, Georgia. (GCIN - 654). Email: [info@royalstancert.org](mailto:info@royalstancert.org)

  
Director (Certification)

  
PAC-GEAC-1506-299

# Academic Year 2021-2022

# REPORT ON ENERGY, ENVIRONMENT AND GREEN AUDIT



## PERI INSTITUTE OF TECHNOLOGY

PERI KNOWLEDGE PARK, MANNIVAKKAM, WEST

TAMBARAM, CHENNAI- 600 048.

AUDIT CONDUCTED AND REPORT PREPARED BY



NIN ENERGY INDIA PRIVATE LIMITED  
JUSA COMPLEX, NEW NO 47, OLD NO 21/2  
PONNIAMMAN KOIL STREET, KOTTUR,  
CHENNAI-600085  
TAMILNADU, INDIA

JANUARY 2022

Dr. R. PALSON KENNEDY, M.E., Ph.D.  
PRINCIPAL  
PERI INSTITUTE OF TECHNOLOGY  
Mannivakkam, Chennai

## ACKNOWLEDGEMENT

We thank management of PERI INSTITUTE OF TECHNOLOGY for awarding the Energy, Environment and Green Audit study at their facility at PERI Knowledge Park, Mannivakkam, West Tambaram, Chennai – 600 048 to NIN Energy India Private Limited. This report is the result of Energy Audit conducted at PERI INSTITUTE OF TECHNOLOGY January 2022.

We wish to thank the management of PERI INSTITUTE OF TECHNOLOGY for the support during the audit and for successful completion of the audit.

For NIN ENERGY INDIA PRIVATE LIMITED

(B. SENTHILKUMAR)

ACCREDITED ENERGY AUDITOR (AEA 023)



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## ABBREVIATIONS

<b>EE</b>	<b>Energy Efficiency</b>
<b>Dept</b>	Department
<b>EER</b>	Energy Efficiency Ratio
<b>INR</b>	Indian Rupees
<b>KLD</b>	Kilo Litre per day
<b>kWh</b>	Kilo Watt hour
<b>LED</b>	Light Emitting Diode
<b>LPG</b>	Liquified petroleum gas
<b>tCO<sub>2</sub></b>	Tonne of Co <sub>2</sub>

## 1.0 INTRODUCTION ABOUT GREEN AUDIT

Green Audit is the process of assessing the environmental impact of an organization, process, project, product, etc.

Green Audit is assigned to the Criteria 7 of NAAC, National Assessment and Accreditation Council which is a self-governing organization of India that declares the institutions as Grade A, Grade B or Grade C according to the scores assigned at the time of accreditation.

## 2.0 OBJECTIVES

In recent time, the Green Audit of an institution has been becoming a paramount important for self-assessment of the institution which reflects the role of the institution in mitigating the present environmental problems.

The college has been putting efforts to keep our environment clean since its inception. Therefore, the purpose of the present green audit is to identify, quantify, describe, and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies, and standards.

The main objectives of carrying out Green Audit are:

- To map the Geographical Location of the college
- To document the floral and faunal diversity of the college
- To record the meteorological parameter of college
- To document the ambient environmental condition of weather, air, water, and noise of the college
- To document the waste disposal system
- To estimate the Energy requirements of the college
- To report the expenditure on green initiatives during the last five years

### 3.0 ABOUT THE COLLEGE / UNIVERSITY

PERI Institute of Technology (PERI IT) was established in 2010 by the PERI Educational and Charitable Trust with the objective of providing quality technical education. The Institute is built at Mannivakkam, Chennai in a sprawling area of 15 acres replete with A/C classrooms, well equipped labs, A/C transport, cafeteria, and a vast library.

PERI IT offers both B.E. and M.E. courses and is recognized as an institution offering technical education by AICTE, New Delhi. It is affiliated to Anna University of Technology, Chennai.

#### **GENESIS**

The PERI Educational and Charitable Trust was founded in 2007. The vision of the trust is to provide a world class nodal centre of education where academics, communication, comprehension, visualization, practical application, and leadership skills are imparted through encouraging research, training, and development in technical and non-technical areas.

As part of its vision, the trust established PERI Institute of Technology in 2010 with B.E. courses in Mechanical, Civil, Computers and EEE. In 2011, B.E. ECE was introduced. M.E. Applied Electronics and M.E. Computer Science were added in 2012. M.E. Power Electronics & Drives and M.E. Communication Systems were introduced in 2014.

PERI IT is the brainchild of Mr. Saravanan Periasamy, the founding President & CEO of PERI Software Solutions Inc., a leading multinational IT Consulting and Services Company based in USA and the Chairman of the PERI Educational and Charitable Trust. He is the source of inspiration and the pathfinder for this institution.

#### **ADMINISTRATIVE**

PERI IT is administered by a governing council which comprises of representatives of the PERI Educational & Charitable Trust, representatives of the State Government, the Anna University of Technology, Chennai, the All-India Council of Technical Education, New Delhi and eminent scholars and industrialists. The Governing Council is responsible for planning and monitoring all academic and administrative activities of PERI IT. The day-to-day management is conducted by an academic and administrative set up helmed by Mr. Saravanan Periasamy.

## 4.0 ABOUT NIN ENERGY INDIA PRIVATE LIMITED

NIN Energy India Private Limited is providing Energy Related services like Energy Audit, Power Quality Audit, Infrared Thermography, Thermal Audit, PAT Monitoring and Verification Audit, PAT Consultancy, Green Building Commissioning, Electrical Safety Audit, Internet of Things, Carbon Foot Printing, etc. We have experienced team and helping the customers to manage and reduce their energy consumption.

We are providing complete Energy Services under one roof at a competitive price. Our team members are having more than 10 years of experience in Energy, Renewable Energy and Environmental Engineering with good Academic background.

### Our Team Strength

- Accredited Energy Auditor by Bureau of Energy Efficiency, Government of India
- Certified Energy Auditors by Bureau of Energy Efficiency, Ministry of power
- Certified Measurement and Verification Professionals (CMVP) by EVO
- Certified Level II Thermographer
- Enlisted with Tamil Nādu Energy Development Agency (TEDA) as a system Integrator for Solar PV systems.
- Lead Auditors for ISO 50001 (Energy Management System)
- Lead Auditors for ISO 14064 (Green House Gas inventory and verification)
- Lead Auditors for ISO14000 (Environmental Management System)

### 4.1 AUDIT TEAM

The NIN Energy India private Limited team did the green audit assessment. Team details are as follows.

Name	Designation
Mr. B Senthil Kumar	Accredited Energy Auditor
Mr. T Karthikeyan	Certified Energy Auditor
Mr. S Senthamil Selvan	Sr. Engineer
Mr. S Harishragavendhar	Sr. Engineer

## 4.2 INSTRUMENTS USED FOR THE AUDIT

The NIN Energy India private Limited team did the green audit assessment. Instruments used for audit are as follows.

S. No	Name of the instrument
1	Air quality meter
2	Noise meter
3	Lux meter
4	Thermal Imager
5	Clamp meter

## 5.0 LOCATION OF THE INSTITUTION

Latitude

12.8859° N

Longitude

80.0608° E

## 6.0 GEOGRAPHICAL LOCATION WITH CAMPUS MAP IN SCALE

Land use data

CATEGORIES OF LAND USE	INDEX
<b>Alpha Block</b>	6117 Sq. ft
<b>Zeta Block</b>	23319 Sq. ft
<b>Omega Block</b>	12912 Sq. ft
<b>Sigma Block</b>	12912 Sq. ft
<b>Beta Block</b>	14463 Sq. ft
<b>Delta Block</b>	12143 Sq. ft
<b>Theta Block</b>	5159 Sq. ft
<b>Plantation Area</b>	206183 Sq. ft
<b>Total Area</b>	272.49 m <sup>2</sup>

## 7.0 ENVIRONMENTAL AUDIT

Carbon footprint is the total sum of greenhouse gases (GHG) emission caused by an organization, event, product, or person. As we are aware, the increasing concentration of GHGs in the atmosphere can accelerate climate change and global warming, it is very necessary to measure these emissions from our day-to-day activities. The first step towards managing GHG emissions is to measure them. There are some standards and guidelines to measure GHG emissions like GHG protocol, ISO 14064, the more comprehensive one Life Cycle Assessment (LCA), and market-based mechanisms. Out of them, ISO 14064 is an offset protocol and independent, voluntary GHG project accounting standard helps to quantify GHG emission of the organization, event, product, or person.

Our day-to-day activities are dependent on electricity which is mostly coming from coal-based power plants, Diesel and Petrol for our vehicles and LPG for cooking in our kitchen. All the energy we use is derived from these fossil fuels which are GHG intensive. The following Petrol, Diesel, and LPG.

### Floristic status of the institution:

The Current situation of planted trees are as follows:

Type of Trees	Total no of Trees
No of matured trees (Age more than 10 years)	131
No of Semi matured trees (Age below 10 years)	1429
No of plants/herbs/Shrubs	395
No of medicinal plants	2
Any other plants details if any	5
<b>Total</b>	<b>1962</b>

### Carbon absorption by flora in the Institution

Carbon absorption capacity of one matured tree = 6.8 kg of CO<sub>2</sub>. Carbon absorption capacity of one full grown tree = 3.4 kg of CO<sub>2</sub>. In bushes it absorbs an average of 200 g of CO<sub>2</sub>. The carbon absorption capacity of a 10-sq.ft. area of lawn is 1 g CO<sub>2</sub>.

1. Therefore, the carbon absorption capacity of 131 matured trees in the campus of the Institution ( $131 \times 6.8 \text{ kg CO}_2/\text{Annum}$ ) = 890 kg of CO<sub>2</sub>/Annum.
2. The carbon absorption capacity of 1429 semi-grown trees in campus of  $1429 \times 3.4 \text{ kg CO}_2/\text{Annum}$ ) = 4858 kg of CO<sub>2</sub>/Annum.
3. There are 440 bushes of various species being raised in the gardens of the Institution, total carbon absorption was calculated to be  $395 \times 200 \text{ g CO}_2/\text{Annum}$ ) = 79 kg of CO<sub>2</sub>/Annum



The grand total of carbon absorption by the flora in the campus is 5827 kg per year.

#### CO2 REDUCTION MEASURES:

Energy Saving measures	CO2 reduction, Tons/Annum
Replace existing Conventional fan to BLDC Fan	86.53
Replace existing Wall mounted fan to BLDC Fan	3.06
Replace existing T8 36 to LED Light	10.43
<b>Total</b>	<b>100.02</b>

#### Net Carbon emission of the campus

Description	Unit	Values
Carbon emitted due to the energy consumption in the campus	tCO <sub>2</sub> /year	270.66
Carbon absorption by mature trees, semi mature trees, bushes, and lawns	tCO <sub>2</sub> /year	-58.27
<b>Net carbon emission of the campus</b>	<b>tCO<sub>2</sub> /year</b>	<b>212.39</b>
Carbon reduction opportunities by energy saving projects	tCO <sub>2</sub> /year	113.25

## 8.0 GREEN AUDIT

The list of tree species available in site

S. No	Botanical Name	Common Name	Numbers
1.	Azedaraches indica	Neem Tree	23
2.	Albizia lebbeck	Rain tree	15
3.	Tectona grandis Linn.	Teak	20
4.	Grevillea robusta	Silver Oak	20
5.	Acacia arabica	Black catechu	20

## 9.0 THE INSTITUTIONAL INITIATIVES FOR GREENING THE CAMPUS ARE AS FOLLOWS





## 10.0 LAND USE ANALYSIS

GENERAL OVERVIEW OF THE CONCEPT OF LANDUSE Land use refers to man's activities and the various uses which are carried on and derived from land. Viewing the earth from space, it is now very crucial in man's activities on natural resource. In situations of rapid changes in land use, observations of the Earth from space give the information of human activities and utilization of the landscape. Remote sensing and GIS techniques are now providing new tools for advanced land use mapping and planning. The collection of remotely sensed data facilitates the synoptic analyses of earth system, functions, patterning, and change in the local, regional as well as at global scales over time. Satellite imagery particularly is a valuable tool for generating land use map.

## 11.0 LAND USE (BUILT UP AREA) ANALYSIS

S. No	Name of the Building	Year of Construction	No of Rooms	No. Of Labs
1	Alpha Block	2010	11	5
2	Beta Block	2010	36	27
3	Delta Block (Ground Floor+2)	2010	45	3
4	Delta Block (3rd Floor)	2013		
5	Theta Block	2010	Canteen and Library	
6	Omega Block (G.F)	2010	87	Boys Hostel
7	Omega Block (first to third)	2014		
8	Sigma Block (GF)	2015	24	Girls Hostel
9	Zeta Block (GF)	2016	11	6
10	Driver & Security Cabin	2011	1	0

## 12.0 STAFFS AND STUDENTS' DETAILS

The staff and student details are as follows.

<b>No of student's details</b>	<b>957</b>
<b>No of Teaching staff</b>	<b>88</b>
<b>No of Non-Teaching staff</b>	<b>23</b>

## 13.0 TREE DIVERSITY OF THE COLLEGE/ UNIVERSITY

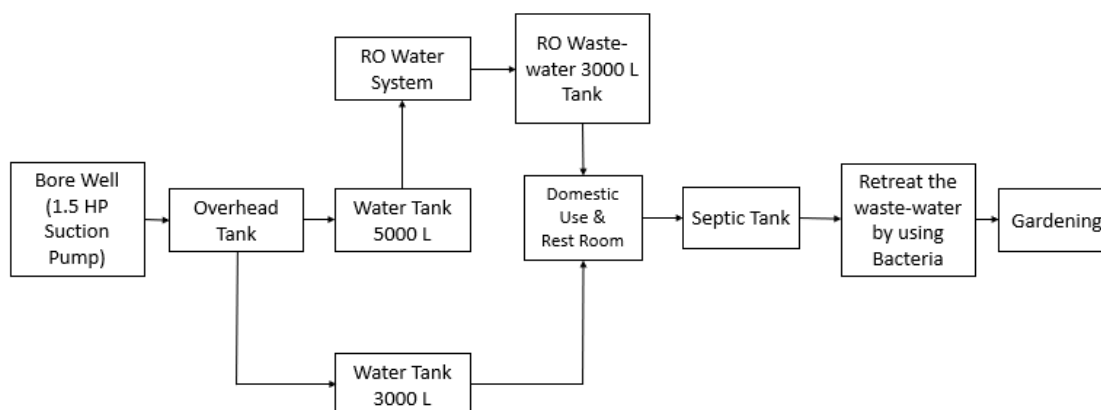
The list of tree species available in site

S. No	Botanical Name	Common Name	Numbers
1.	Azadirachata indica	Neem Tree	23
2.	Albizia lebbeck	Rain tree	15
3.	Tectona grandis Linn.	Teak	20
4.	Grevillea robusta	Silver Oak	20
5.	Acacia arabica	Black catechu	20

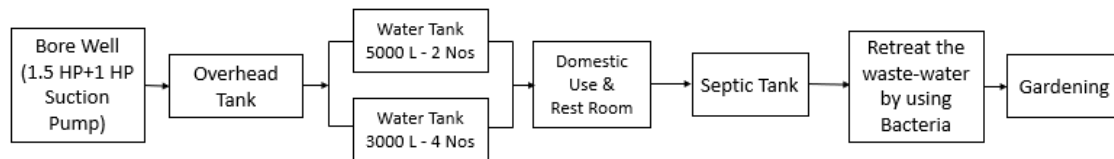
## 14.0 WATER AUDIT

### 14.1 DIFFERENT SOURCES OF WATER AND QUANTITY RECEIVED ON MONTHLY BASIS AND AREAS OF UTILIZATION

#### BETA BLOCK WATER RESOURCE LAYOUT



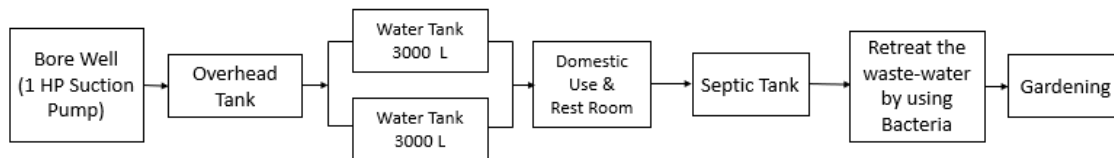
#### OMEGA BLOCK WATER RESOURCE LAYOUT



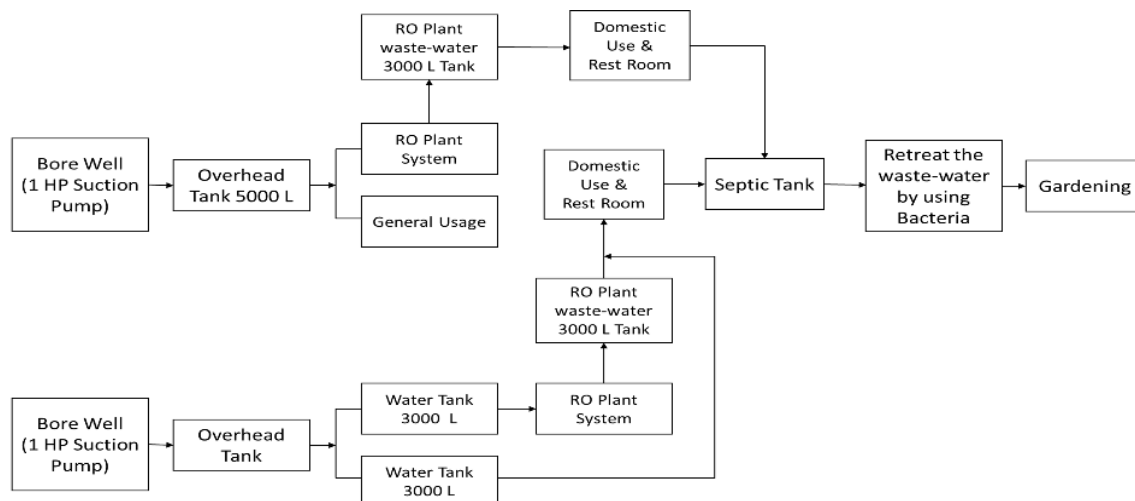
## SIGMA BLOCK WATER RESOURCE LAYOUT



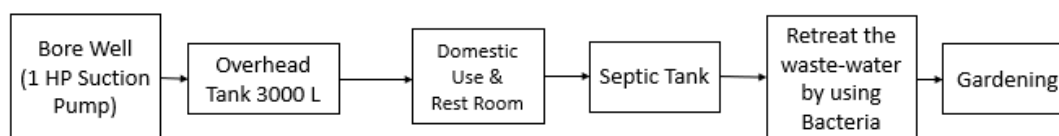
## ZETA BLOCK WATER RESOURCE LAYOUT



## DELTA BLOCK WATER RESOURCE LAYOUT



## ALPHA BLOCK WATER RESOURCE LAYOUT



S. No	Parameters	Response
1	Source of water	GROUND SIDE WATER
2	No of Wells	2
3	No of bore wells used	7
4	No of motors used	8
5	Overall average water consumption in the institution per day (in litres)	95000 LITRES
6	Average drinking water consumption in the hostel per day (in litres)	1050 LITRES
7	Average drinking water consumption in the college per day (in litres)	5100 LITRES
8	Average Water consumption for washroom per day (in litres)	38000 LITRES
9	Average Water consumption for gardening per day (in litres)	50,000 LITRES

## COOKING

LPG CYLINDER		
S. No	Description	Details
1	No of students in a hostel	390
2	Average LPG cylinder usage per day	7 PER WEEK
3	Average LPG cylinder usage per month	28
4	Average LPG cylinder usage per Year	336
5	Cost of one LPG cylinder	1,700 RS (19 KGS)
6	Food wasted by students/staff per day?	160 KG PER DAY

## REST ROOM (TOILETS)

HYGIENIC MEASURES		
S. No	Description	Details
1	No of rest rooms available in the campus	32 NOS
2	Availability of lighting and ventilation facilities?	YES
3	Frequency of cleaning the rest rooms per day / week?	PER DAY ONES



## 14.2 WATER CONSERVATION FACILITIES AVAILABLE IN THE INSTITUTION

### 14.2.1 Rainwater harvesting



### 14.2.2 Borewell /Open well recharge



## 15.0 TYPES OF DEGRADABLE AND NON-DEGRADABLE WASTE

The college's degradable and non-degradable waste given to municipality corporation.

## 16.0 LUX LEVEL

The lux level survey is carried out in various location of campus and details are as follows.

S. No	Block	Floor	Location	Average Lux level	Recommended lux level as per standard
1	BETA	Ground floor	BG-3_ Manufacturing technology	80	300
2	BETA	Ground floor	Engines lab and Thermal lab	195	300
3	BETA	Ground floor	BG-1_ Electrical machines lab	124	300
4	BETA	Ground floor	Engineering practical lab (Mechanical)	80	300
5	BETA	Ground floor	Gents rest room	72	100
6	BETA	Ground floor	Hydraulics' and FM Lab	120	300
7	BETA	Ground floor	Mechanical HOD room	125	300
8	BETA	Ground floor	CSE Project lab	210	300
9	BETA	First floor	BF-8	304	300
10	BETA	First floor	Project lab	70	300
11	BETA	First floor	BF-4_ Microprocessor lab	150	300
12	BETA	First floor	Conference hall	140	300
13	BETA	Second floor	BS-7_ Tutorial room	85	300
14	BETA	Second floor	Communication lab	512	300
15	BETA	Third floor	IOT Lab	412	300
16	BETA	Third floor	Classroom	294	300
17	DELTA	Ground floor	Classroom	165	300
18	DELTA	Ground floor	Computer science lab	170	300
19	DELTA	Ground floor	Staff room	125	300
20	DELTA	First floor	DF-3	124	300
21	DELTA	First floor	DF-3	217	300
22	DELTA	First floor	DF-1_ Staff room	197	300
23	DELTA	First floor	Chemistry lab	223	300
24	DELTA	First floor	DF-6_ Physics lab	150	300
25	DELTA	Second floor	DS-10_ Classroom	164	300
26	DELTA	Second floor	Lecture hall	240	300
27	DELTA	Third floor	DT-7 classroom	186	300
28	DELTA	Third floor	DT-1 Classroom	172	300
29	THETA	Ground floor	Library	265	300
30	THETA	First floor	Canteen	248	300
31	ZETA	Ground floor	Classroom	294	300
32	ZETA	Ground floor	Classroom	280	300
33	ZETA	Ground floor	Lab-1	568	300
34	ZETA	Ground floor	Lab-2	570	300

S. No	Block	Floor	Location	Average Lux level	Recommended lux level as per standard
35	ZETA	Ground floor	Lab-4	332	300
36	ZETA	Ground floor	Lab-5	264	300
37	OMEGA	Ground floor	Boys hostel_ Rooms	214	200
38	OMEGA	Ground floor	Boys hostel_ Canteen	101	200
39	ALPHA	Ground floor	Waiting hall	56	300
40	ALPHA	Ground floor	Admin office	40	300
41	ALPHA	Ground floor	Lab	142	300
42	ALPHA	Ground floor	Classroom	86	300
43	GAMMA	Ground floor	Ladies hostel_ Rooms	115	200
44	GAMMA	Ground floor	Ladies hostel_ Rooms	251	200

**Remarks:**

It is observed that over all lux level is good in campus. Only few areas lux level needs to be improved by adding addition light.

## 17.0 AIR QUALITY OF THE COLLEGE

The Air (Prevention and Control of Pollution) Act 1981 was enacted by the Central Government with the objective of arresting the deterioration of air quality. The Air (Prevention and Control of Pollution) Act 1981 describes the main functions of the Central Pollution Control Board (CPCB) as follows:

- To Advise the Central Government on any matter concerning the improvement of the quality the air and the prevention, control, and abatement of air pollution.
- To plan and cause to be executed a nation-wide programme for the prevention, control, and abatement of air pollution.
- To provide technical assistance and guidance to the State Pollution Control Board.
- To carry out and sponsor investigations and research related to prevention, control, and abatement of air pollution.
- To collect, compile and publish technical and statistical data related to air pollution; and
- To lay down and annul standards for the quality of air.

### Particulate Matter (PM10 & PM2.5)

A mixture of particles with liquid droplets in the air forms particulate matter. PM 10 are particles that have a size of less than or equal to 10 microns whereas PM2.5 are ultra-fine particles having a size of less than or equal to 2.5 microns.

**Sources:**



Particulate Matter is released from constructions, smoking, cleanings, renovations, demolitions, constructions, natural hazards such as earthquakes, volcanic eruptions, and emissions from industries such as brick kilns, paper & pulp, etc.

#### Related effects:

These particles, when inhaled, can penetrate deeper into the respiratory system, and cause respiratory ailments such as asthma, coughing, sneezing, irritation in the airways, eyes, nose, throat irritation, etc. Studies have also shown links between PM exposure and diabetes.

The air quality details are as follows.

S. No	Block	Floor	Location	Air Quality level		
				PM 1.0	PM 2.5	PM 10
1	BETA	Ground floor	BG-3_ Manufacturing technology	41	89	105
2	BETA	Ground floor	Engines lab and Thermal lab	39	64	79
3	BETA	Ground floor	BG-1_ Electrical machines lab	38	67	82
4	BETA	Ground floor	Engineering practical lab (Mechanical)	38	60	78
5	BETA	Ground floor	Gents rest room	36	61	77
6	BETA	Ground floor	Hydraulics' and FM Lab	36	61	91
7	BETA	Ground floor	Mechanical HOD room	39	64	98
8	BETA	Ground floor	CSE Project lab	44	77	92
9	BETA	First floor	BF-8	46	89	97
10	BETA	First floor	Project lab	39	71	89
11	BETA	First floor	BF-4_ Microprocessor lab	33	57	75
12	BETA	First floor	Conference hall	37	63	74
13	BETA	Second floor	BS-7_ Tutorial room	41	61	74
14	BETA	Second floor	Communication lab	39	57	75
15	BETA	Third floor	IOT Lab	38	63	74
16	BETA	Third floor	Classroom	38	66	85
17	DELTA	Ground floor	Classroom	36	66	82
18	DELTA	Ground floor	Computer science lab	36	68	85
19	DELTA	Ground floor	Staff room	39	71	89
20	DELTA	First floor	DF-3	31	70	82

S. No	Block	Floor	Location	Air Quality level		
				PM 1.0	PM 2.5	PM 10
21	DELTA	First floor	DF-3	31	87	97
22	DELTA	First floor	DF-1_ Staff room	35	93	107
23	DELTA	First floor	Chemistry lab	49	87	97
24	DELTA	First floor	DF-6_ Physics lab	41	61	74
25	DELTA	Second floor	DS-10_ Classroom	39	57	75
26	DELTA	Second floor	Lecture hall	38	63	74
27	DELTA	Third floor	DT-7 classroom	38	66	85
28	DELTA	Third floor	DT-1 Classroom	36	66	82
29	THETA	Ground floor	Library	36	68	85
30	THETA	First floor	Canteen	39	71	89
31	ZETA	Ground floor	Classroom	31	70	82
32	ZETA	Ground floor	Classroom	31	87	97
33	ZETA	Ground floor	Lab-1	35	93	107
34	ZETA	Ground floor	Lab-2	36	57	72
35	ZETA	Ground floor	Lab-4	33	61	74
36	ZETA	Ground floor	Lab-5	36	71	89
37	OMEGA	Ground floor	Boys hostel_ Rooms	39	70	82
38	OMEGA	Ground floor	Boys hostel_ Canteen	49	87	97
39	ALPHA	Ground floor	Waiting hall	41	61	74
40	ALPHA	Ground floor	Admin office	39	57	75
41	ALPHA	Ground floor	Lab	38	63	74
42	ALPHA	Ground floor	Classroom	38	66	85
43	GAMMA	Ground floor	Ladies hostel_ Rooms	36	66	82
44	GAMMA	Ground floor	Ladies hostel_ Rooms	36	68	85

**Remarks:**

It is observed that Air quality is found to be satisfactory.

## 18.0 NOISE LEVEL IN THE SURROUNDING OF COLLEGE

### THE NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000

(The Principal Rules were published in the Gazette of India, vide S.O. 123(E), dated 14.2.2000 and subsequently amended vide S.O. 1046(E), dated 22.11.2000, S.O. 1088(E), dated 11.10.2002, S.O. 1569 (E), dated 19.09.2006 and S.O. 50 (E) dated 11.01.2010 under the Environment (Protection) Act, 1986.)

#### Ambient Air Quality Standards in respect of Noise

Area Code	Category Of Area/Zone	Limits In dB(A) Leq*	
		Day Time	Night-time
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

#### Note: -

1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
2. Night-time shall mean from 10.00 p.m. to 6.00 a.m.
3. Silence zone is an area comprising not less than 100 metres around hospitals, educational institutions, courts, religious places, or any other area which is declared as such by the competent authority.
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.
5. \* dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.
6. A "decibel" is a unit in which noise is measured.
7. "A", in dB(A) Leq, denotes the frequency weighting in the measurement of
8. noise and corresponds to frequency response characteristics of the human ear.
9. Leq: It is an energy mean of the noise level over a specified period.

The noise level in the campus details are as follows.

S. No	Block	Floor	Location	Noise level, dB
1	BETA	Ground floor	BG-3_ Manufacturing technology	56
2	BETA	Ground floor	Engines lab and Thermal lab	75
3	BETA	Ground floor	BG-1_ Electrical machines lab	80
4	BETA	Ground floor	Engineering practical lab (Mechanical)	76
5	BETA	Ground floor	Gents rest room	74
6	BETA	Ground floor	Hydraulics' and FM Lab	86
7	BETA	Ground floor	Mechanical HOD room	84
8	BETA	Ground floor	CSE Project lab	35
9	BETA	First floor	BF-8	101
10	BETA	First floor	Project lab	110
11	BETA	First floor	BF-4_ Microprocessor lab	97
12	BETA	First floor	Conference hall	105
13	BETA	Second floor	BS-7_ Tutorial room	125
14	BETA	Second floor	Communication lab	97
15	BETA	Third floor	IOT Lab	85
16	BETA	Third floor	Classroom	97
17	DELTA	Ground floor	Classroom	64
18	DELTA	Ground floor	Computer science lab	65
19	DELTA	Ground floor	Staff room	74
20	DELTA	First floor	DF-3	58
21	DELTA	First floor	DF-3	74
22	DELTA	First floor	DF-1_ Staff room	94
23	DELTA	First floor	Chemistry lab	75
24	DELTA	First floor	DF-6_ Physics lab	84
25	DELTA	Second floor	DS-10_ Classroom	84
26	DELTA	Second floor	Lecture hall	85
27	DELTA	Third floor	DT-7 classroom	64
28	DELTA	Third floor	DT-1 Classroom	46
29	THETA	Ground floor	Library	65
30	THETA	First floor	Canteen	98
31	ZETA	Ground floor	Classroom	65
32	ZETA	Ground floor	Classroom	85
33	ZETA	Ground floor	Lab-1	84
34	ZETA	Ground floor	Lab-2	96
35	ZETA	Ground floor	Lab-4	52
36	ZETA	Ground floor	Lab-5	74
37	OMEGA	Ground floor	Boys hostel_ Rooms	65
38	OMEGA	Ground floor	Boys hostel_ Canteen	96
39	ALPHA	Ground floor	Waiting hall	74
40	ALPHA	Ground floor	Admin office	68
41	ALPHA	Ground floor	Lab	67
42	ALPHA	Ground floor	Classroom	94

S. No	Block	Floor	Location	Noise level, dB
43	GAMMA	Ground floor	Ladies hostel_ Rooms	67
44	GAMMA	Ground floor	Ladies hostel_ Rooms	48

**Remarks:**

It is observed that few areas noise level is higher than 65 db. It is recommended to reduce the noise level in mentioned location.

## 19.0 ENERGY AUDIT

### Source of Electricity - 1

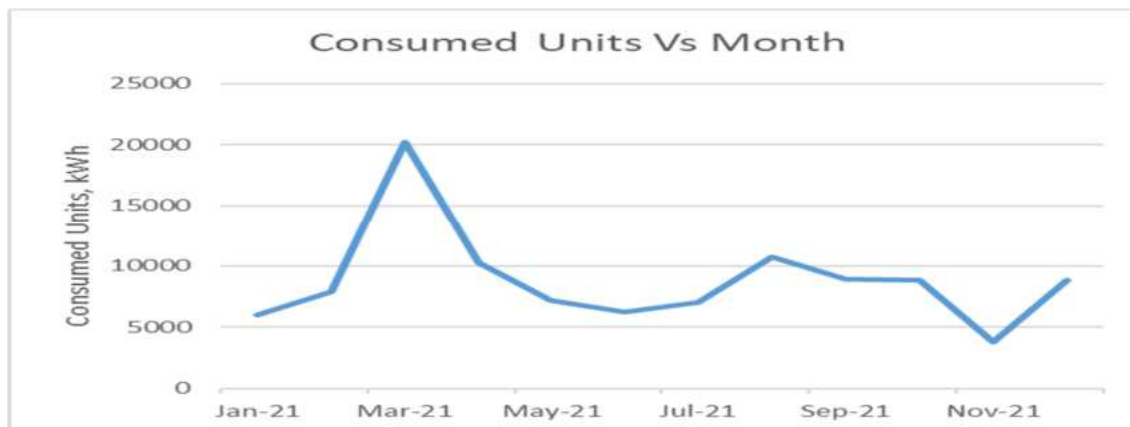
The plant receives two LT EB supply from TNEB. The LT Supply details as follows.

Source Of Power Supply	:	TNEB
Electric Power Supply is received from TANGEDCO	:	LT supply
Service number	:	09-571-001-3041
Sanction Load, kW	:	112
Annual Electricity Consumption, kWh	:	153641
Unit charges, Rs/kWh	:	6.35

The one-year Electricity Bills for 2021-22 bill has been analysed and details as follows.

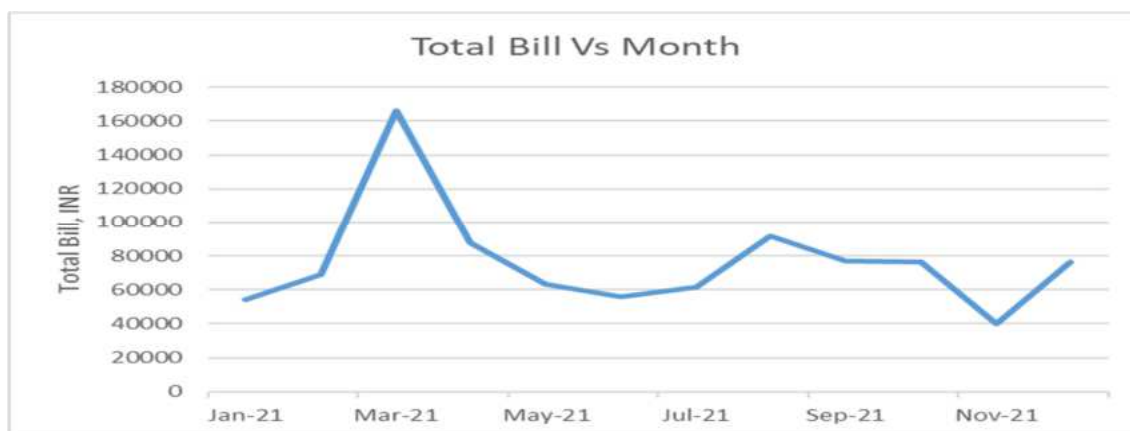
SERVICE NUMBER: 09-571-001-3041		
Month	Consumed Units, kWh	Total bill, INR
Jan-21	6000	54036
Feb-21	7880	68886
Mar-21	20240	166269
Apr-21	10280	87795
May-21	7160	63180
Jun-21	6200	55635
Jul-21	7040	61619
Aug-21	10762	91567
Sep-21	8917	77060
Oct-21	8827	76608
Nov-21	3792	40032
Dec-21	8827	76608

The units consumed over the period of one year is shown below.



The maximum unit is consumed in the month of March 2021 and minimum unit is consumed in the month of November 2021.

The bill details over the period of one year is shown below.



The maximum bill is paid in the month of March 2021 and minimum in the month of November 2021.

## Source of Electricity - 2

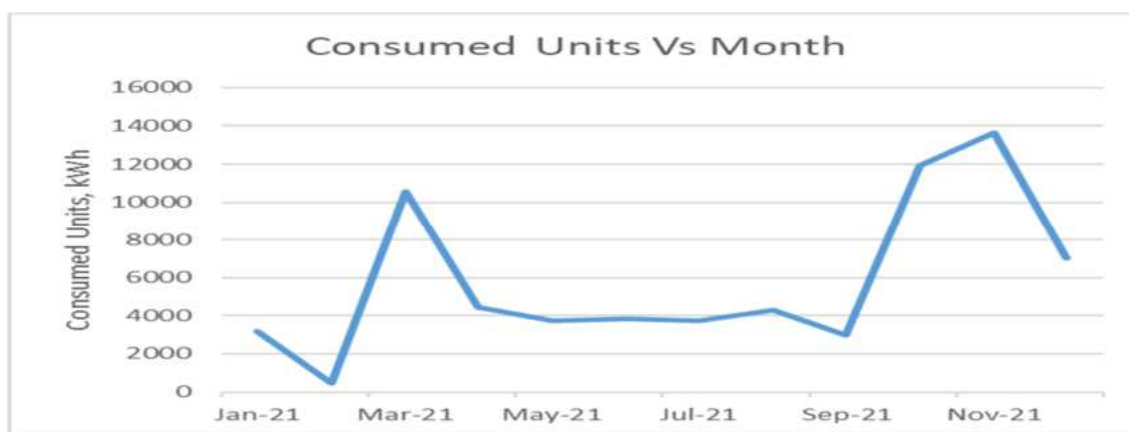
The plant receives two LT EB supply from TNEB. The LT Supply details as follows.

<b>Source Of Power Supply</b>	:	TNEB
<b>Electric Power Supply is received from TANGEDCO</b>	:	LT supply
<b>Service number</b>	:	09-571-001-6732
<b>Sanction Load, kW</b>	:	112
<b>Annual Electricity Consumption, kWh</b>	:	164784
<b>Unit charges, Rs/kWh</b>	:	6.35

The one-year Electricity Bills for 2021-22 bill has been analysed and details as follows.

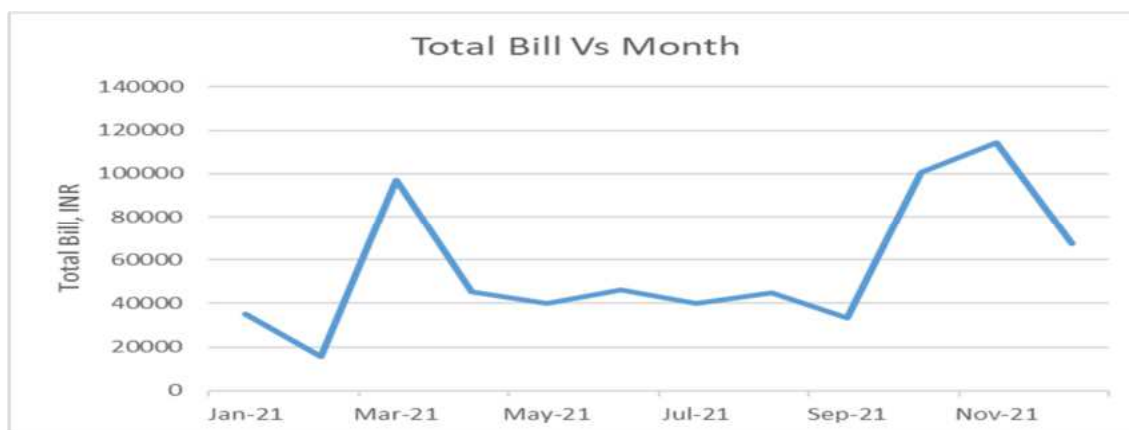
SERVICE NUMBER: 09-571-001-6732		
Month	Consumed Units, kWh	Total bill, INR
Jan-21	3200	34955
Feb-21	440	15660
Mar-21	10560	97245
Apr-21	4440	45509
May-21	3720	40003
Jun-21	3840	46231
Jul-21	3760	40009
Aug-21	4304	45021
Sep-21	2984	33136
Oct-21	11917	100736
Nov-21	13646	114345
Dec-21	7020	67338

The units consumed over the period of one year is shown below.



The maximum unit is consumed in the month of November 2021 and minimum unit is consumed in the month of February 2021.

The bill details over the period of one year is shown below.



The maximum bill is paid in the month of November 2021 and minimum in the month of February 2021.



## 20.0 LIGHT DETAILS

The light details of the campus are as follows.

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS				NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT					
1	BETA BLOCK	Ground floor	BG1	T8 36			12	20	8 HOURS
2	BETA BLOCK	Ground floor	BG 2	T8 36			4	20	8 HOURS
3	BETA BLOCK	Ground floor	BG3	T8 36			6	20	8 HOURS
4	BETA BLOCK	Ground floor	BG4	T8 36			3	20	8 HOURS
5	BETA BLOCK	Ground floor	BG5	T8 36			2	20	8 HOURS
6	BETA BLOCK	Ground floor	BG6	T8 36			6	20	8 HOURS
7	BETA BLOCK	Ground floor	BG7	T8 36			3	20	8 HOURS
8	BETA BLOCK	Ground floor	BG8	T8 36			1	20	8 HOURS
9	BETA BLOCK	Ground floor	BG9	T8 36			1	20	8 HOURS
10	BETA BLOCK	Ground floor	BG10	T8 36			7	20	8 HOURS
11	BETA BLOCK	Ground floor	BG11	T8 36			2	20	8 HOURS
12	BETA BLOCK	Ground floor	BG12	T8 36			6	20	8 HOURS
13	BETA BLOCK	Ground floor	BG13	T8 36			4	20	8 HOURS
14	BETA BLOCK	Ground floor	BG14	T8 36			1	20	8 HOURS
15	BETA BLOCK	Ground floor	BG15	T8 36			2	20	8 HOURS
16	BETA BLOCK	Ground floor	BG16	T8 36			11	20	8 HOURS
17	BETA BLOCK	FRIST FLOOR	BF11	T8 36			6	20	8 HOURS
18	BETA BLOCK	FRIST FLOOR	BF12	T8 36			8	20	8 HOURS
19	BETA BLOCK	FRIST FLOOR	BF13	T8 36			6	20	8 HOURS
20	BETA BLOCK	FRIST FLOOR	BF14	T8 36			2	20	8 HOURS
21	BETA BLOCK	FRIST FLOOR	BF15	T8 36			1	20	8 HOURS
22	BETA BLOCK	FRIST FLOOR	BF16	T8 36			3	20	8 HOURS

S. NO		NAME OF THE BLOCK	FLOOR	LOCATION	LIGHT DETAILS			NO OF LIGHTS	WATTAGE	OPERATING HOURS
					TYPE OF LIGHT					
23		BETA BLOCK	FRIST FLOOR	BF17	T8 36			1	20	8 HOURS
24		BETA BLOCK	FRIST FLOOR	BF18	T8 36			3	20	8 HOURS
25		BETA BLOCK	FRIST FLOOR	BF19	T8 36			3	20	8 HOURS
26		BETA BLOCK	FRIST FLOOR	BF20	T8 36			5	20	8 HOURS
27		BETA BLOCK	FRIST FLOOR	BF21	T8 36			2	20	8 HOURS
28		BETA BLOCK	FRIST FLOOR	BF1	T8 36			3	20	8 HOURS
29		BETA BLOCK	FRIST FLOOR	BF2	T8 36			4	20	8 HOURS
30		BETA BLOCK	FRIST FLOOR	BF3	T8 36			4	20	8 HOURS
31		BETA BLOCK	FRIST FLOOR	BF4	T8 36			7	20	8 HOURS
32		BETA BLOCK	FRIST FLOOR	BF5	T8 36			7	20	8 HOURS
33		BETA BLOCK	FRIST FLOOR	BF6	T8 36			1	20	8 HOURS
34		BETA BLOCK	FRIST FLOOR	BF7	PL LIGHT			29	36	8 HOURS
35		BETA BLOCK	FRIST FLOOR	BF8	T8 36			3	20	8 HOURS
36		BETA BLOCK	FRIST FLOOR	BF9	T8 36			1	20	8 HOURS
37		BETA BLOCK	FRIST FLOOR	BF10	T8 36			1	20	8 HOURS
38		BETA BLOCK	SECOND FLOOR	BS1	T8 36			5	20	8 HOURS
39		BETA BLOCK	SECOND FLOOR	BS2	T8 36			4	20	8 HOURS
40		BETA BLOCK	SECOND FLOOR	BS3	FALSE CEILING LIGHT			9	20	8 HOURS
41		BETA BLOCK	SECOND FLOOR	BS4	FALSE CEILING LIGHT			9	20	8 HOURS
42		BETA BLOCK	SECOND FLOOR	BS5	FALSE CEILING LIGHT			9	20	8 HOURS
43		BETA BLOCK	SECOND FLOOR	BS6	T8 36			5	20	8 HOURS
44		BETA BLOCK	SECOND FLOOR	BS7	T8 36			2	20	8 HOURS

S. NO		NAME OF THE BLOCK		FLOOR		LOCATION		LIGHT DETAILS			WATTAGE		OPERATING HOURS	
								TYPE OF LIGHT	NO OF LIGHTS					
45		BETA BLOCK		SECOND FLOOR		BS8		T8 36	4		20		8 HOURS	
46		BETA BLOCK		SECOND FLOOR		BS9		T8 36	4		20		8 HOURS	
47		BETA BLOCK		SECOND FLOOR		BS10		T8 36	1		36		8 HOURS	
48		BETA BLOCK		SECOND FLOOR		BS11		T8 36	6		20		8 HOURS	
49		BETA BLOCK		SECOND FLOOR		BS12		T8 36	6		20		8 HOURS	
50		BETA BLOCK		SECOND FLOOR		BS13		T8 36	5		20		8 HOURS	
51		BETA BLOCK		SECOND FLOOR		BS13		T8 36	1		20		8 HOURS	
52		BETA BLOCK		SECOND FLOOR		BS14		T8 36	5		20		8 HOURS	
53		BETA BLOCK		SECOND FLOOR		BS15		T8 36	1		20		8 HOURS	
54		BETA BLOCK		SECOND FLOOR		BS16		T8 36	3		20		8 HOURS	
55		BETA BLOCK		SECOND FLOOR		BS17		T8 36	4		20		8 HOURS	
56		BETA BLOCK		SECOND FLOOR		BS18		T8 36	1		20		8 HOURS	
57		BETA BLOCK		SECOND FLOOR		BS19		T8 36	10		20		8 HOURS	
58		BETA BLOCK		Third floor		BT1		T8 36	6		20		8 HOURS	
59		BETA BLOCK		Third floor		BT2		T8 36	7		20		8 HOURS	
60		BETA BLOCK		Third floor		BT3		T8 36	7		20		8 HOURS	
61		BETA BLOCK		Third floor		BT4		T8 36	3		20		8 HOURS	
62		BETA BLOCK		Third floor		BT5		T8 36	6		20		8 HOURS	
63		BETA BLOCK		Third floor		BT6		T8 36	4		20		8 HOURS	
64		BETA BLOCK		Third floor		BT7		T8 36	3		20		8 HOURS	
65		BETA BLOCK		Third floor		BT8		T8 36	1		20		8 HOURS	
66		BETA BLOCK		Third floor		BT9		T8 36	1		20		8 HOURS	
67		BETA BLOCK		Third floor		BT10		T8 36	7		20		8 HOURS	
68		BETA BLOCK		Third floor		BT11		T8 36	7		20		8 HOURS	
69		BETA BLOCK		Third floor		BT12		T8 36	5		20		8 HOURS	

S. NO		NAME OF THE BLOCK		FLOOR		LOCATION		LIGHT DETAILS			
								TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
70		BETA BLOCK		Third floor		BT13		T8 36	4	20	8 HOURS
71		BETA BLOCK		Third floor		BT14		T8 36	1	20	8 HOURS
72		BETA BLOCK		Third floor		BT15		T8 36	3	20	8 HOURS
73		BETA BLOCK		Third floor		BT16		T8 36	1	20	8 HOURS
74		BETA BLOCK		Third floor		BT17		T8 36	3	20	8 HOURS
75		BETA BLOCK		Third floor		BT18		T8 36	4	20	8 HOURS
76		BETA BLOCK		Third floor		BT19		T8 36	3	20	8 HOURS
77		BETA BLOCK		Third floor		BT20		T8 36	3	20	8 HOURS
78		BETA BLOCK		Third floor		BT21		T8 36	4	20	8 HOURS
79		BETA BLOCK		Third floor		BT22		T8 36	4	20	8 HOURS
80		BETA BLOCK		Third floor		BT23		T8 36	3	20	8 HOURS
81		BETA BLOCK		Third floor		BT24		T8 36	13	20	8 HOURS
82		DELTA BLOCK		Ground floor		DG1		LED TUBE LIGHT	4	20	8 HOURS
83		DELTA BLOCK		Ground floor		DG2		LED TUBE LIGHT	4	20	8 HOURS
84		DELTA BLOCK		Ground floor		DG3		LED TUBE LIGHT	4	20	8 HOURS
85		DELTA BLOCK		Ground floor		DG4		LED TUBE LIGHT	4	20	8 HOURS
86		DELTA BLOCK		Ground floor		DG5		LED TUBE LIGHT	4	20	8 HOURS
87		DELTA BLOCK		Ground floor		DG6		LED TUBE LIGHT	4	20	8 HOURS
88		DELTA BLOCK		Ground floor		DG7		LED TUBE LIGHT	4	20	8 HOURS
89		DELTA BLOCK		Ground floor		DG8		LED TUBE LIGHT	4	20	8 HOURS
90		DELTA BLOCK		Ground floor		DG9		LED TUBE LIGHT	4	20	8 HOURS
91		DELTA BLOCK		Ground floor		DG10		LED TUBE LIGHT	2	20	8 HOURS
92		DELTA BLOCK		Ground floor		DG11		LED TUBE LIGHT	2	20	8 HOURS
93		DELTA BLOCK		Ground floor		DG12		LED TUBE LIGHT	1	20	8 HOURS
94		DELTA BLOCK		Ground floor		DG13		LED TUBE LIGHT	1	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS				NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT					
95	DELTA BLOCK	Ground floor	DG14	LED TUBE LIGHT			8	20	8 HOURS
96	DELTA BLOCK	Ground floor	DG15	LED TUBE LIGHT			7	20	8 HOURS
97	DELTA BLOCK	Ground floor	DG16	LED TUBE LIGHT			3	20	8 HOURS
98	DELTA BLOCK	Ground floor	DG17	LED TUBE LIGHT			4	20	8 HOURS
99	DELTA BLOCK	Ground floor	DG18	LED TUBE LIGHT			8	20	8 HOURS
100	DELTA BLOCK	Ground floor	DG PASSAGE AREA	LED TUBE LIGHT			25	20	8 HOURS
101	DELTA BLOCK	FRIST FLOOR	DF1	LED TUBE LIGHT			10	20	8 HOURS
102	DELTA BLOCK	FRIST FLOOR	DF2	LED TUBE LIGHT			8	20	8 HOURS
103	DELTA BLOCK	FRIST FLOOR	DF3	LED TUBE LIGHT			5	20	8 HOURS
104	DELTA BLOCK	FRIST FLOOR	DF4	LED TUBE LIGHT			8	20	8 HOURS
105	DELTA BLOCK	FRIST FLOOR	DF5	LED TUBE LIGHT			9	20	8 HOURS
106	DELTA BLOCK	FRIST FLOOR	DF6	LED TUBE LIGHT			10	20	8 HOURS
107	DELTA BLOCK	FRIST FLOOR	DF7	LED TUBE LIGHT			5	20	8 HOURS
108	DELTA BLOCK	FRIST FLOOR	DF8	LED TUBE LIGHT			6	20	8 HOURS
109	DELTA BLOCK	FRIST FLOOR	DF9	LED TUBE LIGHT			2	20	8 HOURS
110	DELTA BLOCK	FRIST FLOOR	DF PASSAGE AREA	LED TUBE LIGHT			4	20	8 HOURS
111	DELTA BLOCK	SECOND FLOOR	DS 1	LED TUBE LIGHT			6	20	8 HOURS
112	DELTA BLOCK	SECOND FLOOR	DS 2	LED TUBE LIGHT			5	20	8 HOURS
113	DELTA BLOCK	SECOND FLOOR	DS 3	LED TUBE LIGHT			3	20	8 HOURS
114	DELTA BLOCK	SECOND FLOOR	DS 4	LED TUBE LIGHT			5	20	8 HOURS
115	DELTA BLOCK	SECOND FLOOR	DS 5	LED TUBE LIGHT			4	20	8 HOURS
116	DELTA BLOCK	SECOND FLOOR	DS 6	LED TUBE LIGHT			4	20	8 HOURS
117	DELTA BLOCK	SECOND FLOOR	DS 7	LED TUBE LIGHT			5	20	8 HOURS
118	DELTA BLOCK	SECOND FLOOR	DS 8	LED TUBE LIGHT			4	20	8 HOURS
119	DELTA BLOCK	SECOND FLOOR	DS 9	LED TUBE LIGHT			5	20	8 HOURS

LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
120	DELTA BLOCK	SECOND FLOOR	DS 10	LED TUBE LIGHT	5	20	8 HOURS
121	DELTA BLOCK	SECOND FLOOR	DS PASSAGE AREA	LED TUBE LIGHT	6	20	8 HOURS
122	DELTA BLOCK	Third floor	DT1	LED TUBE LIGHT	3	20	8 HOURS
123	DELTA BLOCK	Third floor	DT2	LED TUBE LIGHT	4	20	8 HOURS
124	DELTA BLOCK	Third floor	DT3	LED TUBE LIGHT	3	20	8 HOURS
125	DELTA BLOCK	Third floor	DT4	LED TUBE LIGHT	3	20	8 HOURS
126	DELTA BLOCK	Third floor	DT5	LED TUBE LIGHT	5	20	8 HOURS
127	DELTA BLOCK	Third floor	DT6	FALSE CEILING LIGHT	4	20	8 HOURS
128	DELTA BLOCK	Third floor	DT7	FALSE CEILING LIGHT	6	20	8 HOURS
129	DELTA BLOCK	Third floor	DT8	FALSE CEILING LIGHT	15	20	8 HOURS
130	DELTA BLOCK	Third floor	DT9	LED TUBE LIGHT	4	20	8 HOURS
131	DELTA BLOCK	Third floor	DT10	LED TUBE LIGHT	4	20	8 HOURS
132	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 1	LED TUBE LIGHT	1	20	8 HOURS
133	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 2	LED TUBE LIGHT	2	20	8 HOURS
134	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 3	LED TUBE LIGHT	2	20	8 HOURS
135	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 4	LED TUBE LIGHT	2	20	8 HOURS
136	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 5	LED TUBE LIGHT	2	20	8 HOURS
137	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 6	LED TUBE LIGHT	1	20	8 HOURS
138	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 7	LED TUBE LIGHT	2	20	8 HOURS
139	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 8	LED TUBE LIGHT	2	20	8 HOURS
140	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 9	LED TUBE LIGHT	2	20	8 HOURS
141	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 10	LED TUBE LIGHT	2	20	8 HOURS

LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
142	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 11	LED TUBE LIGHT	2	20	8 HOURS
143	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 12	LED TUBE LIGHT	2	20	8 HOURS
144	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 13	LED TUBE LIGHT	2	20	8 HOURS
145	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 14	LED TUBE LIGHT	2	20	8 HOURS
146	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 15	LED TUBE LIGHT	2	20	8 HOURS
147	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 16	LED TUBE LIGHT	2	20	8 HOURS
148	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 17	LED TUBE LIGHT	2	20	8 HOURS
149	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 18	LED TUBE LIGHT	2	20	8 HOURS
150	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 19	LED TUBE LIGHT	2	20	8 HOURS
151	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 20	LED TUBE LIGHT	2	20	8 HOURS
152	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 21	LED TUBE LIGHT	2	20	8 HOURS
153	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 22	LED TUBE LIGHT	2	20	8 HOURS
154	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 23	LED TUBE LIGHT	1	20	8 HOURS
155	OMEGA BLOCK	GROUND FLOOR	2 COMMON REST ROOM (MEN)	LED TUBE LIGHT	10	20	8 HOURS
156	OMEGA BLOCK	GROUND FLOOR	PASSAGE AREA	LED TUBE LIGHT	10	20	8 HOURS
157	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 1	LED TUBE LIGHT	1	20	8 HOURS
158	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 2	LED TUBE LIGHT	2	20	8 HOURS
159	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 3	LED TUBE LIGHT	2	20	8 HOURS
160	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 4	LED TUBE LIGHT	2	20	8 HOURS
161	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 5	LED TUBE LIGHT	2	20	8 HOURS
162	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 6	LED TUBE LIGHT	2	20	8 HOURS
163	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 7	LED TUBE LIGHT	2	20	8 HOURS
164	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 8	LED TUBE LIGHT	2	20	8 HOURS
165	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 9	LED TUBE LIGHT	2	20	8 HOURS

LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
166	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 10	LED TUBE LIGHT	2	20	8 HOURS
167	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 11	LED TUBE LIGHT	2	20	8 HOURS
168	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 12	LED TUBE LIGHT	2	20	8 HOURS
169	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 13	LED TUBE LIGHT	1	20	8 HOURS
170	OMEGA BLOCK	FRIST FLOOR	PASSAGE AREA	LED TUBE LIGHT	8	20	8 HOURS
171	OMEGA BLOCK	FRIST FLOOR	1 COMMON REST ROOM (MEN)	LED TUBE LIGHT	5	20	8 HOURS
172	OMEGA BLOCK	FRIST FLOOR	DINING HALL	LED TUBE LIGHT	16	20	8 HOURS
173	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 1	LED TUBE LIGHT	1	20	8 HOURS
174	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 2	LED TUBE LIGHT	2	20	8 HOURS
175	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 3	LED TUBE LIGHT	2	20	8 HOURS
176	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 4	LED TUBE LIGHT	2	20	8 HOURS
177	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 5	LED TUBE LIGHT	2	20	8 HOURS
178	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 6	LED TUBE LIGHT	2	20	8 HOURS
179	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 7	LED TUBE LIGHT	2	20	8 HOURS
180	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 8	LED TUBE LIGHT	2	20	8 HOURS
181	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 9	LED TUBE LIGHT	2	20	8 HOURS
182	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 10	LED TUBE LIGHT	2	20	8 HOURS
183	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 11	LED TUBE LIGHT	2	20	8 HOURS
184	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 12	LED TUBE LIGHT	2	20	8 HOURS
185	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 13	LED TUBE LIGHT	2	20	8 HOURS
186	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 14	LED TUBE LIGHT	2	20	8 HOURS
187	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 15	LED TUBE LIGHT	2	20	8 HOURS
188	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 16	LED TUBE LIGHT	2	20	8 HOURS
189	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 17	LED TUBE LIGHT	2	20	8 HOURS



LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
190	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 18	LED TUBE LIGHT	2	20	8 HOURS
191	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 19	LED TUBE LIGHT	2	20	8 HOURS
192	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 20	LED TUBE LIGHT	2	20	8 HOURS
193	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 21	LED TUBE LIGHT	2	20	8 HOURS
194	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 22	LED TUBE LIGHT	2	20	8 HOURS
195	OMEGA BLOCK	SECOND FLOOR	2 COMMON REST ROOM (MEN)	LED TUBE LIGHT	10	20	8 HOURS
196	OMEGA BLOCK	SECOND FLOOR	PASSAGE AREA	LED TUBE LIGHT	10	20	8 HOURS
197	OMEGA BLOCK	Third floor	ROOM NUMBER 1	LED TUBE LIGHT	1	20	8 HOURS
198	OMEGA BLOCK	Third floor	ROOM NUMBER 2	LED TUBE LIGHT	2	20	8 HOURS
199	OMEGA BLOCK	Third floor	ROOM NUMBER 3	LED TUBE LIGHT	2	20	8 HOURS
200	OMEGA BLOCK	Third floor	ROOM NUMBER 4	LED TUBE LIGHT	2	20	8 HOURS
201	OMEGA BLOCK	Third floor	ROOM NUMBER 5	LED TUBE LIGHT	2	20	8 HOURS
202	OMEGA BLOCK	Third floor	ROOM NUMBER 6	LED TUBE LIGHT	2	20	8 HOURS
203	OMEGA BLOCK	Third floor	ROOM NUMBER 7	LED TUBE LIGHT	2	20	8 HOURS
204	OMEGA BLOCK	Third floor	ROOM NUMBER 8	LED TUBE LIGHT	2	20	8 HOURS
205	OMEGA BLOCK	Third floor	ROOM NUMBER 9	LED TUBE LIGHT	2	20	8 HOURS
206	OMEGA BLOCK	Third floor	ROOM NUMBER 10	LED TUBE LIGHT	2	20	8 HOURS
207	OMEGA BLOCK	Third floor	ROOM NUMBER 11	LED TUBE LIGHT	2	20	8 HOURS
208	OMEGA BLOCK	Third floor	ROOM NUMBER 12	LED TUBE LIGHT	2	20	8 HOURS
209	OMEGA BLOCK	Third floor	ROOM NUMBER 13	LED TUBE LIGHT	2	20	8 HOURS
210	OMEGA BLOCK	Third floor	ROOM NUMBER 14	LED TUBE LIGHT	2	20	8 HOURS
211	OMEGA BLOCK	Third floor	ROOM NUMBER 15	LED TUBE LIGHT	2	20	8 HOURS
212	OMEGA BLOCK	Third floor	ROOM NUMBER 16	LED TUBE LIGHT	2	20	8 HOURS
213	OMEGA BLOCK	Third floor	ROOM NUMBER 17	LED TUBE LIGHT	2	20	8 HOURS

LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
214	OMEGA BLOCK	Third floor	ROOM NUMBER 18	LED TUBE LIGHT	2	20	8 HOURS
215	OMEGA BLOCK	Third floor	ROOM NUMBER 19	LED TUBE LIGHT	2	20	8 HOURS
216	OMEGA BLOCK	Third floor	ROOM NUMBER 20	LED TUBE LIGHT	2	20	8 HOURS
217	OMEGA BLOCK	Third floor	ROOM NUMBER 21	LED TUBE LIGHT	2	20	8 HOURS
218	OMEGA BLOCK	Third floor	ROOM NUMBER 22	LED TUBE LIGHT	2	20	8 HOURS
219	OMEGA BLOCK	SECOND FLOOR	2 COMMON REST ROOM (MEN)	LED TUBE LIGHT	10	20	8 HOURS
220	OMEGA BLOCK	SECOND FLOOR	PASSAGE AREA	LED TUBE LIGHT	10	20	8 HOURS
221	ZEETA	GROUND FLOOR	ZG1	LED TUBE LIGHT	9	20	8 HOURS
222	ZEETA	GROUND FLOOR	ZG2	FALSE CEILING LIGHT	9	20	8 HOURS
223	ZEETA	GROUND FLOOR	ZG3	FALSE CEILING LIGHT	9	20	8 HOURS
224	ZEETA	GROUND FLOOR	ZG4	FALSE CEILING LIGHT	9	20	8 HOURS
225	ZEETA	GROUND FLOOR	ZG5	FALSE CEILING LIGHT	9	20	8 HOURS
226	ZEETA	GROUND FLOOR	ZG6	FALSE CEILING LIGHT	9	20	8 HOURS
227	ZEETA	GROUND FLOOR	ZG7	FALSE CEILING LIGHT	9	20	8 HOURS
228	ZEETA	GROUND FLOOR	ZG8	FALSE CEILING LIGHT	9	20	8 HOURS
229	ZEETA	GROUND FLOOR	ZG9	FALSE CEILING LIGHT	9	20	8 HOURS
230	ZEETA	GROUND FLOOR	ZG10	FALSE CEILING LIGHT	9	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS				NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT					
231	ZEETA	GROUND FLOOR	ZG11	FALSE CEILING LIGHT			9	20	8 HOURS
232	ZEETA	GROUND FLOOR	ZG12	FALSE CEILING LIGHT			9	20	8 HOURS
233	ZEETA	GROUND FLOOR	ZG13	FALSE CEILING LIGHT			9	20	8 HOURS
234	ZEETA	GROUND FLOOR	ZG14	FALSE CEILING LIGHT			9	20	8 HOURS
235	ZEETA	GROUND FLOOR	ZG15	LED TUBE LIGHT			2	20	8 HOURS
236	ZEETA	GROUND FLOOR	ZG16	LED TUBE LIGHT			2	20	8 HOURS
237	ZEETA	GROUND FLOOR	ZG17	LED TUBE LIGHT			2	20	8 HOURS
238	ZEETA	GROUND FLOOR	ZG18	LED TUBE LIGHT			4	20	8 HOURS
239	ZEETA	GROUND FLOOR	PASSAGE AREA	LED TUBE LIGHT			11	20	8 HOURS
240	ZEETA	GROUND FLOOR	MEN REST ROOM	LED TUBE LIGHT			5	20	8 HOURS
241	ZEETA	GROUND FLOOR	WOMENS REST ROOM	LED TUBE LIGHT			5	20	8 HOURS
242	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 1	LED TUBE LIGHT			2	20	8 HOURS
243	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 2	LED TUBE LIGHT			2	20	8 HOURS
244	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 3	LED TUBE LIGHT			2	20	8 HOURS
245	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 4	LED TUBE LIGHT			2	20	8 HOURS
246	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 5	LED TUBE LIGHT			2	20	8 HOURS
247	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 6	LED TUBE LIGHT			2	20	8 HOURS
248	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 7	LED TUBE LIGHT			2	20	8 HOURS
249	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 8	LED TUBE LIGHT			2	20	8 HOURS
250	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 9	LED TUBE LIGHT			2	20	8 HOURS
251	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 10	LED TUBE LIGHT			2	20	8 HOURS

LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
252	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 11	LED TUBE LIGHT	2	20	8 HOURS
253	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 12	LED TUBE LIGHT	2	20	8 HOURS
254	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 13	LED TUBE LIGHT	2	20	8 HOURS
255	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 14	LED TUBE LIGHT	2	20	8 HOURS
256	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 15	LED TUBE LIGHT	2	20	8 HOURS
257	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 16	LED TUBE LIGHT	2	20	8 HOURS
258	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 17	LED TUBE LIGHT	2	20	8 HOURS
259	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 18	LED TUBE LIGHT	2	20	8 HOURS
260	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 19	LED TUBE LIGHT	2	20	8 HOURS
261	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 20	LED TUBE LIGHT	2	20	8 HOURS
262	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 21	LED TUBE LIGHT	2	20	8 HOURS
263	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 22	LED TUBE LIGHT	2	20	8 HOURS
264	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 23	LED TUBE LIGHT	2	20	8 HOURS
265	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 24	LED TUBE LIGHT	2	20	8 HOURS
266	ALPHA BLOCK	GROUND FLOOR	2 WOMENS REAST ROOM	LED TUBE LIGHT	10	20	8 HOURS
267	ALPHA BLOCK	GROUND FLOOR	PASSAGE AREA	FALSE CEILING LIGHT	10	20	8 HOURS
268	ALPHA BLOCK	GROUND FLOOR	STAFF ROOMS	LED TUBE LIGHT	16	20	8 HOURS
269	ALPHA BLOCK	GROUND FLOOR	SRATT ROOM S	FALSE CEILING LIGHT	14	20	8 HOURS
270	ALPHA BLOCK	GROUND FLOOR	2 REST ROOM	LED TUBE LIGHT	5	20	8 HOURS
271	ALPHA BLOCK	FRIST FLOOR	PASSAGE AREA /STAFF ROOM	LED TUBE LIGHT	20	20	8 HOURS
272	ALPHA BLOCK	FRIST FLOOR	SOFTWARE ROOM	FALSE CEILING LIGHT	21	20	8 HOURS

LIGHT DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE
273	ALPHA BLOCK	FRIST FLOOR	2 REST ROOMS	LED TUBE LIGHT	5	20
274	ALPHA BLOCK	SECOND FLOOR	PASSAGE AREA	LED TUBE LIGHT	5	20
275	ALPHA BLOCK	SECOND FLOOR	ROOMS	FALSE CEILING LIGHT	53	20
276	THETA BLOCK	Ground floor	DINING AREA AND LIBRARY	LED TUBE LIGHT	45	20
277	THETA BLOCK	FRIST FLOOR	DINING AREA	LED TUBE LIGHT	27	20

## 21.0 CONVENTIONAL FAN DETSILS

The conventional fan details area as follows.

CEILING FAN DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
1	BETA BKLOCK	GROUND FLOOR	BG1	7	80	8 HOURS
2	BETA BKLOCK	GROUND FLOOR	BG2	4	80	8 HOURS
3	BETA BKLOCK	GROUND FLOOR	BG3	8	80	8 HOURS
4	BETA BKLOCK	GROUND FLOOR	BG4	3	80	8 HOURS
5	BETA BKLOCK	GROUND FLOOR	BG5	2	80	8 HOURS
6	BETA BKLOCK	GROUND FLOOR	BG6	6	80	8 HOURS
7	BETA BKLOCK	GROUND FLOOR	BG8	1	80	8 HOURS
8	BETA BKLOCK	GROUND FLOOR	BG9	1	80	8 HOURS
9	BETA BKLOCK	GROUND FLOOR	BG10	5	80	8 HOURS
10	BETA BKLOCK	GROUND FLOOR	BG11	1	80	8 HOURS

S. NO		NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS		LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
11		BETA BKLOCK	GROUND FLOOR			BG12	6	80	8 HOURS
12		BETA BKLOCK	GROUND FLOOR			BG13	4	80	8 HOURS
13		BETA BKLOCK	GROUND FLOOR			BG15	1	80	8 HOURS
14		BETA BKLOCK	GROUND FLOOR			BG16	2	80	8 HOURS
15		BETA BKLOCK	FRIST FLOOR			BF1	2	80	8 HOURS
16		BETA BKLOCK	FRIST FLOOR			BF2	4	80	8 HOURS
17		BETA BKLOCK	FRIST FLOOR			BF3	2	80	8 HOURS
18		BETA BKLOCK	FRIST FLOOR			BF4	4	80	8 HOURS
19		BETA BKLOCK	FRIST FLOOR			BF5	5	80	8 HOURS
20		BETA BKLOCK	FRIST FLOOR			BF6	5	80	8 HOURS
21		BETA BKLOCK	FRIST FLOOR			BF9	1	80	8 HOURS
22		BETA BKLOCK	FRIST FLOOR			BF10	1	80	8 HOURS
23		BETA BKLOCK	FRIST FLOOR			BF11	6	80	8 HOURS
24		BETA BKLOCK	FRIST FLOOR			BF12	1	80	8 HOURS
25		BETA BKLOCK	FRIST FLOOR			BF13	6	80	8 HOURS
26		BETA BKLOCK	FRIST FLOOR			BF14	2	80	8 HOURS
27		BETA BKLOCK	FRIST FLOOR			BF17	2	80	8 HOURS
28		BETA BKLOCK	FRIST FLOOR			BF18	2	80	8 HOURS
29		BETA BKLOCK	FRIST FLOOR			BF19	2	80	8 HOURS
30		BETA BKLOCK	FRIST FLOOR			BF20	1	80	8 HOURS
31		BETA BKLOCK	SECOND FLOOR			BS1	6	80	8 HOURS
32		BETA BKLOCK	SECOND FLOOR			BS2	6	80	8 HOURS
33		BETA BKLOCK	SECOND FLOOR			BS3	7	80	8 HOURS
34		BETA BKLOCK	SECOND FLOOR			BS4	6	80	8 HOURS
35		BETA BKLOCK	SECOND FLOOR			BS5	6	80	8 HOURS

S. NO		NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS			NO OF FANS	WATTAGE	OPERATING HOURS
				LOCATION					
36		BETA BKLOCK	SECOND FLOOR	BS6			6	80	8 HOURS
37		BETA BKLOCK	SECOND FLOOR	BS7			1	80	8 HOURS
38		BETA BKLOCK	SECOND FLOOR	BS8			6	80	8 HOURS
39		BETA BKLOCK	SECOND FLOOR	BS9			4	80	8 HOURS
40		BETA BKLOCK	SECOND FLOOR	BS10			1	80	8 HOURS
41		BETA BKLOCK	SECOND FLOOR	BS11			6	80	8 HOURS
42		BETA BKLOCK	SECOND FLOOR	BS12			5	80	8 HOURS
43		BETA BKLOCK	SECOND FLOOR	BS13			6	80	8 HOURS
44		BETA BKLOCK	SECOND FLOOR	BS14			6	80	8 HOURS
45		BETA BKLOCK	SECOND FLOOR	BS16			4	80	8 HOURS
46		BETA BKLOCK	SECOND FLOOR	BS17			3	80	8 HOURS
47		BETA BKLOCK	SECOND FLOOR	BS18			1	80	8 HOURS
48		BETA BKLOCK	Third floor	BT1			6	80	8 HOURS
49		BETA BKLOCK	Third floor	BT2			8	80	8 HOURS
50		BETA BKLOCK	Third floor	BT3			7	80	8 HOURS
51		BETA BKLOCK	Third floor	BT4			3	80	8 HOURS
52		BETA BKLOCK	Third floor	BT5			6	80	8 HOURS
53		BETA BKLOCK	Third floor	BT6			6	80	8 HOURS
54		BETA BKLOCK	Third floor	BT9			7	80	8 HOURS
55		BETA BKLOCK	Third floor	BT10			9	80	8 HOURS
56		BETA BKLOCK	Third floor	BT11			1	80	8 HOURS
57		BETA BKLOCK	Third floor	BT12			7	80	8 HOURS
58		BETA BKLOCK	Third floor	BT13			4	80	8 HOURS
59		BETA BKLOCK	Third floor	BT16			1	80	8 HOURS
60		BETA BKLOCK	Third floor	BT17			3	80	8 HOURS

S. NO		NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS				NO OF FANS		WATTAGE	OPERATING HOURS
				LOCATION							
61		BETA BKLOCK	Third floor		BT18			3		80	8 HOURS
62		BETA BKLOCK	Third floor		BT19			3		80	8 HOURS
63		BETA BKLOCK	Third floor		BT20			3		80	8 HOURS
64		BETA BKLOCK	Third floor		BT21			3		80	8 HOURS
65		BETA BKLOCK	Third floor		BT22			3		80	8 HOURS
66		BETA BKLOCK	Third floor		BT23			3		80	8 HOURS
67		DELTA BLOCK	Ground floor		DG1			5		80	8 HOURS
68		DELTA BLOCK	Ground floor		DG2			5		80	8 HOURS
69		DELTA BLOCK	Ground floor		DG3			5		80	8 HOURS
70		DELTA BLOCK	Ground floor		DG4			5		80	8 HOURS
71		DELTA BLOCK	Ground floor		DG5			5		80	8 HOURS
72		DELTA BLOCK	Ground floor		DG6			5		80	8 HOURS
73		DELTA BLOCK	Ground floor		DG7			5		80	8 HOURS
74		DELTA BLOCK	Ground floor		DG8			5		80	8 HOURS
75		DELTA BLOCK	Ground floor		DG9			5		80	8 HOURS
76		DELTA BLOCK	Ground floor		DG10			2		80	8 HOURS
77		DELTA BLOCK	Ground floor		DG11			3		80	8 HOURS
78		DELTA BLOCK	Ground floor		DG12			1		80	8 HOURS
79		DELTA BLOCK	Ground floor		DG13			1		80	8 HOURS
80		DELTA BLOCK	Ground floor		DG14			10		80	8 HOURS
81		DELTA BLOCK	Ground floor		DG15			1		80	8 HOURS
82		DELTA BLOCK	Ground floor		DG16			3		80	8 HOURS
83		DELTA BLOCK	Ground floor		DG17			5		80	8 HOURS
84		DELTA BLOCK	Ground floor		DG18			1		80	8 HOURS
85		DELTA BLOCK	FRIST FLOOR		DF1			13		80	8 HOURS



S. NO		NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS		LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
86		DELTA BLOCK	FRIST FLOOR			DF2	10	80	8 HOURS
87		DELTA BLOCK	FRIST FLOOR			DF3	7	80	8 HOURS
88		DELTA BLOCK	FRIST FLOOR			DF4	8	80	8 HOURS
89		DELTA BLOCK	FRIST FLOOR			DF5	14	80	8 HOURS
90		DELTA BLOCK	FRIST FLOOR			DF6	14	80	8 HOURS
91		DELTA BLOCK	FRIST FLOOR			DF7	6	80	8 HOURS
92		DELTA BLOCK	FRIST FLOOR			DF8	4	80	8 HOURS
93		DELTA BLOCK	FRIST FLOOR			DF9	2	80	8 HOURS
94		DELTA BLOCK	SECOND FLOOR			DS1	8	80	8 HOURS
95		DELTA BLOCK	SECOND FLOOR			DS2	6	80	8 HOURS
96		DELTA BLOCK	SECOND FLOOR			DS3	3	80	8 HOURS
97		DELTA BLOCK	SECOND FLOOR			DS4	10	80	8 HOURS
98		DELTA BLOCK	SECOND FLOOR			DS5	6	80	8 HOURS
99		DELTA BLOCK	SECOND FLOOR			DS6	6	80	8 HOURS
100		DELTA BLOCK	SECOND FLOOR			DS7	6	80	8 HOURS
101		DELTA BLOCK	SECOND FLOOR			DS8	7	80	8 HOURS
102		DELTA BLOCK	SECOND FLOOR			DS9	6	80	8 HOURS
103		DELTA BLOCK	SECOND FLOOR			DS10	9	80	8 HOURS
104		DELTA BLOCK	Third floor			DT1	6	80	8 HOURS
105		DELTA BLOCK	Third floor			DT2	8	80	8 HOURS
106		DELTA BLOCK	Third floor			DT4	4	80	8 HOURS
107		DELTA BLOCK	Third floor			DT5	6	80	8 HOURS
108		DELTA BLOCK	Third floor			DT6	6	80	8 HOURS
109		DELTA BLOCK	Third floor			DT7	6	80	8 HOURS
110		DELTA BLOCK	Third floor			DT9	7	80	8 HOURS

S. NO		NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS		LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
111		DELTA BLOCK	Third floor			DT10	8	80	8 HOURS
112		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 1	1	80	8 HOURS
113		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 2	3	80	8 HOURS
114		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 3	3	80	8 HOURS
115		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 4	3	80	8 HOURS
116		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 5	3	80	8 HOURS
117		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 6	1	80	8 HOURS
118		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 7	3	80	8 HOURS
119		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 8	3	80	8 HOURS
120		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 9	3	80	8 HOURS
121		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 10	3	80	8 HOURS
122		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 11	3	80	8 HOURS
123		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 12	3	80	8 HOURS
124		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 13	3	80	8 HOURS
125		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 14	3	80	8 HOURS
126		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 15	3	80	8 HOURS
127		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 16	3	80	8 HOURS
128		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 17	3	80	8 HOURS
129		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 18	3	80	8 HOURS
130		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 19	3	80	8 HOURS
131		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 20	3	80	8 HOURS
132		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 21	3	80	8 HOURS
133		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 22	3	80	8 HOURS
134		OMEGA BLOCK	GROUND FLOOR			ROOM NUMBER 23	1	80	8 HOURS
135		OMEGA BLOCK	FRIST FLOOR			ROOM NUMBER 1	3	80	8 HOURS

CEILING FAN DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
136	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 2	3	80	8 HOURS
137	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 3	3	80	8 HOURS
138	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 4	3	80	8 HOURS
139	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 5	3	80	8 HOURS
140	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 6	3	80	8 HOURS
141	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 7	3	80	8 HOURS
142	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 8	3	80	8 HOURS
143	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 9	3	80	8 HOURS
144	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 10	3	80	8 HOURS
145	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 11	3	80	8 HOURS
146	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 12	3	80	8 HOURS
147	OMEGA BLOCK	FRIST FLOOR	DINING HALL	18	80	8 HOURS
148	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 1	1	80	8 HOURS
149	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 2	3	80	8 HOURS
150	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 3	3	80	8 HOURS
151	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 4	3	80	8 HOURS
152	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 5	3	80	8 HOURS
153	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 6	3	80	8 HOURS
154	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 7	3	80	8 HOURS
155	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 8	3	80	8 HOURS
156	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 9	3	80	8 HOURS
157	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 10	3	80	8 HOURS
158	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 11	3	80	8 HOURS
159	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 12	3	80	8 HOURS
160	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 13	3	80	8 HOURS

CEILING FAN DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
161	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 14	3	80	8 HOURS
162	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 15	3	80	8 HOURS
163	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 16	3	80	8 HOURS
164	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 17	3	80	8 HOURS
165	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 18	3	80	8 HOURS
166	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 19	3	80	8 HOURS
167	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 20	3	80	8 HOURS
168	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 21	3	80	8 HOURS
169	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 22	3	80	8 HOURS
170	OMEGA BLOCK	Third floor	ROOM NUMBER 1	1	80	8 HOURS
171	OMEGA BLOCK	Third floor	ROOM NUMBER 2	3	80	8 HOURS
172	OMEGA BLOCK	Third floor	ROOM NUMBER 3	3	80	8 HOURS
173	OMEGA BLOCK	Third floor	ROOM NUMBER 4	3	80	8 HOURS
174	OMEGA BLOCK	Third floor	ROOM NUMBER 5	3	80	8 HOURS
175	OMEGA BLOCK	Third floor	ROOM NUMBER 6	3	80	8 HOURS
176	OMEGA BLOCK	Third floor	ROOM NUMBER 7	3	80	8 HOURS
177	OMEGA BLOCK	Third floor	ROOM NUMBER 8	3	80	8 HOURS
178	OMEGA BLOCK	Third floor	ROOM NUMBER 9	3	80	8 HOURS
179	OMEGA BLOCK	Third floor	ROOM NUMBER 10	3	80	8 HOURS
180	OMEGA BLOCK	Third floor	ROOM NUMBER 11	3	80	8 HOURS
181	OMEGA BLOCK	Third floor	ROOM NUMBER 12	3	80	8 HOURS
182	OMEGA BLOCK	Third floor	ROOM NUMBER 13	3	80	8 HOURS
183	OMEGA BLOCK	Third floor	ROOM NUMBER 14	3	80	8 HOURS
184	OMEGA BLOCK	Third floor	ROOM NUMBER 15	3	80	8 HOURS
185	OMEGA BLOCK	Third floor	ROOM NUMBER 16	3	80	8 HOURS

CEILING FAN DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
186	OMEGA BLOCK	Third floor	ROOM NUMBER 17	3	80	8 HOURS
187	OMEGA BLOCK	Third floor	ROOM NUMBER 18	3	80	8 HOURS
188	OMEGA BLOCK	Third floor	ROOM NUMBER 19	3	80	8 HOURS
189	OMEGA BLOCK	Third floor	ROOM NUMBER 20	3	80	8 HOURS
190	OMEGA BLOCK	Third floor	ROOM NUMBER 21	3	80	8 HOURS
191	OMEGA BLOCK	Third floor	ROOM NUMBER 22	3	80	8 HOURS
192	ZEETA	GROUND FLOOR	ZG1	6	80	8 HOURS
193	ZEETA	GROUND FLOOR	ZG2	6	80	8 HOURS
194	ZEETA	GROUND FLOOR	ZG3	6	80	8 HOURS
195	ZEETA	GROUND FLOOR	ZG4	9	80	8 HOURS
196	ZEETA	GROUND FLOOR	ZG5	3	80	8 HOURS
197	ZEETA	GROUND FLOOR	ZG6	6	80	8 HOURS
198	ZEETA	GROUND FLOOR	ZG7	6	80	8 HOURS
199	ZEETA	GROUND FLOOR	ZG8	6	80	8 HOURS
200	ZEETA	GROUND FLOOR	ZG9	6	80	8 HOURS
201	ZEETA	GROUND FLOOR	ZG10	6	80	8 HOURS
202	ZEETA	GROUND FLOOR	ZG11	4	80	8 HOURS
203	ZEETA	GROUND FLOOR	ZG12	4	80	8 HOURS
204	ZEETA	GROUND FLOOR	ZG13	4	80	8 HOURS
205	ZEETA	GROUND FLOOR	ZG14	5	80	8 HOURS
206	ZEETA	GROUND FLOOR	ZG15	1	80	8 HOURS
207	ZEETA	GROUND FLOOR	ZG16	1	80	8 HOURS
208	ZEETA	GROUND FLOOR	ZG17	1	80	8 HOURS
209	ZEETA	GROUND FLOOR	ZG18	4	80	8 HOURS
210	ZEETA	GROUND FLOOR	PASSAGE AREA	1	80	8 HOURS

S. NO		NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS		LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
211		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 1	3	80	8 HOURS
212		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 2	3	80	8 HOURS
213		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 3	3	80	8 HOURS
214		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 4	3	80	8 HOURS
215		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 5	3	80	8 HOURS
216		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 6	3	80	8 HOURS
217		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 7	3	80	8 HOURS
218		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 8	1	80	8 HOURS
219		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 9	2	80	8 HOURS
220		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 10	3	80	8 HOURS
221		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 11	3	80	8 HOURS
222		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 12	3	80	8 HOURS
223		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 13	3	80	8 HOURS
224		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 14	3	80	8 HOURS
225		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 15	3	80	8 HOURS
226		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 16	3	80	8 HOURS
227		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 17	3	80	8 HOURS
228		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 18	3	80	8 HOURS
229		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 19	3	80	8 HOURS
230		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 20	3	80	8 HOURS
231		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 21	3	80	8 HOURS
232		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 22	3	80	8 HOURS
233		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 23	1	80	8 HOURS
234		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 24	1	80	8 HOURS
235		ALPHA BLOCK	GROUND FLOOR			STAFF ROOMS	17	80	8 HOURS

CEILING FAN DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
236	ALPHA BLOCK	FRIST FLOOR	STAFF ROOMS	18	80	8 HOURS
237	THETA BLOCK	Ground floor	DINING AREA AND LIBRARY	39	80	8 HOURS
238	THETA BLOCK	FRIST FLOOR	DINING AREA	18	80	8 HOURS

## 22.0 AIR CONDITIONER DETAILS

The air conditioner details area are follows.

AIR CONDITIONER DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	MAKE	MODEL (Split / Window)	NO OF AC'S
1	BETA BLOCK	GROUND FLOOR	SEVER ROOM	HITACHI	SPLIT	1
2	BETA BLOCK	FRIST FLOOR	PLACEMENT OFFICE	HITACHI	SPLIT	1
3	BETA BLOCK	FRIST FLOOR	MEETING ROOM	CARRIER	DUCTED A/C (5 TON)	1
4	BETA BLOCK	FRIST FLOOR	MEETING ROOM	CARRIER	DUCTED A/C (8 TON)	1
5	DELTA BLOCK	GROUND FLOOR	PRINCIPAL ROOM	HITACHI	SPLIT	1
6	DELTA BLOCK	GROUND FLOOR	COMPUTER LAB	HITACHI	SPLIT	1
7	DELTA BLOCK	GROUND FLOOR	COMPUTER LAB	HITACHI	SPLIT	1
8	DELTA BLOCK	THIRD FLOOR	MEETING ROOM	CARRIER	DUCTED A/C (5 TON)	1
9	ZEETA BLOCK	GROUND FLOOR	LAB	HITACHI	SPLIT	1
10	ALPHA BLOCK	GROUND FLOOR	PRINCIPAL ROOM	HITACHI	SPLIT	1
11	ALPHA BLOCK	GROUND FLOOR	STAFF ROOM	HITACHI	SPLIT	1
12	ALPHA BLOCK	GROUND FLOOR	STAFF ROOM	HITACHI	SPLIT	1
13	ALPHA BLOCK	FRIST FLOOR	SEVER ROOM	HITACHI	SPLIT	1
14	ALPHA BLOCK	FRIST FLOOR	STAFF ROOM	HITACHI	SPLIT	1
15	ALPHA BLOCK	FRIST FLOOR	STAFF ROOM	HITACHI	SPLIT	1

AIR CONDITIONER DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	MAKE	MODEL (Split / Window)	NO OF AC'S	OPERATING HOURS
16	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	LG	SPLIT	1	8HOURS
17	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	WESTER	SPLIT	1	8HOURS
18	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	WESTER	SPLIT	1	8HOURS
19	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	HITACHI	SPLIT	1	8HOURS
20	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	general	SPLIT	1	8HOURS
21	ALPHA BLOCK	FRIST FLOOR	STAFF ROOM	HITACHI	SPLIT	1	8HOURS
22	ALPHA BLOCK	SECOND FLOOR	CHIRMAN SIR ROOM	CARRIER	SPLIT	1	8HOURS
23	ALPHA BLOCK	SECOND FLOOR	CHIRMAN SIR ROOM	CARRIER	SPLIT	1	8HOURS
24	ALPHA BLOCK	SECOND FLOOR	COO SIR ROOM	CARRIER	SPLIT	1	8HOURS
25	ALPHA BLOCK	SECOND FLOOR	DINING HALL	CARRIER	SPLIT	1	8HOURS
26	ALPHA BLOCK	SECOND FLOOR	GUEST ROOM	CARRIER	SPLIT	1	8HOURS



## 23.0 WALL MOUNTED FAN DETAILS

The wall mounted fan details are as follows.

WALL MOUNTED FAN DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
1	ALPHA	GROUND FLOOR	STAFF ROOM 1	1	120	8 HOURS
2	ALPHA	GROUND FLOOR	STAFF ROOM 2	1	120	8 HOURS
3	ALPHA	GROUND FLOOR	STAFF ROOM 3	1	120	8 HOURS
4	ALPHA	GROUND FLOOR	STAFF ROOM 4	1	120	8 HOURS
5	ALPHA	GROUND FLOOR	STAFF ROOM 5	1	120	8 HOURS
6	ALPHA	FRIST FLOOR	SEVER ROOM	1	120	8 HOURS
7	ALPHA	FRIST FLOOR	SOFTWARE ROOM	8	120	8 HOURS
8	ALPHA	SECOND FLOOR	LAB	4	120	8 HOURS
9	ZEETA BLOCK	GROUND FLOOR	STAFF ROOM 1	1	120	8 HOURS
10	ZEETA BLOCK	GROUND FLOOR	STAFF ROOM 2	1	120	8 HOURS

## 24.0 EXECUTIVE SUMMARY

S. No	Energy Efficiency Measures	Estimate annual Energy Savings, kWh/Annum	Estimated Investment, INR	Monetary Savings, INR	Simple payback Period, Months
1	Replace existing T8 36 Tube light 36W to 18W LED Light	11,232	1,24,800	71,323	21
2	Replace existing 1018 Nos of 80W Ceiling fan to 30W Energy efficient BLDC Fan	101800	3563000	6,46,430	66
3	Replace existing 20 Nos of 120W Wall mounted fan to 30W Energy efficient BLDC Fan	3,600	70,000	22,860	37
<b>Total</b>		1,16,632	37,57,800	7,40,613	41

Annual Electrical Energy consumption, kWh/Annum	3,18,425
Annual Electrical Energy Savings, kWh/Annum	116632
Electrical Energy Savings, %	36.6

## 25.0 ENERGY CONSERVATIVE MEASURES

### 25.1 Replace existing Conventional fan to BLDC Fan

#### **Observation:**

During audit it was observed that conventional ceiling fans were used for ventilation purposes.

#### **Recommendation:**

It is recommended to replace those conventional ceiling fans with Energy efficient BLDC fans to observe the following energy savings.

#### **Estimated Savings:**

Replace existing Conventional fan to BLDC Fan		
Description	Units	Values
Quantity of existing Conventional fan	Nos	1,018
Wattage of Conventional fan	W	80
Present operating hours	Hours/Annum	2,000
Average unit cost	INR/kWh	6.35
Energy Consumption by existing Conventional fan	kWh/Annum	1,62,880
Wattage of BLDC Fan	W	30
Energy Consumption by BLDC Fan	kWh/Annum	61,080
Cost of one BLDC Fan	INR	3,500
Energy savings	kWh/Annum	1,01,800
Cost Savings	INR/Annum	6,46,430
Investment	INR	35,63,000
Payback Period	Months	66

## 25.2 Replace existing Wall mounted fan to BLDC Fan

### **Observation:**

During audit it was observed that conventional wall mounted fans were used for ventilation purposes.

### **Recommendation:**

It is recommended to replace the conventional fan to BLDC fan to reduce energy consumption.

### **Estimated Savings:**

Replace existing Wall mounted fan to BLDC Fan		
Description	Units	Values
Quantity of existing Wall mounted fan	Nos	20
Wattage of Wall Mounted fan	W	120
Present operating hours	Hours/Annum	2,000
Average unit cost	INR/kWh	6.35
Energy Consumption by existing Wall mounted fan	kWh/Annum	4,800
Wattage of BLDC Fan	W	30
Energy Consumption by BLDC Fan	kWh/Annum	1,200
Cost of one BLDC Fan	INR	3,500
Energy savings	kWh/Annum	3,600
Cost Savings	INR/Annum	22,860
Investment	INR	70,000
Payback Period	Months	37

### 25.3 Replace Existing CFL light to LED light.

#### Observation:

During audit it was observed that few T8 36 Tube light was used for illumination purpose. T8 36 Tube light consumes high power than LED Lights.


#### Recommendation:

It is recommended to replace those T8 36 Tube lights with LED lights for better lumens and to lower the power consumption. The lumens of T8 36 Tube light are 63 per watt whereas the lumens of LED light are 120 per watt.


#### Estimated Savings:

Replace existing T8 36 Tube light to LED Light		
Description	Units	Values
Quantity of existing T8 36 Tube light	Nos	312
Wattage of T8 36 Tube light	W	36
Present operating hours	Hours/Annum	2,000
Average unit cost	INR/kWh	6.35
Energy Consumption by existing T8 36 Tube light Lights	kWh/Annum	22,464
Wattage of LED	W	18
Energy Consumption by LED	kWh/Annum	11,232
Cost of one LED	INR	400
Energy savings	kWh/Annum	11,232
Cost Savings	INR/Annum	71,323
Investment	INR	1,24,800
Payback Period	Months	21

## 26.0 ACCREDITED ENERGY AUDITOR CERTIFICATES

 **BUREAU OF ENERGY EFFICIENCY**

Examination Registration No. : ..... EA-3201  
Accreditation Registration No. : ..... AEA-0023



## Certificate of Accreditation

This is to certify that Mr./Ms. .... **B. Senthilkumar** ..... having its trade/registered office at **Chennai** ..... has been given accreditation as accredited energy auditor. The certificate shall be effective from **26<sup>th</sup>** day of **February 2013** .....


The certificate is subject to the provisions of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

This certificate shall be valid until it is cancelled under regulation 9 of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010

On cancellation, the certificate of accreditation shall be surrendered to the Bureau within fifteen days from the date of receipt of order of cancellation.

Your name has been entered at AEA No. .... **0023** ..... in the register of list of accredited energy auditors. Your name shall be liable to be struck out on the grounds specified in regulation 8 of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

Given under the seal of the Bureau of Energy Efficiency, Ministry of Power, this ..... **26<sup>th</sup>** ..... day of **May 2014** .....

  
Secretary,  
Bureau of Energy Efficiency  
New Delhi



In association with



THIS IS TO CERTIFY THAT

*B. Senthil Kumar*

has successfully completed a course approved by the  
Institute of Environmental Management & Assessment in

**ADVANCED EMS AUDITOR  
(ISO 14001:2004)**

(achieving an overall mark of 75%)

13<sup>th</sup> to 17<sup>th</sup> October 2008

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A handwritten signature in blue ink, appearing to read 'Geoff Hild'.

Signed for iqms

A handwritten signature in blue ink, appearing to read 'Swiso India Private Limited'.

Signed for Swiso India Private Limited

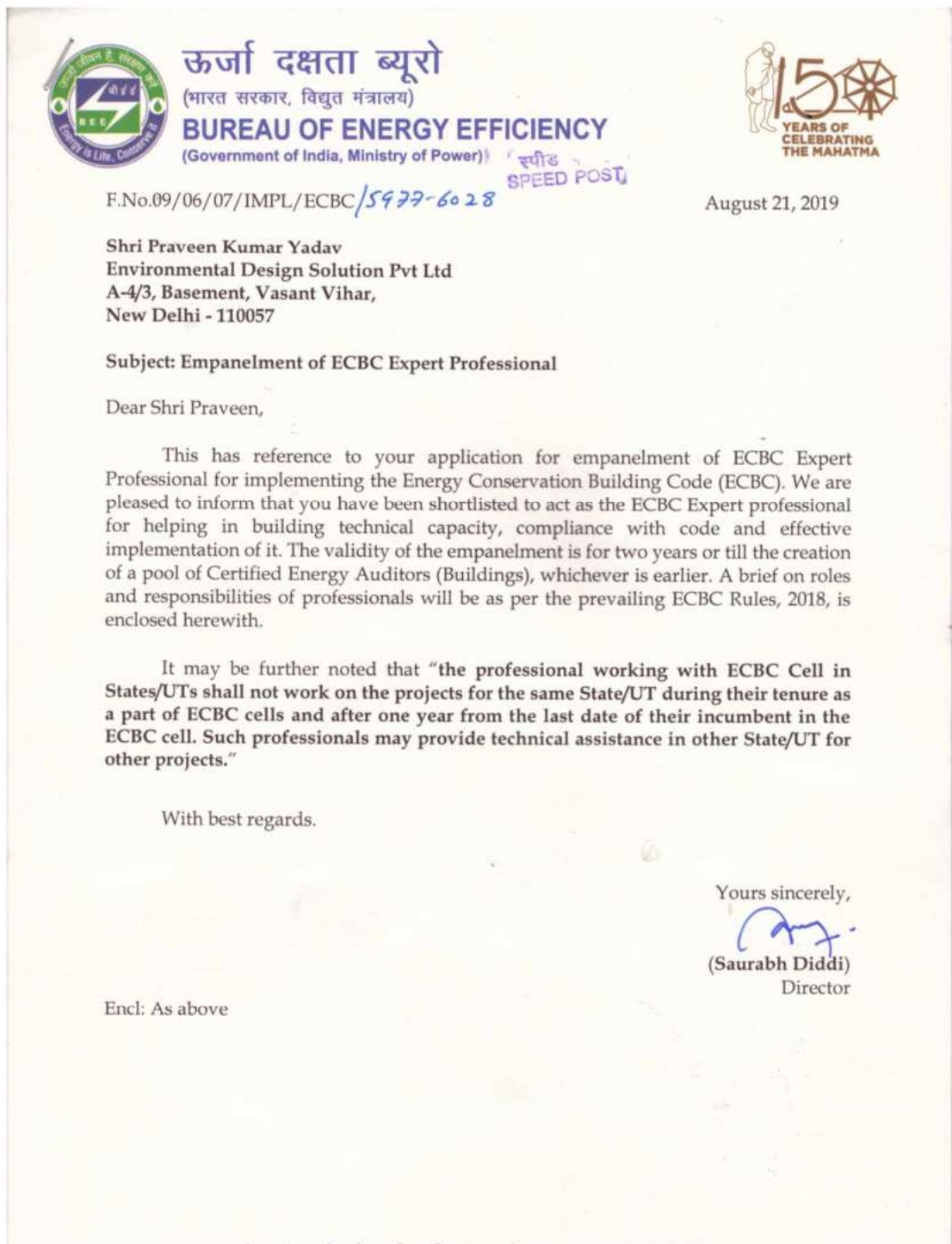
**IQ – EMS42357**


CERTIFICATE NUMBER

iqms Course No: IQM/EMS407308/UK approved by IEMA









**Certificate of Compliance**

This is to certify that

**NIN Energy India Private Limited**  
JUSA Complex, New No 47, Old No 21/2, Ponnamman Koil Street, Kottur,  
Chennai - 600085 (Tamil Nadu), India.

has been assessed by RSI and found to comply with the requirements of

**ISO/IEC 17020:2012**  
Operation of various types of bodies performing inspection - Requirements

for the following activities:

**Mandatory Energy Audit, Environment Audit, Green Audit, PAT Measurement and Verification (M&V),  
Power Quality Audit, Infrared Thermography, Electrical Safety Audit, Energy Management Training,  
Energy Management System, Measurement & Verification, Green Building Services,  
Renewable Energy Services, Carbon Foot Printing and Water Audit**


**Certificaat Nummer / Certificate No. : IE-BV-2207-5410**

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**Director (Certification)**



PAC-GEAC-1506-299

# Academic Year

## 2022-2023

# REPORT ON ENERGY, ENVIRONMENT AND GREEN AUDIT



## PERI INSTITUTE OF TECHNOLOGY

PERI KNOWLEDGE PARK, MANNIVAKKAM, WEST

TAMBARAM, CHENNAI- 600 048.

AUDIT CONDUCTED AND REPORT PREPARED BY



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JUSA COMPLEX, NEW NO 47, OLD NO 21/2  
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We thank management of PERI INSTITUTE OF TECHNOLOGY for awarding the Energy, Environment and Green Audit study at their facility at PERI Knowledge Park, Mannivakkam, West Tambaram, Chennai – 600 048 to NIN Energy India Private Limited. This report is the result of Energy Audit conducted at PERI INSTITUTE OF TECHNOLOGY from 20/01/2023 to 21/01/2023.

We wish to thank the management of PERI INSTITUTE OF TECHNOLOGY for the support during the audit and for successful completion of the audit.

For NIN ENERGY INDIA PRIVATE LIMITED

(B. SENTHILKUMAR)

ACCREDITED ENERGY AUDITOR (AEA 023)

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## ABBREVIATIONS

<b>EE</b>	<b>Energy Efficiency</b>
<b>Dept</b>	Department
<b>EER</b>	Energy Efficiency Ratio
<b>INR</b>	Indian Rupees
<b>KLD</b>	Kilo Litre per day
<b>kWh</b>	Kilo Watt hour
<b>LED</b>	Light Emitting Diode
<b>LPG</b>	Liquified petroleum gas
<b>tCO2</b>	Tonne of Co2



## 1.0 INTRODUCTION ABOUT GREEN AUDIT

Green Audit is the process of assessing the environmental impact of an organization, process, project, product, etc.

Green Audit is assigned to the Criteria 7 of NAAC, National Assessment and Accreditation Council which is a self-governing organization of India that declares the institutions as Grade A, Grade B or Grade C according to the scores assigned at the time of accreditation.

## 2.0 OBJECTIVES

In recent time, the Green Audit of an institution has been becoming a paramount important for self-assessment of the institution which reflects the role of the institution in mitigating the present environmental problems.

The college has been putting efforts to keep our environment clean since its inception. Therefore, the purpose of the present green audit is to identify, quantify, describe, and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards.

The main objectives of carrying out Green Audit are:

- To map the Geographical Location of the college
- To document the floral and faunal diversity of the college
- To record the meteorological parameter of college
- To document the ambient environmental condition of weather, air, water, and noise of the college
- To document the waste disposal system
- To estimate the Energy requirements of the college
- To report the expenditure on green initiatives during the last five years

### 3.0 ABOUT THE COLLEGE / UNIVERSITY

PERI Institute of Technology (PERI IT) was established in 2010 by the PERI Educational and Charitable Trust with the objective of providing quality technical education. The Institute is built at Mannivakkam, Chennai in a sprawling area of 15 acres replete with A/C classrooms, well equipped labs, A/C transport, cafeteria, and a vast library.

PERI IT offers both B.E. and M.E. courses and is recognized as an institution offering technical education by AICTE, New Delhi. It is affiliated to Anna University of Technology, Chennai.

#### GENESIS

The PERI Educational and Charitable Trust was founded in 2007. The vision of the trust is to provide a world class nodal centre of education where academics, communication, comprehension, visualization, practical application, and leadership skills are imparted through encouraging research, training, and development in technical and non-technical areas.

As part of its vision, the trust established PERI Institute of Technology in 2010 with B.E. courses in Mechanical, Civil, Computers and EEE. In 2011, B.E. ECE was introduced. M.E. Applied Electronics and M.E. Computer Science were added in 2012. M.E. Power Electronics & Drives and M.E. Communication Systems were introduced in 2014.

PERI IT is the brainchild of Mr. Saravanan Periasamy, the founding President & CEO of PERI Software Solutions Inc., a leading multinational IT Consulting and Services Company based in USA and the Chairman of the PERI Educational and Charitable Trust. He is the source of inspiration and the pathfinder for this institution.

#### ADMINISTRATIVE

PERI IT is administered by a governing council which comprises of representatives of the PERI Educational & Charitable Trust, representatives of the State Government, the Anna University of Technology, Chennai, the All-India Council of Technical Education, New Delhi and eminent scholars and industrialists. The Governing Council is responsible for planning and monitoring all academic and administrative activities of PERI IT. The day-to-day management is conducted by an academic and administrative set up helmed by Mr. Saravanan Periasamy.

## 4.0 ABOUT NIN ENERGY INDIA PRIVATE LIMITED

NIN Energy India Private Limited is providing Energy Related services like Energy Audit, Power Quality Audit, Infrared Thermography, Thermal Audit, PAT Monitoring and Verification Audit, PAT Consultancy, Green Building Commissioning, Electrical Safety Audit, Internet of Things, Carbon Foot Printing, etc. We have experienced team and helping the customers to manage and reduce their energy consumption.

We are providing complete Energy Services under one roof at a competitive price. Our team members are having more than 10 years of experience in Energy, Renewable Energy and Environmental Engineering with good Academic background.

### Our Team Strength

- Accredited Energy Auditor by Bureau of Energy Efficiency, Government of India
- Certified Energy Auditors by Bureau of Energy Efficiency, Ministry of power
- Certified Measurement and Verification Professionals (CMVP) by EVO
- Certified Level II Thermographer
- Enlisted with Tamil Nādu Energy Development Agency (TEDA) as a system Integrator for Solar PV systems.
- Lead Auditors for ISO 50001 (Energy Management System)
- Lead Auditors for ISO 14064 (Green House Gas inventory and verification)
- Lead Auditors for ISO14000 (Environmental Management System)

## 4.1 AUDIT TEAM

The NIN Energy India private Limited team did the green audit assessment. Team details are as follows.

Name	Designation
Mr. B Senthil Kumar	Accredited Energy Auditor
Mr. T Karthikeyan	Certified Energy Auditor
Mr. S Senthamil Selvan	Sr. Engineer
Mr. S Harishragavendhar	Sr. Engineer

## 4.2 INSTRUMENTS USED FOR THE AUDIT

The NIN Energy India private Limited team did the green audit assessment. Instruments used for audit are as follows.

S. No	Name of the instrument
1	Air quality meter
2	Noise meter
3	Lux meter
4	Thermal Imager
5	Clamp meter

## 5.0 LOCATION OF THE INSTITUTION

Latitude

12.8859° N

Longitude

80.0608° E

## 6.0 GEOGRAPHICAL LOCATION WITH CAMPUS MAP IN SCALE

Land use data

CATEGORIES OF LAND USE	INDEX
<b>Alpha Block</b>	6117 Sq. ft
<b>Zeta Block</b>	23319 Sq. ft
<b>Omega Block</b>	12912 Sq. ft
<b>Sigma Block</b>	12912 Sq. ft
<b>Beta Block</b>	14463 Sq. ft
<b>Delta Block</b>	12143 Sq. ft
<b>Theta Block</b>	5159 Sq. ft
<b>Plantation Area</b>	206183 Sq. ft
<b>Total Area</b>	272.49 m <sup>2</sup>

## 7.0 ENVIRONMENTAL AUDIT

Carbon footprint is the total sum of greenhouse gases (GHG) emission caused by an organization, event, product, or person. As we are aware, the increasing concentration of GHGs in the atmosphere can accelerate climate change and global warming, it is very necessary to measure these emissions from our day-to-day activities. The first step towards managing GHG emissions is to measure them. There are some standards and guidelines to measure GHG emissions like GHG protocol, ISO 14064, the more comprehensive one Life Cycle Assessment (LCA), and market-based mechanisms. Out of them, ISO 14064 is an offset protocol and independent, voluntary GHG project accounting standard helps to quantify GHG emission of the organization, event, product, or person.

Our day-to-day activities are dependent on electricity which is mostly coming from coal-based power plants, Diesel and Petrol for our vehicles and LPG for cooking in our kitchen. All the energy we use is derived from these fossil fuels which are GHG intensive. The following Petrol, Diesel, and LPG.

### Floristic status of the institution:

The Current situation of planted trees are as follows:

Type of Trees	Total no of Trees
No of matured trees (Age more than 10 years)	157
No of Semi matured trees (Age below 10 years)	1527
No of plants/herbs/Shrubs	440
No of medicinal plants	2
Any other plants details if any	6
<b>Total</b>	<b>2132</b>

### Carbon absorption by flora in the Institution

Carbon absorption capacity of one matured tree = 6.8 kg of CO<sub>2</sub>. Carbon absorption capacity of one full grown tree = 3.4 kg of CO<sub>2</sub>. In bushes it absorbs an average of 200 g of CO<sub>2</sub>. The carbon absorption capacity of a 10-sq.ft. area of lawn is 1 g CO<sub>2</sub>.

1. Therefore, the carbon absorption capacity of 157 matured trees in the campus of the Institution ( $157 \times 6.8 \text{ kg CO}_2/\text{Annum}$ ) = 1067 kg of CO<sub>2</sub>/Annum.

2. The carbon absorption capacity of 1527 semi-grown trees in campus of  $1527 \times 3.4 \text{ kg CO}_2/\text{Annum}$ ) = 5192 kg of CO<sub>2</sub>/Annum.

3. There are 440 bushes of various species being raised in the gardens of the Institution, total carbon absorption was calculated to be  $440 \times 200 \text{ g CO}_2/\text{Annum}$  = 88 kg of CO<sub>2</sub>/Annum

**The grand total of carbon absorption by the flora in the campus is 6347 kg per year.**

#### CO<sub>2</sub> REDUCTION MEASURES:

Energy Saving measures	CO <sub>2</sub> reduction, Tons/Annum
Replace existing Conventional fan to BLDC Fan	1.06
Replace existing Wall mounted fan to BLDC Fan	103.84
Replace existing CFL to LED Light	3.67
<b>Total</b>	<b>108.57</b>

**Net Carbon emission of the campus**

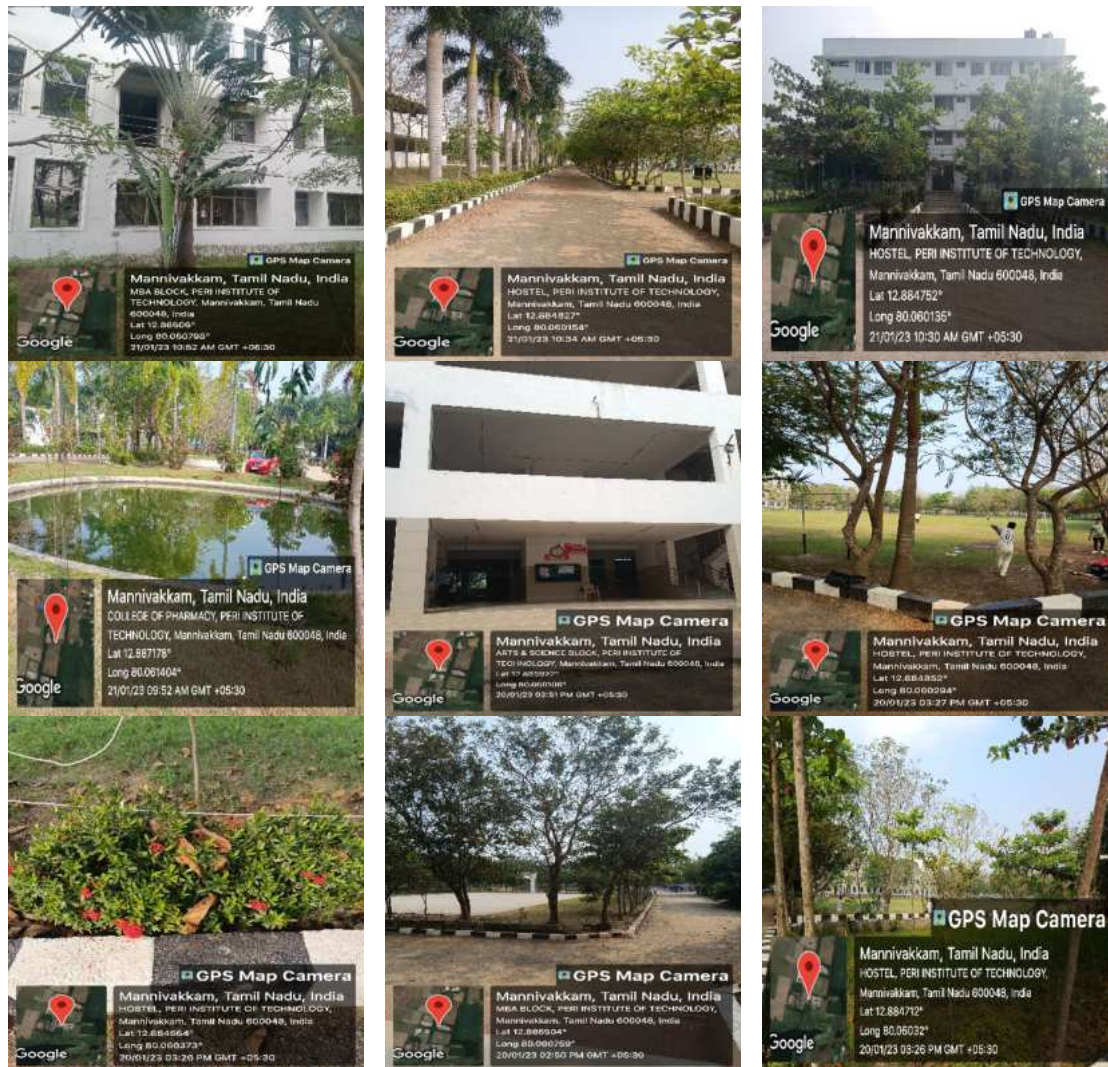
Description	Unit	Values
Carbon emitted due to the energy consumption in the campus	tCO <sub>2</sub> /year	298.10
Carbon absorption by mature trees, semi mature trees, bushes, and lawns	tCO <sub>2</sub> /year	-63.47
<b>Net carbon emission of the campus</b>	<b>tCO<sub>2</sub> /year</b>	<b>234.63</b>
<b>Carbon reduction opportunities by energy saving projects</b>	<b>tCO<sub>2</sub> /year</b>	<b>126.06</b>

## 8.0 GREEN AUDIT

The list of tree species available in site

S. No	Botanical Name	Common Name	Numbers
1.	Azedaraches indica	Neem Tree	25
2.	Albizia lebbeck	Rain tree	15
3.	Tectona grandis Linn.	Teak	20
4.	Grevillea robusta	Silver Oak	20
5.	Acacia arabica	Black catechu	20

## 9.0 THE INSTITUTIONAL INITIATIVES FOR GREENING THE CAMPUS ARE AS FOLLOWS





## 10.0 LAND USE ANALYSIS

GENERAL OVERVIEW OF THE CONCEPT OF LANDUSE Land use refers to man's activities and the various uses which are carried on and derived from land. Viewing the earth from space, it is now very crucial in man's activities on natural resource. In situations of rapid changes in land use, observations of the Earth from space give the information of human activities and utilization of the landscape. Remote sensing and GIS techniques are now providing new tools for advanced land use mapping and planning. The collection of remotely sensed data facilitates the synoptic analyses of earth system, functions, patterning, and change in the local, regional as well as at global scales over time. Satellite imagery particularly is a valuable tool for generating land use map.

## 11.0 LAND USE (BUILT UP AREA) ANALYSIS

S. No	Name of the Building	Year of Construction	No of Rooms	No. Of Labs
1	Alpha Block	2010	11	5
2	Beta Block	2010	36	27
3	Delta Block (Ground Floor+2)	2010	45	3
4	Delta Block (3rd Floor)	2013		
5	Theta Block	2010	Canteen and Library	
6	Omega Block (G.F)	2010	87	Boys Hostel
7	Omega Block (first to third)	2014		
8	Sigma Block (GF)	2015	24	Girls Hostel
9	Zeta Block (GF)	2016	11	6
10	Driver & Security Cabin	2011	1	0

## 12.0 STAFFS AND STUDENTS' DETAILS

The staff and student details are as follows.

<b>No of student's details</b>	<b>1048</b>
<b>No of Teaching staff</b>	<b>95</b>
<b>No of Non-Teaching staff</b>	<b>25</b>



### 13.0 TREE DIVERSITY OF THE COLLEGE/ UNIVERSITY

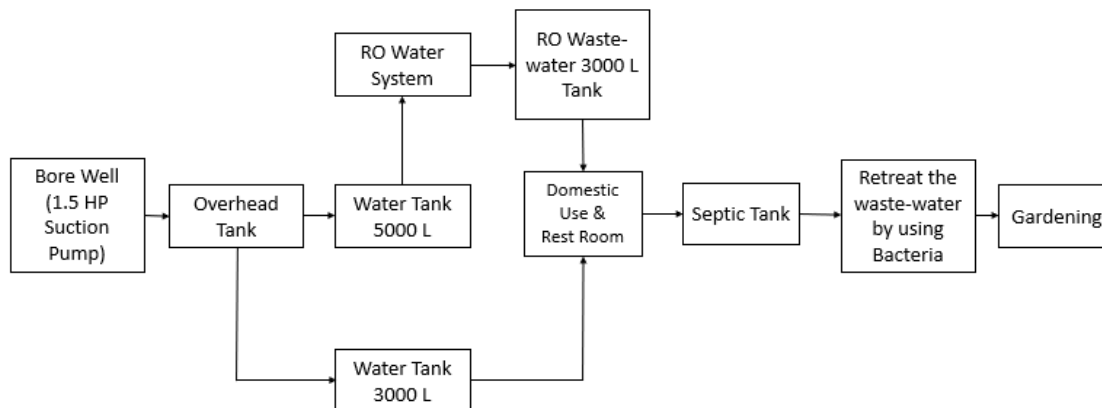
The list of tree species available in site

S. No	Botanical Name	Common Name	Numbers
1.	Azadirachata indica	Neem Tree	25
2.	Albizia lebbeck	Rain tree	15
3.	Tectona grandis Linn.	Teak	20
4.	Grevillea robusta	Silver Oak	20
5.	Acacia arabica	Black catechu	20

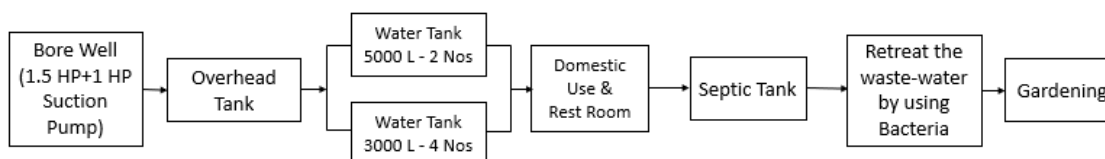
### 14.0 WATER AUDIT

#### 14.1 DIFFERENT SOURCES OF WATER AND QUANTITY RECEIVED ON MONTHLY BASIS AND AREAS OF UTILIZATION

##### BETA BLOCK WATER RESOURCE LAYOUT



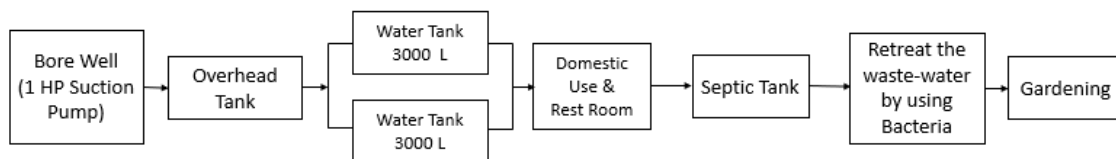
##### OMEGA BLOCK WATER RESOURCE LAYOUT



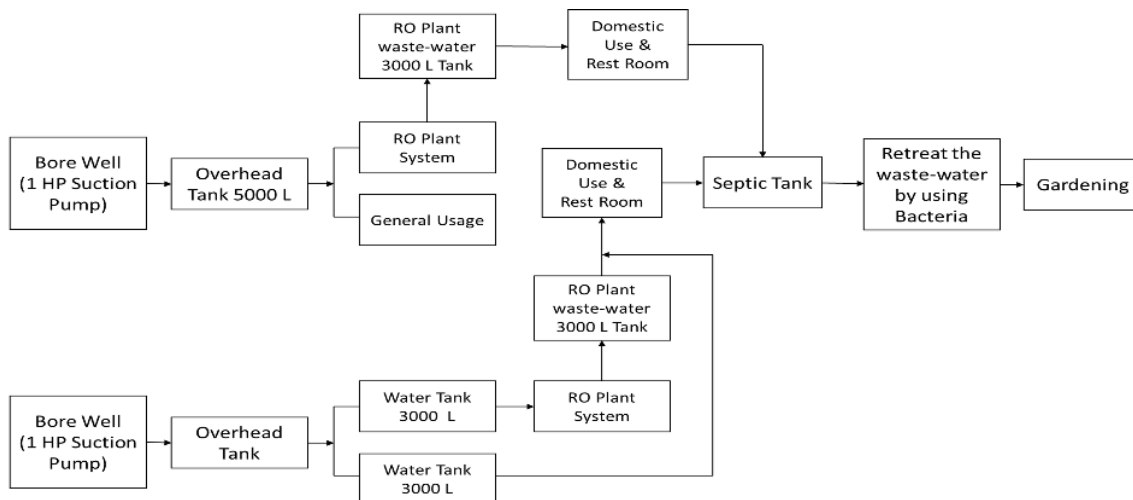
## SIGMA BLOCK WATER RESOURCE LAYOUT



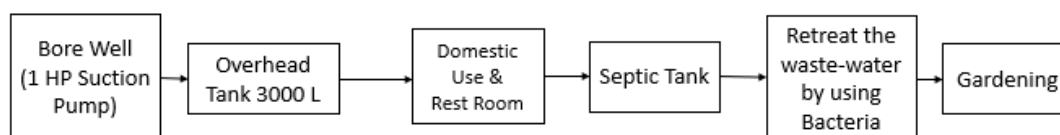
## ZETA BLOCK WATER RESOURCE LAYOUT



## DELTA BLOCK WATER RESOURCE LAYOUT



## ALPHA BLOCK WATER RESOURCE LAYOUT



S. No	Parameters	Response
1	Source of water	GROUND SIDE WATER
2	No of Wells	2
3	No of bore wells used	7
4	No of motors used	8
5	Overall average water consumption in the institution per day (in litres)	1,02,000 LITES
6	Average drinking water consumption in the hostel per day (in litres)	1,200 LITES
7	Average drinking water consumption in the college per day (in litres)	5,700 LITES
8	Average Water consumption for washroom per day (in litres)	45,000 LITES
9	Average Water consumption for gardening per day (in litres)	50,000 LITES

## COOKING

LPG CYLINDER		
S. No	Description	Details
1	No of students in a hostel	404
2	Average LPG cylinder usage per day	8 PER WEEK
3	Average LPG cylinder usage per month	32
4	Average LPG cylinder usage per Year	384
5	Cost of one LPG cylinder	1,700 RS (19 KGS)
6	Food wasted by students/staff per day?	160 KG PER DAY

## REST ROOM (TOILETS)

HYGIENIC MEASURES		
S. No	Description	Details
1	No of rest rooms available in the campus	32 NOS
2	Availability of lighting and ventilation facilities?	YES
3	Frequency of cleaning the rest rooms per day / week?	PER DAY ONES

## 14.2 WATER CONSERVATION FACILITIES AVAILABLE IN THE INSTITUTION

### 14.2.1 Rainwater harvesting



### 14.2.2 Borewell /Open well recharge



## 15.0 TYPES OF DEGRADABLE AND NON-DEGRADABLE WASTE

Relevant documents like agreements/ MoUs with Government and other approved agencies  
Geotagged photographs of the facilities.

## 16.0 LUX LEVEL

The lux level survey is carried out in various location of campus and details are as follows.

S. No	Block	Floor	Location	Average Lux level	Recommended lux level as per standard
1	BETA	Ground floor	BG-3_ Manufacturing technology	87	300
2	BETA	Ground floor	Engines lab and Thermal lab	187	300
3	BETA	Ground floor	BG-1_ Electrical machines lab	100	300
4	BETA	Ground floor	Engineering practical lab (Mechanical)	79	300
5	BETA	Ground floor	Gents rest room	77	100
6	BETA	Ground floor	Hydraulics' and FM Lab	102	300
7	BETA	Ground floor	Mechanical HOD room	133	300
8	BETA	Ground floor	CSE Project lab	227	300
9	BETA	First floor	BF-8	292	300
10	BETA	First floor	Project lab	80	300
11	BETA	First floor	BF-4_ Microprocessor lab	96	300
12	BETA	First floor	Conference hall	134	300
13	BETA	Second floor	BS-7_ Tutorial room	99	300
14	BETA	Second floor	Communication lab	500	300
15	BETA	Third floor	IOT Lab	391	300
16	BETA	Third floor	Classroom	322	300
17	DELTA	Ground floor	Classroom	140	300
18	DELTA	Ground floor	Computer science lab	167	300
19	DELTA	Ground floor	Staff room	113	300
20	DELTA	First floor	DF-3	100	300
21	DELTA	First floor	DF-3	213	300
22	DELTA	First floor	DF-1_ Staff room	213	300
23	DELTA	First floor	Chemistry lab	224	300
24	DELTA	First floor	DF-6_ Physics lab	134	300
25	DELTA	Second floor	DS-10_ Classroom	127	300
26	DELTA	Second floor	Lecture hall	196	300
27	DELTA	Third floor	DT-7 classroom	216	300
28	DELTA	Third floor	DT-1 Classroom	160	300
29	THETA	Ground floor	Library	209	300
30	THETA	First floor	Canteen	261	300

S. No	Block	Floor	Location	Average Lux level	Recommended lux level as per standard
31	ZETA	Ground floor	Classroom	286	300
32	ZETA	Ground floor	Classroom	274	300
33	ZETA	Ground floor	Lab-1	561	300
34	ZETA	Ground floor	Lab-2	521	300
35	ZETA	Ground floor	Lab-4	297	300
36	ZETA	Ground floor	Lab-5	228	300
37	OMEGA	Ground floor	Boys hostel_ Rooms	201	200
38	OMEGA	Ground floor	Boys hostel_ Canteen	91	200
39	ALPHA	Ground floor	Waiting hall	49	300
40	ALPHA	Ground floor	Admin office	39	300
41	ALPHA	Ground floor	Lab	132	300
42	ALPHA	Ground floor	Classroom	81	300
43	GAMMA	Ground floor	Ladies hostel_ Rooms	113	200
44	GAMMA	Ground floor	Ladies hostel_ Rooms	213	200

**Remarks:**

It is observed that over all lux level is good in campus. Only few areas lux level needs to be improved by adding addition light.

## 17.0 AIR QUALITY OF THE COLLEGE

The Air (Prevention and Control of Pollution) Act 1981 was enacted by the Central Government with the objective of arresting the deterioration of air quality. The Air (Prevention and Control of Pollution) Act 1981 describes the main functions of the Central Pollution Control Board (CPCB) as follows:

- To Advise the Central Government on any matter concerning the improvement of the quality the air and the prevention, control, and abatement of air pollution.
- To plan and cause to be executed a nation-wide programme for the prevention, control and abatement of air pollution.
- To provide technical assistance and guidance to the State Pollution Control Board.
- To carry out and sponsor investigations and research related to prevention, control and abatement of air pollution.
- To collect, compile and publish technical and statistical data related to air pollution; and
- To lay down and annul standards for the quality of air.

### **Particulate Matter (PM10 & PM2.5)**

A mixture of particles with liquid droplets in the air forms particulate matter. PM 10 are particles that have a size of less than or equal to 10 microns whereas PM2.5 are ultra-fine particles having a size of less than or equal to 2.5 microns.

#### **Sources:**

Particulate Matter is released from constructions, smoking, cleanings, renovations, demolitions, constructions, natural hazards such as earthquakes, volcanic eruptions, and emissions from industries such as brick kilns, paper & pulp, etc.

#### **Related effects:**

These particles, when inhaled, can penetrate deeper into the respiratory system, and cause respiratory ailments such as asthma, coughing, sneezing, irritation in the airways, eyes, nose, throat irritation, etc. Studies have also shown links between PM exposure and diabetes.

The air quality details are as follows.

S. No	Block	Floor	Location	Air Quality level		
				PM 1.0	PM 2.5	PM 10
1	BETA	Ground floor	BG-3_ Manufacturing technology	58	133	144
2	BETA	Ground floor	Engines lab and Thermal lab	44	79	91
3	BETA	Ground floor	BG-1_ Electrical machines lab	46	81	93
4	BETA	Ground floor	Engineering practical lab (Mechanical)	41	71	88
5	BETA	Ground floor	Gents rest room	43	75	91
6	BETA	Ground floor	Hydraulics' and FM Lab	43	87	98
7	BETA	Ground floor	Mechanical HOD room	44	77	92
8	BETA	Ground floor	CSE Project lab	46	89	97
9	BETA	First floor	BF-8	46	89	98
10	BETA	First floor	Project lab	41	79	95
11	BETA	First floor	BF-4_ Microprocessor lab	46	80	90
12	BETA	First floor	Conference hall	26	45	59
13	BETA	Second floor	BS-7_ Tutorial room	47	81	93
14	BETA	Second floor	Communication lab	47	82	93
15	BETA	Third floor	IOT Lab	44	83	94
16	BETA	Third floor	Classroom	40	74	87
17	DELTA	Ground floor	Classroom	40	72	87
18	DELTA	Ground floor	Computer science lab	39	68	79
19	DELTA	Ground floor	Staff room	38	62	82
20	DELTA	First floor	DF-3	38	61	81
21	DELTA	First floor	DF-3	39	61	79
22	DELTA	First floor	DF-1_ Staff room	37	74	86
23	DELTA	First floor	Chemistry lab	39	61	79
24	DELTA	First floor	DF-6_ Physics lab	41	89	105
25	DELTA	Second floor	DS-10_ Classroom	39	64	79
26	DELTA	Second floor	Lecture hall	38	67	82



S. No	Block	Floor	Location	Air Quality level		
				PM 1.0	PM 2.5	PM 10
27	DELTA	Third floor	DT-7 classroom	38	60	78
28	DELTA	Third floor	DT-1 Classroom	36	61	77
29	THETA	Ground floor	Library	36	61	79
30	THETA	First floor	Canteen	39	64	81
31	ZETA	Ground floor	Classroom	31	51	63
32	ZETA	Ground floor	Classroom	31	51	63
33	ZETA	Ground floor	Lab-1	35	57	69
34	ZETA	Ground floor	Lab-2	36	57	72
35	ZETA	Ground floor	Lab-4	33	61	74
36	ZETA	Ground floor	Lab-5	33	57	75
37	OMEGA	Ground floor	Boys hostel_ Rooms	37	63	74
38	OMEGA	Ground floor	Boys hostel_ Canteen	38	66	85
39	ALPHA	Ground floor	Waiting hall	38	66	82
40	ALPHA	Ground floor	Admin office	38	68	85
41	ALPHA	Ground floor	Lab	36	71	89
42	ALPHA	Ground floor	Classroom	39	70	82
43	GAMMA	Ground floor	Ladies hostel_ Rooms	49	87	97
44	GAMMA	Ground floor	Ladies hostel_ Rooms	51	93	107

**Remarks:**

It is observed that Air quality is found to be satisfactory.

## 18.0 NOISE LEVEL IN THE SURROUNDING OF COLLEGE

### THE NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000

(The Principal Rules were published in the Gazette of India, vide S.O. 123(E), dated 14.2.2000 and subsequently amended vide S.O. 1046(E), dated 22.11.2000, S.O. 1088(E), dated 11.10.2002, S.O. 1569 (E), dated 19.09.2006 and S.O. 50 (E) dated 11.01.2010 under the Environment (Protection) Act, 1986.)

#### Ambient Air Quality Standards in respect of Noise

Area Code	Category Of Area/Zone	Limits In dB(A) Leq*	
		Day Time	Night-time
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

#### Note: -

1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
2. Night-time shall mean from 10.00 p.m. to 6.00 a.m.
3. Silence zone is an area comprising not less than 100 metres around hospitals, educational institutions, courts, religious places, or any other area which is declared as such by the competent authority.
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.
5. \* dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.
6. A “decibel” is a unit in which noise is measured.
7. “A”, in dB(A) Leq, denotes the frequency weighting in the measurement of
8. noise and corresponds to frequency response characteristics of the human ear.
9. Leq: It is an energy mean of the noise level over a specified period.

The noise level in the campus details are as follows.

S. No	Block	Floor	Location	Noise level, dB
1	BETA	Ground floor	BG-3_ Manufacturing technology	67.3
2	BETA	Ground floor	Engines lab and Thermal lab	70.8
3	BETA	Ground floor	BG-1_ Electrical machines lab	84.4
4	BETA	Ground floor	Engineering practical lab (Mechanical)	79.6
5	BETA	Ground floor	Gents rest room	71.6
6	BETA	Ground floor	Hydraulics' and FM Lab	84.3
7	BETA	Ground floor	Mechanical HOD room	78.4
8	BETA	Ground floor	CSE Project lab	91.8
9	BETA	First floor	BF-8	97.3
10	BETA	First floor	Project lab	104.6
11	BETA	First floor	BF-4_ Microprocessor lab	103.2
12	BETA	First floor	Conference hall	111
13	BETA	Second floor	BS-7_ Tutorial room	101.4
14	BETA	Second floor	Communication lab	100
15	BETA	Third floor	IOT Lab	94
16	BETA	Third floor	Classroom	97
17	DELTA	Ground floor	Classroom	67.3
18	DELTA	Ground floor	Computer science lab	57.6
19	DELTA	Ground floor	Staff room	63.8
20	DELTA	First floor	DF-3	64.2
21	DELTA	First floor	DF-3	64
22	DELTA	First floor	DF-1_ Staff room	82.7
23	DELTA	First floor	Chemistry lab	65.8
24	DELTA	First floor	DF-6_ Physics lab	63.8
25	DELTA	Second floor	DS-10_ Classroom	63.5
26	DELTA	Second floor	Lecture hall	61.5
27	DELTA	Third floor	DT-7 classroom	54.3
28	DELTA	Third floor	DT-1 Classroom	63.9
29	THETA	Ground floor	Library	55
30	THETA	First floor	Canteen	61
31	ZETA	Ground floor	Classroom	54.6
32	ZETA	Ground floor	Classroom	54.6
33	ZETA	Ground floor	Lab-1	50.6
34	ZETA	Ground floor	Lab-2	54.3
35	ZETA	Ground floor	Lab-4	63.8
36	ZETA	Ground floor	Lab-5	66.8

S. No	Block	Floor	Location	Noise level, dB
37	OMEGA	Ground floor	Boys hostel_ Rooms	61.8
38	OMEGA	Ground floor	Boys hostel_ Canteen	60.9
39	ALPHA	Ground floor	Waiting hall	91.3
40	ALPHA	Ground floor	Admin office	81.3
41	ALPHA	Ground floor	Lab	79.8
42	ALPHA	Ground floor	Classroom	69.9
43	GAMMA	Ground floor	Ladies hostel_ Rooms	64.7
44	GAMMA	Ground floor	Ladies hostel_ Rooms	64.8

**Remarks:**

It is observed that few areas noise level is higher than 65 db. It is recommended to reduce the noise level in mentioned location.

## 19.0 ENERGY AUDIT

### Source of Electricity - 1

The plant receives two LT EB supply from TNEB. The LT Supply details as follows.

Source Of Power Supply	:	TNEB
Electric Power Supply is received from TANGEDCO	:	LT supply
Service number	:	09-571-001-3041
Sanction Load, kW	:	112
Annual Electricity Consumption, kWh	:	278579.2
Avg. Annual Power factor	:	0.99
Unit charges, Rs/kWh	:	6.35

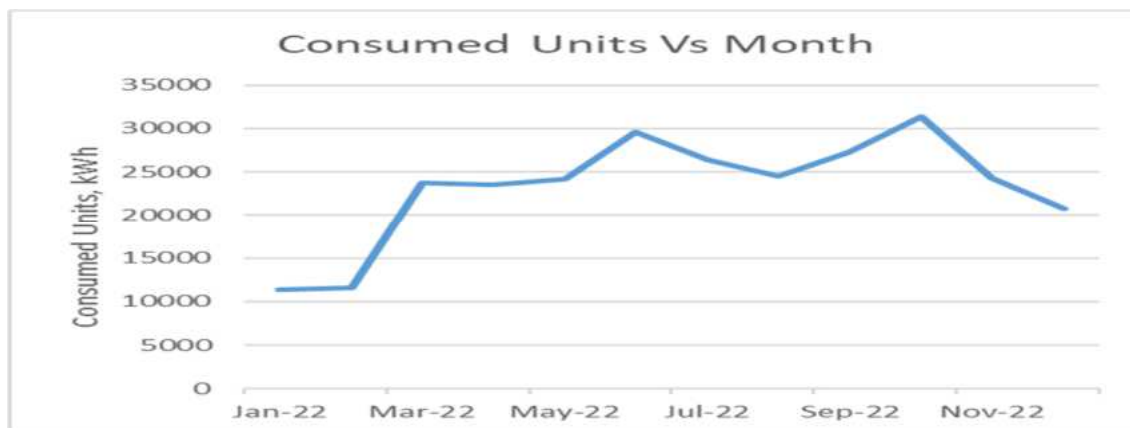
The one-year Electricity Bills for 2021-22 bill has been analysed and details as follows.

SERVICE NUMBER: 09-571-001-3041								
Month	Maximum Demand, kW	Excess demand penalty, INR	Power Factor	Consumed Units, kWh	Fixed Charges, INR	Current Consumption Charges, INR	E-Tax, INR	Total bill, INR
Jan-22	65	0	0.98	11403	6720	85521	4474	96715
Feb-22	31	0	0.98	11579	6720	86841	4438	97999
Mar-22	64	0	0.99	23780	6720	178353	9110	194183
Apr-22	63	0	0.99	23514	6720	176358	9007	192085
May-22	65	0	0.99	24151	6720	181134	9252	197106
Jun-22	75	0	0.99	29611	6720	222081	11329	240130
Jul-22	66	0	0.99	26348	6720	197613	10079	214412
Aug-22	70	0	0.98	24518	6720	183888	9404	200012
Sep-22	86	0	1.00	27310	24304	232135	12382	265666
Oct-22	93	0	0.99	31325	36400	279577	15490	331468
Nov-22	74	0	0.99	24283	36400	216724	12039	265163
Dec-22	85	0	0.99	20756	36400	185247	10644	232291

### Remarks:

The plant has maintained power factor close to unity which is good.

The units consumed over the period of one year is shown below.



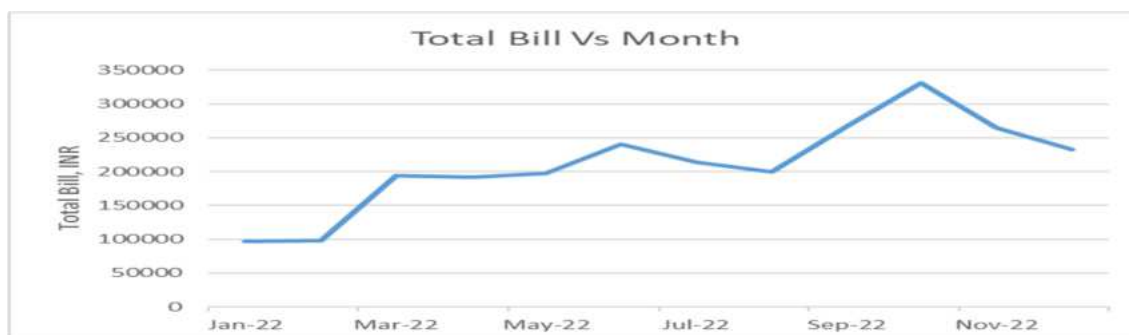
The maximum unit is consumed in the month of January 2022 and minimum unit is consumed in the month of October 2022.

The recorded demand over the period of one year is shown below.



The recorded demand is maximum in the month of February 2022 and minimum in the month of October 2022.

The bill details over the period of one year is shown below.



The maximum bill is paid in the month of January 2022 and minimum in the month of October 2022.

### Source of Electricity - 2

The plant receives two LT EB supply from TNEB. The LT Supply details as follows.

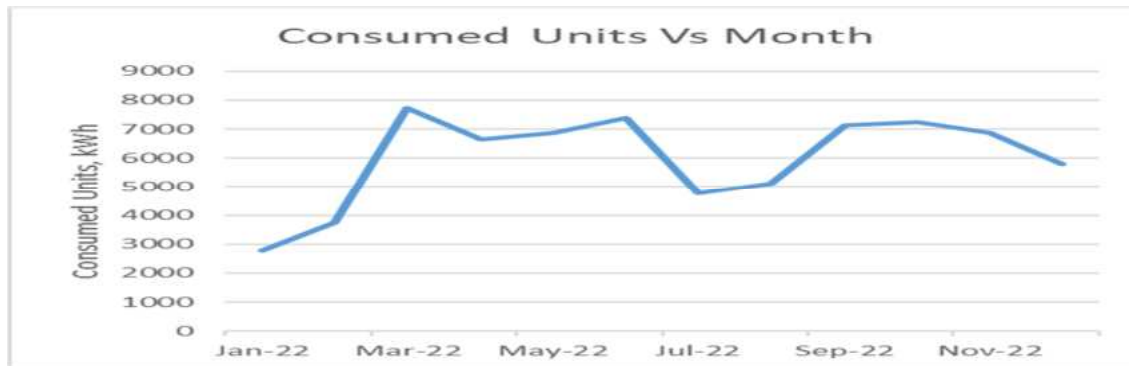
Source Of Power Supply	:	TNEB
Electric Power Supply is received from TANGEDCO	:	LT supply
Service number	:	09-571-001-6732
Sanction Load, kW	:	112
Annual Electricity Consumption, kWh	:	72127
Avg. Annual Power factor	:	0.95
Unit charges, Rs/kWh	:	6.35

The one-year Electricity Bills for 2021-22 bill has been analysed and details as follows.

SERVICE NUMBER: 09-571-001-6732								
Month	Maximum Demand, kW	Excess demand penalty, INR	Power Factor	Consumed Units, kWh	Fixed Charges, INR	Current Consumption Charges, INR	ETax, INR	Total bill, INR
Jan-22	35	0	0.96	2780	7840	22379	1245	31464
Feb-22	38	0	0.93	3752	7840	30204	1643	39687
Mar-22	44	0	0.95	7728	7840	62210	3268	73318
Apr-22	47	0	0.96	6644	7840	53484	2842	64166
May-22	39	0	0.96	6880	7840	55384	2909	66133
Jun-22	52	0	0.96	7396	7840	59537	3162	70540
Jul-22	31	0	0.94	4772	7840	38415	2033	48287
Aug-22	45	0	0.95	5115	7840	47752	2219	51210
Sep-22	45	0	0.95	7128	23035	67716	3768	92699
Oct-22	46	0	0.93	7256	33600	72379	4324	110303
Nov-22	45	0	0.94	6872	33600	68548	4102	106251
Dec-22	37	0	0.95	5804	33600	57895	33600	94960

**Remarks:** The plant has maintained average power factor of 0.95 which is good.

The units consumed over the period of one year is shown below.



The maximum unit is consumed in the month of January 2022 and minimum unit is consumed in the month of March 2022.

The recorded demand over the period of one year is shown below.



The recorded demand is maximum in the month of July 2022 and minimum in the month of June 2022.

The bill details over the period of one year is shown below.





The maximum bill is paid in the month of January 2022 and minimum in the month of June 2022.

## 20.0 LIGHT DETAILS

The light details of the campus are as follows.

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS				NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT					
1	BETA BLOCK	Ground floor	BG1	LED TUBE LIGHT			12	20	8 HOURS
2	BETA BLOCK	Ground floor	BG 2	LED TUBE LIGHT			4	20	8 HOURS
3	BETA BLOCK	Ground floor	BG3	LED TUBE LIGHT			6	20	8 HOURS
4	BETA BLOCK	Ground floor	BG4	LED TUBE LIGHT			3	20	8 HOURS
5	BETA BLOCK	Ground floor	BG5	LED TUBE LIGHT			2	20	8 HOURS
6	BETA BLOCK	Ground floor	BG6	LED TUBE LIGHT			6	20	8 HOURS
7	BETA BLOCK	Ground floor	BG7	LED TUBE LIGHT			3	20	8 HOURS
8	BETA BLOCK	Ground floor	BG8	LED TUBE LIGHT			1	20	8 HOURS
9	BETA BLOCK	Ground floor	BG9	LED TUBE LIGHT			1	20	8 HOURS
10	BETA BLOCK	Ground floor	BG10	LED TUBE LIGHT			7	20	8 HOURS
11	BETA BLOCK	Ground floor	BG11	LED TUBE LIGHT			2	20	8 HOURS
12	BETA BLOCK	Ground floor	BG12	LED TUBE LIGHT			6	20	8 HOURS
13	BETA BLOCK	Ground floor	BG13	LED TUBE LIGHT			4	20	8 HOURS
14	BETA BLOCK	Ground floor	BG14	LED TUBE LIGHT			1	20	8 HOURS
15	BETA BLOCK	Ground floor	BG15	LED TUBE LIGHT			2	20	8 HOURS
16	BETA BLOCK	Ground floor	BG16	LED TUBE LIGHT			11	20	8 HOURS
17	BETA BLOCK	FRIST FLOOR	BF11	LED TUBE LIGHT			6	20	8 HOURS
18	BETA BLOCK	FRIST FLOOR	BF12	LED TUBE LIGHT			8	20	8 HOURS
19	BETA BLOCK	FRIST FLOOR	BF13	LED TUBE LIGHT			6	20	8 HOURS
20	BETA BLOCK	FRIST FLOOR	BF14	LED TUBE LIGHT			2	20	8 HOURS
21	BETA BLOCK	FRIST FLOOR	BF15	LED TUBE LIGHT			1	20	8 HOURS
22	BETA BLOCK	FRIST FLOOR	BF16	LED TUBE LIGHT			3	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS				NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT					
23	BETA BLOCK	FRIST FLOOR	BF17	LED TUBE LIGHT			1	20	8 HOURS
24	BETA BLOCK	FRIST FLOOR	BF18	LED TUBE LIGHT			3	20	8 HOURS
25	BETA BLOCK	FRIST FLOOR	BF19	LED TUBE LIGHT			3	20	8 HOURS
26	BETA BLOCK	FRIST FLOOR	BF20	LED TUBE LIGHT			5	20	8 HOURS
27	BETA BLOCK	FRIST FLOOR	BF21	LED TUBE LIGHT			2	20	8 HOURS
28	BETA BLOCK	FRIST FLOOR	BF1	LED TUBE LIGHT			3	20	8 HOURS
29	BETA BLOCK	FRIST FLOOR	BF2	LED TUBE LIGHT			4	20	8 HOURS
30	BETA BLOCK	FRIST FLOOR	BF3	LED TUBE LIGHT			4	20	8 HOURS
31	BETA BLOCK	FRIST FLOOR	BF4	LED TUBE LIGHT			7	20	8 HOURS
32	BETA BLOCK	FRIST FLOOR	BF5	LED TUBE LIGHT			7	20	8 HOURS
33	BETA BLOCK	FRIST FLOOR	BF6	LED TUBE LIGHT			1	20	8 HOURS
34	BETA BLOCK	FRIST FLOOR	BF7	PL LIGHT			29	36	8 HOURS
35	BETA BLOCK	FRIST FLOOR	BF8	LED TUBE LIGHT			3	20	8 HOURS
36	BETA BLOCK	FRIST FLOOR	BF9	LED TUBE LIGHT			1	20	8 HOURS
37	BETA BLOCK	FRIST FLOOR	BF10	LED TUBE LIGHT			1	20	8 HOURS
38	BETA BLOCK	SECOND FLOOR	BS1	LED TUBE LIGHT			5	20	8 HOURS
39	BETA BLOCK	SECOND FLOOR	BS2	LED TUBE LIGHT			4	20	8 HOURS
40	BETA BLOCK	SECOND FLOOR	BS3	FALSE CEILING LIGHT			9	20	8 HOURS
40	BETA BLOCK	SECOND FLOOR	BS4	FALSE CEILING LIGHT			9	20	8 HOURS
40	BETA BLOCK	SECOND FLOOR	BS5	FALSE CEILING LIGHT			9	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS				NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT					
40	BETA BLOCK	SECOND FLOOR	BS6	LED TUBE LIGHT			5	20	8 HOURS
40	BETA BLOCK	SECOND FLOOR	BS7	LED TUBE LIGHT			2	20	8 HOURS
40	BETA BLOCK	SECOND FLOOR	BS8	LED TUBE LIGHT			4	20	8 HOURS
40	BETA BLOCK	SECOND FLOOR	BS9	LED TUBE LIGHT			4	20	8 HOURS
40	BETA BLOCK	SECOND FLOOR	BS10	TUBE LIGHT			1	36	8 HOURS
41	BETA BLOCK	SECOND FLOOR	BS11	LED TUBE LIGHT			6	20	8 HOURS
42	BETA BLOCK	SECOND FLOOR	BS12	LED TUBE LIGHT			6	20	8 HOURS
43	BETA BLOCK	SECOND FLOOR	BS13	LED TUBE LIGHT			5	20	8 HOURS
44	BETA BLOCK	SECOND FLOOR	BS13	LED TUBE LIGHT			1	20	8 HOURS
45	BETA BLOCK	SECOND FLOOR	BS14	LED TUBE LIGHT			5	20	8 HOURS
46	BETA BLOCK	SECOND FLOOR	BS15	LED TUBE LIGHT			1	20	8 HOURS
47	BETA BLOCK	SECOND FLOOR	BS16	LED TUBE LIGHT			3	20	8 HOURS
48	BETA BLOCK	SECOND FLOOR	BS17	LED TUBE LIGHT			4	20	8 HOURS
49	BETA BLOCK	SECOND FLOOR	BS18	LED TUBE LIGHT			1	20	8 HOURS
50	BETA BLOCK	SECOND FLOOR	BS19	LED TUBE LIGHT			10	20	8 HOURS
51	BETA BLOCK	Third floor	BT1	LED TUBE LIGHT			6	20	8 HOURS
52	BETA BLOCK	Third floor	BT2	LED TUBE LIGHT			7	20	8 HOURS
53	BETA BLOCK	Third floor	BT3	LED TUBE LIGHT			7	20	8 HOURS
54	BETA BLOCK	Third floor	BT4	LED TUBE LIGHT			3	20	8 HOURS
55	BETA BLOCK	Third floor	BT5	LED TUBE LIGHT			6	20	8 HOURS
56	BETA BLOCK	Third floor	BT6	LED TUBE LIGHT			4	20	8 HOURS
57	BETA BLOCK	Third floor	BT7	LED TUBE LIGHT			3	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS				NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT					
58	BETA BLOCK	Third floor	BT8	LED TUBE LIGHT			1	20	8 HOURS
59	BETA BLOCK	Third floor	BT9	LED TUBE LIGHT			1	20	8 HOURS
60	BETA BLOCK	Third floor	BT10	LED TUBE LIGHT			7	20	8 HOURS
61	BETA BLOCK	Third floor	BT11	LED TUBE LIGHT			7	20	8 HOURS
62	BETA BLOCK	Third floor	BT12	LED TUBE LIGHT			5	20	8 HOURS
63	BETA BLOCK	Third floor	BT13	LED TUBE LIGHT			4	20	8 HOURS
64	BETA BLOCK	Third floor	BT14	LED TUBE LIGHT			1	20	8 HOURS
65	BETA BLOCK	Third floor	BT15	LED TUBE LIGHT			3	20	8 HOURS
66	BETA BLOCK	Third floor	BT16	LED TUBE LIGHT			1	20	8 HOURS
67	BETA BLOCK	Third floor	BT17	LED TUBE LIGHT			3	20	8 HOURS
68	BETA BLOCK	Third floor	BT18	LED TUBE LIGHT			4	20	8 HOURS
69	BETA BLOCK	Third floor	BT19	LED TUBE LIGHT			3	20	8 HOURS
70	BETA BLOCK	Third floor	BT20	LED TUBE LIGHT			3	20	8 HOURS
71	BETA BLOCK	Third floor	BT21	LED TUBE LIGHT			4	20	8 HOURS
72	BETA BLOCK	Third floor	BT22	LED TUBE LIGHT			4	20	8 HOURS
73	BETA BLOCK	Third floor	BT23	LED TUBE LIGHT			3	20	8 HOURS
74	BETA BLOCK	Third floor	BT24	LED TUBE LIGHT			13	20	8 HOURS
75	DELTA BLOCK	Ground floor	DG1	LED TUBE LIGHT			4	20	8 HOURS
76	DELTA BLOCK	Ground floor	DG2	LED TUBE LIGHT			4	20	8 HOURS
77	DELTA BLOCK	Ground floor	DG3	LED TUBE LIGHT			4	20	8 HOURS
78	DELTA BLOCK	Ground floor	DG4	LED TUBE LIGHT			4	20	8 HOURS
79	DELTA BLOCK	Ground floor	DG5	LED TUBE LIGHT			4	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS			NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT				
80	DELTA BLOCK	Ground floor	DG6	LED TUBE LIGHT		4	20	8 HOURS
81	DELTA BLOCK	Ground floor	DG7	LED TUBE LIGHT		4	20	8 HOURS
82	DELTA BLOCK	Ground floor	DG8	LED TUBE LIGHT		4	20	8 HOURS
83	DELTA BLOCK	Ground floor	DG9	LED TUBE LIGHT		4	20	8 HOURS
84	DELTA BLOCK	Ground floor	DG10	LED TUBE LIGHT		2	20	8 HOURS
85	DELTA BLOCK	Ground floor	DG11	LED TUBE LIGHT		2	20	8 HOURS
86	DELTA BLOCK	Ground floor	DG12	LED TUBE LIGHT		1	20	8 HOURS
87	DELTA BLOCK	Ground floor	DG13	LED TUBE LIGHT		1	20	8 HOURS
88	DELTA BLOCK	Ground floor	DG14	LED TUBE LIGHT		8	20	8 HOURS
89	DELTA BLOCK	Ground floor	DG15	LED TUBE LIGHT		7	20	8 HOURS
90	DELTA BLOCK	Ground floor	DG16	LED TUBE LIGHT		3	20	8 HOURS
91	DELTA BLOCK	Ground floor	DG17	LED TUBE LIGHT		4	20	8 HOURS
92	DELTA BLOCK	Ground floor	DG18	LED TUBE LIGHT		8	20	8 HOURS
93	DELTA BLOCK	Ground floor	DG PASSAGE AREA	LED TUBE LIGHT		25	20	8 HOURS
94	DELTA BLOCK	FRIST FLOOR	DF1	LED TUBE LIGHT		10	20	8 HOURS
95	DELTA BLOCK	FRIST FLOOR	DF2	LED TUBE LIGHT		8	20	8 HOURS
96	DELTA BLOCK	FRIST FLOOR	DF3	LED TUBE LIGHT		5	20	8 HOURS
97	DELTA BLOCK	FRIST FLOOR	DF4	LED TUBE LIGHT		8	20	8 HOURS
98	DELTA BLOCK	FRIST FLOOR	DF5	LED TUBE LIGHT		9	20	8 HOURS
99	DELTA BLOCK	FRIST FLOOR	DF6	LED TUBE LIGHT		10	20	8 HOURS
100	DELTA BLOCK	FRIST FLOOR	DF7	LED TUBE LIGHT		5	20	8 HOURS
101	DELTA BLOCK	FRIST FLOOR	DF8	LED TUBE LIGHT		6	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS				NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT					
102	DELTA BLOCK	FRIST FLOOR	DF9	LED TUBE LIGHT			2	20	8 HOURS
103	DELTA BLOCK	FRIST FLOOR	DF PASSAGE AREA	LED TUBE LIGHT			4	20	8 HOURS
104	DELTA BLOCK	SECOND FLOOR	DS 1	LED TUBE LIGHT			6	20	8 HOURS
105	DELTA BLOCK	SECOND FLOOR	DS 2	LED TUBE LIGHT			5	20	8 HOURS
106	DELTA BLOCK	SECOND FLOOR	DS 3	LED TUBE LIGHT			3	20	8 HOURS
107	DELTA BLOCK	SECOND FLOOR	DS 4	LED TUBE LIGHT			5	20	8 HOURS
108	DELTA BLOCK	SECOND FLOOR	DS 5	LED TUBE LIGHT			4	20	8 HOURS
109	DELTA BLOCK	SECOND FLOOR	DS 6	LED TUBE LIGHT			4	20	8 HOURS
110	DELTA BLOCK	SECOND FLOOR	DS 7	LED TUBE LIGHT			5	20	8 HOURS
111	DELTA BLOCK	SECOND FLOOR	DS 8	LED TUBE LIGHT			4	20	8 HOURS
112	DELTA BLOCK	SECOND FLOOR	DS 9	LED TUBE LIGHT			5	20	8 HOURS
113	DELTA BLOCK	SECOND FLOOR	DS 10	LED TUBE LIGHT			5	20	8 HOURS
114	DELTA BLOCK	SECOND FLOOR	DS PASSAGE AREA	LED TUBE LIGHT			6	20	8 HOURS
115	DELTA BLOCK	Third floor	DT1	LED TUBE LIGHT			3	20	8 HOURS
116	DELTA BLOCK	Third floor	DT2	LED TUBE LIGHT			4	20	8 HOURS
117	DELTA BLOCK	Third floor	DT3	LED TUBE LIGHT			3	20	8 HOURS
118	DELTA BLOCK	Third floor	DT4	LED TUBE LIGHT			3	20	8 HOURS
119	DELTA BLOCK	Third floor	DT5	LED TUBE LIGHT			5	20	8 HOURS
120	DELTA BLOCK	Third floor	DT6	FALSE CEILING LIGHT			4	20	8 HOURS
121	DELTA BLOCK	Third floor	DT7	FALSE CEILING LIGHT			6	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS				NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT					
122	DELTA BLOCK	Third floor	DT8	FALSE CEILING LIGHT			15	20	8 HOURS
123	DELTA BLOCK	Third floor	DT9	LED TUBE LIGHT			4	20	8 HOURS
124	DELTA BLOCK	Third floor	DT10	LED TUBE LIGHT			4	20	8 HOURS
125	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 1	LED TUBE LIGHT			1	20	8 HOURS
126	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 2	LED TUBE LIGHT			2	20	8 HOURS
127	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 3	LED TUBE LIGHT			2	20	8 HOURS
128	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 4	LED TUBE LIGHT			2	20	8 HOURS
129	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 5	LED TUBE LIGHT			2	20	8 HOURS
130	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 6	LED TUBE LIGHT			1	20	8 HOURS
131	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 7	LED TUBE LIGHT			2	20	8 HOURS
132	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 8	LED TUBE LIGHT			2	20	8 HOURS
133	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 9	LED TUBE LIGHT			2	20	8 HOURS
134	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 10	LED TUBE LIGHT			2	20	8 HOURS
135	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 11	LED TUBE LIGHT			2	20	8 HOURS
136	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 12	LED TUBE LIGHT			2	20	8 HOURS
137	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 13	LED TUBE LIGHT			2	20	8 HOURS
138	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 14	LED TUBE LIGHT			2	20	8 HOURS
139	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 15	LED TUBE LIGHT			2	20	8 HOURS
140	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 16	LED TUBE LIGHT			2	20	8 HOURS
141	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 17	LED TUBE LIGHT			2	20	8 HOURS
142	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 18	LED TUBE LIGHT			2	20	8 HOURS



LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
143	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 19	LED TUBE LIGHT	2	20	8 HOURS
144	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 20	LED TUBE LIGHT	2	20	8 HOURS
145	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 21	LED TUBE LIGHT	2	20	8 HOURS
146	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 22	LED TUBE LIGHT	2	20	8 HOURS
147	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 23	LED TUBE LIGHT	1	20	8 HOURS
148	OMEGA BLOCK	GROUND FLOOR	2 COMMON REST ROOM (MEN)	LED TUBE LIGHT	10	20	8 HOURS
149	OMEGA BLOCK	GROUND FLOOR	PASSAGE AREA	LED TUBE LIGHT	10	20	8 HOURS
150	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 1	LED TUBE LIGHT	1	20	8 HOURS
151	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 2	LED TUBE LIGHT	2	20	8 HOURS
152	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 3	LED TUBE LIGHT	2	20	8 HOURS
153	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 4	LED TUBE LIGHT	2	20	8 HOURS
154	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 5	LED TUBE LIGHT	2	20	8 HOURS
155	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 6	LED TUBE LIGHT	2	20	8 HOURS
156	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 7	LED TUBE LIGHT	2	20	8 HOURS
157	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 8	LED TUBE LIGHT	2	20	8 HOURS
158	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 9	LED TUBE LIGHT	2	20	8 HOURS
159	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 10	LED TUBE LIGHT	2	20	8 HOURS
160	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 11	LED TUBE LIGHT	2	20	8 HOURS
161	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 12	LED TUBE LIGHT	2	20	8 HOURS
162	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 13	LED TUBE LIGHT	1	20	8 HOURS
163	OMEGA BLOCK	FRIST FLOOR	PASSAGE AREA	LED TUBE LIGHT	8	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS			NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT				
164	OMEGA BLOCK	FRIST FLOOR	1 COMMON REST ROOM (MEN)	LED TUBE LIGHT	5	20	8 HOURS	
165	OMEGA BLOCK	FRIST FLOOR	DINING HALL	LED TUBE LIGHT	16	20	8 HOURS	
166	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 1	LED TUBE LIGHT	1	20	8 HOURS	
167	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 2	LED TUBE LIGHT	2	20	8 HOURS	
168	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 3	LED TUBE LIGHT	2	20	8 HOURS	
169	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 4	LED TUBE LIGHT	2	20	8 HOURS	
170	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 5	LED TUBE LIGHT	2	20	8 HOURS	
171	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 6	LED TUBE LIGHT	2	20	8 HOURS	
172	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 7	LED TUBE LIGHT	2	20	8 HOURS	
173	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 8	LED TUBE LIGHT	2	20	8 HOURS	
174	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 9	LED TUBE LIGHT	2	20	8 HOURS	
175	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 10	LED TUBE LIGHT	2	20	8 HOURS	
176	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 11	LED TUBE LIGHT	2	20	8 HOURS	
177	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 12	LED TUBE LIGHT	2	20	8 HOURS	
178	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 13	LED TUBE LIGHT	2	20	8 HOURS	
179	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 14	LED TUBE LIGHT	2	20	8 HOURS	
180	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 15	LED TUBE LIGHT	2	20	8 HOURS	
181	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 16	LED TUBE LIGHT	2	20	8 HOURS	
182	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 17	LED TUBE LIGHT	2	20	8 HOURS	
183	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 18	LED TUBE LIGHT	2	20	8 HOURS	
184	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 19	LED TUBE LIGHT	2	20	8 HOURS	

LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
185	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 20	LED TUBE LIGHT	2	20	8 HOURS
186	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 21	LED TUBE LIGHT	2	20	8 HOURS
187	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 22	LED TUBE LIGHT	2	20	8 HOURS
187	OMEGA BLOCK	SECOND FLOOR	2 COMMON REST ROOM (MEN)	LED TUBE LIGHT	10	20	8 HOURS
188	OMEGA BLOCK	SECOND FLOOR	PASSAGE AREA	LED TUBE LIGHT	10	20	8 HOURS
189	OMEGA BLOCK	Third floor	ROOM NUMBER 1	LED TUBE LIGHT	1	20	8 HOURS
190	OMEGA BLOCK	Third floor	ROOM NUMBER 2	LED TUBE LIGHT	2	20	8 HOURS
191	OMEGA BLOCK	Third floor	ROOM NUMBER 3	LED TUBE LIGHT	2	20	8 HOURS
192	OMEGA BLOCK	Third floor	ROOM NUMBER 4	LED TUBE LIGHT	2	20	8 HOURS
193	OMEGA BLOCK	Third floor	ROOM NUMBER 5	LED TUBE LIGHT	2	20	8 HOURS
194	OMEGA BLOCK	Third floor	ROOM NUMBER 6	LED TUBE LIGHT	2	20	8 HOURS
195	OMEGA BLOCK	Third floor	ROOM NUMBER 7	LED TUBE LIGHT	2	20	8 HOURS
196	OMEGA BLOCK	Third floor	ROOM NUMBER 8	LED TUBE LIGHT	2	20	8 HOURS
197	OMEGA BLOCK	Third floor	ROOM NUMBER 9	LED TUBE LIGHT	2	20	8 HOURS
198	OMEGA BLOCK	Third floor	ROOM NUMBER 10	LED TUBE LIGHT	2	20	8 HOURS
199	OMEGA BLOCK	Third floor	ROOM NUMBER 11	LED TUBE LIGHT	2	20	8 HOURS
200	OMEGA BLOCK	Third floor	ROOM NUMBER 12	LED TUBE LIGHT	2	20	8 HOURS
201	OMEGA BLOCK	Third floor	ROOM NUMBER 13	LED TUBE LIGHT	2	20	8 HOURS
202	OMEGA BLOCK	Third floor	ROOM NUMBER 14	LED TUBE LIGHT	2	20	8 HOURS
203	OMEGA BLOCK	Third floor	ROOM NUMBER 15	LED TUBE LIGHT	2	20	8 HOURS
204	OMEGA BLOCK	Third floor	ROOM NUMBER 16	LED TUBE LIGHT	2	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS				NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT					
205	OMEGA BLOCK	Third floor	ROOM NUMBER 17	LED TUBE LIGHT			2	20	8 HOURS
206	OMEGA BLOCK	Third floor	ROOM NUMBER 18	LED TUBE LIGHT			2	20	8 HOURS
207	OMEGA BLOCK	Third floor	ROOM NUMBER 19	LED TUBE LIGHT			2	20	8 HOURS
208	OMEGA BLOCK	Third floor	ROOM NUMBER 20	LED TUBE LIGHT			2	20	8 HOURS
209	OMEGA BLOCK	Third floor	ROOM NUMBER 21	LED TUBE LIGHT			2	20	8 HOURS
210	OMEGA BLOCK	Third floor	ROOM NUMBER 22	LED TUBE LIGHT			2	20	8 HOURS
211	OMEGA BLOCK	SECOND FLOOR	2 COMMON REST ROOM (MEN)	LED TUBE LIGHT			10	20	8 HOURS
212	OMEGA BLOCK	SECOND FLOOR	PASSAGE AREA	LED TUBE LIGHT			10	20	8 HOURS
213	ZEETA	GROUND FLOOR	ZG1	LED TUBE LIGHT			9	20	8 HOURS
214	ZEETA	GROUND FLOOR	ZG2	FALSE CEILING LIGHT			9	20	8 HOURS
215	ZEETA	GROUND FLOOR	ZG3	FALSE CEILING LIGHT			9	20	8 HOURS
216	ZEETA	GROUND FLOOR	ZG4	FALSE CEILING LIGHT			9	20	8 HOURS
217	ZEETA	GROUND FLOOR	ZG5	FALSE CEILING LIGHT			9	20	8 HOURS
218	ZEETA	GROUND FLOOR	ZG6	FALSE CEILING LIGHT			9	20	8 HOURS
219	ZEETA	GROUND FLOOR	ZG7	FALSE CEILING LIGHT			9	20	8 HOURS
220	ZEETA	GROUND FLOOR	ZG8	FALSE CEILING LIGHT			9	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS				NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT					
221	ZEETA	GROUND FLOOR	ZG9	FALSE CEILING LIGHT			9	20	8 HOURS
222	ZEETA	GROUND FLOOR	ZG10	FALSE CEILING LIGHT			9	20	8 HOURS
223	ZEETA	GROUND FLOOR	ZG11	FALSE CEILING LIGHT			9	20	8 HOURS
224	ZEETA	GROUND FLOOR	ZG12	FALSE CEILING LIGHT			9	20	8 HOURS
225	ZEETA	GROUND FLOOR	ZG13	FALSE CEILING LIGHT			9	20	8 HOURS
226	ZEETA	GROUND FLOOR	ZG14	FALSE CEILING LIGHT			9	20	8 HOURS
227	ZEETA	GROUND FLOOR	ZG15	LED TUBE LIGHT			2	20	8 HOURS
228	ZEETA	GROUND FLOOR	ZG16	LED TUBE LIGHT			2	20	8 HOURS
229	ZEETA	GROUND FLOOR	ZG17	LED TUBE LIGHT			2	20	8 HOURS
230	ZEETA	GROUND FLOOR	ZG18	LED TUBE LIGHT			4	20	8 HOURS
230	ZEETA	GROUND FLOOR	PASSAGE AREA	LED TUBE LIGHT			11	20	8 HOURS
231	ZEETA	GROUND FLOOR	MEN REST ROOM	LED TUBE LIGHT			5	20	8 HOURS
232	ZEETA	GROUND FLOOR	WOMENS REST ROOM	LED TUBE LIGHT			5	20	8 HOURS
233	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 1	LED TUBE LIGHT			2	20	8 HOURS
234	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 2	LED TUBE LIGHT			2	20	8 HOURS
235	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 3	LED TUBE LIGHT			2	20	8 HOURS
236	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 4	LED TUBE LIGHT			2	20	8 HOURS

LIGHT DETAILS							
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	TYPE OF LIGHT	NO OF LIGHTS	WATTAGE	OPERATING HOURS
237	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 5	LED TUBE LIGHT	2	20	8 HOURS
238	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 6	LED TUBE LIGHT	2	20	8 HOURS
239	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 7	LED TUBE LIGHT	2	20	8 HOURS
240	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 8	LED TUBE LIGHT	2	20	8 HOURS
241	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 9	LED TUBE LIGHT	2	20	8 HOURS
242	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 10	LED TUBE LIGHT	2	20	8 HOURS
243	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 11	LED TUBE LIGHT	2	20	8 HOURS
244	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 12	LED TUBE LIGHT	2	20	8 HOURS
245	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 13	LED TUBE LIGHT	2	20	8 HOURS
246	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 14	LED TUBE LIGHT	2	20	8 HOURS
247	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 15	LED TUBE LIGHT	2	20	8 HOURS
248	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 16	LED TUBE LIGHT	2	20	8 HOURS
249	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 17	LED TUBE LIGHT	2	20	8 HOURS
250	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 18	LED TUBE LIGHT	2	20	8 HOURS
251	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 19	LED TUBE LIGHT	2	20	8 HOURS
252	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 20	LED TUBE LIGHT	2	20	8 HOURS
253	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 21	LED TUBE LIGHT	2	20	8 HOURS
254	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 22	LED TUBE LIGHT	2	20	8 HOURS
255	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 23	LED TUBE LIGHT	2	20	8 HOURS
256	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 24	LED TUBE LIGHT	2	20	8 HOURS
257	ALPHA BLOCK	GROUND FLOOR	2 WOMENS REAST ROOM	LED TUBE LIGHT	10	20	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	LIGHT DETAILS			NO OF LIGHTS	WATTAGE	OPERATING HOURS
			LOCATION	TYPE OF LIGHT				
258	ALPHA BLOCK	GROUND FLOOR	PASSAGE AREA	FALSE CEILING LIGHT	10	20	8 HOURS	
259	ALPHA BLOCK	GROUND FLOOR	STAFF ROOMS	LED TUBE LIGHT	16	20	8 HOURS	
260	ALPHA BLOCK	GROUND FLOOR	SRATT ROOM S	FALSE CEILING LIGHT	14	20	8 HOURS	
261	ALPHA BLOCK	GROUND FLOOR	2 REST ROOM	LED TUBE LIGHT	5	20	8 HOURS	
262	ALPHA BLOCK	FRIST FLOOR	PASSAGE AREA /STAFF ROOM	LED TUBE LIGHT	20	20	8 HOURS	
263	ALPHA BLOCK	FRIST FLOOR	SOFTWARE ROOM	FALSE CEILING LIGHT	21	20	8 HOURS	
264	ALPHA BLOCK	FRIST FLOOR	2 REST ROOMS	LED TUBE LIGHT	5	20	8 HOURS	
265	ALPHA BLOCK	SECOND FLOOR	PASSAGE AREA	LED TUBE LIGHT	5	20	8 HOURS	
266	ALPHA BLOCK	SECOND FLOOR	ROOMS	FALSE CEILING LIGHT	53	20	8 HOURS	
267	THETA BLOCK	Ground floor	DINING AREA AND LIBRARY	LED TUBE LIGHT	45	20		
268	THETA BLOCK	FRIST FLOOR	DINING AREA	LED TUBE LIGHT	27	20		

21.0 CONVENTIONAL FAN DETSILS

The conventional fan details area as follows.

S. NO		NAME OF THE BLOCK		FLOOR		CEILING FAN DETAILS		LOCATION		NO OF FANS		WATTAGE		OPERATING HOURS	
1		BETA BKLOCK		GROUND FLOOR				BG1		7		80		8 HOURS	
2		BETA BKLOCK		GROUND FLOOR				BG2		4		80		8 HOURS	
3		BETA BKLOCK		GROUND FLOOR				BG3		8		80		8 HOURS	
4		BETA BKLOCK		GROUND FLOOR				BG4		3		80		8 HOURS	
5		BETA BKLOCK		GROUND FLOOR				BG5		2		80		8 HOURS	
6		BETA BKLOCK		GROUND FLOOR				BG6		6		80		8 HOURS	
7		BETA BKLOCK		GROUND FLOOR				BG8		1		80		8 HOURS	
8		BETA BKLOCK		GROUND FLOOR				BG9		1		80		8 HOURS	
9		BETA BKLOCK		GROUND FLOOR				BG10		5		80		8 HOURS	
10		BETA BKLOCK		GROUND FLOOR				BG11		1		80		8 HOURS	
11		BETA BKLOCK		GROUND FLOOR				BG12		6		80		8 HOURS	
12		BETA BKLOCK		GROUND FLOOR				BG13		4		80		8 HOURS	
13		BETA BKLOCK		GROUND FLOOR				BG15		1		80		8 HOURS	
14		BETA BKLOCK		GROUND FLOOR				BG16		2		80		8 HOURS	
15		BETA BKLOCK		FRIST FLOOR				BF1		2		80		8 HOURS	
16		BETA BKLOCK		FRIST FLOOR				BF2		4		80		8 HOURS	
17		BETA BKLOCK		FRIST FLOOR				BF3		2		80		8 HOURS	
18		BETA BKLOCK		FRIST FLOOR				BF4		4		80		8 HOURS	
19		BETA BKLOCK		FRIST FLOOR				BF5		5		80		8 HOURS	
20		BETA BKLOCK		FRIST FLOOR				BF6		5		80		8 HOURS	
21		BETA BKLOCK		FRIST FLOOR				BF9		1		80		8 HOURS	
22		BETA BKLOCK		FRIST FLOOR				BF10		1		80		8 HOURS	
23		BETA BKLOCK		FRIST FLOOR				BF11		6		80		8 HOURS	



S. NO		NAME OF THE BLOCK		FLOOR	CEILING FAN DETAILS		LOCATION		NO OF FANS	WATTAGE	OPERATING HOURS
24		BETA BKLOCK		FRIST FLOOR			BF12		1	80	8 HOURS
25		BETA BKLOCK		FRIST FLOOR			BF13		6	80	8 HOURS
26		BETA BKLOCK		FRIST FLOOR			BF14		2	80	8 HOURS
27		BETA BKLOCK		FRIST FLOOR			BF17		2	80	8 HOURS
28		BETA BKLOCK		FRIST FLOOR			BF18		2	80	8 HOURS
29		BETA BKLOCK		FRIST FLOOR			BF19		2	80	8 HOURS
30		BETA BKLOCK		FRIST FLOOR			BF20		1	80	8 HOURS
31		BETA BKLOCK		SECOND FLOOR			BS1		6	80	8 HOURS
32		BETA BKLOCK		SECOND FLOOR			BS2		6	80	8 HOURS
33		BETA BKLOCK		SECOND FLOOR			BS3		7	80	8 HOURS
34		BETA BKLOCK		SECOND FLOOR			BS4		6	80	8 HOURS
35		BETA BKLOCK		SECOND FLOOR			BS5		6	80	8 HOURS
36		BETA BKLOCK		SECOND FLOOR			BS6		6	80	8 HOURS
37		BETA BKLOCK		SECOND FLOOR			BS7		1	80	8 HOURS
38		BETA BKLOCK		SECOND FLOOR			BS8		6	80	8 HOURS
39		BETA BKLOCK		SECOND FLOOR			BS9		4	80	8 HOURS
40		BETA BKLOCK		SECOND FLOOR			BS10		1	80	8 HOURS
41		BETA BKLOCK		SECOND FLOOR			BS11		6	80	8 HOURS
42		BETA BKLOCK		SECOND FLOOR			BS12		5	80	8 HOURS
43		BETA BKLOCK		SECOND FLOOR			BS13		6	80	8 HOURS
44		BETA BKLOCK		SECOND FLOOR			BS14		6	80	8 HOURS
45		BETA BKLOCK		SECOND FLOOR			BS16		4	80	8 HOURS
46		BETA BKLOCK		SECOND FLOOR			BS17		3	80	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS			
			LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
47	BETA BKLOCK	SECOND FLOOR	BS18	1	80	8 HOURS
48	BETA BKLOCK	Third floor	BT1	6	80	8 HOURS
49	BETA BKLOCK	Third floor	BT2	8	80	8 HOURS
50	BETA BKLOCK	Third floor	BT3	7	80	8 HOURS
51	BETA BKLOCK	Third floor	BT4	3	80	8 HOURS
52	BETA BKLOCK	Third floor	BT5	6	80	8 HOURS
53	BETA BKLOCK	Third floor	BT6	6	80	8 HOURS
54	BETA BKLOCK	Third floor	BT9	7	80	8 HOURS
55	BETA BKLOCK	Third floor	BT10	9	80	8 HOURS
56	BETA BKLOCK	Third floor	BT11	1	80	8 HOURS
57	BETA BKLOCK	Third floor	BT12	7	80	8 HOURS
58	BETA BKLOCK	Third floor	BT13	4	80	8 HOURS
59	BETA BKLOCK	Third floor	BT16	1	80	8 HOURS
60	BETA BKLOCK	Third floor	BT17	3	80	8 HOURS
61	BETA BKLOCK	Third floor	BT18	3	80	8 HOURS
62	BETA BKLOCK	Third floor	BT19	3	80	8 HOURS
63	BETA BKLOCK	Third floor	BT20	3	80	8 HOURS
64	BETA BKLOCK	Third floor	BT21	3	80	8 HOURS
65	BETA BKLOCK	Third floor	BT22	3	80	8 HOURS
66	BETA BKLOCK	Third floor	BT23	3	80	8 HOURS
67	DELTA BLOCK	Ground floor	DG1	5	80	8 HOURS
68	DELTA BLOCK	Ground floor	DG2	5	80	8 HOURS
69	DELTA BLOCK	Ground floor	DG3	5	80	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS			
			LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
70	DELTA BLOCK	Ground floor	DG4	5	80	8 HOURS
71	DELTA BLOCK	Ground floor	DG5	5	80	8 HOURS
72	DELTA BLOCK	Ground floor	DG6	5	80	8 HOURS
73	DELTA BLOCK	Ground floor	DG7	5	80	8 HOURS
74	DELTA BLOCK	Ground floor	DG8	5	80	8 HOURS
75	DELTA BLOCK	Ground floor	DG9	5	80	8 HOURS
76	DELTA BLOCK	Ground floor	DG10	2	80	8 HOURS
77	DELTA BLOCK	Ground floor	DG11	3	80	8 HOURS
78	DELTA BLOCK	Ground floor	DG12	1	80	8 HOURS
79	DELTA BLOCK	Ground floor	DG13	1	80	8 HOURS
80	DELTA BLOCK	Ground floor	DG14	10	80	8 HOURS
81	DELTA BLOCK	Ground floor	DG15	1	80	8 HOURS
82	DELTA BLOCK	Ground floor	DG16	3	80	8 HOURS
83	DELTA BLOCK	Ground floor	DG17	5	80	8 HOURS
84	DELTA BLOCK	Ground floor	DG18	1	80	8 HOURS
85	DELTA BLOCK	FRIST FLOOR	DF1	13	80	8 HOURS
86	DELTA BLOCK	FRIST FLOOR	DF2	10	80	8 HOURS
87	DELTA BLOCK	FRIST FLOOR	DF3	7	80	8 HOURS
88	DELTA BLOCK	FRIST FLOOR	DF4	8	80	8 HOURS
89	DELTA BLOCK	FRIST FLOOR	DF5	14	80	8 HOURS
90	DELTA BLOCK	FRIST FLOOR	DF6	14	80	8 HOURS
91	DELTA BLOCK	FRIST FLOOR	DF7	6	80	8 HOURS
92	DELTA BLOCK	FRIST FLOOR	DF8	4	80	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS				NO OF FANS	WATTAGE	OPERATING HOURS
			LOCATION						
93	DELTA BLOCK	FRIST FLOOR		DF9			2	80	8 HOURS
94	DELTA BLOCK	SECOND FLOOR		DS1			8	80	8 HOURS
95	DELTA BLOCK	SECOND FLOOR		DS2			6	80	8 HOURS
96	DELTA BLOCK	SECOND FLOOR		DS3			3	80	8 HOURS
97	DELTA BLOCK	SECOND FLOOR		DS4			10	80	8 HOURS
98	DELTA BLOCK	SECOND FLOOR		DS5			6	80	8 HOURS
99	DELTA BLOCK	SECOND FLOOR		DS6			6	80	8 HOURS
100	DELTA BLOCK	SECOND FLOOR		DS7			6	80	8 HOURS
101	DELTA BLOCK	SECOND FLOOR		DS8			7	80	8 HOURS
102	DELTA BLOCK	SECOND FLOOR		DS9			6	80	8 HOURS
103	DELTA BLOCK	SECOND FLOOR		DS10			9	80	8 HOURS
104	DELTA BLOCK	Third floor		DT1			6	80	8 HOURS
105	DELTA BLOCK	Third floor		DT2			8	80	8 HOURS
106	DELTA BLOCK	Third floor		DT4			4	80	8 HOURS
107	DELTA BLOCK	Third floor		DT5			6	80	8 HOURS
108	DELTA BLOCK	Third floor		DT6			6	80	8 HOURS
109	DELTA BLOCK	Third floor		DT7			6	80	8 HOURS
110	DELTA BLOCK	Third floor		DT9			7	80	8 HOURS
111	DELTA BLOCK	Third floor		DT10			8	80	8 HOURS
112	OMEGA BLOCK	GROUND FLOOR		ROOM NUMBER 1			1	80	8 HOURS
113	OMEGA BLOCK	GROUND FLOOR		ROOM NUMBER 2			3	80	8 HOURS
114	OMEGA BLOCK	GROUND FLOOR		ROOM NUMBER 3			3	80	8 HOURS
115	OMEGA BLOCK	GROUND FLOOR		ROOM NUMBER 4			3	80	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS			
			LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
116	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 5	3	80	8 HOURS
117	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 6	1	80	8 HOURS
118	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 7	3	80	8 HOURS
119	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 8	3	80	8 HOURS
120	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 9	3	80	8 HOURS
121	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 10	3	80	8 HOURS
122	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 11	3	80	8 HOURS
123	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 12	3	80	8 HOURS
124	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 13	3	80	8 HOURS
125	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 14	3	80	8 HOURS
126	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 15	3	80	8 HOURS
127	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 16	3	80	8 HOURS
128	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 17	3	80	8 HOURS
129	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 18	3	80	8 HOURS
130	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 19	3	80	8 HOURS
131	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 20	3	80	8 HOURS
132	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 21	3	80	8 HOURS
133	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 22	3	80	8 HOURS
134	OMEGA BLOCK	GROUND FLOOR	ROOM NUMBER 23	1	80	8 HOURS
135	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 1	3	80	8 HOURS
136	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 2	3	80	8 HOURS
137	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 3	3	80	8 HOURS
138	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 4	3	80	8 HOURS

CEILING FAN DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
139	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 5	3	80	8 HOURS
140	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 6	3	80	8 HOURS
141	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 7	3	80	8 HOURS
142	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 8	3	80	8 HOURS
143	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 9	3	80	8 HOURS
144	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 10	3	80	8 HOURS
145	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 11	3	80	8 HOURS
146	OMEGA BLOCK	FRIST FLOOR	ROOM NUMBER 12	3	80	8 HOURS
147	OMEGA BLOCK	FRIST FLOOR	DINING HALL	18	80	8 HOURS
148	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 1	1	80	8 HOURS
149	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 2	3	80	8 HOURS
150	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 3	3	80	8 HOURS
151	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 4	3	80	8 HOURS
152	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 5	3	80	8 HOURS
153	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 6	3	80	8 HOURS
154	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 7	3	80	8 HOURS
155	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 8	3	80	8 HOURS
156	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 9	3	80	8 HOURS
157	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 10	3	80	8 HOURS
158	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 11	3	80	8 HOURS
159	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 12	3	80	8 HOURS
160	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 13	3	80	8 HOURS
161	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 14	3	80	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS			
			LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
162	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 15	3	80	8 HOURS
163	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 16	3	80	8 HOURS
164	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 17	3	80	8 HOURS
165	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 18	3	80	8 HOURS
166	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 19	3	80	8 HOURS
167	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 20	3	80	8 HOURS
168	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 21	3	80	8 HOURS
169	OMEGA BLOCK	SECOND FLOOR	ROOM NUMBER 22	3	80	8 HOURS
170	OMEGA BLOCK	Third floor	ROOM NUMBER 1	1	80	8 HOURS
171	OMEGA BLOCK	Third floor	ROOM NUMBER 2	3	80	8 HOURS
172	OMEGA BLOCK	Third floor	ROOM NUMBER 3	3	80	8 HOURS
173	OMEGA BLOCK	Third floor	ROOM NUMBER 4	3	80	8 HOURS
174	OMEGA BLOCK	Third floor	ROOM NUMBER 5	3	80	8 HOURS
175	OMEGA BLOCK	Third floor	ROOM NUMBER 6	3	80	8 HOURS
176	OMEGA BLOCK	Third floor	ROOM NUMBER 7	3	80	8 HOURS
177	OMEGA BLOCK	Third floor	ROOM NUMBER 8	3	80	8 HOURS
178	OMEGA BLOCK	Third floor	ROOM NUMBER 9	3	80	8 HOURS
179	OMEGA BLOCK	Third floor	ROOM NUMBER 10	3	80	8 HOURS
180	OMEGA BLOCK	Third floor	ROOM NUMBER 11	3	80	8 HOURS
181	OMEGA BLOCK	Third floor	ROOM NUMBER 12	3	80	8 HOURS
182	OMEGA BLOCK	Third floor	ROOM NUMBER 13	3	80	8 HOURS
183	OMEGA BLOCK	Third floor	ROOM NUMBER 14	3	80	8 HOURS
184	OMEGA BLOCK	Third floor	ROOM NUMBER 15	3	80	8 HOURS

S. NO	NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS			
			LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
185	OMEGA BLOCK	Third floor	ROOM NUMBER 16	3	80	8 HOURS
186	OMEGA BLOCK	Third floor	ROOM NUMBER 17	3	80	8 HOURS
187	OMEGA BLOCK	Third floor	ROOM NUMBER 18	3	80	8 HOURS
188	OMEGA BLOCK	Third floor	ROOM NUMBER 19	3	80	8 HOURS
189	OMEGA BLOCK	Third floor	ROOM NUMBER 20	3	80	8 HOURS
190	OMEGA BLOCK	Third floor	ROOM NUMBER 21	3	80	8 HOURS
191	OMEGA BLOCK	Third floor	ROOM NUMBER 22	3	80	8 HOURS
192	ZEETA	GROUND FLOOR	ZG1	6	80	8 HOURS
193	ZEETA	GROUND FLOOR	ZG2	6	80	8 HOURS
194	ZEETA	GROUND FLOOR	ZG3	6	80	8 HOURS
195	ZEETA	GROUND FLOOR	ZG4	9	80	8 HOURS
196	ZEETA	GROUND FLOOR	ZG5	3	80	8 HOURS
197	ZEETA	GROUND FLOOR	ZG6	6	80	8 HOURS
198	ZEETA	GROUND FLOOR	ZG7	6	80	8 HOURS
199	ZEETA	GROUND FLOOR	ZG8	6	80	8 HOURS
200	ZEETA	GROUND FLOOR	ZG9	6	80	8 HOURS
201	ZEETA	GROUND FLOOR	ZG10	6	80	8 HOURS
202	ZEETA	GROUND FLOOR	ZG11	4	80	8 HOURS
203	ZEETA	GROUND FLOOR	ZG12	4	80	8 HOURS
204	ZEETA	GROUND FLOOR	ZG13	4	80	8 HOURS
205	ZEETA	GROUND FLOOR	ZG14	5	80	8 HOURS
206	ZEETA	GROUND FLOOR	ZG15	1	80	8 HOURS
207	ZEETA	GROUND FLOOR	ZG16	1	80	8 HOURS



S. NO		NAME OF THE BLOCK	FLOOR	CEILING FAN DETAILS		LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
208		ZEETA	GROUND FLOOR			ZG17	1	80	8 HOURS
209		ZEETA	GROUND FLOOR			ZG18	4	80	8 HOURS
210		ZEETA	GROUND FLOOR			PASSAGE AREA	1	80	8 HOURS
211		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 1	3	80	8 HOURS
212		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 2	3	80	8 HOURS
213		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 3	3	80	8 HOURS
214		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 4	3	80	8 HOURS
215		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 5	3	80	8 HOURS
216		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 6	3	80	8 HOURS
217		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 7	3	80	8 HOURS
218		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 8	1	80	8 HOURS
219		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 9	2	80	8 HOURS
220		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 10	3	80	8 HOURS
221		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 11	3	80	8 HOURS
222		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 12	3	80	8 HOURS
223		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 13	3	80	8 HOURS
224		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 14	3	80	8 HOURS
225		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 15	3	80	8 HOURS
226		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 16	3	80	8 HOURS
227		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 17	3	80	8 HOURS
228		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 18	3	80	8 HOURS
229		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 19	3	80	8 HOURS
230		Sigma BLOCK	GROUND FLOOR			ROOM NUMBER 20	3	80	8 HOURS

CEILING FAN DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
231	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 21	3	80	8 HOURS
232	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 22	3	80	8 HOURS
233	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 23	1	80	8 HOURS
234	Sigma BLOCK	GROUND FLOOR	ROOM NUMBER 24	1	80	8 HOURS
235	ALPHA BLOCK	GROUND FLOOR	STAFF ROOMS	17	80	8 HOURS
236	ALPHA BLOCK	FRIST FLOOR	STAFF ROOMS	18	80	8 HOURS
237	THETA BLOCK	Ground floor	DINING AREA AND LIBRARY	39	80	8 HOURS
238	THETA BLOCK	FRIST FLOOR	DINING AREA	18	80	8 HOURS

22.0 AIR CONDITIONER DETAILS

The air conditioner details area are follows.

AIR CONDITIONER DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	MAKE	MODEL (Split / Window)	OPERATING HOURS
1	BETA BLOCK	GROUND FLOOR	SEVER ROOM	HITACHI	SPLIT	1 8 HOURS
2	BETA BLOCK	FRIST FLOOR	PLACEMENT OFFICE	HITACHI	SPLIT	1 8 HOURS
3	BETA BLOCK	FRIST FLOOR	MEETING ROOM	CARRIER	DUCTED A/C (5 TON)	1 8 HOURS
4	BETA BLOCK	FRIST FLOOR	MEETING ROOM	CARRIER	DUCTED A/C (8 TON)	1 8 HOURS
5	DELTA BLOCK	GROUND FLOOR	PRINCIPAL ROOM	HITACHI	SPLIT	1 8HOURS
6	DELTA BLOCK	GROUND FLOOR	COMPUTER LAB	HITACHI	SPLIT	1 8HOURS
7	DELTA BLOCK	GROUND FLOOR	COMPUTER LAB	HITACHI	SPLIT	1 8HOURS

## AIR CONDITIONER DETAILS

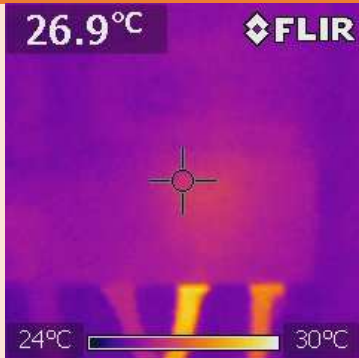

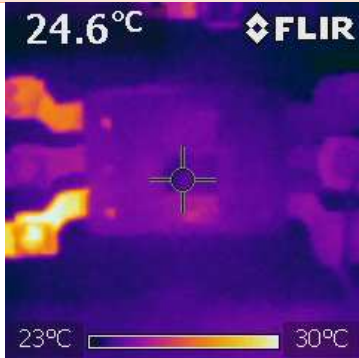

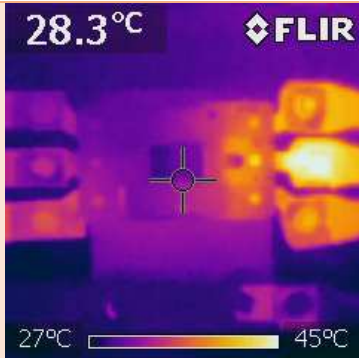

S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	MAKE	MODEL (Split / Window)	NO OF AC'S	OPERATING HOURS
8	DELTA BLOCK	THIRD FLOOR	MEETING ROOM	CARRIER	DUCTED A/C (5 TON)	1	8 HOURS
9	ZEETA BLOCK	GROUND FLOOR	LAB	HITACHI	SPLIT	1	8 HOURS
10	ALPHA BLOCK	GROUND FLOOR	PRINCIPAL ROOM	HITACHI	SPLIT	1	8 HOURS
11	ALPHA BLOCK	GROUND FLOOR	STAFF ROOM	HITACHI	SPLIT	1	8 HOURS
12	ALPHA BLOCK	GROUND FLOOR	STAFF ROOM	HITACHI	SPLIT	1	8 HOURS
13	ALPHA BLOCK	FRIST FLOOR	SEVER ROOM	HITACHI	SPLIT	1	8 HOURS
14	ALPHA BLOCK	FRIST FLOOR	STAFF ROOM	HITACHI	SPLIT	1	8 HOURS
15	ALPHA BLOCK	FRIST FLOOR	STAFF ROOM	HITACHI	SPLIT	1	8 HOURS
16	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	LG	SPLIT	1	8 HOURS
17	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	WESTER	SPLIT	1	8 HOURS
18	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	WESTER	SPLIT	1	8 HOURS
19	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	HITACHI	SPLIT	1	8 HOURS
20	ALPHA BLOCK	FRIST FLOOR	SOFTWARE	general	SPLIT	1	8 HOURS
21	ALPHA BLOCK	FRIST FLOOR	STAFF ROOM	HITACHI	SPLIT	1	8 HOURS
22	ALPHA BLOCK	SECOND FLOOR	CHIRMAN SIR ROOM	CARRIER	SPLIT	1	8 HOURS
23	ALPHA BLOCK	SECOND FLOOR	CHIRMAN SIR ROOM	CARRIER	SPLIT	1	8 HOURS
24	ALPHA BLOCK	SECOND FLOOR	COO SIR ROOM	CARRIER	SPLIT	1	8 HOURS
25	ALPHA BLOCK	SECOND FLOOR	DINING HALL	CARRIER	SPLIT	1	8 HOURS
26	ALPHA BLOCK	SECOND FLOOR	GUEST ROOM	CARRIER	SPLIT	1	8 HOURS

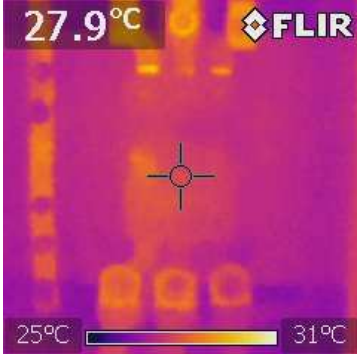

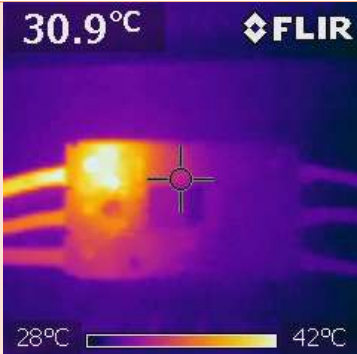
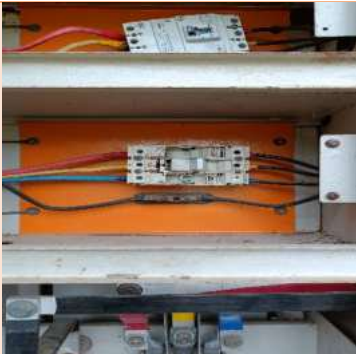
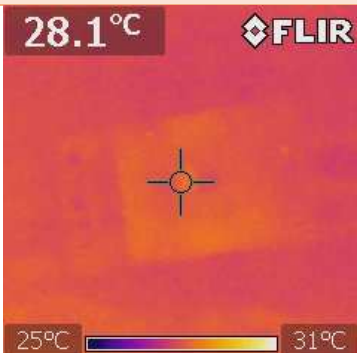

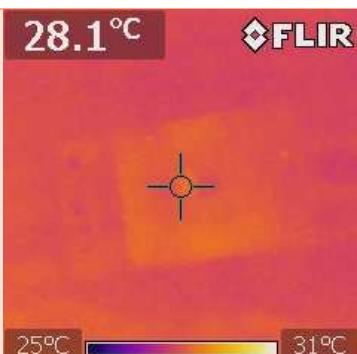

## 23.0 WALL MOUNTED FAN DETAILS

The wall mounted fan details are as follows.

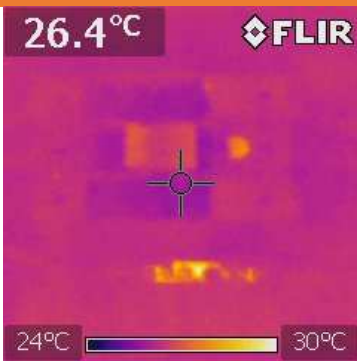

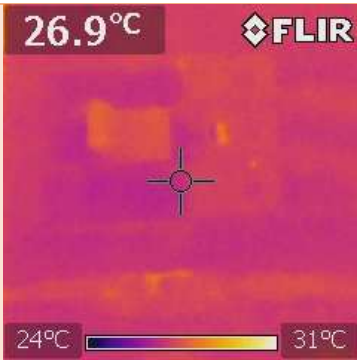

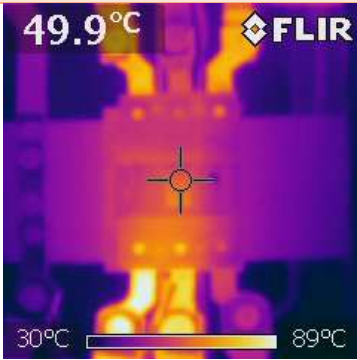

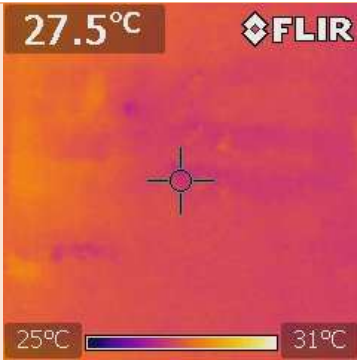

WALL MOUNTED FAN DETAILS						
S. NO	NAME OF THE BLOCK	FLOOR	LOCATION	NO OF FANS	WATTAGE	OPERATING HOURS
1	ALPHA	GROUND FLOOR	STAFF ROOM 1	1	120	8 HOURS
2	ALPHA	GROUND FLOOR	STAFF ROOM 2	1	120	8 HOURS
3	ALPHA	GROUND FLOOR	STAFF ROOM 3	1	120	8 HOURS
4	ALPHA	GROUND FLOOR	STAFF ROOM 4	1	120	8 HOURS
5	ALPHA	GROUND FLOOR	STAFF ROOM 5	1	120	8 HOURS
6	ALPHA	FRIST FLOOR	SEVER ROOM	1	120	8 HOURS
7	ALPHA	FRIST FLOOR	SOFTWARE ROOM	8	120	8 HOURS
8	ALPHA	SECOND FLOOR	LAB	4	120	8 HOURS
9	ZEETA BLOCK	GROUND FLOOR	STAFF ROOM 1	1	120	8 HOURS
10	ZEETA BLOCK	GROUND FLOOR	STAFF ROOM 2	1	120	8 HOURS

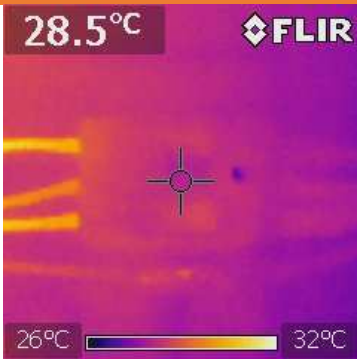

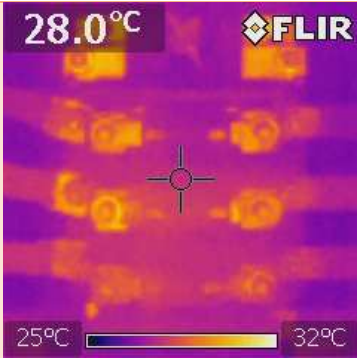

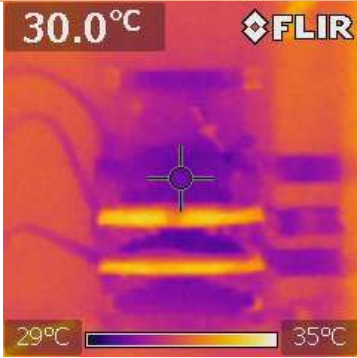

## 24.0 THERMOGRAPHY STUDY

S. No	Location	Thermal image	Visual image	Remarks
1	EB Fuse – 6732			No issues observed.
2	DELTA Block			Thermal anomaly observed in incoming R phase. It is recommended to check the tightness.
3	ADMIN Block			Thermal anomaly observed in outgoing Y phase. It is recommended to check the tightness.

S. No	Location	Thermal image	Visual image	Remarks
4	Beta block_Incomer			No issues observed.
5	Beta block_Ground floor_LDB-2			Thermal anomaly observed in incoming R phase. It is recommended to check the tightness.
6	Beta block_First floor_LDB-1			No issues observed.
7	Beta block_Second floor_LDB-1			No issues observed.



S. No	Location	Thermal image	Visual image	Remarks
8	Beta block_ First floor_ LDB-2			No issues observed.
9	Beta block_ Second floor_ LDB-2			No issues observed.
10	Delta block_ Incomer			Thermal anomaly observed in Incoming and outgoing R phase. Wire found in burnt condition. It is recommended insulate the wires.
11	Delta block_ Second floor_ LDB-2			No issues observed.

S. No	Location	Thermal image	Visual image	Remarks
12	Delta block_ Second floor_LDB-2			No issues observed.
13	Zeta Block_ Incomer			No issues observed.
14	Omega block_ Incomer			No issues observed.



## 25.0 EXECUTIVE SUMMARY

S. No	Energy Efficiency Measures	Estimate annual Energy Savings, kWh/Annum	Estimated Investment, INR	Monetary Savings, INR	Simple payback Period, Months
1	Replace existing 29 Nos of 36W CFL to 18W LED Light	1,044	11,600	6,629	21
2	Replace existing 1018 Nos of 80W Ceiling fan to 30W Energy efficient BLDC Fan	101800	3563000	6,46,430	66
3	Replace existing 20 Nos of 120W Wall mounted fan to 30W Energy efficient BLDC Fan	3,600	70,000	22,860	37
<b>Total</b>		1,06,444	36,44,600	6,75,919	41

<b>Annual Electrical Energy consumption, kWh/Annum</b>	<b>3,50,706</b>
<b>Annual Electrical Energy Savings, kWh/Annum</b>	<b>106444</b>
<b>Electrical Energy Savings, %</b>	<b>30.4</b>

## 26.0 ENERGY CONSERVATIVE MEASURES

### 26.1 Replace existing Conventional fan to BLDC Fan

**Observation:**

During audit it was observed that conventional ceiling fans were used for ventilation purposes.

**Recommendation:**

It is recommended to replace those conventional ceiling fans with Energy efficient BLDC fans to observe the following energy savings.

**Estimated Savings:**

Replace existing Conventional fan to BLDC Fan		
Description	Units	Values
Quantity of existing Conventional fan	Nos	1,018
Wattage of Conventional fan	W	80
Present operating hours	Hours/Annum	2,000
Average unit cost	INR/kWh	6.35
Energy Consumption by existing Conventional fan	kWh/Annum	1,62,880
Wattage of BLDC Fan	W	30
Energy Consumption by BLDC Fan	kWh/Annum	61,080
Cost of one BLDC Fan	INR	3,500
Energy savings	kWh/Annum	1,01,800
Cost Savings	INR/Annum	6,46,430
Investment	INR	35,63,000
Payback Period	Months	66

## 26.2 Replace existing Wall mounted fan to BLDC Fan

### **Observation:**

During audit it was observed that conventional wall mounted fans were used for ventilation purposes.

### **Recommendation:**

It is recommended to replace the conventional fan to BLDC fan to reduce energy consumption.

### **Estimated Savings:**

Replace existing Wall mounted fan to BLDC Fan		
Description	Units	Values
Quantity of existing Wall mounted fan	Nos	20
Wattage of Wall Mounted fan	W	120
Present operating hours	Hours/Annum	2,000
Average unit cost	INR/kWh	6.35
Energy Consumption by existing Wall mounted fan	kWh/Annum	4,800
Wattage of BLDC Fan	W	30
Energy Consumption by BLDC Fan	kWh/Annum	1,200
Cost of one BLDC Fan	INR	3,500
Energy savings	kWh/Annum	3,600
Cost Savings	INR/Annum	22,860
Investment	INR	70,000
Payback Period	Months	37

### 26.3 Replace Existing CFL light to LED light.

#### Observation:

During audit it was observed that few CFL lights were used for illumination purpose. CFL lights consumes high power than LED Lights.


#### Recommendation:

It is recommended to replace those CFL lights with LED lights for better lumens and to lower the power consumption. The lumens of CFL light are 63 per watt whereas the lumens of LED light is 120 per watt.


#### Estimated Savings:

Replace existing CFL to LED Light		
Description	Units	Values
Quantity of existing CFL light	Nos	29
Wattage of CFL	W	36
Present operating hours	Hours/Annum	2,000
Average unit cost	INR/kWh	6.35
Energy Consumption by existing CFL Lights	kWh/Annum	2,088
Wattage of LED	W	18
Energy Consumption by LED	kWh/Annum	1,044
Cost of one LED	INR	400
Energy savings	kWh/Annum	1,044
Cost Savings	INR/Annum	6,629
Investment	INR	11,600
Payback Period	Months	21

## 27.0 ACCREDITED ENERGY AUDITOR CERTIFICATES

 **BUREAU OF ENERGY EFFICIENCY**

Examination Registration No. : EA-3201  
Accreditation Registration No. : AEA-0023



## Certificate of Accreditation

This is to certify that Mr./Ms. B. Senthikumar having its trade/registered office at Chennai has been given accreditation as accredited energy auditor. The certificate shall be effective from 26<sup>th</sup> day of February 2013.


The certificate is subject to the provisions of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

This certificate shall be valid until it is cancelled under regulation 9 of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

On cancellation, the certificate of accreditation shall be surrendered to the Bureau within fifteen days from the date of receipt of order of cancellation.

Your name has been entered at AEA No. 0023 in the register of list of accredited energy auditors. Your name shall be liable to be struck out on the grounds specified in regulation 8 of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

Given under the seal of the Bureau of Energy Efficiency, Ministry of Power, this 26<sup>th</sup> day of May 2014.

  
Secretary,  
Bureau of Energy Efficiency  
New Delhi



In association with



THIS IS TO CERTIFY THAT

*B. Senthil Kumar*

has successfully completed a course approved by the  
Institute of Environmental Management & Assessment in

**ADVANCED EMS AUDITOR**  
**(ISO 14001:2004)**  
(achieving an overall mark of 75%)

13<sup>th</sup> to 17<sup>th</sup> October 2008

iqms  
Business & Innovation Centre  
Sunderland • SR5 2TA • UK  
Tel: +44 (0)870 8708188  
Fax: +44 (0)870 8708199  
email: enquiries@iqms.co.uk  
Web: www.iqms.co.uk

Swiso India Private Limited  
507 Pragati Tower • 26 Rajendra Place  
New Delhi • 110 008 • (India)  
Tel: +91-11-41539720  
Fax: +91-11-41539721  
email: info@swisoindia.com  
Web: www.swisoindia.com

A handwritten signature in blue ink, appearing to read 'Geoff Hild'.

Signed for iqms

A handwritten signature in blue ink, appearing to be a stylized name.

Signed for Swiso India Private Limited

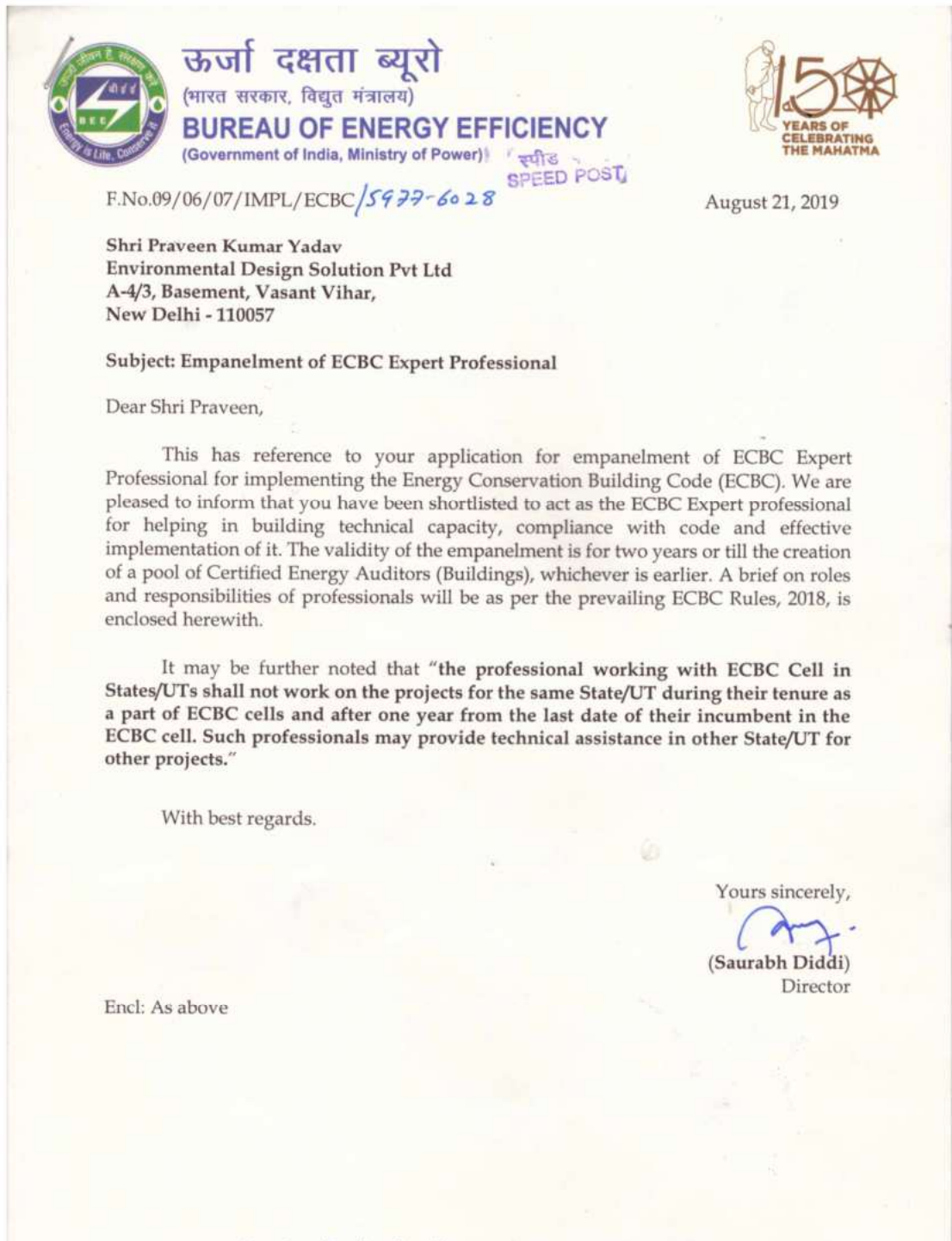
**IQ – EMS42357**

CERTIFICATE NUMBER


iqms Course No: IQM/EMS407308/UK approved by IEMA











# Certificate of Compliance

This is to certify that

## NIN Energy India Private Limited

JUSA Complex, New No 47, Old No 21/2, Ponnamman Koil Street, Kottur,  
Chennai - 600085 (Tamil Nadu), India.

has been assessed by RSI and found to comply with the requirements of

## ISO/IEC 17020:2012

Operation of various types of bodies performing inspection - Requirements

for the following activities:

**Mandatory Energy Audit, Environment Audit, Green Audit, PAT Measurement and Verification (M&V),  
Power Quality Audit, Infrared Thermography, Electrical Safety Audit, Energy Management Training,  
Energy Management System, Measurement & Verification, Green Building Services,  
Renewable Energy Services, Carbon Foot Printing and Water Audit**


**Certificaat Nummer / Certificate No. : IE-BV-2207-5410**

Datum Van Publicatie / Date of Issue : 27/07/2022  
Vervaldatum / Date of Expiry : 26/07/2025  
1st Annual surveillance audit due on : 26/06/2023  
IInd Annual surveillance audit due on : 26/06/2024


**Royal Stancert B.V.**  
Feitelijke Beoordelingen - Wereldwijde Beoordelingen  
Certificaat Nummer / Certificate No. : Q-xx-xxxx-xxxx

Regd. Office - Joop Geesinkweg 701, 1114 AB Amsterdam. The Netherlands.  
(KvK-Nummer 71431802 / RSIN 858713159 - Rechtsvorm - Besloten Vennootschap).

This certificate remains the property of Royal Stancert B.V. and must be returned whenever demanded.  
The validity of this certificate can be verified at <http://www.royalstancert.org>. Royal Stancert B.V. is an independent system, product and personal assessment body accredited by Global Euro Accreditation Centre, Georgia. (GCIN - 654). Email: [info@royalstancert.org](mailto:info@royalstancert.org)



**Director (Certification)**



**PAC-GEAC-1506-299**

7.1.3 Quality audits on environment and energy regularly undertaken by the Institution. The institutional environment and energy initiatives are confirmed through the following

7.1.3 -3 Clean and green campus initiatives

## Green Campus Policy


PERI Institute of Technology is committed to protect its environment with its green campus initiatives. A Green Campus is a place where environmental friendly practices and education combine to promote sustainable and eco-friendly practices in the campus. **Environment consciousness** is enshrined in the mission of the institute and tree plantation is the major concern of the management to maintain the pristine purity and beauty of the college to provide a congenial atmosphere for the academic and non-academic pursuits. The entire campus has landscaping with green grass, ornamental plants and shady trees making the campus very green and beautiful. College is very proud of this green and pollution-free atmosphere which is conducive for good educational ambience. Conservation of natural resources and maintaining the eco system of the campus is the primary goal of Green Policy of PERI Institute of Technology

### Objectives of Green Policy

- To impart understanding about the importance of environment in students and all stake holders and their accountability to take environment friendly initiatives to save environment.
- To facilitate students, take small steps in protecting and conserving the environment and sustain natural resources within the campus
- To bring awareness amongst students and staff regarding usage of water and there is no unnecessary wastage of water.
- To protect and maintain natural resources within the campus.
- To integrate environmental concerns into community development policies, programs and outreach activities.
- To regulate and minimize running of vehicle in the campus.
- To ensure judicious use of environmental resources to meet the need and aspirations of the present and future generations.
- To make the campus, plastic free.
- To slowly adopt rain water harvesting in campus

- Sustainably improve the efficient use of all resources, including energy and water, as well as reduce the use and amount of wasting the resources and recycle the wasted resources if possible.
- To protect flora and fauna on the campus.
- To audit and continuously improve the efficient use of all resources, including energy, water and to reduce consumption and the amount of waste produced, recovering and recycling waste where possible.
- To promote usage of digital technology and minimize the usage of paper.

The Institute will make all the necessary efforts to involve the students, faculty and staff in “Green Campus Initiatives” by designating the volunteers of NSS & YRC.



Principal

**Dr. R. PALSON KENNEDY, M.E., Ph.D.,**  
PRINCIPAL  
PERI INSTITUTE OF TECHNOLOGY  
Mannivakkam, Chennai - 600 048.





NIN ENERGY INDIA PRIVATE LIMITED  
47, JUSA COMPLEX,  
PONNIAMMAN KOIL STREET  
KOTTUR, CHENNAI-600085

## CERTIFICATE OF GREEN AUDIT

This is to certify that

# PERI INSTITUTE OF TECHNOLOGY

PERI KNOWLEDGE PARK, MANNIVAKKAM, WEST TAMBARAM,  
CHENNAI - 600 048

has successfully undergone an ENERGY, ENVIRONMENT AND GREEN AUDIT for the year **2019** on and assessed the Electrical Energy conservation, Energy saving, measures and sustainability in compliance with the applicable regulations, policies and standards in the campus were found to be 'Satisfactory'



B. SENTHIL KUMAR, DIRECTOR,

NIN ENERGY INDIA PRIVATE LIMITED

ACCREDITED ENERGY AUDITOR BY BUREAU OF ENERGY EFFICIENCY

V. DIVYA, DIRECTOR

NIN ENERGY INDIA PRIVATE LIMITED

Date : 17/01/2019



NIN ENERGY INDIA PRIVATE LIMITED  
47, JUSA COMPLEX,  
PONNIAMMAN KOIL STREET  
KOTTUR, CHENNAI-600085

## CERTIFICATE OF GREEN AUDIT

This is to certify that

# PERI INSTITUTE OF TECHNOLOGY

PERI KNOWLEDGE PARK, MANNIVAKKAM, WEST TAMBARAM,  
CHENNAI - 600 048

has successfully undergone an ENERGY, ENVIRONMENT AND GREEN AUDIT for the year **2020** on and assessed the Electrical Energy conservation, Energy saving, measures and sustainability in compliance with the applicable regulations, policies and standards in the campus were found to be 'Satisfactory'



B. SENTHIL KUMAR, DIRECTOR,

NIN ENERGY INDIA PRIVATE LIMITED

ACCREDITED ENERGY AUDITOR BY BUREAU OF ENERGY EFFICIENCY

V. DIVYA, DIRECTOR

NIN ENERGY INDIA PRIVATE LIMITED

Date : 23/01/2020



NIN ENERGY INDIA PRIVATE LIMITED  
47, JUSA COMPLEX,  
PONNIAMMAN KOIL STREET  
KOTTUR, CHENNAI-600085

## CERTIFICATE OF GREEN AUDIT

This is to certify that

# PERI INSTITUTE OF TECHNOLOGY

PERI KNOWLEDGE PARK, MANNIVAKKAM, WEST TAMBARAM,  
CHENNAI - 600 048

has successfully undergone an ENERGY, ENVIRONMENT AND GREEN AUDIT for the year **2022** on and assessed the Electrical Energy conservation, Energy saving, measures and sustainability in compliance with the applicable regulations, policies and standards in the campus were found to be 'Satisfactory'



B. SENTHIL KUMAR, DIRECTOR,

NIN ENERGY INDIA PRIVATE LIMITED

ACCREDITED ENERGY AUDITOR BY BUREAU OF ENERGY EFFICIENCY

V. DIVYA, DIRECTOR

NIN ENERGY INDIA PRIVATE LIMITED

Date : 04/01/2022



NIN ENERGY INDIA PRIVATE LIMITED  
47, JUSA COMPLEX,  
PONNIAMMAN KOIL STREET  
KOTTUR, CHENNAI-600085

## CERTIFICATE OF GREEN AUDIT

This is to certify that

# PERI INSTITUTE OF TECHNOLOGY

PERI KNOWLEDGE PARK, MANNIVAKKAM, WEST TAMBARAM,  
CHENNAI - 600 048

has successfully undergone an ENERGY, ENVIRONMENT AND GREEN AUDIT for the year **2023** on and assessed the Electrical Energy conservation, Energy saving, measures and sustainability in compliance with the applicable regulations, policies and standards in the campus were found to be 'Satisfactory'



B. SENTHIL KUMAR, DIRECTOR,

NIN ENERGY INDIA PRIVATE LIMITED

ACCREDITED ENERGY AUDITOR BY BUREAU OF ENERGY EFFICIENCY

V. DIVYA, DIRECTOR

NIN ENERGY INDIA PRIVATE LIMITED

Date : 22/01/2023



**Criterion 7**  
**Institutional Values and Best Practices**

**Key Indicator 7.1**  
**Institutional Values and Social Responsibilities**

7.1.3 Quality audits on environment and energy regularly undertaken by the Institution. The institutional environment and energy initiatives are confirmed through the following

**7.1.3 - 4 Beyond the campus environmental promotion and sustainability activities**


Environmental Day Program on 05.06.2018

**PERI**  
INSTITUTE OF TECHNOLOGY

05 JUNE 2018  
10 AM

Cordially invites all staffs and students to the

**NATIONAL ENVIRONMENTAL DAY  
CELEBRATION PROGRAM**



**Events**

- Build a Micro-composter
- Build a Community Garden
- Posters with Environmental Day Messages

Venue: PERI KNOWLEDGE PARK

**Presided By**

**Mr. SARAVANAN PERIASAMY**  
Founder & Chairman, PERI Education  
President & CEO, PERI Software Solutions INC., U.S.A

**Mr. SASI VEERARAJAN**  
COO, PERI Education

**Organized By**

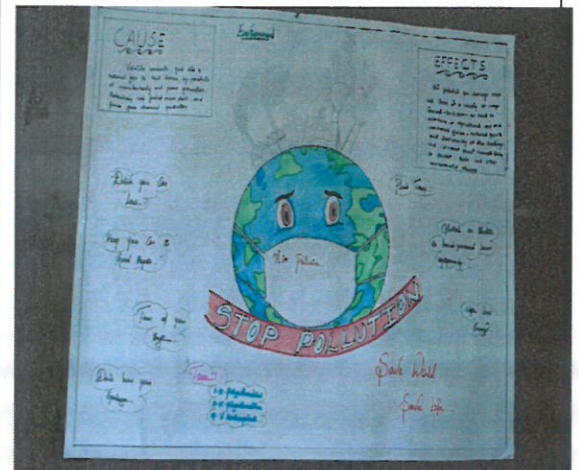
**Dr. R. PALSON KENNEDY**  
Principal

**Mr. B. MAGESH**  
Vice-Principal

ADMISSION CONTACT:  
91505 94111 / 222

PERI Knowledge Park, Mannivakkam, Chennai - 600048

www.peri.education  
admissions@peri.education



PERI Institute of Technology has celebrated Environmental Day with staff and students on 05.06.2018

*Handwritten signature in blue ink.*

**Dr. R. PALSON KENNEDY, M.E., Ph.D.,**  
**PRINCIPAL**  
**PERI INSTITUTE OF TECHNOLOGY**  
Mannivakkam, Chennai - 600 048.



Temple Clean up on 29/01/2019



*Dr. R. Palson Kennedy*

**Dr. R. PALSON KENNEDY, M.E., Ph.D.,**  
PRINCIPAL  
PERI INSTITUTE OF TECHNOLOGY  
Mannivakkam, Chennai - 600 048.

Tree Plantation Day on 26/02/2019



As a part of the YRC activity, the students of PERI Institute of Technology engaged in planting of saplings on 26th February, 2019 on campus with 58 participants.

*R. Palson Kennedy*  
**Dr. R. PALSON KENNEDY, M.E., Ph.D.,**  
PRINCIPAL  
PERI INSTITUTE OF TECHNOLOGY  
Mannivakkam, Chennai - 600 048.



## Environmental Day Program on 05/06/2019

PERI Institute of Technology has celebrated Environmental Day with staff and students on 05/06/2019

**Dr. R. PALSON KENNEDY, M.E., Ph.D.,**  
**PRINCIPAL**  
**PERI INSTITUTE OF TECHNOLOGY**  
**Mannivakkam, Chennai - 600 048.**



**NSS conducted a Camp at Salavakkam Village on 23/12/2019**



NSS of PERI Institute of Technology has conducted a camp at Salavakkam village on 23/12/2019 .The major problem faced by villagers were improper open water bodies, improper garbage disposal in households, lack of plastic disposal awareness, and unrepaired roads. The students have done cleaning and repairing of halt place.

**Dr. R. PALSON KENNEDY, M.E., Ph.D.,**  
PRINCIPAL



**NSS Camp Addressed Environmental Concerns and Promotes Green Initiatives at  
Govt. Higher Secondary School, Padappai on 08/01/2021**



The NSS Club of PERI Institute of Technology organized a one-day camp in the Govt. Higher Secondary School, Padappai near Vandalur on 08/01/2021. The major issues identified by the team were improper garbage disposal, lack of awareness regarding plastic disposal, and unrepaired grounds. The NSS team distributed a wide variety of plant and tree saplings to the school students, who then planted the saplings in the school and began working to maintain their growth.

*[Signature]*  
B. R. PALSON KENNEDY, M.E., Ph.D.,  
PRINCIPAL



Environmental Day awareness program on 19/03/2021



*R. Palson Kennedy*  
**Dr. R. PALSON KENNEDY, M.E., Ph.D.,**  
**PRINCIPAL**  
**PERI INSTITUTE OF TECHNOLOGY**  
**Mannivakkam, Chennai - 600 048.**



**No Plastic Awareness Program 21/02/2022**



The YRC Club of PERI Institute of Technology organized "NO PLASTIC" awareness program on 21/02/2022 at 12.30 A.M to 4.00 P.M at Padappai village. YRC Volunteers and Students of PERIIT actively participated in the event.

*Dr. R. Palson Kennedy*  
**Dr. R. PALSON KENNEDY, M.E., Ph.D.,**  
PRINCIPAL  
PERI INSTITUTE OF TECHNOLOGY  
Mannivakkam, Chennai - 600 048.

Swachh Bharat Mission on 25/04/2022



*Roshan Singh*  
Dr. R. PALSON KENNEDY, M.E., Ph.D.,  
PRINCIPAL  
PERI INSTITUTE OF TECHNOLOGY  
Mannivakkam, Chennai - 600 048.



**NSS Camp Addressed Environmental Concerns and Promotes Green Initiatives at Govt. Higher Secondary School, Aadhanur on 04/07/2022**


The NSS Club of PERI Institute of Technology organized a one-day camp in the Govt. Higher Secondary School, Aadhanur near Vandalur on 04/07/2022. The major issues identified by the team were improper garbage disposal, lack of awareness regarding plastic disposal, and unrepaired grounds. Volunteers cleaned and repaired the school grounds and planted the Saplings.

*Roohem*

**C. R. PALSON KENNEDY, M.E., Ph.D.,**  
PRINCIPAL

PERI INSTITUTE OF TECHNOLOGY



**NSS Camp Addressed Environmental Concerns and Promotes Green Initiatives at  
Government High School at Mannivakkam near Vandalur on 11/08/2022**



The NSS Club of PERI Institute of Technology organized a one-day camp in the Government High School at Mannivakkam near Vandalur on 11/08/2022. The major issues identified by the team were improper garbage disposal, lack of awareness regarding plastic disposal, and unrepaired grounds. Volunteers done the work of cleaning and repairing of School Ground.



**Marina Beach Cleaning Campaign on 25/02/2023**



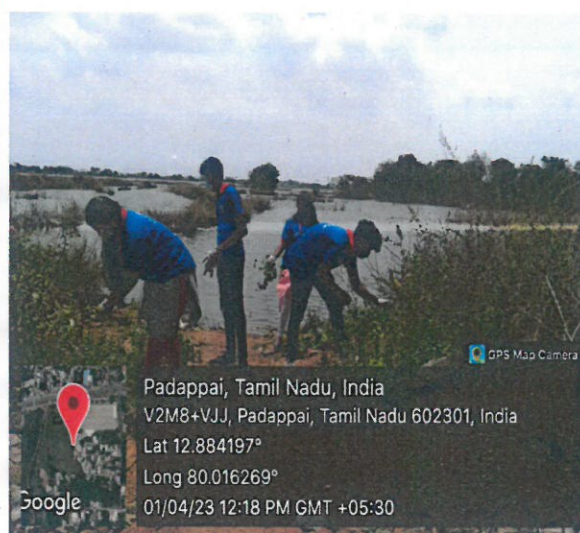
PERI Institute of Technology, NSS Unit has organized Marina Beach Cleaning Campaign with student volunteers at Marina Beach on 25/02/2023.

*Dr. R. Palson Kennedy*  
**Dr. R. PALSON KENNEDY, M.E., Ph.D.,**  
**PRINCIPAL**

**PERI INSTITUTE OF TECHNOLOGY**



## Lake Cleaning Campaign on 01/04/2023

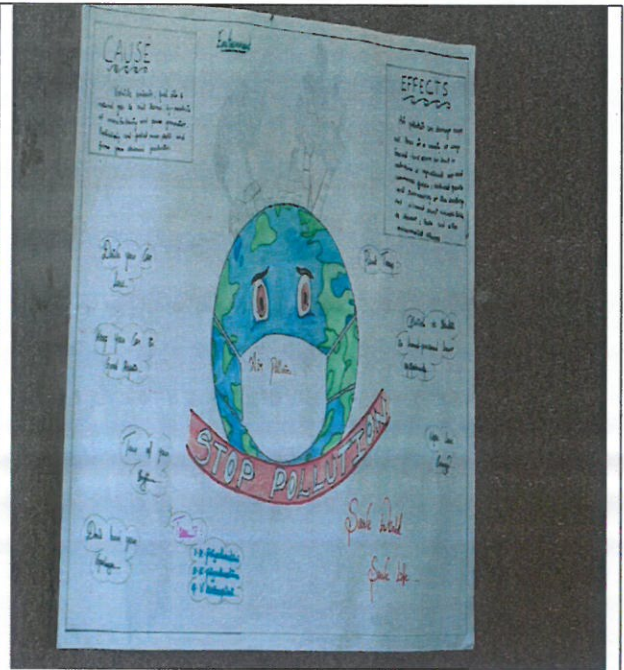


PERI Institute of Technology, NSS Unit has organized Lake Cleaning Campaign with student volunteers at Padappai Lake on 01/04/2023.

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World Environmental Day Celebration on 06/06/2023



PERI Institute of Technology had celebrated World Environmental Day with students at PERI IT campus on 06/06/2023

*Radhakrishnan*  
Dr. R. PALSON KENNEDY, M.E., Ph.D.,  
PRINCIPAL