ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY AND SCIENCES

ENERGY AUDIT REPORT

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Preface

ANITS have entrusted the Energy Audit work to M/s ENVIRO KAMKAR LLP. There after both teams i.e ANITS and Enviro KAMKAR has formed a collaboration in the working process. The work has initially started with the minutes of the meeting with ANITS principal, there after decision has been taken by the both the teams for the entire process. The external Energy audit team (team Enviro KAMKAR) has made sure to gather the entire consumption data of the campus for further analysis and presented. And, ANITS as an internal Audit team has given the esteemed support in gathering and segregating the data in this exercise.

ANITS-ENTRANCE

Acknowledgment

Team Enviro KAMKAR LLP is very great full to the principal of ANITS Engineering college and for the entire administrative team for trusting and relaying on us for Energy Audit. It is an honorable opportunity to work for ANITS and we will always be delighted to assist you further more in more such works to be the best green Institute in India.

Energy Audit

Introduction

The National Environmental Policy (NEP) 2006, of India has made Environmental audit a mandatory to all industries, and the industries need to submit EA report every year in the prescribed format. The audit reveals how environmental friendly the industry is, and also enable the industries to improve their performance in the conversation of natural resources. The process is several industries has led several innovative interventions in the management of the environment. The NEP also prescribes the role of educational institutions in buildings capacity of all citizens of the country to perform their fundamental duty to the environment as delineated in articles 21 and 51 A (G). Realizing the need and importance of all these major agencies of educational governance like UGC, AICTE and School boards have recommended for the green audits and Energy audits in the educational institutions and have made it mandatory for accrediting the institutions. Enviro KAMKAR LLP facilitates the Green and Energy audits in the Educational institutions and participates as a third party auditor.

The objectives of the Energy Audit:

- To recognize the initiations taken by the institutions towards the Environment and energy resources
- To provide baseline data to enable institute to evaluate and manage the energy consumption.
- To provide recommendations to reduce energy consumption.

- To give preference to meet energy efficient and environmentally sound appliances.
- To make sure the institute is complying all the standards according to NEP,UGC, and AICTE.

Data collection from various Departments of ANITS

#	Name of the department	Annexure number
1	CSE	***Annexure I***
2	MECHANICAL	***Annexure II***
3	ECE	***Annexure III***
4	CHEMICAL ENGINEERING	***Annexure IV***
5	EEE	***Annexure V***
6	IT	***Annexure VI***
7	CIVIL	***Annexure VII***
8	ADMINISTRATION	***Annexure VIII***
9	GIRLS HOSTEL (BLOCK A& B)	***Annexure IX***
10	BOYS HOSTEL (BLOCK A & B)	***Annexure X***

INTERNAL VIEW OF ANITS CAMPUS

Table: Appliances and their power consumption rates in Campus & Girls Hostel

S. no	Name of appliance	Power Rating(Watt)	Quantity	Power Consumption (Watt)	Average usage per day (hr.)	Power Consumption/day (Watt)
A	**B**	**C**	**D**	**E=C X D**	**F**	**G=E X F**
1	Ceiling fans	80 W	1686	134880	6	809280
2	Pedestal fans	55 W	43	2365	6	14190
3	Tube lights (LED)	20W	1469	29380	6	176280
4	Desktops	50 W	783	39150	6	234900
6	Printers	50 W	67	3350	2	6700
7	AC's	2000 W	332	664000	4	2656000
8	LCD projectors	280 W	116	32480	2	64960
9	Wireless routers	6 W	37	222	24	5328
10	Window AC's	1400W	3	4200	4	16800
11	CC camera	10 W	153	1530	24	36720

Table: Power consumption pattern in Boys hostels

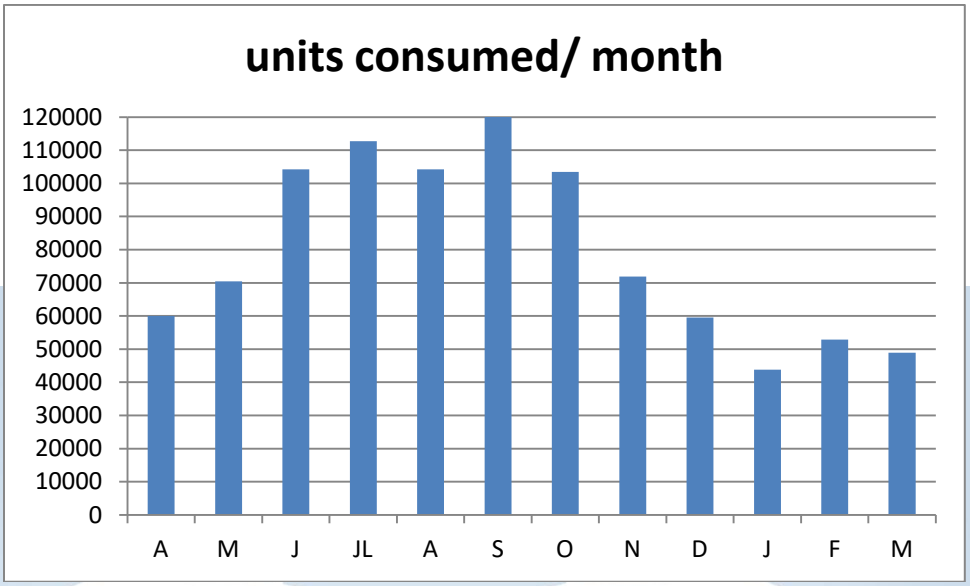
S. no	Name of appliance	Power Rating(Watt)	Quantity	Power Consumption (Watt)	Average usage per day (hr.)	Power Consumption/day (Watt)
A	B	C	D	E=C X D	F	G=E X F
			A Block			
1	Ceiling fans	80 W	132	10560	12	126720
2	Tube lights (LED) 4'feet	20W	30	600	6	3600
3	Tube lights (LED) 1'feet	9 W	02	18	6	108
4	LED Bulbs	8W	12	96	6	576
5	Tube lights 4' feet	36 W	142	5112	6	30672
6	Tube lights 2' feet	20 W	08	160	6	960
7	Water cooler	2.8kwh/day	1	2800	day	2800
			B Block			
1	Ceiling fans	80 W	212	16960	12	203520
2	Tube lights (LED) 4'feet	20W	32	640	6	3840
3	Tube lights (LED) 1'feet	9 W	96	864	6	5184
4	LED Bulbs	8W	81	648	6	3888
5	Tube lights 4' feet	36 W	216	7776	6	46656
6	Tube lights 2' feet	20 W	50	1000	6	6000
7	Water cooler	2.8kwh/day	1	2800	day	2800

ANITS is one of the few institutions in India to have pioneered in the energy conservation and use of renewable energy sources. Basically it uses three types of Energy sources: (1) Electricity from the Public supply and (2) Electricity from the Own Solar plants and (3) Diesel (HSD).

The Institute during the audit year has consumed ***2867/day*** units with a mean of ***87194*** units per month. However, the monthly variations were very high and ranged from a low of ***43766 units*** in January to a high of ***120240*** units in September. From September to January, the consumption decreased gradually, despite the fact that the period may have peak academic activity. This indicates that the energy efficiency can be enhanced further in its use.

The declined power consumption from September to January indicates could be due to reduced use of Air conditioners. The Institution has a total of 332 air conditioners together have a cooling capacity of ***500 tons***. The illumination and air circulation in the facilities needed examination.

On the whole, the per capita electricity consumption in the institute is around ***219 units/annum***, which is reasonably good in Educational Institutions.



Considering the monthly consumption data, it has been recorded that ***952377*** units of electricity has been consumed by the institute among which it is observed that September month has utilized the highest amount of Electric energy i.e. ***120000 units***, and lowest i.e. ***43766 units*** in the month of January. The following table presents the Energy bill of the same units.

Fig: Pie- chart depicting Annual Power consumption (Departmental - wise)

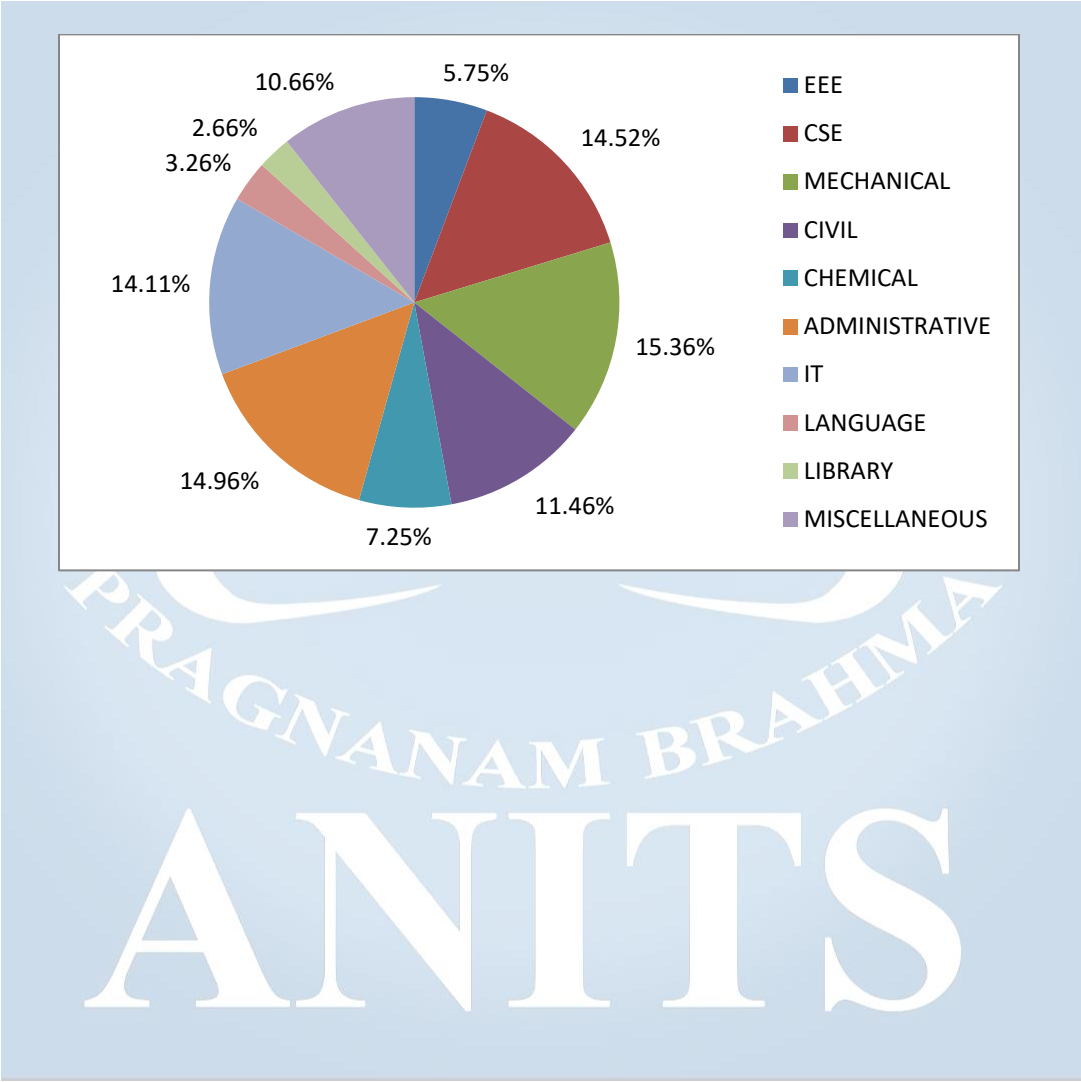


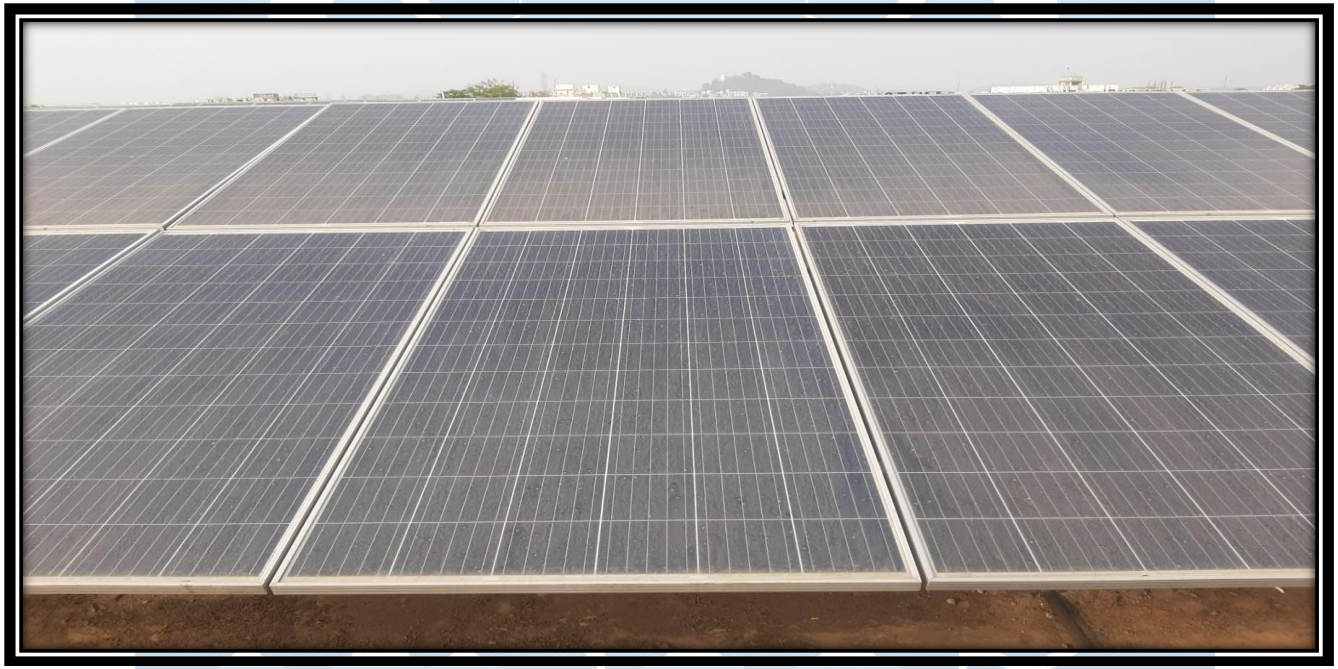
Table : Emission patterns of $C0_2$, SO_2, NO monthly wise

S. no	Month	No. of units	$C0_2$ in MT(0.91 kg/kWh)	SO_2 in MT(6.94 g/kWh)	NO_2 in MT(4.22 g/kWh)
1	April	60006	54.6	416.4	253.2
2	May	70467	64.1	489.0	297.4
3	June	104277	94.9	723.7	440.0
4	July	112725	102.6	782.3	475.7
5	August	104250	94.9	723.5	439.9
6	September	120240	109.4	834.5	507.4
7	October	103442	94.1	717.9	436.5
8	November	71896	65.4	499.0	303.4
9	December	59512	54.2	413.0	251.1
10	January	43766	39.8	303.7	184.7
11	February	52836	48.1	366.7	223.0
12	March	48960	44.6	339.8	206.6
	TOTAL	**952377**	**866.7**	**6609.5**	**4019.0**

Reference for calculation: Mittal, Moti & Sharma, Chhemendra & Singh, Richa. (2012). Estimates of Emissions from Coal Fired Thermal Power Plants in India. 2012, International Emission Inventory Conference

Solar Energy

Institute has 450 KVA solar power generation systems with 1364 panels installed and is connected to the grid. Therefore, Energy units consumed from the public supply are exclusive of this power. Thus, addition of this power, accounts for a per capita production of **19** units/annum.



SOLAR MODULES

Campus Solar Panels								
#	**PANEL INFO**	**EEE**	**ECE**	**CSE**	**CHEMICAL ENG**	**MECH**	**IT**	**RESIDENTIAL GIRLS HOSTEL**
1	COMPANY	ORB Energy	ORB Energy	ORB Energy	ORB Energy	ORB Energy	ORB Energy	ORB Energy
2	INVERTER	Schneider	Schneider	Schneider	Schneider	Schneider	Schneider	Schneider
3	NO.OF MODULES	209	209	209	209	220	160	148
4	POWER	330Wp	330Wp	330Wp	330 Wp	320 Wp	330 kWP	330 kWP
5	TOTAL POWER(KWP)	68.97kWp	68.97	68.97	68.97 kWP	72.6 kWP	52.8 kWP	48.84 kWP
6	INVERTER RATING	66 kVA	66kVA	66kVA	66 kVA	66 kVA	66 kVA	66 KVA
7	NO.OF INVERTERS	01	01	01	01	01	01	01

FUEL ENERGY

Fuel Energy second major use sector for energy is Transportation sector of the Institute. On all working days, the Institute's fleet of Buses and vehicles ply a part of the campus population. The audit results indicate, the Institute's transportation by buses covers a distance ranging from ***28400 km/month*** to ***65822 km/month***, with a mean of ***44946 km/month***. The transportation consumption of oil ranges from 6600 litres/month to 15380 litres/month, with a mean of ***11483 litres/month***. Another ***884 litres/month*** of HSD is consumed by administrative vehicles. Thus, the institution transportation covers around ***35%*** of the campus population. The remaining ***65%*** attend by various means, like, public transport ***(16%),*** private hired transport vehicles mostly 3 wheeler rickshaw ***(27%)*** vehicles, and about ***8%*** of the population uses their own vehicles as was revealed from the rapid survey.

By maximizing the entropy of the transportation data, it is estimated that all the travel trips of the campus population had a per capita HSD consumption was arrived at ***83.82 liters/annum.***

ANITS also uses LPG fuel for its hostel messes and in some laboratories also. The evidences revealed that the annual consumption of LPG in all the facilities for the year 2019-2020 was ***560 kg.***

On the whole, during the year 2019-2020, the ANITS has CO_2 emission of ***867 tons*** from use of electricity, and 356 tons from HSD Oil consumption, and ***1.7*** tons from LPG consumptions. Thus from the three major sources of energy, around ***1224*** tons of CO_2 emissions were released. However, by way of solar power generation of ***93960 kWh***, about **86** tons of CO_2-e could be saved

mitigated.

Recommendations and Conclusions

- The Auditors appreciate the Management for replacing most electrical lights with energy efficient (LED) systems; generation of Solar power and reduced use of air-conditioning systems. However, the energy use from transport system can be improved significantly. Focus is to be made that the Institute buses should achieve 5 km/l from the present mean of 4.27 km/l.
- The Institute can further enhance its Solar Power production. Presently, the solar power accounts for around 10% of the total power consumption. Considering the present annual expenditure of Rs. 90 lakhs/annum, the institute can plan for a 1 MW solar power plant, and can not only realize the investment in 5 years, but also can make the campus Carbon neutral.

Annexure

Annexure I – CSE											
S No	Room	Ceiling fans	Pedestal fans	Tube lights	Desktops	UPS	Printers	AC's	LCD projectors	Wireless routers	Window AC's
1	101 -CR	5		4					1		
2	102 –FC	3		3							
	103 –FC	3		3	1	1					
	104 –CR	5		5					1		
	105 –FC	2		2			1				
	106 –FC	4	2	4		1	1				
	107-L		1		37				1		3
	108 –FC	2		3	5		1	1			
	109 –SR	1		3				2			
	110-L		1		36			3			
	111-L	4		2	15						
	Lobby			4							
	201-cabin	4	1	3	2						
	202-L		1		1	2		3	1		
	203 –FC	2		2	1	1	1	1			
	205 –CR	7		5					1	1	
	206 –CR	7		5					1		
	207 –CR	8		8	60	3		4	1		
	208-L	6		5		2					
	209-O	3		3	1	1	1				
	301-LB	4		3							
	302-L			4				2			
	303-CR			4	1	1	1	1			
	304-SR	2		2	2	2					
	306-CR	7		5					1		
	307-CR	7		5					1		
	309-CR	7		5							
	310-FR	3		2	1	1					
	311-FR	3		2							
	312-FR	3		2	1	1					
	313-CR	7		5					1		
	401-L	12		10	16	1		3			
	402-FR	2		2	1	1					
	403-FR	2		2							
	404-CR	5		4					1		
	405-CR	5							1		
	407-CR	7		5					1		
	408-L	1			36	1					
	409-CR	8							1		
	Lobby	1		3							
	TOTAL	152	6	129	217	19	6	20	14	1	3

CR-CLASS ROOM,
FR-FACULTY ROOM,
L-LABORATORY,
FC-FACULTY CABIN

Annexure II - Mechanical										
S No	**Room**	**Ceiling fans**	**Pedestal fans**	**Tube lights**	**Desktops**	**UPS**	**Printers**	**AC's**	**LCD projectors**	**Wireless routers**
1	101 -L	16		19						
2	102 -FD	5		4						
3	103 -EC	5		3	2	1	2		1	
4	103A –FR	1		1						
5	104-FR	2		3	1	1	2	1		
6	105-L	1		6	1			2		
7	105 A-FR	1		1	1	1				
8	106-L	5		4						
9	107-L	6		3						
10	108-L	13		10	1					
11	LOBBY			5						
12	201-DH	12		10						
13	202-CR	5		3					1	
14	203-CR	5		4					1	
15	204-CR	5		5						
16	205-CR	5		3						
17	206-CR	6		5					1	
18	207-CR	6		4						
19	208-DH	10		14						
20	LOBBY			5						
21	301-L	5	1	11	70	2		6	1	
22	303-L	2		2						
23	304-FR	1		1	1					
24	305-FR	1		1						
25	306-FR	1		1						
26	307-FR	1		1						
27	308-FR	1		1						
28	309-FR	1		1						
29	310-FR	3		2						
30	311-31LIBRARY	3		2	2					
31	312-FR	3		2	1	1				
32	314-FR	4		2						
33	315-CR	5		3					1	
34	317-FR	1		1						
35	318-FR	1		1						
36	319-FR	1		1						
37	320-FR	2		1						
38	321-FR	1		1						

39	323-CR	5		5						
40	324-DH	14		10						
41	Lobby									
42	401-SD			6	16	1		4	1	
43	401B-CH			6				2		
44	404-CR	2		6						
45	405-FR	1		2						
46	406-FR	1		1	1					
47	407-FR		1	1						
48	408-FR	1		1						
49	409-FR	1		1						
50	410-FR	1		1						
51	411-CR	8		1					1	
52	413-FR	4		5	2	1				
53	414-CR		7	4						
54	416-FR	1		4						
55	418-CR	7		1					1	
56	420-CR	7		4						
57	421-SH			24				6	1	
58	LOBBY			9						
59	LAB	22		10						
60	LAB	13		7						
61	WS	20		13						
62	LOBBY			3						
	TOTAL	254	9	276	99	8	4	21	10	0

Annexure III – ECE											
S No	Room	Utility	Ceiling fans	Pedestal fans	Tube lights	Desktops	UPS	Printers	AC's	LCD projectors	Wireless routers
1	GF	Geo Technical Engineers Lab	6		4						
2	107	Staff Room	2		2						
3	GF	Environment Engineering Lab	8		2						
4	GF	Concrete Technology Lab	11		8						
5	GF	Serveying Lab	1		2						
6	GF	Lobby			5						
7	1st Floor	Store Room			1						
8	1st Floor	M.Tech Class Room	3		2						
9	Gf	Geo Technical Eng Lab	6		6						
10	Gf	Faculity Room	2								
11	Gf	Environment Eng lab	8		2						
12	Gf	Concrete Technology Lab	11		8						
13	Gf	Serveying Lab	1		2						
14	Gf	Lobby			5						
15	1st floor	Store Room			1						
16	1st floor	M tech Class room	3		2						
17	1st floor	Staff Room	2		2	1	1				
18	1st floor	Seminar Hall				1	1		3	1	
19	1st floor	HOD office	3		5	2	2		1		
20		Staff Room	1		1						
21	1st floor	Tutorial Class Room	3		2						
8i22	1st floor	Staff Room	2		1						
23	1st floor	Computer lab	2			42	1	1	3	1	
24	1st floor	Class Room	6		4						
25	1st floor	Department Library	3		2	1	1				
26	1st floor	Staff Room	1		1						
27	1st floor	Staff Room	1		1	1	1				
28	1st floor	Class Room	6		4						
29	1st floor	Class Room	6		4						
30	1st floor	Lobby			11						
31	2nd floor	Exam cell	25		24						
32	2nd floor	Spot Valuetion Room	6		11				3		
33	2nd floor	Dept Controller of Examination Room	4		3	1		1			
34	2nd floor	Processing Hall	6		12						
35	2nd floor	Exam cell	1		1						
36	2nd floor	Printing Room	2		3	3		1	1		
37	2nd floor	Exam cell	3		3	1		1	1		
38	2nd floor	Central Examination Co-ordinator	3		4						
39	2nd floor	Examination Cell	6		4	3					
40	2nd floor	Record Room	2		3						
41	2nd floor	Coding & Decoding section	3		2						
42	2nd Floor	Lobby	4		5		1				
43	2nd floor	Exam Cell	6		8						

44	3rd floor	Exam Cell	9		12						
45	3rd floor	Exam Cell	12		8						
46	3rd floor	Sports Room	5		5						
47	3rd floor	Gym	8	1	4						
48	3rd floor	Lobby			8						
49	5th floor	Dept of Physics	19		13						
50	5th floor	Staff room	3		2	1	1	1	1		
51	5th floor	Staff room	2		1						
52	5th floor	Staff room	3		1						
53	5th floor	Staff room	2	7	1			1			
54	5th floor	Staff room	3		1						
55	5th floor	Staff room	3		1						
56	5th floor	Staff room	3		1	1	1				
57	5th floor	Staff room	3		1	1					
58	5th floor	Basic Science And Humanities	3		1	1	1				
59		HOD ROOM	3		2	1	1	1	1		
60		Staff Room	1		1	1	1				
61		Staff Room	1		1	1	1				
62		Staff Room	1		1	1	1	1			
63		Staff Room	5		2	1	1	1			
64		Chemistry Lab	2		3	1	1				
65		Staff Room	3		1						
66		Lobby			9						
		TOTAL	244	0	240	66	17	9	14	2	0

Annexure IV – Chemical Engineering.											
S No	**Room**	**Utility**	**Ceiling fans**	**Pedestal fans**	**Tube lights**	**Desktops**	**UPS**	**Printers**	**AC's**	**LCD projectors**	**Wireless routers**
1	D-102	*Mechanical Operation Lab/Heat transfer Lab*	7		7						
2	D-103	*Staff Room*	3		2						
3	D-104& 105	*Chemical Technology Lab*	12		10	1	1	1			
4	D-106	*HOD*	2		2	1	1		1		
5	107	*Seminar Hall*		12	7				3	1	
6	108	*Seminar Hall*	12		9	1			3	1	
7	Gf	*Lobby*			4						1
8	201	*Faculity Room*	2		2	1	1	1	1		
9	D-202	*CR LAB*	8		6						
10	D-2013	*Dept Library*	1		2	3	1	1	1		
11	D-204&203	*Biotechnology Lab*	11		10						
12	D-206	*Staff Room*	2		2						
13	D-211	*Seminar Hall*	11		4						
14	D-209	*Faculity Room*	3		2	1					
15	D-208	*Comuter Lab*	7		4	16					
16	1st Floor	*Lobby*			3						1
17	302	*Class room*	5		6						
18	303	*Class room*	5		6						
19	304	*Class room*	5		6					1	
20	305	*Class room*	5		6						
21	306	*Faculity Room*	3		2						
22	308		7		4						
23	312	*Class room*	7		4						
24	2nd floor	*Lobby*			4						1
25	402	*Process Dynamicy Central Lab*				1					
26	403	*Class room*	5		4						
27	404	*Mass Transfer lab*	12		10						
28	406	*Faculity Room*	2		2						
29	408	*Class room*	7		4						
30	412	*Class room*	7	4							
31		*LOBBY*			4						
32		TOTAL	151	16	138	25	4	3	9	3	3

Annexure V- EEE										
S No	**Room**	**Ceiling fans**	**Pedestal fans**	**Tube lights**	**Desktops**	**UPS**	**Printers**	**AC's**	**LCD projectors**	**Wireless routers**
1	101 –L	14		12						
2	102 –FR	2		2	2	2	1	1		
	105 –L	11		12						
	107 –L	10		9						
	108 –L	10		9	1					
	LOBBY		2	7					1	
	201-CR	5	1	4						
	202-CR	5		4						
	203-FR	3		2						
	204-WH	1	1	1						
	205-L	12		10						
	207-L	13		11						
	208-FR	2		2	1	1				
	209-LB	4	1	3	1	1				
	210-FR	4	1	1						
	LOBBY			2						1
	301-CR	5		4					1	
	302-CR									
	303	3		3						
	L	1		4	38	1		3		
	306-EH	5		2	1	1	1			
	307-CR	7		4						
	309-FR	3		2	1					
	310-FR	3		2						
	311-FR	3		2	1					
	312-FR	7		5					1	
	LOBBY			4						1
	313-SR			2						
	401-CR	8		4						
	402-CR	8		2						
	403-FR	2		2						
	404-FR	2		2						
	405-CR	8		4						
	406-CR	6		3						
	408-CR	7		5						
	409-CR	3		2						
	410-CR	3		2	1					
	412-CR	10		5						
	LOBBY			2						1
	TOTAL	190	0	158	47	6	2	4	3	3

Annexure VI - IT											
S No	**Room**	**Utility**	**Ceiling fans**	**Pedestal fans**	**Tube lights**	**Desktops**	**UPS**	**Printers**	**AC's**	**LCD projectors**	**Wireless routers**
1	301	WT LAB	1		8	28			1	1	
2	302	JAVA LAB	1		8	40	2	2	2		1
3	303	Project LAB	2		14	60	3	1	5	1	2
4	305	HOD	3		3	2	2	4	1		1
5	306	Faculity Cabin	2		1	1		1		1	
6	307	Class Room	6		6						
7	308	Staff Room	2		2	2					
8	309	Staff Room	2		2	2	1	1			
9	310	Class Room	6		6					1	
10	311	Class Room	6		5					1	
11	2nd floor	Lobby			3	4					
12	401	Class Room	6		5	1				1	
13	402	Class Room	6		5	1				1	
14	403	Faculty Cabin	2		2						
15	404		2		2	2		1			
16	406	Staff Room	6		4	3		2			1
17	407	De Lab									
18	408	Faculity Room	8		7	2	1	1			
19	409	Faculity Room	7		4	5	1	2			1
20	3rd floor	Lobby			3						
21	502& 503	IT Lab				130	2		11		
22	504	Faculity Cabin	4		2						
23	505	Faculity Cabin	2		2	1	1	1	1		
24	506	Faculity Cabin	4				1				
25	507	Class Room		6	4						
26	508	Staff Room	2		2						
27	509	Staff Room	2		2						
28	510	Class room	6		5						
29	511	Class room	6		5	1				1	
30		Lobby			8						

31		TOTAL	94	6	120	285	14	16	21	8	6

Annexure VII - CIVIL											
S No	**Room**	**Utility**	**Ceiling fans**	**Pedestal fans**	**Tube lights**	**Desktops**	**UPS**	**Printers**	**AC's**	**LCD projectors**	**Wireless routers**
1	GF	Geo Technical Engineers Lab	6		4						
2	107	Staff Room	2		2						
3	GF	Environment Engineering Lab	8		2						
4	GF	Concrete Technology Lab	11		8						
5	GF	Serveying Lab	1		2						
6	GF	Lobby			5						
7	1st Floor	Store Room			1						
8	1st Floor	M.Tech Class Room	3		2						
9	Gf	Geo Technical Eng Lab	6		6						
10	Gf	Faculity Room	2								
11	Gf	Environment Eng lab	8		2						
12	Gf	Concrete Technology Lab	11		8						
13	Gf	Serveying Lab	1		2						
14	Gf	Lobby			5						
15	1st floor	Store Room			1						
16	1st floor	M tech Class room	3		2						
17	1st floor	Staff Room	2		2	1	1				
18	1st floor	Seminar Hall				1	1		3	1	
19	1st floor	HOD office	3		5	2	2		1		
20		Staff Room	1		1						
21	1st floor	Tutorial Class Room	3		2						
22	1st floor	Staff Room	2		1						
23	1st floor	Computer lab	2			42	1	1	3	1	
24	1st floor	Class Room	6		4						
25	1st floor	Department Library	3		2	1	1				
26	1st floor	Staff Room	1		1						
27	1st floor	Staff Room	1		1	1	1				
28	1st floor	Class Room	6		4						
29	1st floor	Class Room	6		4						
30	1st floor	Lobby			11						
31	2nd floor	Exam cell	25		24						
32	2nd floor	Spot Valuetion Room	6		11				3		
33	2nd floor	Dept Controller of Examination Room	4		3	1		1			
34	2nd floor	Processing Hall	6		12						
35	2nd floor	Exam cell	1		1						
36	2nd floor	Printing Room	2		3	3		1	1		
37	2nd floor	Exam cell	3		3	1		1	1		
38	2nd floor	Central Examination Co-ordinator	3		4						
39	2nd floor	Examination Cell	6		4	3					

40	2nd floor	Record Room	2		3						
41	2nd floor	Coding & Decoding section	3		2						
42	2nd Floor	Lobby	4		5		1				
43	3rd floor	Exam Cell	6		8						
44	3rd floor	Exam Cell	9		12						
45	3rd floor	Exam Cell	12		8						
46	3rd floor	Sports Room	5		5						
47	3rd floor	Gym	8	1	4						
48	3rd floor	Lobby			8						
49	5th floor	Dept of Physics	19		13						
50	5th floor	Staff room	3		2	1	1	1	1		
51	5th floor	Staff room	2		1						
52	5th floor	Staff room	3		1						
53	5th floor	Staff room	2	7	1			1			
54	5th floor	Staff room	3		1						
55	5th floor	Staff room	3		1						
56	5th floor	Staff room	3		1	1	1				
57	5th floor	Staff room	3		1	1					
58	5th floor	Basic Science And Humanities	3		1	1	1				
59		HOD ROOM	3		2	1	1	1	1		
60		Staff Room	1		1	1	1				
61		Staff Room	1		1	1	1				
62		Staff Room	1		1	1	1	1			
63		Staff Room	5		2	1	1	1			
64		Chemistry Lab	2		3	1	1				
65		Staff Room	3		1						
66		Lobby			9						
		TOTAL	244	0	240	66	17	9	14	2	0

Annexure VIII – Administration											
S No	Room	Utility	Ceiling fans	Pedestal fans	Tube lights	Desktops	UPS	Printers	AC's	LCD projectors	Wireless routers
1	*Gf*	Director Room	1		2	1		1	1		
2	*Gf*	Secretarial Room	2		7	1	1	2	1		
3	*Gf*	Conference Room							2	1	1
4	*Gf*	Principal Room	4		5	1		2	1		
5	*Gf*	Office Room	1			1					
6	*Gf*	Office Room	11		11	10		2			
7	*Gf*	Store Room	3		3						
8	*A-108*	HOD	1		2	1	1	1	1		
9	*A-109*	Faculity Room	8		7	2					
10	*A-110*	Class Room	5								
11	*A-111*	Class Room	8		5						
12	*A-112*	Class Room	8		5						
13	*113*	Class Room	6		6						
14	*Gf*	Lobby	7		11						
15	*1st floor*	201	1		23	66	3		5	1	
16	*1st floor*	202	15		9	1	2			2	
17	*1st floor*	203	1		3	1	1	1	1		1
18	*1st floor*	204	6		9	3	2	3			
19		Office Room	1		2	1	1	1			
20		Class room	32		20	4	1				1
21		Lobby			6						
22	*2nd floor*	Auditorium				1				1	1
23	*2nd floor*	302	1		2				1		
24	*2nd floor*	303	1		1				1		
25	*2nd floor*	304	1		1				1		
26	*2nd floor*	305	1		1				1		
27	*2nd floor*	308	2		3				1		
28	*2nd floor*	309			15				6		1
29	*2nd floor*	310	1		2	1			1		
30	*2nd floor*	311	40		34						1
	2nd floor	Lobby	2		5						
		TOTAL	170	0	200	95	12	13	24	5	6

Annexure IX						
S. no	Name of appliance	Power Rating(Watt)	Quantity	Power Consumption (Watt)	Average usage per day (hr)	Power Consumption/day (Watt)
A	B	C	D	E=C X D	F	G=E X F
1st floor						
1	Ceiling fans	80 W	13	0	12	0
2	Tube lights (LED) 4'feet	20W	6	120	6	720
3	Tube lights 4' feet	36 W	47	1692	6	10152
2nd Floor						
1	Ceiling fans	80 W	12	0	12	0
2	Tube lights (LED) 4'feet	20W	14	280	6	1680
3	Tube lights 4' feet	9 W	48	432	6	2592
3rd Floor						
1	Ceiling fans	36 W	12	0	12	0
2	Tube lights (LED) 4'feet	20 W	11	220	6	1320
3	Tube lights 4' feet	9 W	58	522	6	3132
4th Floor						
1	Ceiling fans	36 W	12	0	12	0
2	Tube lights (LED) 4'feet	20 W	5	100	6	600
3	Tube lights 4' feet	9 W	63	567	6	3402

Annexure X- Boys Hostel						
S. no	**Name of appliance**	**Power Rating(Watt)**	**Quantity**	**Power Consumption (Watt)**	**Average usage per day (hr)**	**Power Consumption/day (Watt)**
A	**B**	**C**	**D**	**E=C X D**	**F**	**G=E X F**
			A Block			
1	Ceiling fans	80 W	132	10560	12	126720
2	Tube lights (LED) 4'feet	20W	30	600	6	3600
3	Tube lights (LED) 1'feet	9 W	02	18	6	108
4	LED Bulbs	8W	12	96	6	576
5	Tube lights 4' feet	36 W	142	5112	6	30672
6	Tube lights 2' feet	20 W	08	160	6	960
7	Water cooler	2.8kwh/day	1	2800	day	2800
			B Block			
1	Ceiling fans	80 W	212	16960	12	203520
2	Tube lights (LED) 4'feet	20W	32	640	6	3840
3	Tube lights (LED) 1'feet	9 W	96	864	6	5184
4	LED Bulbs	8W	81	648	6	3888
5	Tube lights 4' feet	36 W	216	7776	6	46656
6	Tube lights 2' feet	20 W	50	1000	6	6000
7	Water cooler	2.8kwh/day	1	2800	day	2800

Anil Neerukonda Institute of Technology and Sciences- Annexure IX			
500 kVA Generator Fuel Consumption Report.			
Month & Year	***Usage of Gen Set in hours (tentatively)***	***Diesel Consumption per (lit/hour)***	***Total consumption (liters)***
March 2019	11.08	35	387.8
April 2019	10.11	35	353.85
May 2019	24.05	35	841.75
June 2019	45.14	35	1579.9
July 2019	10.06	35	352.1
August 2019	15.09	35	528.15
September 2019	21.02	35	735.7
October 2019	19.11	35	668.85
November 2019	9.05	35	316.75
December 2019	6.22	35	217.7
January 2020	10.05	35	351.75
February 2020	11.08	35	387.8
March 2020	13.04	35	456.4
April 2020	10.12	35	354.2
Total			**7532.7**

Transport Fuel Consumption XI

#	Month	Total liters of fuel consumed by each of 21 buses	Average liters of fuel consumed by each of 21 buses
1	April 2019	3839	182.8
2	May 2019	3959	188.52
3	june	7746	368.85
4	july	10474	498.76
5	August	10232	487.23
6	September	10495	497.76
7	October	10302	490.57
8	November	11708	557.52
9	December	12505	595.47
10	Jan 2020	8409	400.42
11	Feb 2020	10465	498
12	March 2020	5387	256.52
	TOTAL	105521	

Sewage Treatment Plant -Annexure XII

S.no	Compartments	Company	Type/Frame No./Model No./mechine No..	Voltage	Current	Power	Horse Power	RPM	Number of pumps/Motars
1	Air Blower Motors	Crompton Greves	Freame No. 1832 M.J	415V	10.35 A	5.5	7.5	1450	2 motors
2	Sewge Transfer Pums	Crompton Greves	Mechine No. NDA 2 M.J	415V	2.42	1.1	1.5	2820	2
3	Sludge Feed Pumps	Crompton Greves	Mechine No. NDA 2 M.J	415V	2.42	1.1	1.5	2820	2
4	Filter Feed Pumps	Kirloskar	Mechine no. KDS - 225++	415V	3.9 A	1.5	1.5	2842	2
5	Booster Pumps	Grund Fos	CR 10-05-A-FJ-A-E-HQQE	415V	8.15/4.7A	2.2	3	2899	3
6	Everest Blower Motors	Everest Blopwer Motors	M5075	415V	NA	0.5kg/cm2	200m3	1300	2
7	Cutter Pumps	Aquatex	ASP 22P	415V	5.7 A	2.2	3	2900	4

E2e

Sewage treatment Plant

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ENVIRO KAMKAR LLP

Team :

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Help us to assist you to develop green India.