

Energy Audit Report
For
Rayat Shikshan Sanstha's
Maharaja Jivajirao Shinde Mahavidyalaya,
A/P & Tal. Shrigonda Dist. Ahmednagar

By



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Date: 18/02/2019

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I Acknowledgement

The Energy Audit report is submitted for the electrical installations at various department of Maharaja Jivajirao Shinde Mahavidyalaya, A/P & Tal. Shrigonda Dist. Ahmednagar

The most of energy installations & hence utilization is in the form of electrical energy. Hence Electrical Energy Audit is a primary focused area.

The objective of this Energy Audit is to assess the electrical installations in the building and suggest energy saving majors & potentials.

It is reported that either the electrical installations or its electrical power utilization of this institute had not been either assessed from any certified energy auditor since establishment. Considering this background this energy audit is carried out.

During this Energy audit the energy consumptions of various electrical equipment, laboratory equipment and lighting systems are reviewed using power analyzer.

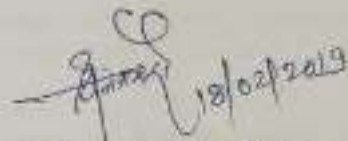
The energy audit carried out as per the actual load connected at the time of energy audit stage.


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Summary of recommendations:

It is recommended that:

- Considering the infrastructure available with the institute; the Institute should prepare detailed electrical schematic, from electrical supply point to end load point.
- All earth points be checked periodically & get it salt treated or latest Chemical powder earthing to improve earthing.
- Conventional Fluorescent fittings, Incandescent Lamps be replaced by Electronics Ballast operated & LED lighting.
- Considering the various energy meters connected & Transformer connection given for swimming tank it is recommended to become HT consumer which will reduce energy bill of entire college.
- IP65/ IP66 grade 100W LED light flood eight fittings or 50W IP65/ IP66 grade LED flood light sixteen fitting be installed. It is recommended that minimum 12 to 15, IP65/IP66 grade 25W street light fittings be fitted in the southern & eastern side of the college.
- Considering the environmental conditions & the cost of the solar lighting, it is highly recommended to opt for Grid Connected solar PV System of net metering having minimum 10 KW capacity.



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II Executive Summary

Energy Audit Options at a Glance & Recommendations

The most of energy installations & hence utilization are in the form of electrical energy. Hence energy audit is primary focused area of the said institute.

The objectives of this energy are to assess the electrical installations in the building and suggest energy saving majors and potentials.

It is reported that either the electrical installations or its electrical power utilizations of this institute had not been either assessed from any certified energy auditor since establishment. Considering this background this energy is carried out.

During this energy audit the energy consumptions of various electrical equipment, laboratory equipment and lighting systems are reviewed using power analyzer & digital tong tester. The sample tests are conducted during the energy audit visit.

The energy audit carried out as per the actual load connected at the time of energy audit stage.

Summary of recommendations:

1. The audit conducted is a primary energy audit and noted that some more focus is to be given on following points.
2. The Average annual energy utilization is of high which is from Sixty one Thousand units to almost One Lakh Seventeen Thousand units.
3. The alternative source of power available is a Single phase Diesel Generator. The data of utilized units of energy since installation is not available. Engine running record is not available. It is observed that the generator utilization log book registering of the said the period of usage, energy generated and utilized in kWh (units) and fuel consumed during this period is not maintained properly.
4. Proper control gear and protection should be provided at point of supply. Rewiring and renovation of control panel / board is necessary where supply points are older than 15/20 years.
5. All the earth points need to be maintained by salting and watering regularly. It is required that earth resistance should be maintained less than one Ohm.
6. It is recommended to display first aid charts to improve awareness of first aid support in case of electrical accident.
7. It is recommended to replace electronic fluorescent light fittings by LED lighting, gradually, when these fittings needs repairs. The fan regulators currently of ballast (resistance) type to be replaced by electronic fan regulators.
8. The diagram showing location of electrical control gears and supply points should be prepared and displayed to enable easy access in case of emergency. Detailed electrical schematic diagram should be prepared with load details; to enable further detailed audit.
9. Electrical load distribution needs to be balanced for generator as well as for supply points if HT consumer option is preferred.

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10. Computer LAN network cabling should properly structured cabling. Use of DIN Racks is recommended for mounting of switches, routers etc. Also electrical wiring at some of the place need to be restricted.

11. Considering the environmental conditions & the cost of the solar lighting, it is highly recommended to opt for Grid Connected solar PV System of net metering having minimum 10 KW capacities. Considering the capacity of the ladies hostel a solar water heater of at least of 1000 liter be installed to reduce the cost of energy.



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1. Introduction about the Institute

1.1 General details of the institute & descriptions:

Rayat Shikshan Sanstha was established by the great visionary and educational reformist Late Padmabhushan Dr. Karmaveer Bhaurao Patil on 4th October 1919 for educational upliftment of socio-economically backward section of Maharashtra. He brought about social transformation with the motto of 'Education through self-help.' He cherished the drill of all round development of deprived sections of the society through education and strived for it throughout his life. He successfully applied the concept of hostels for students belonging to different religions and categories for incubation of national integrity among students to attain national development. He engineered an innovative 'Earn and Learn' scheme for the betterment of students representing downtrodden sections. A radical transformation is achieved in social, cultural and educational history of Maharashtra due to the concrete and continuous efforts taken by Karmaveer Bhaurao Patil and in tune by Sanstha since its establishment.

The Sanstha has been flourishing like its emblem a banyan tree since its foundation and has become undoubtedly the largest educational institutes of Asia.

Maharaja Jivajirao Shinde Mahavidyalaya, Shrigoonda is affiliated to Savitribai Phule Pune University, Pune (formerly University of Pune) the college named by Maharaja Jivajirao Shinde, who was the dynasty of the great empire Mahadji Shinde. College is located on the Jamkhed - Dandi road, having campus area about 7.03 acres.

The college imparts the education in three faculties viz. Arts, Commerce & Science. At UG level, college runs B.A., B.Com, B.Sc. & B.B.A. (Computer Application) program. The total no of strength students of college is 1553.

Energy Audit Team

1.2.1. Energy Auditor

Er. Dr. EA. Dhananjay Bhagawanadas Devi, Certified Energy Auditor & Associate Professor
Karmaveer Bhaurao Patil College of Engineering, Satara

1.2.2. Energy Management Team

1. Prof. Jaywant Jagtap,

Lecturer (Selection Grade), Karmaveer Bhaurao Patil Polytechnic, Satara

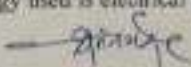
2. Prof. Aabasaheb Palekar,

Lecturer (Selection Grade), Karmaveer Bhaurao Patil Polytechnic, Satara

3. Prof. Dilip K. Puwar,

Associate Director of Physical Education, Karmaveer Bhaurao Patil College of Engg. Satara

The scope of Energy Audit is limited to audit with the intention to identify possible opportunities for revision and modifications to improve energy efficiency, pertaining to electrical power utilization. Major energy used is electrical energy for lighting, equipment's, etc.



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1.2 Component of Energy Cost

- 1) Major electrical power is available through a Five LT & One HT connection from MSEDCL as Listed below:

Consumer number	Sanctioned Electrical in KW	Type of connection
153020051818	1 KW	Single Phase
153024041850	3 KW	Single Phase
153020047225	0.5 KW	Single Phase
1530220028751	4.8 KW	Single Phase
153020004135	0.5 KW	Single Phase
153024096719	37.3 KW	Three Phase

The energy consumption for year 2014 is 61024 (Sixty One Thousand Twenty Four units), for the year 2015 is 720622 (Seventy Two Thousand Six Hundred Twenty Two Units) , for the year 2016 is 61474 (Sixty One Thousand Four Hundred Seventy Four units) , for the year of 2017 is 113371 (One Lakh Thirteen Thousand Three Hundred Seventy One Units) & for the year 2018 is 116956 (One Lakh Sixteen Thousand Nine Hundred Fifty Six) .

The contract demand is for a LT connection is of 50KVA & the connected load of 37.30 KW.

After assessing the energy base from Jan 2014 to Dec 2018, it is observed that the billing pattern submitted & obtained is mismatching but institute energy consumption is high & needs to be attended carefully.

- **Power backup is provided through a generator set:**

- DG set: Kirloskar Green , Engine model 3R11040 Water/Coolant Cooled 42 BHP , 1500 rpm , with alternator of 35KVA, Single Phase 240V , 08 power factor , 50Hz self excited , self regulated (Genset Model no. KG35WS) : purchased on 04/02/2014
- No of Units generated by the Generator cannot be observed as battery was out of service.
- Average Fuel consumption from Feb 2014 till Dec-2018 is of Rs. 26049/00.
- Measurements are available at majority of Earth resistance points. However potential difference between neutral and earth point is noted which is varying between 2 to 8 volts at various points, Earthing at MSEDCL neutral & bus bar unit is not in good order.
- Laboratory and Library equipments (in majority are computers) are used as per requirements of students and its usage is random. Usage is dependent on students' experimentation and activities.

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- Usage of lighting is seasonal, but has scope for more effective utilization. Most of the lighting is used is in day time in the institute.
- Schematic (Detailed connection diagram) of Electrical distribution, control, protections and load connections is not available. Diagram showing location of electrical control gears and supply points should be prepared and displayed to enable easy access in case of emergency.
- Five UPS are installed at various places (1*5 KVA, 2*8 KVA & 1*5 KVA) for Computers back up with sealed maintenance free lead acid batteries.
- Computer LAN network cabling is in good order at some places. At certain places LAN cabling needs to be in good order.

2. Electrical Energy consumption process

Electrical energy & diesel consumption data is made available from the institute and verified locally by physically. Water & Oil Consumption data is not made available hence it cannot be assessed.

Ratings of lighting system, equipment's and installations are verified and confirmed with Volt Amp meters wherever necessary.

Available data is further analyzed to find out the discrepancies and opportunities to improve performance and effective utilization of electrical energy.

3. Energy & Utility System Description

3.1 Summary sheet of MSEDCL Jan 2014 to Dec 2018 (Annexure 1)

3.2 Details of Load Connected at various places) (Annexure 2)

Institute is having a two bore wells within the campus separate portable water connection is also availed. A submersible 1.0 HP Single Phase Pump & 5 HP three phase motor are used to lift the water. All pumps are connected in College grid, hence water bill and energy conservation cannot be separately analyzed.

The details of water bills were not made available hence cannot be audited & justified.

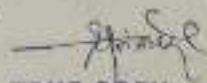
4. Energy Efficiency in utility & Process System

4.1 Electric load analysis

Considering 60 (Sixty) months electrical energy bills supply to us and some readings taken on various energy utilities, following is the load analysis:

1. The institute has large variation in energy consumption from 61024 units to 116956 units.
2. From the billing pattern it is not cleared whether institute has paid attention to opt for three phase HT power consumption application.

4.2 Lighting



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1. Majority of lighting load is of electronic ballast type of fluorescent tube light fittings and Conventional ceiling fans.

2. It is found that a 12 No. 150W metal halide lamp fitting has been installed in Indoor stadium. Indoor lighting is not sufficient.

3. Outdoor lighting is not sufficient & speaks unfair security at night.

4. Out of Six connections one is three phase. Four are single phase & One is LT type.

5.0 Energy Conservation Options & Recommendations

5.1 List of options in terms of No cost/ Low Cost, Medium Cost & High Investment Cost, Annual Energy & Cost savings & payback,

No cost/ Low Cost Options

a. Electrical Load

1. **MSEDCL:** The contract demand of the present LT connection needs to be fully utilized considering future expansion in the terms of laboratory equipment as per UGC /University norms. From the MSEDCL bills it appears that the bills are not regularly issued to the institute. Energy meter of Consumer no. 153020028751 is a faulty meter & from 2016 & bill was issued on average basis which needs proper attention. Consumer no.

2. Payment Pattern:

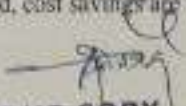
From the billing pattern it is observed that majority of the bills are cleared within time & hence institute had not paid delayed payment charges. If any delayed payment charges are paid it is recommended that bills be paid in time hence bill be paid in time.

3. **First Aid Awareness:** It is recommended to display first aid charts to improve awareness of first aid support in case of electrical accident. It is also recommended to place first-aid boxes in workshop & departmental offices.

5.2. Medium Cost & High Investment Cost, Annual Energy & Cost saving & Payback period

1. It is found that a 12 No. 150W metal halide lamp fitting has been installed in Indoor stadium. Indoor lighting is not sufficient. It is recommended that minimum 12 (Twelve) IP65/IP66 grade 100 W LED Flood light fittings be fitted in the Indoor Stadium of the college.
2. Considering the environmental conditions & the cost of the solar lighting, it is highly recommended to opt for Grid Connected solar PV System of net metering having minimum 10 KW capacities.

The annual saving, payback period, cost savings are under


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a. (a.) **Flood Lighting: Energy units:** 584 (Five Hundred Eighty Four) units annually for Eight LED Lamps having average consumption of 100 W lighting of eight hour per day. (100W IP65/IP66 grade LED eight flood light)

(b.) **Payback period:** Ten month for IP65/IP66 Grade 100W LED flood light fitting considering lamp cost of Rs.5000/00 to 6000/00 per lamp with zero maintenance.

(c.) **Cost saving:** As Institute is using halogen lamp of 150 W, it generates heat. As metal halide lamp is used & considering its operating & ignition time of halide tube is either fused out or the ballasts of the lamps has to be replaced. For illuminating the indoor stadium only four LED street light lamps are used which are neither giving required illumination level nor provides full coverage to the various places. The issue better illumination, Lux level should be addressed properly which will be sorted out if the same is implemented.

b. It is observed that LED street light fittings of 25W (Three no.) are connected by MSEDCI in around the ground. Hence it is recommended that minimum 12 (Twelve) to 15 (Fifteen), IP65/IP66 grade 50 W street light fittings be fitted along the periphery of the ground.

Street Lighting : (a) Energy Units (b.) Payback Period (c.) Cost savings:
As the security of the surrounding shall be a prime importance the above calculations though can be done cannot be a substitutive for security.

c. (a.) **Solar PV: Energy Units:** For 300 (Three hundred) sunny days in year a 10KW Solar PV system generates minimum 12000 (Twelve thousand Units) . The cost of these units as per present rate is Rs. 156000/00 (One Lakh Fifty Six Thousand Only)

(b.) **Payback period:** The initial cost of the installation is Rs. 7 Lakhs. Payback period Fifty four months in terms of present monetary value. If the rate increase in MSEDCI & onetime investment is considered this investment promotes green energy which is having an additional ranking in terms of any accreditation norms.

(C.) **Cost saving:** As solar energy is a future energy & onetime investment once system is installed the cost saving is for additional ten years as system is supposed to have minimum twenty years life.

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5.3 Implementation plan for energy saving measures/ projects.

a. Electric load:

The necessary application & process for using contract demand please be initiated by calculating the all concerned charges. If delayed payment charges are paid it is recommended to pay the electrical bills in time.

b. Lighting:

1. IP65/ IP66 grade 100W LED light flood Twelve fittings or 50W IP65/ IP66 grade LED flood light Twenty Four fitting be installed.
2. It is recommended that minimum 12 to 15, IP65/IP66 grade 50 W street light fittings be fitted along the periphery of the ground.
3. It is highly recommended to opt for Grid Connected solar PV System of net metering having minimum 10 KW capacities.
4. Schematic (Detailed connection diagram) of Electrical distribution, control, protections and load connections is not available. Diagram showing location of electrical control gear and supply point should points be prepared and displayed to enable easy access in case of emergency.
5. First aid charts to be display at prominent places & to place first-aid boxes in workshops & departmental offices. Earthing at MSEIDCL panel & various earth points is not in good order. This earthing needs to be improved.
6. All earth points be checked periodically and get it salt treated to improve quality of earthing.

5.4 Conclusion & Recommendations

1. The audit conducted is a primary energy audit and noted that some more focus is to be given on following points.
2. The Average annual energy utilization is of high which is from Sixty one Thousand units to almost One Lakh Seventeen Thousand units.
The alternative source of power available is a Single phase Diesel Generator. Data on utilized units of energy since installation is not available. Engine running record is not available. It is observed that the generator utilization log book registering of the said the period of usage, energy generated and utilized in kWh (units) and fuel consumed during this period is not maintained properly.
3. Proper control gear and protection should be provided at point of supply. Rewiring and renovation of control panel / board is necessary where supply points are older than 15/20 years.
4. All the earth points need to be maintained by salting and watering regularly. It is required that earth resistance should be maintained less than one Ohm.

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5. It is recommended to display first aid charts to improve awareness of first aid support in case of electrical accident.
6. It is recommended to replace electronic fluorescent light fittings by LED lighting, gradually, when these fittings needs repairs. The fan regulators currently of ballast (resistance) type to be replaced by electronic fan regulators.
7. Diagram showing location of electrical control gears and supply points should be prepared and displayed to enable easy access in case of emergency. Detailed electrical schematic diagram should be prepared with load details; to enable further detailed audit.
8. Electrical load distribution needs to be balanced for generator as well as for supply points if HT consumer option is preferred.
9. Computer LAN network cabling should proper structured cabling. Use of DIN Racks is recommended for mounting of switches, routers etc.
10. Considering the environmental conditions & the cost of the solar lighting, it is highly recommended to opt for Grid Connected solar PV System of net metering having minimum 10 KW capacities. Considering the capacity of the ladies hostel a solar water heater of at least of 1000 liter be installed to reduce the cost of energy.

Annexure

Sr. No.	Title
1	Summary sheet of MSEDCL Jan 2014 to Dec 2018 (Seven pages)
2	Details of Load Connected at various places (Five Pages)


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Summary sheet of Electrical Units & Amount Paid from 2014 to 2018

Year	Consumer No	Units	Amount Paid	Per Unit Charge
2014	153020051818	7621	62210	8.16
2014	153024041850	35077	351389	10.02
2014	153020047225	3036	23190	7.64
2014	1530200033135	2116	6652	3.14
2014	153020028751	13174	128510	9.75
Total of Year 2014		61024	571951	9.37
2015	153020051818	10060	52460	5.21
2015	153024041850	19356	164710	8.51
2015	153020047225	23928	132340	5.53
2015	1530200033135	994	4968	5
2015	153020028751	18284	90830	4.97
Total of Year 2015		72622	445308	6.13
2016	153020051818	5181	34850	6.73
2016	153024041850	2743	20570	7.5
2016	153020047225	40074	193500	4.83
2016	1530200033135	431	16625	38.57
2016	153020028751	13045	96882	7.43
Total of Year 2016		61474	362427	5.9
2017	153020051818	3589	22426	6.25
2017	153024041850	1200	9430	7.86
2017	153020047225	32328	229920	7.11
2017	1530200033135	300	16015	53.38
2017	153020028751	14080	66290	4.71
2017	153024096719	65463	703727	10.75
Total of Year 2017		113371	1025382.25	9.04
2018	153020051818	5098	48110	9.44
2018	153024041850	29900	394020	13.18
2018	153020047225	35510	302120	8.51
2018	1530200033135	1226	22720	18.53
2018	153020028751	8448	73070	8.65
2018	153024096719	41872	438878	10.48
Total of Year 2018		116956	1230808	10.52


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Name:-	Swimming Pool - The Principal M.J.S. College, Srirangola.			
Customer No.:-	150024096/10			
Tariff	BT LT 48T			
Contract demand	30 kVA			
Connected Load	27.5 kW			
Meter Number	7803117176			
Billed demand	20 kVA			
Load:-	Connection Type		3 Phase L1	
Year:	2017		2018	
Sl. No.	Month	Class	Bill	Bill
1	January	June 2017 to Feb 2018		
2	February		84167	90811
3	March			
4	April		20185	49820
5	May			
6	June		1245	117460
7	July		1455	20000
8	August			
9	September		80	25520
10	October			
11	November		49	3180
12	December		85	14600
	Total	0	0	107915
				114222

A. Prasad
(NATC co-ordinator)



M. J. Shridhar
PRINCIPAL
M. J. Shridhar: Manavidyapeya
Srirangola, Dist. Akshaya

Name:-		Consumer: The Principal M.J.S. College, Shrigonda.											
Customer No.:-		153020047225											
Load:-		0.5 KW											
Years:-		2013											
Sr. No.	Month	2013		2014		2015		2016		2017		2018	
		Unit	Bill	Unit	Bill	Unit	Bill	Unit	Bill	Unit	Bill	Unit	Bill
1	January	25	125	60	320	446	4080	743	5680	1269	9980	1495	11560
2	February	78	370	86	100	340	3010	743	5520	1601	12600	1262	10170
3	March	69	10	42	200	1086	6760	743	5510	1492	11740	1742	14100
4	April	50	250	86	230	511	4300	743	5850	1243	9010	1326	10650
5	May	112	270	63	600	511	4120	743	5800	477	3880	1071	8400
6	June	51	160	65	540	511	3800	743	5700	1071	12210	735	5920
7	July	43	210	56	580	511	3750	743	11280	2386	4710	1440	11870
8	August	43	210	113	950	511	3840	743	5690	1341	10690	1790	4210
9	September	50	280	162	795	511	3890	743	5280	1974	14900	1961	15850
10	October	50	290	116	2350	511	3920	743	5310	1102	8340	2203	34820
11	November	50	280	96	870	5713	18380	11816	28760	822	6110	1201	10580
12	December	243	140	573	4060	802	6320	791	6370	1386	10790	1529	12930
Total		1728	5190	3036	23190	23928	132340	40074	193500	32328	229920	35510	302120

M. J. S. Mahavidyalaya
 Shrigonda - (A. S. District)



M. J. S. Mahavidyalaya
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 M. J. Shinde Mahavidyalaya
 Shrigonda, Dist. Ahmednagar

Shrinivas
CMHC Co-ordinator



D. Bhat
PRINCIPAL
M. J. Shinde Mahavidyalaya
Shirdi, Dist. Ahmednagar

Name: The Principal M.J.S College Shirdi		Customer No.: 15302028751		Year: 2013		2014		2015		2016		2017		2018	
No. No.	Month	Limit	DBL	Fee	Bill	Limit	Bill	Limit	Bill	Limit	Bill	Limit	Bill	Limit	Bill
1	January	945	8947	1007	11860	1077	10540	919	7090	704	5480	704	5340	704	5340
2	February	1136	11810	1258	11930	11140	11140	919	6880	704	5610	704	5540	704	5540
3	March	709	7210	1284	12340	1605	1570	919	6880	6386	3150	704	5620	704	5620
4	April	1103	11070	1068	10400	894	7830	919	7310	704	5000	704	5380	704	5380
5	May	902	8540	734	6650	884	7480	919	6440	704	5970	704	5320	704	5320
6	June	682	5930	549	4180	894	6080	4225	34032	704	10490	704	5600	704	5600
7	July	910	8170	849	8050	804	6740	704	2230	704	5210	704	5670	704	5670
8	August	1270	12200	1152	10920	894	6950	704	5360	704	4460	704	5440	704	5440
9	September	1042	12100	1622	18040	894	7030	704	4890	704	5200	704	5500	704	5500
10	October	1490	18130	1319	12070	694	7070	704	5010	704	5250	704	11460	704	11460
11	November	720	8400	833	8120	7269	6940	704	5220	704	5080	704	6120	704	6120
12	December	701	7940	1459	14830	939	7450	704	5480	704	5350	704	5660	704	5660
TOTAL		11809	120147	13174	128510	18284	50830	13045	95882	14080	66290	8448	73070		

Name:-		Headmaster Maharaja Mahavidyalaya, Singonda.																
Customer No.:-		153020003135																
Load:-		0.5 KW																
S/c No.	Month	2013			2014			2015			2016			2017			2018	
		Unit	Bill	Cost	Unit	Bill	Cost	Unit	Bill	Cost	Unit	Bill	Cost	Unit	Bill	Unit	Bill	
1	January	71	213	145	440	108	350	46	125	25	1928	74	2440					
2	February	97	450	142	710	80	100	74	540	75	380	24	100					
3	March	118	604	145	440	109	430	53	850	78	560	50	320					
4	April	171	1020	145	440	99	400	88	1000	28	750	50	850					
5	May	106	1480	145	440	231	685	10	1180	25	950	50	325					
6	June	171	1010	240	720	94	1070	1	1160	24	1050	20	2700					
7	July	248	607	191	573	20	18	25	1450	25	1250	47	2500					
8	August	118	480	186	558	76	90	25	1020	25	1430	43	2100					
9	September	241	810	164	492	56	375	25	3850	24	1630	30	1875					
10	October	163	2080	182	546	55	660	28	2030	25	1830	314	5110					
11	November	83	450	182	546	18	150	25	2110	25	2030	278	2260					
12	December	93	930	209	747	89	400	25	2450	24	2235	294	2160					
	Total	1980	9085	2116	6652	994	4868	431	16625	300	16015	1236	22720					

A. B. Patil
 C.M.F.C. Co-ordinator



M. J. Shinde
 PRINCIPAL
 M. J. Shinde Mahavidyalaya
 Singonda, Dist. Ahirwadnagar

The Principal M.L.S. College, Srirangada

Name:-		The Principal M.L.S. College, Srirangada																	
Custodian No.:-		1531020041870																	
Land:-		3 A/C																	
Sr. No	Month	2013			2014			2015			2016			2017			2018		
		Trch	BRI	Vaid	Trch	BRI	Vaid	Trch	BRI	Vaid	Trch	BRI	Vaid	Trch	BRI	Vaid	Trch	BRI	Vaid
1	January	808	7880	808	8120	808	8013	16075	1685	11540	100	790	2999	6850					
2	February	808	7890	808	7840	1613	16010	100	770	100	760	500	3780						
3	March	808	7580	808	7840	1613	15450	100	770	100	790	1100	25300						
4	April	808	7330	50	150	1493	1430	100	700	100	740	3400	41115						
5	May	808	6990	23955	220705	1613	13800	100	770	100	870	2233	59460						
6	June	808	6150	900	8241	1613	12780	100	770	100	820	5000	22115						
7	July	808	6510	1394	14010	1673	12420	100	480	100	840	4180	68510						
8	August	808	6710	1973	19813	1613	12760	100	770	100	890	984	7700						
9	September	808	8080	1613	18210	1613	12910	100	720	100	780	1279	10240						
10	October	808	8340	1613	18210	1613	13000	100	730	100	790								
11	November	808	8200	1613	16210	1613	13000	100	770	100	760	1051	131140						
12	December	808	7980	1613	19980	1613	13000	100	790	100	800	1074	9680						
Total		9636	88130	35077	81585	19394	164710	2743	20570	1000	9480	20980	394010						

[Signature]
 CHIEF CO-ORDINATOR



[Signature]
 PRINCIPAL
 M. L. S. Srinidhi Mahalingayya
 Srirangada, Dist. Amritshahar

Name:-		The Principal M. J. S. College, Shigonda																
Customer No.:-		153020051518																
Lead:-		1 KW																
Sl. No.	Month	2013			2014			2015			2016			2017			2018	
		Unit	Bill	Time	Unit	Bill	Time	Unit	Bill	Time	Unit	Bill	Time	Unit	Bill	Time	Unit	
1	January	426	3830	376	2470	377	3380	566	4240	281	1950	354	2580					
2	February	524	4190	389	2740	428	3910	565	4140	357	2506	350	2740					
3	March	1221	6340	501	4000	968	4880	566	4140	447	1400	713	5650					
4	April	525	4170	789	7580	448	3720	566	4390	137	950	324	2430					
5	May	525	3970	645	5850	448	3570	556	4080	17	850	361	2450					
6	June	525	3650	218	1370	448	3020	357	2250	195	1340	191	2590					
7	July	1692	8786	729	6880	448	3240	61	550	350	510	249	1850					
8	August	616	3800	843	7850	448	2340	61	550	443	3420	467	6450					
9	September	642	5980	1147	11260	448	3380	61	550	644	4660	565	4410					
10	October	896	9090	728	7000	448	3400	61	550	252	1800	674	10070					
11	November	450	3840	803	500	4604	12580	1556	8180	87	700	433	3660					
12	December	289	2070	505	4890	548	4230	184	1260	370	2730	393	3210					
		8331	59786	7621	62210	10000	52480	5381	34850	9589	22426	5098	48110					

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(NATC Co-ordinators)



PRINCIPAL
M. J. Shinde Mahavidyalaya
Shigonda, Dist. Ahmednagar

Maharaja Jivajirao Shinde Mahavidyalaya, Shrigonda

BBA Computer Laboratory

List of Electrical Equipments on Deadstok Register

Sr. No.	Name of Instrument	Wattage (in watt)	Quantity
1	Computer	120	24
2	Inverter	10000	1
3	Printer	250	1
4	Scanner	80	1
5	Projector	120	1
6	Tubelight	40	10
7	Fan	75	7
	Total	10685	



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Head of Department

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PRINCIPAL
M. J. Shinde Mahavidyalaya
Shrigonda, Dist. Ahmednagar

Name:-		Swimming Pool - The Principal M.J.S College, Shrigonda.			
Customer No.:-		153004216719			
Tarrif		88 LT XBT			
Contract demand		50 KVA			
Connected load		37.5 KW			
Meter Number		7500127126			
Billed demand		20 KVA			
Load:-		Connection Type		3 Phase LT	
Year:-		2017		2018	
Sr. No.	Month	Unit	Rate	Unit	Rate
1	January	June 2017 to Feb 2018			
2	February			84167	806912
3	March				
4	April		20180		40820
5	May				
6	June		1240		117820
7	July		1550		21000
8	August				
9	September		67		20920
10	October				
11	November		43		9380
12	December		53		14870
Total		0	0	107835	1142212

A. J. Inamoli
(N.A.C. co-ordinator)



M. J. S. College
PRINCIPAL
M. J. S. College Mahardiyalaya
Shrigonda, Dist. Ahmednagar

The Principal M.J.S. College, Shrigonda.

Name:-		Customer No.:- 153024041850		Conversion Type		L.T Res 3 phase							
Year:-	Load:- 3 KW												
Year:-	2013	2014		2015		2016		2017		2018			
Sl. No.	Month	Unit	Bill	Unit	Bill	Unit	Bill	Unit	Bill	Unit	Bill		
1	January	808	7390	808	8120	1613	16050	1643	12540	100	790	2999	6850
2	February	808	7390	808	7840	1613	16010	100	770	100	790	500	3790
3	March	808	7590	808	7840	1613	15050	100	770	100	790	3100	25330
4	April	808	7330	50	150	1613	14130	100	770	100	740	3400	53115
5	May	808	6990	21965	220749	1613	13800	100	770	100	870	2332	53460
6	June	808	6160	820	8241	1613	12180	100	770	100	820	5000	22115
7	July	808	6510	1394	14010	1613	12420	100	400	100	820	8180	68610
8	August	908	6720	1972	19819	1613	12760	100	770	100	680	984	7700
9	September	808	8060	1613	16210	1613	12910	100	720	100	780	1279	10240
10	October	808	8140	1613	16210	1613	13000	100	730	100	790		
11	November	808	8200	1613	16210	1613	13000	100	770	100	760	1051	133180
12	December	808	7960	1613	15990	1613	13000	100	790	100	800	1074	9630
Total		9696	88430	35077	351389	19356	164710	2743	20570	1200	9430	29930	394020

(Signature)
 (MJC Co-ordinator)



(Signature)
PRINCIPAL
 M. J. Shinde Mahavidyalaya
 Shrigonda, Dist. Ahmednagar

Maharaja Jivajirao Shinde Mahavidyalaya, Shrigonda

BBA Computer Laboratory

List of Electrical Equipments on Deadstock Register

Sr. No.	Name of Instrument	Wattage (in watt)	Quantity
1	Computer	120	24
2	Inverter	10000	1
3	Printer	250	1
4	Scanner	80	1
5	Projector	120	1
6	Tubelight	40	10
7	Fan	75	7
	Total	10685	



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Head of Department

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PRINCIPAL
M. J. Shinde Mahavidyalaya
Shrigonda, Dist. Ahmednager

Maharaja Jivajirao Shinde Mahavidyalaya, Shrigonda

Physics Laboratory

List of Electrical Equipments on Deadstok Register

Sr. No.	Name of Instrument	Wattage (in watt)	Quantity
1	Computer	120	9
2	Printer	250	2
3	Scanner	100	1
4	Projector	100	1
5	Fan	75	5
6	Exhaust fan	40	2
7	Tubelight	40	5
8	Electric Stove	1500	1
9	Mercury Source	160	1
10	Sodium Source	250	1
11	He-Ne Laser	30	2
12	Stroboscope	370	1
13	Battery	20	4
14	Amplifier	240	1
15	Oscilloscope	60	2
16	Function Generator	30	2
17	Electronic Kits	15	10
18	e/m by thomson method app.	100	1
	Total	3480	

Shirwal
Head of Department



S. J. Shinde
PRINCIPAL
M. J. Shinde Mahavidyalaya
Shrigonda, Dist. Ahmednagar

Maharaja Jivajirao Shinde Mahavidyalaya, Shrigonda

Mathematics & Statistics Laboratory

List of Electrical Equipments on Deadstock Register

Sr. No.	Name of Instrument	Wattage (in watt)	Quantity
1	Computer	120	7
2	Printer	250	1
3	Tubelight	75	1
4	Fan	40	2
	Total	485	

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Head of Department



[Signature]
PRINCIPAL
M. J. Shinde Mahavidyalaya
Shrigonda, Dist. Ahmednagar

Maharaja Jivajirao Shinde Mahavidyalaya, Shrigonda
Botany & Zoology Laboratory

List of Electrical Equipments on Deadstok Register

Sr. No.	Name of instrument	Wattage (in watt)	Quantity
1	UV Spectrophotometer	65	1
2	Hot air Oven	1750	1
3	PCR	250	1
4	Laminar Airflow	280	1
5	Microwave Oven	1200	1
6	BOD incubator	500	1
7	LCD Projector	120	1
8	Refrigerator	140	1
9	Computer	120	3
10	Printer	250	1
11	Weighing machine	5	1
12	Stereoscopic Microscope	10	1
13	Trinocular Microscope	10	1
14	Tubelight	40	5
15	Fan	75	5
	Total	4815	


Head of Department




PRINCIPAL
M. J. Shinde Mahavidyalaya
Shrigonda, Dist. Ahmednagar

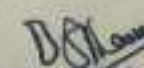
Maharaja Jivajirao Shinde Mahavidyalaya, Shrigonda
Chemistry Laboratory

List of Electrical Equipments on Deadstok Register

Sr. No.	Name of Instrument	Wattage (in watt)	Quantity
1	Computer	120	2
2	Printer	250	1
3	Tubelight	40	28
4	Fan	75	6
5	Suction Pump	440	2
6	IR Lamp	150	2
7	Double Distilation Glass	1800	1
8	Water Distilation	2000	1
9	Refrigerator	105	1
10	Hot Air Oven	1750	1
11	Conductivity meter	30	3
12	pH meter	30	2
13	Colorimeter	20	3
14	Heating Mental	300	4
15	Potentiometer	25	3
16	Digital melting point apparatus	80	2
17	GM counter	100	1
18	UV cabinete	120	1
19	Hot plate	130	1
20	Water bath	1800	2
21	Water bath with motor	2500	1
22	Microwave Oven	700	1
23	Rota-Evaporator	400	2
24	Vacume Pump	440	1
25	Chilier for Rota evaporator	500	1
26	Inverter	600	1
27	Ice flaker	500	1
28	Ice cubing	300	1
	Total	15305	


Head of Department




PRINCIPAL
M. J. Shinde Mahavidyalaya
Shrigonda, Dist. Ahmednagar