



# ENERGY AUDIT REPORT

## BISHOP MOORE COLLEGE

### MAVELIKARA

  
**OTTOTRACTIONS**  
Energy - Engineering - Environment  
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Executed by



December  
2021



Accredited Energy Auditor: AEA-33  
Empanelled Accredited Energy Auditor: EmAEA-33  
Bureau of Energy Efficiency,  
Government of India.



Empanelled Energy Auditor: EMCEEA-0211F,  
EMC (Energy Management Centre-Kerala)

ENERGY AUDIT REPORT  
**BISHOP MOORE COLLEGE**

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MAVELIKARA





Energy Audit Report  
Bishop Moore College, Mavelikkara  
Report No: EA 601-1  
2019-December



Empaneled Accredited Energy Auditor, AEA 33  
Bureau of Energy Efficiency  
Government of India



Empaneled Energy Auditor, EMCEEA-0211F,  
Energy Management Centre  
Government of Kerala.



Authorized Energy Auditor, GEDA/ENC/EAC: Autho/2014/8/103/2316,  
Gujarat Energy Development Agency  
Government of Gujarat



Empaneled Energy Auditor, India SME Technology Services Ltd  
A joint Venture of SIDBI, SBI, Indian Bank, Oriental Bank of Commerce  
& Indian Overseas Bank

## About OTTOTRACTIONS

OTTOTRACTIONS established in 2005, is an organization with proven track record and knowledge in the field of energy, engineering, and environmental services. They are the first Accredited Energy Auditor from Kerala for conducting Mandatory Energy Audits in Designated Consumers as per Energy Conservation Act-2001. Government of Kerala recognized and appreciated OTTOTRACTIONS by presenting its prestigious “The Kerala State Energy Conservation Award” for the best performance as an Energy Auditor.

## Acknowledgment

We were privileged to work together with the administration, staffs and students of Bishop Moore College, Mavelikara for their timely help extended to complete the energy audit and bringing out this report.

With gratitude, we acknowledge the diligent effort and commitments of all those who have helped to bring out this report.

We thank our consultants, engineers and backup staff for their dedication to bring this report.

Thank you.

B V Suresh Babu  
Accredited Energy Auditor  
AEA 33, Bureau of Energy Efficiency  
For OTTOTRACTIONS

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# *Certification*

## **This is to certify that**

The data collection has been carried out diligently and truthfully;

All data monitoring devices are in good working condition and have been calibrated or certified by approved agencies authorised and no tampering of such devices has occurred;

All reasonable professional skill, care and diligence had been taken in preparing the energy audit report and the contents thereof are a true representation of the facts;

Adequate training provided to personnel involved in daily operations after implementation of recommendations; and

The energy audit has been carried out in accordance with the Bureau of Energy Efficiency (Manner and Intervals of Time for the Conduct of Energy Audit) Regulations, 2010.

SURESH BABU B V  
ACCREDITED ENERGY AUDITOR (AEA 33)

Executive Summary					
Consolidated Cost Benefit Analysis of Energy Efficiency Improvement Projects					
BISHOP MOORE COLLEGE					
Sl No	Projects	Investment	Cost saving	SPB	Energy saved
		(Lakhs Rs)	(Rs)/Yr	Months	kWh/Yr
1	Energy Saving in Lighting by replacing existing 160 No's T8 (40W) Lamps to 18W LED Tube	0.40	0.200	23.97	2534
2	Energy Saving in Lighting by replacing existing 57 No's T12 (55W) Lamps to 18W LED Tube	0.14	0.119	14.31	1512
3	Energy Saving by replacing existing 137No's in-efficient ceiling fans with Energy Efficient Five star fans	2.06	0.545	45.21	6905
4	Installation of 50kWp Solar Power Plant	37.50	5.28	85.29	63875
	<b>Total</b>	<b>40.10</b>	<b>6.14</b>	<b>78.35</b>	<b>74827</b>
(The saving are projected as per the assumed operation time observed based in the discussions with the plant officials. The data of saving percentages are taken from BEE guide books and field measurements.)					

# 1

## Introduction

A detailed energy audit has been carried out at **Bishop Moore College, Mavelikkara** by OTTOTRACTIONS in September 2021. During the energy audit energy saving opportunities has been identified to help improving energy efficiency of the facility. OTTOTRACTIONS is an Accredited Energy Auditor of Bureau of Energy Efficiency and Empaneled Energy Auditor of Energy Management Centre, Government of Kerala. The energy audit has identified energy conservation opportunities and recommended projects to improve energy efficiency of the facility.

This energy audit report complies with the clauses in *Energy Conservation Act, 2001* on mandatory energy audit (**Form 4** [refer regulation 6(2)] guidelines for preparation of energy audit report) and complies with the G.O (Rt) No.2/2011/PD dated 01.01.2011 issued by Government of Kerala on mandatory energy audit.

### 1.1. General Building details and descriptions

#### Bishop Moore College

Bishop Moore College had its genesis in the imagination of Bishop M.M. John, the then Bishop of the C.S.I. Madhya Kerala Diocese. When the Government of Kerala announced its decision to start new junior colleges in 1964, Bishop M. M. John saw it as an opportunity to fulfil the urgent need for a quality educational institution in this part of the world. Thus Bishop Moore College took concrete shape and he christened it in honour of the late Rt. Rev. Edward Alfred Livingstone Moore, the fourth Anglican Bishop of the Diocese of Travancore- Cochin. Rev. K.C. Mathew was appointed Principal.

society, especially the most downtrodden. They aimed at shaping the citizens imbued with a patriotic outlook for the nation providing equal opportunities for all irrespective of religion, caste, class or gender. The College began at Kallumala, Mavelikara in the Alappuzha District of Kerala as a Junior College offering two years Pre-Degree Course in 1964 and has since then grown to an institution that offers several Under Graduate, Post Graduate Courses and Research facilities. The College has been able to do justice and attain the vision and mission of its founding fathers. Instilled with a secular outlook, the founding fathers of the College had the singular aim of ameliorating the lot of the The College has 12 departments, 4 PG programmes 10 UG programmes. The college is located in 6 hectares of land spanning with a total built up area 10400 m<sup>2</sup>.

<b>Occupancy Details</b>			
<b>Particulars</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>
<b>Total Students</b>	<b>1418</b>	<b>1417</b>	<b>1456</b>
<b>Staffs</b>	<b>85</b>	<b>84</b>	<b>87</b>
<b>Total Occupancy of the college</b>	<b>1503</b>	<b>1501</b>	<b>1543</b>

For calculating specific energy consumption, the total built-up area is taken into account.

### Energy audit team

The Energy Audit team is listed below. Besides this list various domine experts also participated in this project.

1. Suresh Babu B V, Accredited Energy Auditor, AEA 33
2. B. Zachariah, Chief Technical Consultant
3. Abin Baby, Project Engineer
4. Devan J, Project Engineer

# 2

## Process description

The energy audit has been carried out at St Teresa’s College, Ernakulam. The following are the various energy consuming locations in this building.

Sl No	Departments
1	English
2	Botany and Biotechnology
3	Chemistry
4	Commerce
5	Economics, History & Political Science
6	Hindi
7	Malayalam & Sanskrit
8	Mathematics & Statistics
9	Physical Education
10	Physics
11	Zoology
12	Library



<b>Form-A</b>							
<b>BASELINE DATA SHEET FOR ENERGY AUDIT</b>							
1	Name of the Organisation	BISHOP MOORE COLLEGE					
2	Address (include telephone, fax & e-mail )	Bishop Moore College, Mavelikkara, 690110					
2	Year of Establishment	1966					
3	Name of building and Total No. of Electrical Connections/building	College block (1), Library , Pump house (1)					
4	Total Number of Students	Boys		Girls		Total	1483
5	Total Number of Staff	87					
6	Total Occupancy	1570					
7	Total area of green cover	6 hectares					
8	Type of Electrical Connection	HT	0	LT	3		
9	Contract Demand (KVA) /Connection	-					
10	Average Maximum Demand (KVA)	-					
11	Total built up area of the building (M <sup>2</sup> )	10400					
12	Number of Buildings	4					
13	Average system Power Factor	0.93					
14	Details of capacitors connected	NA					
15	Transformer Details (Nos., kVA, Voltage ratio)	TR	Remarks				
		100					
15	DG Set Details (kVA, )	DG1	DG2	DG3	DG4	DG5	Remarks
		82.5					
16	Details of motors	Rating	Nos.		Remarks		
		5 to 10					
		10 to 50					
		Above 50					
17	Brief write-up about the firm and the energy/environmental conservation activities already undertaken.	Installation of 50kW Solar Power plant in Process					
18	Contact Person & Telephone number	Dr. D. Sajan					
		9495043765					

# 3

## Energy and utility system description

### 3.1.1 Electricity

Electricity is purchased from KSEB under 3 LT Connections, the details are given below. One 82.5 kVA Diesel Generator is in operation at this campus

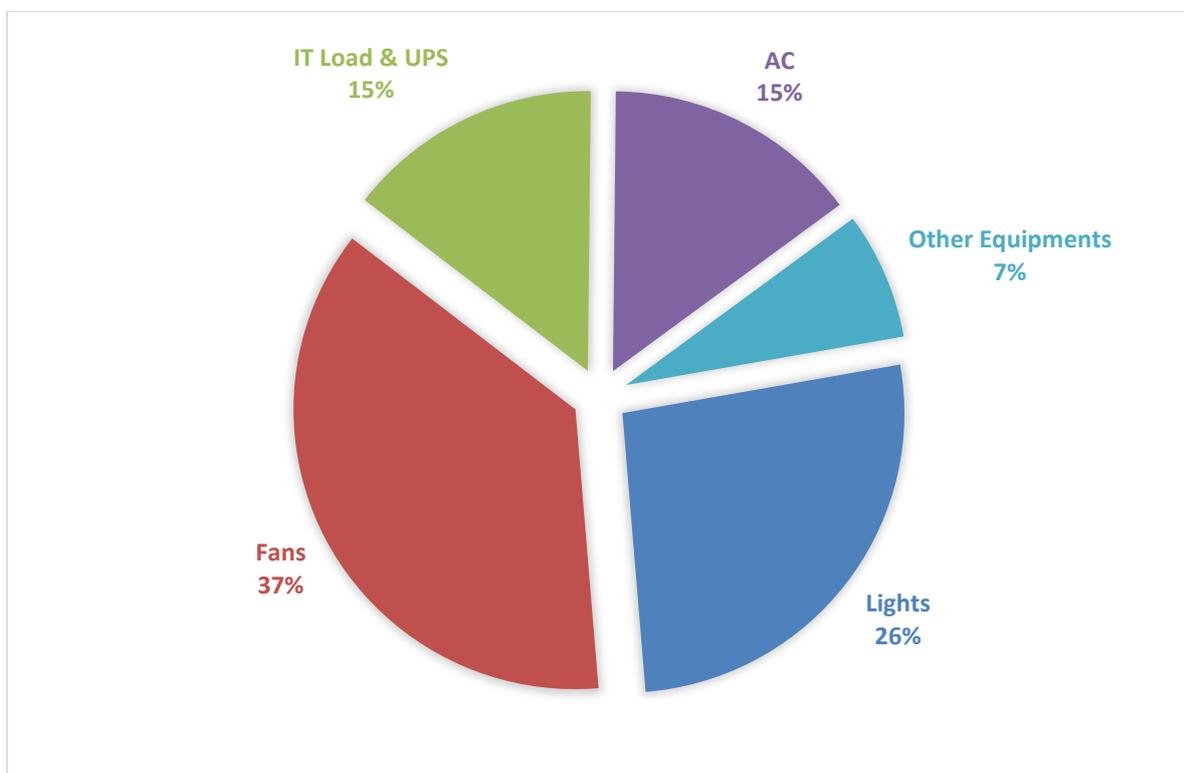
Electricity Connection Details		
BISHOP MOORE COLLEGE		
1	Name of the Consumer	BISHOP MOORE COLLEGE Mavelikara, Alapuzha
2	Tariff	LT 6A Ndom(3)
3	Consumer Numbers	1155225001338,115522901274, 1155228010598
5	Connected Load Total	90
6	Annual Electricity Consumption (kWh)	46300

### 3.2. Thermal Energy / Transportation

There is no own vehicles operated from college for transportation. LPG is used for cooking in the canteen and diesel is used to operate Diesel Generators only, which is accounted in electricity consumption.

# 4

## Energy Balance



37 % of the total energy consumed in this facility is used to operate Fans. Lighting uses 26% AC and IT Equipment uses 15% each.

# 5

## Performance evaluation of major utilities and process equipment's /systems.

5.1. List of equipment and process where performance testing was done.

5.1.1. Electrical System

5.1.2. Lighting & Fans

5.2. Results of performance testing

5.2.1. Electrical System

The average unit cost of electricity is **7.9 Rs/kWh**. This is taken as the basis for the financial analysis of electrical energy efficiency projects. The information on average energy consumption is taken from the historical electricity bill analysis. The electricity is fed from a centralized substation.

## Electricity Consumption

Electricity Connection Details		
BISHOP MOORE COLLEGE		
1	Name of the Consumer	BISHOP MOORE COLLEGE Mavelikara, Alapuzha
2	Tariff	LT 6A Ndom(3)
3	Consumer Numbers	1155225001338,115522901274, 1155228010598
5	Connected Load Total	90
6	Annual Electricity Consumption (kWh)	46300

The details historical bill analysis is given in the technical supplement.

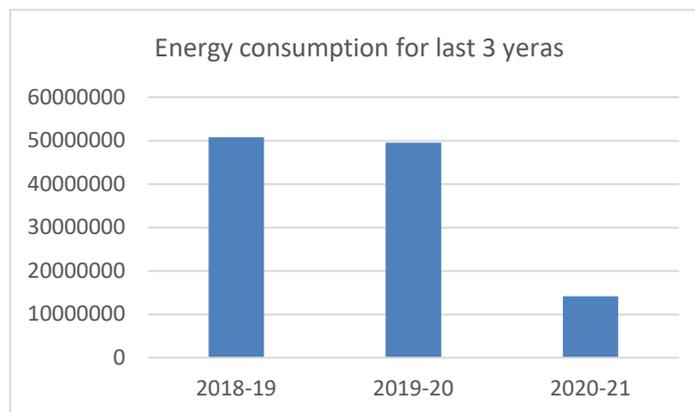
LT Consumer Nos		kWh/Yr		
		18-19	19-20	20-21
1	1155225001338	35388	34154	9024
2	115522901274	8892	8300	3354
3	1155228010598	3915	3846	1586
<b>Total</b>		<b>48195</b>	<b>46300</b>	<b>13964</b>

## Electrical Load Distribution

The major electrical loads of the campus are Light loads, Fans, AC, IT and other appliances are given below. Total load in the campus is 23.507kW as per load survey

BISHOP MOORE COLLEGE										
Sl.No	Location	Lights				FAN		IT		
		T8	T12	CFL	LED B	CF	WF	PC	Printer	Scanner
1	Office	15				10		8	5	2
2	Msc chemistry Lab	8			4					
3	Bsc chemistry Lab	3	11	3	4					
4	Bottony Lab		14			3				
5	Physics Lab									
6	Zoology Lab	8				4				
7	Loibrary		16			6		11		
8	English Department		16			10				
9	Auditorium	18				32				
10	Class rooms*36	108				72				
<b>Total</b>		<b>160</b>	<b>57</b>	<b>3</b>	<b>8</b>	<b>137</b>	<b>0</b>	<b>19</b>	<b>5</b>	<b>2</b>
<b>W</b>		<b>40</b>	<b>55</b>	<b>20</b>	<b>9</b>	<b>80</b>	<b>70</b>	<b>100</b>	<b>140</b>	<b>140</b>
		6400	3135	60	72	10960	0	1900	700	280
<b>Total Load in KW</b>		<b>23.507</b>								

Energy Consumption Profile				
Sl No	Fuel	2018-19	2019-20	2020-21
		(kCal)		
1	Electricity	41447700	39818000	12009040
2	Diesel	1774500	2887500	640500
3	LPG	7524000	6840000	1488000
4	Biogas	-	-	-
Total		50746200	49545500	14137540



## Diesel

The campus has one Diesel Generator set in operation. The details of DG is given below.

Rating (kVA)	82.5		
P. F	0.8		
MFG. Date	30-03-2011		
RPM	1500		
Frequency (Hz)	50		
Consumption (Ltr)	260		
Diesel Consumption			
	Date	Consumption	Cost
2016	Mar	96	5000
2018	Feb	84	6000
2018	Sep	85	6698
2019	May	84	6000
2019	Sep	86	6000
2019	Aug	20	1400
2019	Sep	85	6000
2020	Jun	61	5800

# 6

## Energy efficiency in utility and process system

The specific energy consumption is normally taken as the ratio of total energy consumed to the total area of building.

OTTOTRACTIONS- ENERGY AUDIT				
BISHOP MOORE COLLEGE				
Energy Performance Index (EPI)				
SI No	Particulars	2018-19	2019-20	2020-21
1	Total building area (m <sup>2</sup> )	10400	10400	10400
2	Annual Energy Consumption (kCal)	50746200	49545500	14137540
3	Annual Energy Consumption (kWh)	59007.2	57611.0	16439
4	Total Energy in Toe	5.07	4.95	1.41
5	Specific Energy Consumption kWh/m <sup>2</sup>	5.67	5.54	1.58

The Energy Performance Index (EPI) in 2021 is

**1.58 kWh/m<sup>2</sup>**

This may be due to the lesser occupancy during pandemic shut downs, so the benchmark year may be taken as 2019-20 which gives an EPI of 5.54 kWh/m<sup>2</sup>

# 7

## Evaluation of energy management system

### Energy management policy

There is no written energy policy available, but environment policy is available which includes energy conservation also. A draft energy management policy is given below. The management may constitute an energy management policy and display the same in the plant to motivate the staff.

#### BISHOP MOORE COLLEGE, MAVELIKARA

##### *ENERGY POLICY*

*(Draft)*

*We are committed to optimally utilize various forms of energy in a cost effective manner to effect conservation of energy resources. We are committed to conserve the energy which is a scarce resource with the requisite consistency in the efficiency, effectiveness in the cost involved in the operations and ensuring that production quality and quantity, environment, safety, health of people are maintained. We are also committed to increase the renewable energy share of the total energy we use.*

*We are also committed to monitor continuously the saving achieved and reduce its specific energy consumption by minimum of 2% every year.*

### 7.1. Energy management monitoring system

- Energy Management Cell has to be constituted with an objective to revise action plan for energy conservation thereby reducing the production cost.
- Energy conservation tips/ posters are displayed in crucial points.
- Use of renewable energy has to be encouraged.

### 7.2. Training to staff responsible for operational and Documentation.

- The staff and students need to be made more aware of the importance of energy saving and management.
- Log books shall be maintained to record Electricity Consumption and Diesel consumption.
- Meter reading shall be taken and compared with KSEB regularly.
- Better operating practices regarding appliances and fixtures should be taught to the staff.

### 7.3. Best Practices

- Installed solid waste treatment plant
- Conducted Green Audit.
- Have different social and environmental clubs
- Installed LED bulbs
- Conducted Energy Conservation Training Programs

# 8

## Energy Conservation Measures and Recommendations

OTTOTRACTIONS- ENERGY AUDIT	
Energy Saving Proposal Code EA 798.01	
Energy Saving in Lighting by replacing existing 160 No's T8 (40W) Lamps to 18W LED Tube	
<b>Existing Scenario</b>	
160 numbers of T8(40 W) lamps were identified during the energy audit field survey in the facility. During discussion with officers it is observed that the average utility of these fittings are of 30%.	
<b>Proposed System</b>	
The existing T8 may be replaced to LED Tube of 18W in phased manner and the savings will be of 55% (inclusive of improved light output and reduced energy consumption)	
<b>Financial Analysis</b>	
Annual working hours (hr)	2400
No of fittings	160
Total load (kW)	6.40
Annual Energy Consumption (kWh)	4608
Expected Annual Energy saving for replacing all fittings (kWh)	2534
Cost of Power	7.90
Annual saving in Lakhs Rs (1st year)	0.20
Investment required for complete replacements [Rs 250 per fittings](Lakhs Rs)	0.40
Simple Pay Back (in Months)	23.97

OTTOTRACTIONS- ENERGY AUDIT	
Energy Saving Proposal Code EA 798.02	
Energy Saving in Lighting by replacing existing 57 No's T12 (55W) Lamps to 18W LED Tube	
Existing Scenario	
86 numbers of T12(55 W) lamps were identified during the energy audit field survey in the facility. During discussion with officers, it is observed that the average utility of these fittings are of 30%.	
Proposed System	
The existing T12 may be replaced to LED Tube of 18W in phased manner and the savings will be of 67% (inclusive of improved light output and reduced energy consumption)	
Financial Analysis	
Annual working hours (hr)	2400
No of fittings	57
Total load (kW)	3.14
Annual Energy Consumption (kWh)	2257
Expected Annual Energy saving for replacing all fittings (kWh)	1512
Cost of Power	7.90
Annual saving in Lakhs Rs (1st year)	0.12
Investment required for complete replacements [@Rs 250 per fittings](Lakhs Rs)	0.14
Simple Pay Back (in Months)	14.31

OTTOTRACTIONS- ENERGY AUDIT	
Energy Saving Proposal Code 798.03	
Energy Saving by replacing existing 137No's in-efficient ceiling fans with Energy Efficient Five star fans	
Existing Scenario	
There are 137 numbers of ceiling fans installed in the facility with minimum 8 hrs a day operation. All are conventional type and most of them are very old.	
Proposed System	
There is an energy saving opportunity in replace the existing fans with new five star labelled fans. The five star labelled fans give a savings up to 30% with higher service value (air delivery/watt).	
Financial Analysis	
Annual working hours (hrs)	2400
Total numbers of ordinary fans	137
Total load (kW)	9.59
Annual Energy Consumption (kWh)	23016.00
Expected Annual Energy saving, for total replacement(kWh)	6904.80
Cost of Power (Rs)	7.90
Annual saving in Lakhs Rs (1st year)	0.55
Investment required for a total replacement (Lakhs Rs)[@1500 Rs per Fan with 50W at full speed]	2.06
Simple Pay Back (in Months)	45.21

<b>Energy Saving Proposal Code 798.04</b>	
<b>Installation of 50kWp Solar Power Plant</b>	
<b>Existing Scenario</b>	
<p>There is a good potential of solar power electricity generation. The availability of sunlight is very high. There are some canopies available in the proposed site, but by having proper trimming of trees this may be avoided. If the SPVs are placed on the roof top it will help in improving RTTV (Roof Thermal Transmittance Value) of the building.</p>	
<b>Proposed System</b>	
<p>It is proposed to have a Solar Power Plant of 50kW at the beginning stage. The state and central government is pushing and giving good assistance to the installation. It can be installed as an internal grid connected system which is much cheaper than an off-grid system. Now days the technology provides trouble-free grid interactive and connected systems. The installation will provide 25 years of trouble-free generation with only 20% efficiency loss at the 25th year.</p>	
<b>Financial Analysis</b>	
Proposed Solar installed Capacity (kW)	50
Total average kWh per day expected (3.5kWh/day average)	175.00
Total annual Generating Capacity (kWh)	63875
Cost of energy generated annually Lakhs Rs	5.28
Investment required (INR lakh)(Approx)	37.50
Simple Pay Back (in Months)	85.29
Life cycle in Yrs	25
Total Saving in Life Cycle (Approx) RS lakh	131.90

## Technical Supplements

Electricity Bill Details (2021-22)										
Name of the Consumer				BISHOP MOORE COLLEGE						
Connected Load (kW)				36	Consumer number		1155225001338			
Tariff				LT-6A Ndom (Single Phase)	Section		Mavelkkara			
Month	Monthly Consumption (kWh)	Average consumption (kWh)	Fixed charge (Rs)	Energy charge (Rs)	Duty (Rs)	Meter rent (Rs)	Extra fixed charge (Rs)	Extra energy charge (Rs)	Adjustment (Rs)	Total amount to be paid (Rs)
Apr	2941	2275	1856	19116	1911	17				23321
May										
June	752	2275	1856	4888	488	17				7670
July										
Mar										
Total	752									
	9024									

Electricity Bill Details (2019-20)										
Name of the Consumer				BISHOP MOORE COLLEGE						
Connected Load (kW)				36	Consumer number		1155225001338			
Tariff				LT-6A Ndom (Single Phase)	Section		Mavelkkara			
Month	Monthly Consumption (kWh)	Average consumption (kWh)	Fixed charge (Rs)	Energy charge (Rs)	Duty (Rs)	Meter rent (Rs)	Extra fixed charge (Rs)	Extra energy charge (Rs)	Adjustment (Rs)	Total amount to be paid (Rs)
Apr										
May	2228	3387	1750	14036	1403	17				17205
June	2761	3176	1750	17394	1739	17				20902
July										
Aug	3099	2676	2187	20040	2004	17				24250
Sep	2743	2906	2275	17830	1783	17				21863
Oct	2737	2900	2275	17791	1779	17				21863
Nov										
Dec										
Jan	2717	3280	2275	17661	1766	17				21720
Feb	3638	3277	2275	23647	2364	17				28305
Mar										
<b>Total</b>	<b>2846.14</b>									

34153.71

Electricity Bill Details (2018-19)										
Name of the Consumer				BISHOP MOORE COLLEGE						
Connected Load (kW)				36	Consumer number		1155225001338			
Tariff				LT-6A Ndom (Single Phase)	Section		Mavelkkara			
Month	Monthly Consumption (kWh)	Average consumption (kWh)	Fixed charge (Rs)	Energy charge (Rs)	Duty (Rs)	Meter rent (Rs)	Extra fixed charge (Rs)	Extra energy charge (Rs)	Adjustment (Rs)	Total amount to be paid (Rs)
Apr										
May										
June										
July										
Aug										
Sep										
Aug										
Nov	2920	1750	2622	18396	1839	17				22442
Dec										
Jan	2456	2895	1750	15473	1547	17				19157
Feb	2859	2859	1750	18012	1801	17				21581
Mar	3561	2861	1750	22434	2243	17				26446
Total	2949									

35388

Electricity Bill Details (2017-18)										
Name of the Consumer				LT-6A Ndom (Single Phase)						
Connected Load (kW)				36	Consumer number		1155225001338			
Tariff				LT-6A Ndom (Single Phase)	Section		Mavelkkara			
Month	Monthly Consumption (kWh)	Average consumption (kWh)	Fixed charge (Rs)	Energy charge (Rs)	Duty (Rs)	Meter rent (Rs)	Extra fixed charge (Rs)	Extra energy charge (Rs)	Adjustment (Rs)	Total amount to be paid (Rs)
Apr										
May										
June										
July										
Aug	2643	1750	1970	16250	1625	15				19641
Sep										
Oct										
Nov	2416	1750	2416	14820	1482	15				18068
Dec										
Jan										
Feb										
Mar										
<b>Total</b>	<b>5059</b>									

Electricity Bill Details (2019-20)										
Name of the Consumer				BISHOP MOORE COLLEGE						
Connected Load (kW)				3	Consumer number		1155221004260			
Tariff				LT-6A Ind	Section		Mavelkkara			
Month	Monthly Consumption (kWh)	Average consumption (kWh)	Fixed charge (Rs)	Energy charge (Rs)	Duty (Rs)	Meter rent (Rs)	Extra fixed charge (Rs)	Extra energy charge (Rs)	Adjustment (Rs)	Total amount to be paid (Rs)
Apr										
May	14	100	14	77	7	17				236
June	14	100	14	77	7	17				233
July										
Aug	14	116	14							
Sep	14	120	14	79	7	17				225
Oct	14	120	14	79	7	17				225
Nov										
Dec										
Jan	14	120	14	79	7	17				225
Feb	14	120	14	79	7	17				225
Mar										
<b>Total</b>	<b>168</b>									<b>7344</b>

Electricity Bill Details (2020-21)										
Name of the Consumer				BISHOP MOORE COLLEGE						
Connected Load (kW)				3	Consumer number		1155221004260			
Tariff				LT-6A Ind	Section		Mavelkkara			
Month	Monthly Consumption (kWh)	Average consumption (kWh)	Fixed charge (Rs)	Energy charge (Rs)	Duty (Rs)	Meter rent (Rs)	Extra fixed charge (Rs)	Extra energy charge (Rs)	Adjustment (Rs)	Total amount to be paid (Rs)
Dec										
Jan	19	100	19	105	10	17				236
Feb	19	100	19	104	10	17				233
Mar	19	233	19	104	10	17				233
<b>Total</b>	<b>57</b>									<b>7344</b>

Electricity Bill Details (2019-20)										
Name of the Consumer				BISHOP MOORE COLLEGE						
Connected Load (kW)				18	Consumer number		115522901274			
Tariff				LT-6A Ndom (Single Phase)	Section		Mavelkkara			
Month	Monthly Consumption (kWh)	Average consumption (kWh)	Fixed charge (Rs)	Energy charge (Rs)	Duty (Rs)	Meter rent (Rs)	Extra fixed charge (Rs)	Extra energy charge (Rs)	Adjustment (Rs)	Total amount to be paid (Rs)
Apr										
May	630	754	900	3969	396	17				5284
June	506	709	900	3188	318	17				4425
July										
Aug	686	565	1125	4436	443	17				6023
Sep	633	583	1170	4114	411	17				5714
Oct	801	626	1170	5206	520	17				6915
Nov										
Dec										
Jan	836	790	1170	5434	543	17				7166
Feb	750	802	1170	4875	487	17				6551
Mar										
<b>Total</b>	<b>691.7143</b>									<b>7344</b>

8300.57

Electricity Bill Details (2018-19)										
Name of the Consumer				BISHOP MOORE COLLEGE						
Connected Load (kW)				18	Consumer number		115522901274			
Tariff				LT-6A Ndom (Single Phase)	Section		Mavelkkara			
Month	Monthly Consumption (kWh)	Average consumption (kWh)	Fixed charge (Rs)	Energy charge (Rs)	Duty (Rs)	Meter rent (Rs)	Extra fixed charge (Rs)	Extra energy charge (Rs)	Adjustment (Rs)	Total amount to be paid (Rs)
Apr										
May										
June	661	900	661	4164	416	15				5557
July										
Aug										
Sep										
Oct										
Nov	744	900	661	4687	4687	15				6186
Dec										
Jan	832	763	900	5242	524	17				6809
Feb	764	763	900	4813	481	17				6213
Mar	704	839	900	4435	443	17				5797
<b>Total</b>	<b>741</b>									<b>7344</b>

8892

Electricity Bill Details (2016-17)										
Name of the Consumer				BISHOP MOORE COLLEGE						
Connected Load (kW)				18	Consumer number		115522901274			
Tariff				LT-6A Ndom (Single Phase)	Section		Mavelkkara			
Month	Monthly Consumption (kWh)	Average consumption (kWh)	Fixed charge (Rs)	Energy charge (Rs)	Duty (Rs)	Meter rent (Rs)	Extra fixed charge (Rs)	Extra energy charge (Rs)	Adjustment (Rs)	Total amount to be paid (Rs)
Apr	653	900	605	3174	317	15				5001
May	292	900	610	1606	160	15				2683
June										
July	629	900	471	3562	356	15				4834
Aug	479	900	463	2634	263	15				3813
Sep										
Oct	624	900	661	3931	393	15				5336
Nov	563	900	563	3147	314	15				4377
Dec	589	900	563	3310	331	15				4557
Jan	510	900	563	2813	281	15				4010
Feb	539	900	563	2996	299	15				4211
Mar	552	900	546	3076	307	15				4301
Total	5430									7344

Electricity Bill Details (2017-18)										
Name of the Consumer				BISHOP MOORE COLLEGE						
Connected Load (kW)				18	Consumer number		115522901274			
Tariff				LT-6A Ndom (Single Phase)	Section		Mavelkkara			
Month	Monthly Consumption (kWh)	Average consumption (kWh)	Fixed charge (Rs)	Energy charge (Rs)	Duty (Rs)	Meter rent (Rs)	Extra fixed charge (Rs)	Extra energy charge (Rs)	Adjustment (Rs)	Total amount to be paid (Rs)
Sep	580	900	463	3254	325	15				4495
Oct	563	900	563	3147	314	15				4377
Total	1143									7344

Electricity Bill Details (2021-22)										
Name of the Consumer				BISHOP MOORE COLLEGE						
Connected Load (kW)				18	Consumer number		115522901274			
Tariff				LT-6A Ndom (Single Phase)	Section		Mavelkkara			
Month	Monthly Consumption (kWh)	Average consumption (kWh)	Fixed charge (Rs)	Energy charge (Rs)	Duty (Rs)	Meter rent (Rs)	Extra fixed charge (Rs)	Extra energy charge (Rs)	Adjustment (Rs)	Total amount to be paid (Rs)
Apr	689	1170	686	4479	447	15				6115
May										
<b>Total</b>	<b>689</b>									<b>7344</b>