Energy Sheet

The first-year students are required to submit the "*Energy Sheet*" in which the student has to observe the rating and specifications of all the domestic electric appliances, note the operating time of each, calculate monthly energy consumption, study the details of tariff, calculate the monthly energy bill and compare the same with the actual electricity bill.

Shri Ramdeobaba College of Engineering & Management, Nagpur-440013

First Year B. E. (Electrical Engineering Laboratory)

Name of Student:

Roll No & Section:

Name of Consumer: Billing Month/ Year-			Place:	Electricity Board: Season:				
Carpet Area i	n m²:	No. of C	Occupants:					
Category of Load	Туре	Make	Specifications	Power Consumption	Qty	Use per Day	Days per Month	kWh calculations*
				Watts	No	Hrs	Days	
Illumination	Fluorescent Lamps							
	CFL Lamps							
	Incandescent Bulbs							
Heating	Water Heater							
	Electric Iron							
	Microwave							
	Toaster							
	Electric Oven		3	97				
	Room Heater							
Cooling	Air Conditioner							

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	Refrigerator					
	Cooler				6	
Ventilation	Ceiling Fan					
	Exhaust Fan				2	
185 185				5	\$5	
Electronic	TV					
	Computer			8)	0	
			-		20	
12-200 F-00 - 00 N/4 - 00 - 00 - 00 - 00 - 00 - 00 - 00 -						
Pumping	Pump Motor	14 (1		5	6. :	
Miscellaneous	Electric Shaver					
	Battery Chargers				2	
				5		
	Connected Load (Watts)=				Total (C)	

- 1. Energy Consumption as per electricity bill in kWh =
- 2. Per Capita Energy Consumption in kWh per month=
- 3. Consumption per Unit Area =
 (Attach a copy of your monthly Electricity Bill)

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		of Engineering & Management, Nagpur-4400	013	
	First Year B. E.	(Electrical Engineering Laboratory)		
	Domestic Electricity E	nergy Bill Amount Calculation Sheet (2015-16)		
	Billing Month-	Electricity Board:		
Name o	of Consumer:	Place:		
Billing I	Month/ Year-		104	Season:
Sr No	Description	Rate	Qty	Amount
		(Rs /month for 1-Phase,		
1	Fixed Charges	Rs / month for 3-phase)	1	
	(4)00-	* 100 - 200		
2	Energy Charges			
	0-100 units	Rs /kWh		
	101-300 units	Rs /kWh		
	301 units to 500 units	Rs /kWh		
	Above 501 units	Rs /kWh		
3	Electricity Duty		1	
4	Fuel Cost Adjustment Charge		1	
5	Other taxes & Duties			
	Total Monthly Bill		Rs	57

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The sample energy load sheet filled by a student and the energy consumption calculations based on the sheet are shown in Fig.1. To verify the correctness of calculations, energy bill generated by utility company is attached and shown in Fig.2.

SHRI RAMDEOBABA COLLEGE OF ENGINEERING AND MANAGEMENT, NAGPUR-440013

FIRST YEAR BTECH (ELECTRICAL ENGINEERING LAB)

NAME OF STUDENT: RIKING CHOOKSEY

ROLL NO AND SECTION: 62,7(33)

Domestic Electricity Energy Consumption Calculation Sheet

Name of communer: Rappach Rappachas Committed Billing Month: December			Electricity Board: MSEDCL Season: Winter					
Category of Load	Туре	Make	Specification 5	Power consumption	Quant	use per day (hr)	Days per month	KWh Calculations
Illumination	Tube light	Phi//ps	220 V,20 W	24 %	3	3	31	5: 732
	LED Bulb	cutachpan	220 V, Ç6 G	65 65	G.	s	77	2.325
					-			
Heating	Gyser	Bajaj	2000 60	15000	1	0.5	37	44.8
	Cooker	DMAKBE	2501 0	1200 CO	7	0-5	32	23-25
							The .	
						-		

SHRI RAMDEOBABA COLLEGE OF ENGINEERING AND MANAGEMENT, NAGPUR-440013

FIRST YEAR STECH (ELECTRICAL ENGINEERING LAB)

NAME OF STUDENT: RINKO Chooks en

ROLL NO & SECTION: 62, T (T3)

Domestic Electricity Energy Consumption Calculation Sheet

Name of consumer: Romath. Owners On	Electricity Board: MSESCL	
Hilling Month: Dauszednan	Season: Copyober	

Sr No	Description	Rate	Quantity	Amount
1	Fixed charges	Single phase-105	1	202
		Three phase-350		
2	Energy Charges			
	0-100 units	3.36		Company Company
	101-300 units	7.34	1 3	239296
	301 - 500 units	10.37	10.00	
	above 501 units	11.86		
3	Electricity duty	25/202-10		388-14
	(6 M.V.)	CONTRACTOR AND ADDRESS OF		- 1 backgan
4	Fuel cost adjustment charge	30 Paise per unit		273.7
5	Other taxes and duties			
	Wheeling Charge			329.4
	Total Monthly Bill		Rs	2437-35 83

Fig. 1: Sheets showing the electric load and the calculation of energy bill

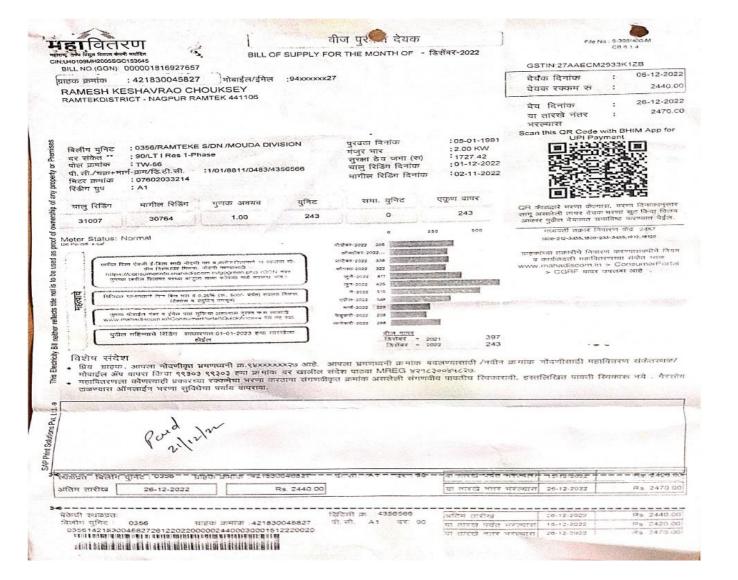


Fig. 2: Electricity bill for verification

POWERGUARD METER

Electrical Measurements and Measuring Instruments lab issues a single-phase mini power analyzer "POWERGUARD" to be taken at home by individual second year students. Student measures True RMS Voltage & Current, power factor, Apparent Power (kVA), Active Power (kW), Energy Consumption (kWh), Energy Usage Time (EUT) etc. of various domestic electrical gadgets and appliances and submits the report in tabular form. This activity creates awareness regarding various electrical parameters associated with electrical energy consumption, at an early state.



Fig. 3: Power Guard Meter