

Unit III: Three Phase Balanced Systems & Electrical Installations

NOTES Class 55

Calculation of Energy Consumption

Step 1

- Calculate Watts per day consumption.

Step 2

- Convert to KilloWatts per day consumption.

Step 3

- Calculate energy uses over a month period.

Step 4

- Figure out the cost considering the rate.

Example:

Sl. No.	Item	Wattage	No. of Hours Working per Day	KWh per day
1	Lights	280	5	1.4
2	Fans	60 x 2	10	1.2
3	Geyser	2000	1/2	1
4	Mixer- grinder	750	1/3	0.25
5	Refrigerator	100	15	1.5
6	Freezer	300	4	1.2
7	Washing Machine	325	1	0.325
8	Iron	1000	1/2	0.5
9	Motor – 1 hp	746	1	0.746
10	Television	100	10	1
11	Laptop Charging	120	2	0.24
12	Mobile Charger	15	2	0.03
13	Internet Modem	8	24	0.192
14	Microwave	900	1	0.9
15	Vacuum Cleaner	350	1	0.35

Total Energy Consumption per day = 10.833 KWh

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Total Energy Consumption in a month = $10.833 \times 30 = 325$ KWh

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Tariff Calculation:

Effective from 1 st April'2018	Sanctioned Load Fixed Charge (FC)	Tariff
Domestic - Applicable to Areas under Bruhat Bangalore Mahangara Palike (BBMP), Municipal Corporations and all Urban Local Bodies	FC For 1st KW	Rs.50
	FC For addl. KW	Rs.60
	Consumption Energy Charges (EC)	
	0 to 30 KWH	350 Ps
	31 to 100 KWH	495 Ps
	101 to 200 KWH	650 Ps
	201 to 300 KWH	755 Ps
	301 to 400 KWH	760 Ps
	Above 400 KWH	765 Ps
	Fuel Adjustment Charges (FAC)	
	Unit consumed KWH	14 Ps

Fixed Charge			
Unit	Rate (Rs)	Amount (Rs)	Total Amount (Rs)
1	50	50 x 1	50
2	60	60 x 2	120
Energy Charges			
Unit	Rate (Rs)	Amount (Rs)	Total Amount (Rs)
30	3.5	30 x 3.5	105
100	4.95	70 x 4.95	346.5
200	6.5	100 x 6.5	650
300	7.55	100 x 7.55	755
325	7.6	25 x 7.6	190

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Fuel Adjustment Charge

Unit	Rate (Rs)	Amount (Rs)	Total Amount (Rs)
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325	0.14	325×0.14	45.5
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Total amount: Rs.2262

Tax amount (7.3%) = 2262×0.073 = Rs.165.126

Total billing amount = Rs. 2427.126