



Silent Bells



ഫസ്റ്റ്ബെൽ - അനുബന്ധ പഠനസഹായകസാമഗ്രി

Standard 10	Subject: Physics	Medium: Malayalam	Date:9/11/2020
class10	ELECTROMAGNETIC INDUCTION	Worksheet No :3.13	Class Link:

1. What is the commercial unit of electrical energy?
(Watt, Joule, Kilowatt Hour, Horse Power)
2. Explain 1 unit of electrical energy.
3. Write the equation for calculating electrical energy in kWh?
4. $1 \text{ kWh} = \underline{\hspace{2cm}} \text{ J}$.
5. A device consumes 1000 Joule energy in one second.
 - a. Calculate the power of the device.
 - b. If this device works for 2 hours, how many units of electrical energy will be consumed?
 - c. How many hours should a bulb marked 230 V, 100 W work to consume the same unit of electrical energy? $[t = (Ex1000)/P]$
6. Calculate the monthly consumption shown by the Watt-Hour Meter in a house using the following table.

Serial Number	Device	Power (W)	Time (Hour)	Number of devices	Energy in kWh
1.	CFL	20 W	5	6	$(20 \times 5 \times 6) / 1000 = 0.6 \text{ unit}$
2.	Fan	60 W	6	4	a. $\underline{\hspace{2cm}}$
3.	TV	100 W	3	1	b. $\underline{\hspace{2cm}}$
4.	Electric Iron	1000 W	1	1	c. $\underline{\hspace{2cm}}$

- A. Find a, b, and c.
 - B. The total daily consumption of electrical energy = $\underline{\hspace{2cm}}$.
 - C. Monthly energy consumption of electrical energy = $\underline{\hspace{2cm}}$.
7. A person uses 5 incandescent bulbs of power 60 W each for 5 hours a day for a month. In the next month, he replaces these 5 bulbs with 5 LEDs of power 10 W each and uses them for the same time period every day. Calculate the difference in monthly energy consumption. Which of these bulbs would be an ideal choice to ensure energy conservation?