

Power and Energy of Electrical Appliance



Answer the questions given using the concept map above

- 1) 230 V potential difference is needed to light up a fluorescent light when 2 A current is there. Calculate the power of bulb.
- 2) When 1000 W electrical iron need 230V. Calculate the current floor though it.
- 3) The car bulb is 50 W. If it is light for 3 hours, calculate the electric energy used.
- 4) av bicycle bulb need 0.1A current for 3 minutes. Calculate electrical energy used.

5) Match suitable answer A with B

A

- a) Suitable bulb to get light
- b) Suitable equipment to heat water
- c) An efficient electric fan
- d) Switch off unnecessary light

B

Table Fan Energy Conservation CFL Bulb Heater

Domestic Electric Circuit

Name of Component	Special Feature	Function	Symbol
Overload circuit breaker	Connect to live wire that gives current to house. 40A current flow in it	When flowing a current above 40A, it disconnects	0 0 1 1
Electricity Meter	Record electric energy used in kilowatt per hour	Measure electric energy used	
Isolator/ Main Fuse	It is a dual pole switch that can disconnect both live and neutral wires	Disconnect at a repair and a sudden fire	°1
Trip Switch	Has a dual pole switch	When there is a current leak on metal caring of appliance, to ground automatically disconnect by trip switch	
Distribution Box	Distribute current to household activities Lamp current – 6A current Plug Current – 13 A Current	Distribute Current for domestic consumption	
Fuse	Connect through level shifts to let it off when lamp circuits receive current larger than 6A and plug socket receive current larger than 13A	Circuits automatically disconnect when more current is drawn in the circuit	

	Α	В
1.	Acts when more than 30 A current is received to home	6A
2.	The appliance disconnected at a fire	Live wires only
3.	Commercial unit that measure current	Trip Switch
4.	The maximum Current drawn in a lamp circuit	Fuse
5.	Disconnect through level shifts	Kilowatt per hour

The following method is used to calculate the electrical energy used at home					
Spent KWh –	No of Watts	hours			

Spent KWh = <u>No of Watts</u> × hours 1000

- Calculate the units consumed when 75W 5 bulbs lit for 4 hours per month.
- Answer the questions bellow using the knowledge in your text book

Fill in the blanks

The current receive	to the house is			The p	otential	difference	of it is
and	it frequency is		The	wire	that give	es to curr	rent has
and		Electrical	energy u	sed at	home	are measu	ured by

• Write short answers

- a) Which is to prevent firing of cable at a current leakage?
- b) Name the pots of consumer units.
- c) Write the order of the parts in domestic electric circuit.
- d) Which wire is connected to main fuse to protect at a current leakage?
- e) How each and every bulbs and plug sockets connect to domestic electric circuit?