

# LEVEL -7

## FINAL TERM REVISION WORKSHEET -3

### TOPIC : CHAPTER -7

### ELECTRICITY AND ENERGY (BOOK 3)

## ANSWERS

### I. MULTIPLE CHOICE QUESTIONS

1. Electrical resistance is measured in
  - a. amps
  - b. ohms**
  - c. volts
  - d. watts
  
2. In a Sankey diagram , the amount of each form of energy produced is represented by the
  - a. Angle of each arrow.
  - b. Colour of each arrow.
  - c. Length of each arrow.
  - d. Width of each arrow**

### II. DEFINE

3. Electrical power

**Electrical power shows how much electrical energy is converted in each second. It is measured in watts (W) and kilowatts (kW). It can be calculated using this formula:**

**Electrical power (W) = voltage (V) x current (t)**

#### 4. Voltage

The Driving force of a current is called Voltage. Its unit is Volt and symbol V.

### III. Differentiate between Variable resistor and Perfect resistor.

Variable Resistor	Perfect Resistor
A variable resistor is used to vary the current flowing in circuit. It has a sliding contact, when the contact is moved, the length of resistance wire connected in the circuit changes therefore current changes.	A perfect resistor always has the same resistance.

### IV. What fuse should you use in the plug of

a) A 1500 W sandwich toaster?

$$\text{Power} = 1500 \text{ W}$$

$$\text{Voltage} = 250 \text{ V}$$

$$\text{Current} = \text{Power} / \text{Voltage}$$

$$= 1500 / 250$$

$$= 6\text{A}$$

A 13A fuse is suitable .

**b) A 3000 W electric heater?**

$$\text{Power} = 3000 \text{ W}$$

$$\text{Voltage} = 250 \text{ V}$$

$$\text{Current} = \text{Power} / \text{Voltage}$$

$$= 3000 / 250$$

$$= 12\text{A}$$

**A 13A fuse is suitable .**

**V. If 1 kWh of energy costs Rs 10 , how much does it cost to use a 2 kW heater for 4 hours?**

**Given that,**

$$\text{Power} = 2 \text{ kW}$$

$$\text{Time taken} = 4 \text{ hours}$$

$$\text{Energy consumed} = \text{power} \times \text{time taken}$$

$$= 2\text{kW} \times 4\text{hours}$$

$$= 8 \text{ kWh}$$

**1 kWh costs Rs 10. So,**

$$\text{Cost of 8 kWh} = 8\text{kWh} \times 10$$

$$= 80 \text{ Rs.}$$