

## **LEVEL -7**

### **FINAL TERM REVISION WORKSHEET -4**

#### **TOPIC : CHAPTER -7**

#### **ELECTRICITY AND ENERGY (BOOK 3)**

### **ANSWERS**

#### **I. MULTIPLE CHOICE QUESTIONS**

1. Another name for voltage is
  - a. Potential difference
  - b. Potential energy
  - c. Potential similarity
  - d. Potential variation
  
2. How many units of electricity does a 1 kW toaster use in 6 minutes?
  - a. 0.01
  - b. 0.1
  - c. 1
  - d. 10
  
3. What form of energy is produced in a coal fired power station?
  - a. Chemical
  - b. Electrical
  - c. Nuclear
  - d. Potential

## II. DEFINE

### 4. Sankey diagram

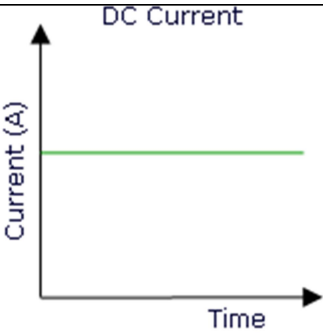
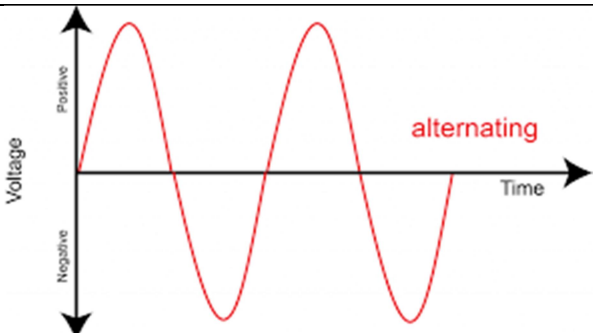
It is a simple way of showing energy conversion through arrows. The width of the arrows gives an idea of the amounts of the different forms of energy.

### 5. Resistance

Resistance is an electrical quantity that measures the hindrance to the flow of charge.

Its unit is ohm  $\Omega$ .

## III. Differentiate between Alternating current and Direct current.

Direct Current	Alternating Current
<p>When the voltage applied is steady and doesn't change its value. Then, electricity always flows in one direction. Dry cell and Batteries give steady voltage.</p>	<p>When voltage changes its direction very rapidly, the current flows backward and forward. This is called AC.</p>
 <p>The graph shows DC Current. The vertical axis is labeled 'Current (A)' and the horizontal axis is labeled 'Time'. A horizontal green line is drawn across the graph, indicating that the current remains constant over time.</p>	 <p>The graph shows alternating voltage. The vertical axis is labeled 'Voltage' with 'Positive' above the axis and 'Negative' below it. The horizontal axis is labeled 'Time'. A red sinusoidal wave oscillates above and below the horizontal axis. The word 'alternating' is written in red above the wave.</p>

IV. If 1 kWh of energy costs Rs 10 , how much does it cost to use

a. 100 W light bulb for 5 hours?

given that,

Power = 100 W

1 kW = 1000 W

100 W = 0.1 kW

Time taken = 5 hours

Energy consumed = power  $\times$  time taken  
= 0.1 kW  $\times$  5 hours  
= 0.5 kWh

1 kWh costs Rs 10. So,

Cost of 0.5 kWh = 0.5 kWh  $\times$  10  
= 5 Rs.

b. A 1 W lamp for 4 hours?

given that,

Power = 1 W

1 kW = 1000 W

1W = 0.001 kW

Time taken = 4 hours

Energy consumed = power  $\times$  time taken  
= 0.001 kW  $\times$  4 hours  
= 0.004 kWh

1 kWh costs Rs 10. So,

Cost of 0.004 kWh = 0.004 kWh  $\times$  10  
= Rs.0.04