PHYSICS

BOOKS - FULL MARKS PHYSICS (TAMIL ENGLISH)

ELECTRIC CHARGE AND ELECTRIC CURRENT

Exercise I Choose The Correct Answer

1. In current electricity, a positive charge refers to,.....

A. Presence of electron

B. Presence of proton

C. absence of electron

D. absence of proton

Answer: C

View Text Solution

2. Rubbing of comb with hair....

A. creates electric charge

B. transfers electric charge

C. either(a) or (b)

D. neither(a) nor (b)

Answer: C

View Text Solution

3. Electric field lines..... From positive charge and ..... In negative charge.

A. start, start

B. start: end

C. start:end

D. end,end

Answer: B

Watch Video Solution

4. Protential near a charge is the measure of its..... To bring a positive charge at that point.

A. force

B. ability

C. tendency

D. work

Answer: D

View Text Solution

5. In an electrolyte the current is due to the flow of .....

A. electrons

B. positive ions

C. both (a) and (b)

D. neither (a) nor (b)

Answer: A

View Text Solution

6. Heating effect of current is called.....

A. Joule heating

B. Coulomb heating

C. Voltage heating

D. Ampere heating

Answer: A

View Text Solution

7. Electroplating is an example for.....

A. heating effect

B. chemical effect

C. flowing effect

D. magnetic effect

Answer: B

Watch Video Solution

8. Resistance of a wire depends on.....

A. temperature

B. geometry

C. nature of material

D. all the above

Answer: D

Watch Video Solution

Exercise I Match The Following

1. Match the following

Column-I Column-II

1. Electric Charge (a) ohm

2. Potential difference (b) ampere

3. Electric field (c) coulomb

4. Resistance (d) newton per coulomb

5. Electric current (e) volt.

View Text Solution

Exercise I True Or False

1. Ammeter is connected in parallel in any electric circuit.

Watch Video Solution

2. The anode in electrolyte is negative.

Watch Video Solution

Exercise I Fill In The Blanks

1. Electrons move from.....potential to..... potential.

Watch Video Solution

2. The direction opposite to the movement of electron is called.....current.

Watch Video Solution

3. The e.m.f of a cell is analogous to.....of a pipe line.

Watch Video Solution

4. The domestic electricity in India is an arc with a frequency of.....Hz.

Watch Video Solution

5. Trip switch is an.....safety device.

Watch Video Solution

Exercise I Conceptual Questions

1. A bird sitting on a high power electric line is still safe. How?

Watch Video Solution

2. Does a solar cell always maintain the potential across its terminals constant? Discuss.

View Text Solution

3. Can electroplating be possible with alternating current?

Watch Video Solution

Exercise I Answer The Following

1. On what factors does the electrostatic force between two charges depend?

Watch Video Solution

2. What are electric lines of force?

Watch Video Solution

3. Define Electric field .

Watch Video Solution

4. Define electric current and give its unit.

Watch Video Solution

5. State Ohm's law .

Watch Video Solution

6. Name any two appliances which work under the principle of heating effect of current.

Watch Video Solution

7. Why are household appliances connected in parallel.

Watch Video Solution

8. List the safety features while handling with electricity.

Watch Video Solution

Exercise I Exercises

1. Rubbing a comb on hair makes the comb get $-0.4C$.

(a) Find which material has lost electron and

which one gained it.

(b) Find how many electrons are transferred in this process.

Watch Video Solution

2. Calculate the amount of charge that would flow in 2 hours through an element of an electric bulb drawing a current of 2.5A.

Watch Video Solution

3. The values of current I flowing through a resistor for various potential differences V across the resister are given below. What is the value of resistor?

I (ampere)	0.5	1.0	2.0	3.0	4.0
V (volt)	1.6	3.4	6.7	10.2	13.2

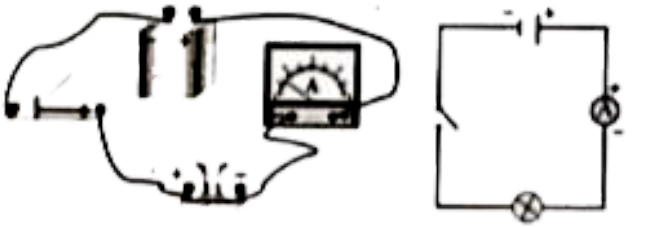
Watch Video Solution

In Text Problems

1. How many electrons will have a charge of one coulomb ?

Watch Video Solution

2. If, 25 C of charge is determined to pass through a wire of any cross section in 50s, what is the measure of current?



(a) Actual setup (b) Circuit diagram

Ammeter in a circuit

Watch Video Solution

3. The current flowing through a lamp is 0.2A. If the lamp is switched on for hour, what is the total electric that passes through the lamp?

Watch Video Solution

4. The e.m.f a cell is 1.5V. What is the energy provided by the cell to drive 0.5C of charge around the circuit?

Watch Video Solution

5. A charge of $2 \times 10^4 C$ flows through an electric heater. The amount of electrical energy converted into thermal energy is 5 MJ. Compute the potential difference across the ends of the heater.

Watch Video Solution

Additional Questions Short Answers Questions

1. What is a positive and a negative ion?

Watch Video Solution

2. Define Electric potential.

Watch Video Solution

3. What are the effects of electric current?

Watch Video Solution

4. What is resistance?

View Text Solution

5. What is common to both direct and alternating current?

Watch Video Solution

6. What is a trip switch?

Watch Video Solution

7. What are the advantages of AC over DC?

Watch Video Solution

8. What is ground connection?

Watch Video Solution

9. Write a short note on different electrical circuit.

Watch Video Solution

10. What is the difference between electromagnetic force and potential difference?

Watch Video Solution

Additional Questions Long Answers Questions

1. Draw and explain electric circuit diagram.

Watch Video Solution

2. What is the magnetic effect of electricity?

Watch Video Solution

3. Explain fuse.

Watch Video Solution

4. Name any ten symbols with diagram.

Watch Video Solution