

Electric Current**DPP – 1**

- A body gets positively charged by losing:
(A) Neutrons (C) Protons
(B) Electrons (D) α -particles
- A sure test of electrification is:
(A) Attraction (C) Friction
(B) Repulsion (D) Induction
- What is not true for electric charge:
(A) Electric charge is scalar quantity
(B) Charge on a body may be + ve or – ve
(C) S.I. unit of charge is coulomb
(D) One coulomb is charge of one electron
- All the following statements are correct except :
(A) A body is said to be negatively charged when it has got excess of electrons.
(B) When a body is charged positively, some electrons escape from it.
(C) The presence of moisture in the air reduces its conductivity
(D) None of the above
- A neutral body has equal amount of:
(A) Both positive and negative charges (C) Only negative charge
(B) Only positive charge (D) No charge at all
- Law which gives force between two charges is:
(A) Ohm's law (C) Coulomb's law
(B) Faraday's Law (D) None of these
- A charge Q_1 exerts some force on a second charge Q_2 . If a 3rd charge Q_3 is brought near then the force of Q_1 exerted on Q_2 .
(A) Will increase
(B) Will decrease
(C) Will remain unchanged
(D) Will increase if Q_3 is of the same sign as Q_1 and will decrease if Q_3 is of opposite sign.
- 5 C/S is same as:
(A) 5 A (C) 5 joule
(B) 5 mA (D) 5 volt
- Electric current is:
(A) flow of charge per unit time (C) Resistance per unit time
(B) work done per unit time (D) All of these
- The space around a charge in which some other charge experiences attraction or repulsion, is called its:
(A) Potential (C) Electric field intensity
(B) Electric field (D) Potential difference
- Give properties of an electric charge.
- Explain charging by friction.
- Can charge be created?
- Define one Volt.
- What is unit of electric work in relation to quantity of charge and potential difference?

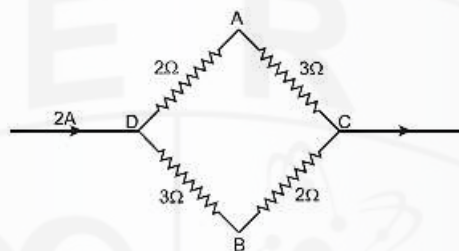
Electric Current**DPP – 2**

- Work done in moving a unit positive test charge from one point to another inside an electric field, is called:
 - Potential
 - Field
 - Field intensity
 - Potential difference
- Electricity constituted by moving electric charges, is called:
 - positive electricity
 - negative electricity
 - current electricity
 - static electricity
- The condition for an electric charge to flow from one point to other is that the two points must have electric:
 - Circuit (closed)
 - Current
 - Potential difference
 - (A) & (C) both are correct
- Unit of potential difference is:
 - Joule/Coulomb
 - Volt
 - Coulomb
 - (A) and (B) are correct
- Substances whose atoms have more free electrons are called:
 - Conductors
 - Insulators
 - Electrolytes
 - Semi-conductors
- Symbol of galvanometer is:
 - Ⓞ
 - Ⓢ
 - Both (A) and (B)
 - Neither (A) nor (B)
- Which of the following is symbol of a cell:
 - —|—
 - —|—|—
 - Both (A) and (B)
 - None of these
- Which of the following is symbol of battery:
 - —|—
 - —|—|—
 - —|—|—|—
 - None of these
- Electron volt is a measure of:
 - charge
 - current
 - electric potential
 - energy
- Read the following statements:
 Y : The resistivity of a semiconductor decreases with rise in temperature.
 Z : In a conducting solid, the rate of collisions between free electrons and ions increases with rise in temperature.
 - Y is true but Z is false
 - Y is false but Z is true
 - Both Y and Z are true
 - Y is true but Z is the correct reason for Y.
- The work done in moving a charge of 3C between two points is 6J. What is the potential difference between the two points?
- An object is charged positively. What will be the effect on its mass?
- At what temperature mercury becomes super conductor?
- Why a conducting wire does offers resistance to the flow of electron?
- Define ohmic and non - ohmic conductor.

Electric Current

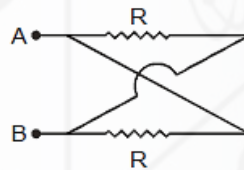
DPP – 3

- Two 1000 W heaters when connected in parallel across 220 V supply produced heat Q_p in time t . If they are connected in series across the same power supply the heat produced in the same time is Q_s . What is Q_p/Q_s ?
 (A) 4 (B) 2 (C) 0.5 (D) 0.25
- The slope of voltage (V) versus current (I) curve is called:
 (A) Resistance (B) Conductance (C) Resistivity (D) Conductivity
- In parallel combination, the effective resistance of the circuit:
 (A) Decreases (B) Increases (C) May decrease or increase (D) No particular observation
- A current of 2 A flows in system of conductors shown in figure. The potential difference $V_A - V_B$ will be:



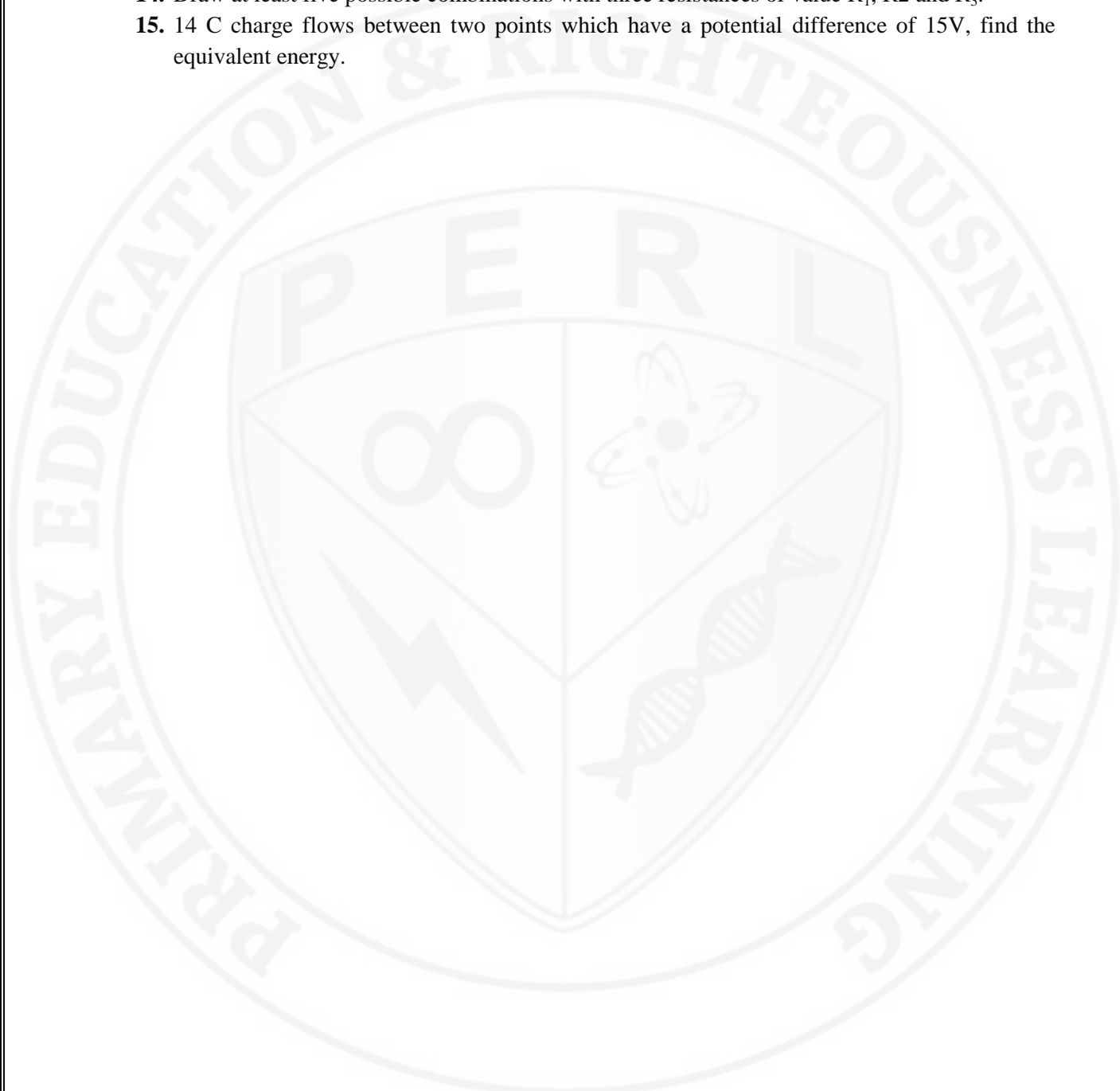
- (A) +1V (B) -1V (C) +2V (D) -2V

- Find equivalent resistance of the combination shown below:



- (A) 2R (B) R/2 (C) Zero (D) Intinite
- Commercial unit of electrical energy is:
 (A) Calorie (B) Joule (C) Kilowatt hour (D) All of these
 - A 2 KW boiler used for 1 hour everyday consumes the following electrical energy in thirty days:
 (A) 60 units (B) 120 units (C) 15 units (D) None of these
 - Two heater wires of same length and material but of different thickness are connected in series across a power supply. The power dissipated:
 (A) Will be same in both (B) Will be more in thinner wire (C) Will be more in thicker wire (D) Cannot be predicted
 - Watt hour is also called :
 (A) volt-ampere hour (VAH) (B) Board of trade unit (C) Horse power (D) None of these
 - Which is correct for electric power:
 (A) $P = V/I$ (B) $P = I^2R$ (C) $P = I^2/R$ (D) $P = V^2R$

11. In an electric circuit, it is found that, all its elements carry same current but have different potential difference. Is it a series or parallel circuit?
12. To get same potential difference across 3 resistances, connected to some cell, how will you combine them?
13. Draw a schematic diagram of a circuit consisting of a battery, $5\ \Omega$, $8\ \Omega$, $12\ \Omega$ resistances and a plug key, all connected in series.
14. Draw at least five possible combinations with three resistances of value R_1 , R_2 and R_3 .
15. $14\ \text{C}$ charge flows between two points which have a potential difference of 15V , find the equivalent energy.



Electric Current**DPP – 4**

- When a bar magnet is broken into two pieces :
 - we will have single pole on each piece
 - each piece will have two like poles
 - each piece will have two unlike poles
 - each piece will lose magnetism
- Which one of the following is a non magnetic substance:
 - Iron
 - Nickel
 - Cobalt
 - Silver
- The mineral which can attract the pieces of iron towards it is:
 - Fe_2O_3
 - Fe_3O_4
 - FeO
 - None of these
- Needle of a magnetic compass always points in:
 - East direction
 - North west direction
 - North–South direction
 - Neither A nor B
- Which of the following can lead to demagnetisation of a magnet :
 - Hammering
 - Strong heating
 - Aging
 - All are correct
- Attracting power of a horse shoe magnet can be increased by :
 - Increasing its length
 - Decreasing the gap between its poles
 - Keeping it at a cold place
 - None of these
- Identify the odd one:
 - Gold
 - Nickel
 - Iron
 - Cobalt
- The south pole of a freely suspended magnet points to the:
 - Geographical south
 - Geographical north
 - Slightly left of geographical north
 - None of these
- A magnetic compass is placed at a point near a bar magnet. Direction of magnetic field at that point will be:
 - Tangential to compass needle
 - Normal to compass needle
 - Towards the south pole of compass needle
 - None of these
- Magnetic field is:
 - Scalar
 - Vector
 - Sometimes scalar sometimes vector
 - Nothing can be said
- Give some examples of magnetic & non-magnetic substances?
- What is directive property of a magnet?
- Repulsion is the surest test of magnetization, comment.
- What do you mean by magnetic field?
- Does a stationary charge produce magnetic field?