Delhi Public School, Jammu

Assignment-1(2018-19)

Subject: Physics

Chapter: Electricity

Class: 10^{th}

Q1: Define charge and give three properties of charge.

Q2: Name the devices which measures (a) current and (b) potential difference in a closed circuit.

Q3: Give the electric symbol for (a) 3 cell battery (b) variable resistance and (c) Electric fuse.

Q4: Define resistance and resistivity and give their SI units.

Q5: Find equivalent resistance in series and parallel combination for three different resistors $R_1, R_2\ and\ R_3$ with neat circuit diagram.

Q6: State and Prove Ohm's law with neat diagram.

Q7: (a) What are the factors affecting resistance?

(b) State and prove joules law of heating effect.

Q8: (a) Define electric power and energy and give their mathematical relation.

(b) Define 1 watt and 1 joule.

(c) Convert 1kWh into joules.

Q9: Give reason;

(a) Why Ammeter is connected in series and voltmeter in parallel in a circuit.

(b) Why are alloys commonly used in electric heating devices?

Q10: Why resistance increase in series combination of resistors while it decreases in parallel combination of resistors.

Q11: Show how would you join three resistors, each of resistance 9Ω so that

The equivalent resistance of the combination is (I) 13.5Ω and (II) 6Ω

Q12: The value of current (I) flowing through a given resistor (R), for the Corresponding values of potential difference (V) across the resistor Are as given below;

V	0.5	1.0	1.5	2.0	2.5	3.0	4.0	5.0
I	0.1	0.2	0.3	0.4	0.5	0.6	0.8	1.0

Plot a graph between current (I) and potential difference (V) and Determine the resistance (R) of the resistor.

Q13: Two lamps, one rated 100W/220V, and the other 60W/220V are connected in parallel to electric main supply. Find the current drawn by the two bulbs from the line, if the supply voltage is 220V.

Q14: How many 176Ω resistor's (in parallel) are required to carry 5A on a 220V line?

Q15: A wire of resistance 20Ω is bent in the form of closed circle. What is the effective resistance between the two points at the ends of any diameter of the circle.