

St. Lawrence High School

A Jesuit Christian Minority Institution



<u>Term</u>: Pre – Test Solution of Work Sheet – 16 Subject – Physical Science

Class - X

Chapter – Current Electricity

Date – 12.06.20

Topic – Oham's Law

Choose the correct option for the following questions.

 $1 \times 15 = 15$

- 1. According to Ohm's law
 - a. Current in a conductor is directly proportional to the resistance
 - b. Current in a conductor is directly proportional to the potential
 - c. Current in a conductor is directly proportional to the potential difference
 - d. Current in a conductor is inversely proportional to the potential difference
 Ans: c. Current in a conductor is directly proportional to the potential difference
- 2. If a current of 5A flows through a conductor from one end at potential of 13 volt to the other end at potential 5 volt, then the resistance of the conductor is
 - a. $\frac{5}{8} \Omega$
 - b. 40 Ω
 - c. 1.6Ω
 - d. None of these

Ans: c. 1.6 Ω

- 3. If a conductor is heated to increase its temperature, then its resistance will
 - a. Increase
 - b. Decrease
 - c. Remain same as resistance does not depend on temperature
 - d. First increase and then decrease

Ans: a. Increase

- 4. If the potential difference is increased, then to maintain the current constant
 - a. Resistance of the conductor has to be increased
 - b. Resistance of the conductor has to be decreased
 - c. Resistance should be kept constant
 - d. The area of cross section of the conductor should be increased

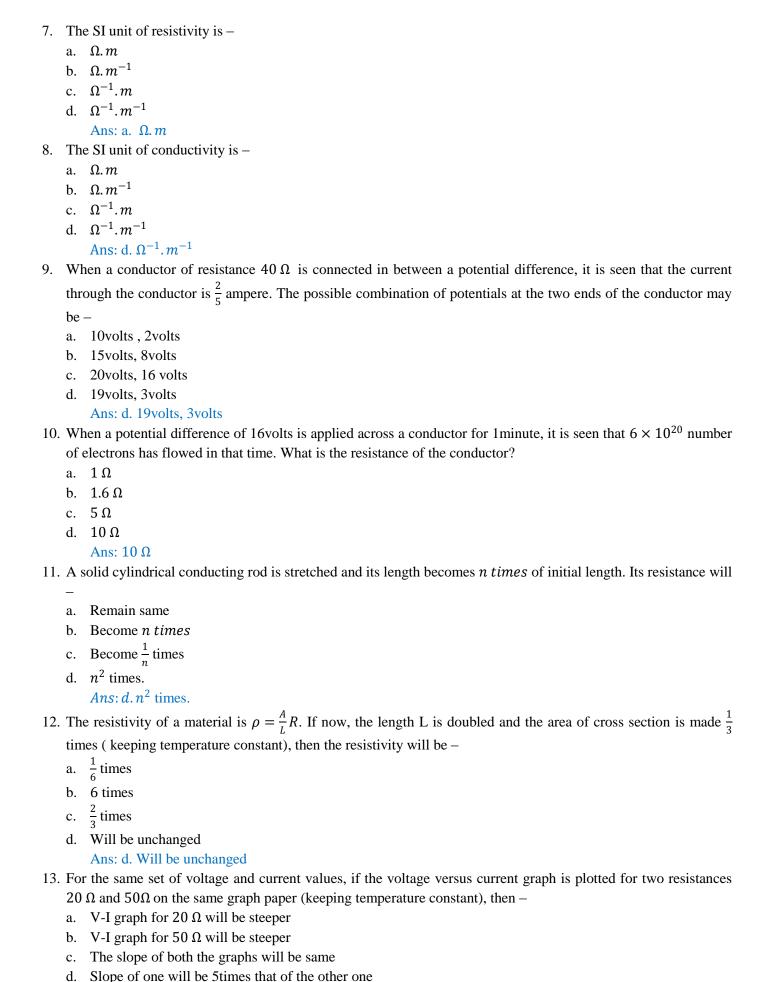
Ans: a. Resistance of the conductor has to be increased

- 5. The resistance of a conducting slab depends on
 - a. Length of the conductor
 - b. Area of cross section of the conductor
 - c. Nature of the conductor
 - d. All of these

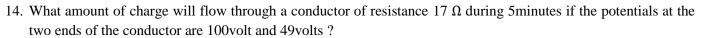
Ans: d. All of these

- 6. Resistivity of a conducting slab depends on
 - a. Length of the conductor
 - b. Area of cross section of the conductor
 - c. Nature of the conductor
 - d. All of these

Ans: c. Nature of the conductor



Ans: b. V-I graph for 50Ω will be steeper



- a. 900 C
- b. 100 C
- c. 36 C
- d. 15 C

Ans: a. 900 C

- 15. The conductivity of copper at 20°C is $6 \times 10^7 \ \Omega^{-1}$. At this temperature, if a 42×10^4 m long copper wire has very small resistance as $7 \times 10^{-3} \Omega$, then the area of cross section of that copper wire is
 - a. $36 \times 10^{14} m^2$
 - b. $10^{-8} m^2$
 - c. $1m^2$
 - d. $1.5m^2$

Ans: c. $1m^2$

Name of the teacher – Soumitra Maity