



St. Lawrence High School
A Jesuit Christian Minority Institution
Work Sheet – 4
Subject – Physical Science



Class – X

Date – 15.04.20

Chapter – Thermal Phenomena

Topic – Conduction of heat

Choose the correct option for the following questions.

$1 \times 15 = 15$

- Heat energy always flows from –
 - Higher temperature region to lower temperature region
 - lower temperature region to higher temperature region
 - Higher heat region to lower heat region
 - lower heat region to higher heat region.
- During conduction –
 - Molecules of conducting material move from one end to the other end of conductor
 - Molecules remain absolutely static
 - Molecules vibrate about their mean position
 - None of these
- Amount of flow of heat depends upon –
 - Nature of the conductor
 - Temperature difference between two ends of conductor
 - The length and area of cross section of the conducting material
 - All of the above
- The rate of flow of heat depends upon –
 - Length and area of cross section of the conducting material
 - Temperature difference between two ends of conductor
 - Conductivity of the material
 - All of these
- The conductivity of any conductor depends on –
 - length and area of cross section of the conducting material
 - Temperature difference between two ends of conductor
 - The time duration of flow of heat
 - None of these
- The C.G.S unit of heat is –
 - Joule
 - Cal
 - Watt
 - Erg
- The SI unit of heat is –
 - Joule
 - Cal
 - Watt
 - Erg
- The C.G.S unit of thermal conductivity of conductor is –
 - $J/cm - ^\circ C - sec$
 - $J/m - ^\circ C - sec$
 - $J/m - K - sec$

- d. $\text{Cal/cm} - ^\circ\text{C} - \text{sec}$
9. The SI unit of thermal conductivity of conductor is –
- $\text{Watt/m} - \text{K}$
 - $\text{J/m} - ^\circ\text{C} - \text{sec}$
 - $\text{J/m} - \text{K} - \text{sec}$
 - Both a. and c.
10. Thermal resistivity is the –
- Thermal resistance offered by a conductor
 - Thermal resistance offered by an insulator
 - Reciprocal of thermal conductivity
 - Reciprocal of thermal resistance
11. Thermal resistance of a conducting slab –
- Increases if area of cross section increases
 - Increases if length increases
 - Decreases if length increases
 - Does not depend on length and area of cross section
12. Thermal resistivity of a conducting slab –
- Increases if area of cross section increases
 - Increases if length increases
 - Decreases if length increases
 - Does not depend on length and area of cross section
13. The SI unit of thermal resistance is –
- K/Watt
 - Watt/K
 - $^\circ\text{C/cal}$
 - $\text{Cal}/^\circ\text{C}$
14. The C.G.S unit of thermal resistance is –
- K/Watt
 - Watt/K
 - $^\circ\text{C} - \text{sec/cal}$
 - $\text{Cal}/^\circ\text{C}$
15. If a cylindrical (solid) metal wire is stretched to make its length three times that of initial previous length, then the thermal resistance will –
- Remain unchanged
 - Become three times
 - Become $\frac{1}{3}$ rd
 - Become nine times.

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