INDIAN SCHOOL NIZWA - WORKSHEET

PHYSICS

CH: 11 THERMAL

PROPERTIES OF MATTER

Name: _____ Date:_____ Class: XI Sec: _A__

1. What is the temperature at which Celsius and Fahrenheit scales give the same reading?

2. Taking absolute zero as the basis of the scales of temperature, what are the values of melting and boiling points of water?

3. Can temperature of a body be negative on the Kelvin scale?

4. Why is a small gap left between the iron rails of railway track?

5. Why is invar used for making clock pendulum?

6. What is the difference between specific heat and molar specific heat?

7. What is the thermal conductivity of a perfect heat conductor and a perfect heat insulator?

8. Ice at 0^0 is converted into steam at 100^0C. State the isothermal changes in the process.

9. The temperature of a body is 0^0c. Is it radiating?

10. At what temperature will a body stop radiating?

11. Name the electrical analogies of temperature and temperature gradient?

12. At what temperature is theFarenheit scale equal to twice of Celsius scale reading? Show the necessary calculation.

13. One end of a 0.25m long metal bar is in steam and the other end is in contact with ice. If 12g of ice melts per minute, what is the thermal conductivity of the metal? Given the cross section of the bar = $5 \times 10^{-4} m^2$ and the latent heat of ice is 80 $calg^{-1}$.
14. Calculate the rate of loss of heat through a glass window of area $1000cm^2$ and thickness 0.4cm when temperature inside is 37^0C and outside is -5^0C. coefficient of thermal capacity of glass is 2.2×10^{-3} cal s^{-1} $cm^{-1}K^{-1}$.
15. State and explain three modes of heat transfer. Explain how the loss of heat due to these three modes is minimised in a thermos flask?
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