



St. Lawrence High School  
A Jesuit Christian Minority Institution



Term – 1<sup>st</sup>  
Work Sheet No - 2

Date – 26.02.21  
Subject – Physical Science

Class – X  
Topic – Thermal Phenomena

- The increase in length in case of thermal expansion does not depend on
  - Initial length
  - increase in temperature
  - nature of material
  - measuring unit of temperature
- The value of  $\alpha$  of a metal is given as  $1.6 \times 10^{-6} K^{-1}$  in SI unit. In C.G.S system,  $\alpha$  will be –
  - More
  - less
  - equal
  - $\frac{1}{273}$  times
- The C.G.S unit of  $\beta$  is –
  - $/K$
  - $K^{-1}$
  - $^{\circ}C$
  - $^{\circ}C^{-1}$
- Value of coefficient of volume expansion i.e.  $\gamma$ , depends on –
  - The initial volume
  - change in temperature
  - nature of the material
  - all of these
- If  $\alpha:\beta:\gamma = 1:2:3$  then which relation is correct?
  - $\frac{\alpha}{3} = \frac{\beta}{2} = \gamma$
  - $\alpha:\beta:\gamma = 1:\frac{1}{2}:\frac{1}{3}$
  - $3\alpha = 2\beta$
  - $3\beta = 2\gamma$
- The C.G.S unit of coefficient of volume expansion of gas is –
  - $J/K$
  - $cm/^{\circ}C$
  - $^{\circ}C$
  - $^{\circ}C^{-1}$
- The SI unit of real expansion coefficient of liquid is –
  - $K^{-1}$
  - $K$
  - $^{\circ}C$
  - $^{\circ}C^{-1}$
- The apparent expansion coefficient of liquid is –
  - Always greater than real expansion coefficient.
  - Always less than real expansion coefficient.
  - Always equal to real expansion coefficient
  - Always lesser than expansion coefficient of container
- If  $\gamma_a =$  Apparent expansion coefficient of liquid,  $\gamma_r =$  Real expansion coefficient of liquid and  $\gamma_c =$  volume expansion coefficient of the container, then  $\gamma_a =$ 
  - $\gamma_r - \gamma_c$
  - $\gamma_r + \gamma_c$
  - $\gamma_c - \gamma_r$
  - $\frac{\gamma_r \times \gamma_c}{\gamma_r + \gamma_c}$
- In case of liquid the change of volume depends on –
  - Initial volume
  - change of temperature.
  - nature of liquid
  - All of these

11. A liquid can have
- a. All three types of expansion coefficients
  - b. only superficial expansion coefficient
  - c. only volume expansion coefficient
  - d. only linear expansion coefficient
12. Real expansion coefficient will be –
- a. Always greater than apparent expansion coefficient
  - b. always lesser than apparent expansion coefficient
  - c. Always equal to apparent expansion coefficient
  - d. equal to expansion coefficient of container
13. The expansion coefficients of different liquids are different because –
- a. different liquids possess different intermolecular force of attraction
  - b. different liquids have different initial volume
  - c. different liquids have different free surface areas
  - d. none of these
14. The real expansion coefficient of liquid depends on –
- a. Initial volume
  - b. change of volume
  - c. change of temperature
  - d. nature of liquid
15. Apparent expansion of liquid depends on –
- a. Expansion coefficient of container
  - b. initial volume of liquid
  - c. change in temperature
  - d. all of these

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