



St. Lawrence High School
A Jesuit Christian Minority Institution



Term – 1st

Solution of 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 α of a metal is given as $1.6 \times 10^{-6} K^{-1}$ in SI unit. In C.G.S system, α will be –
 - More
 - less
 - equal
 - $\frac{1}{273}$ times
- The C.G.S unit of β is –
 - $/K$
 - K^{-1}
 - $^{\circ}C$
 - $^{\circ}C^{-1}$
- Value of coefficient of volume expansion i.e. γ , 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**

Name of the teacher - Soumitra Maity