Self Assessment

1. Coefficient of thermal expansion is the change in length to original length per _____.

2. Coefficient of thermal expansion _____ with the decrease in temperature.

3. Metals undergo most of the contraction upto ___.

4. Mathematically, mean linear thermal expansion is defined as _____.

5. Dulong and Petit value for Specific heat is _____.

Self Assessment

6. Debye characteristic temperature is denoted by _____.

7. At low temperatures ($T < \theta_D/12$), the Debye function approaches a constant value of _____.

8. Expression for Q in Thermal conductivity integral form is _____.

9. k_T decreases with the _____ in the temperature for impure metals.

Self Assessment

10. Specific heat of the material _____ with decrease in temperature.

11. Electrical conductivity of the metallic conductors _____ at low temperature.

12. k_e and k_t are correlated by _____ Law.

Answers

1. Unit rise in temperature.
2. Decreases
3. 80 K
4. $\frac{\Delta L}{L_0} = \frac{L_T - L_0}{L_0}$
5. 3R
6. θ_D
7. $4\pi^4/5$
8. $Q = -G(\theta_2 - \theta_1)$

Answers

9. Decrease

10. Decrease

11. Increase

12. Wiedemann–Franz