



CHEMISTRY

BOOKS - JNAN PUBLICATION

THERMAL PHENOMENA

Example

1. What is the S.I. unit of heat



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2. State the relation between Joule and erg.



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3. State the relation between Caloric and Joule.



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4. Write the unit of coefficient of linear expansion of the substance.



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5. Write the unit of coefficient of volume expansion of the substance.



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6. Write the unit of coefficient of cubic expansion of the substance.



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7. Write the mathematical formula of coefficient of real expansion (γ_r).



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8. Write the mathematical formula of apparent expansion (γ_a).



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9. Write the mathematical formula of coefficient of Linear Expansion.



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10. Write the mathematical formula of coefficient of superficial expansion



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11. Write the mathematical formula of coefficient of cubical expansion.



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12. Name one substance which has negligible expansion on heating.



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13. Name one substance which expand on heating.



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14. What is the value of coefficient of linear expansion of aluminium?



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15. What is the coefficient of linear expansion of brass?



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16. What is the coefficient of linear expansion of copper?



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17. What is the coefficient of linear expansion of steel?



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18. What is the coefficient of linear expansion of iron?



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19. Write the relationship between α , β and γ :



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20. How can you represent the surface expansion?



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21. How can you represent the cubical expansion?



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22. What is the value of coefficient of linear expansion of invar?



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23. How is the S.I. Unit of heat related to the unit caloric?



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24. By which letter does coefficient of the real expansion of liquid represent?



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25. Write the mathematical statement of coefficient of real expansion?



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26. Write the unit of coefficient of real expansion?



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27. By which letter does the coefficient of apparent expansion represent?



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28. Write the unit of coefficient of apparent expansion.



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29. At which temperature the density of water will be maximum?



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30. Water is cooled from $4^{\circ}C$ and $0^{\circ}C$. How can it change?



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31. Write the value of coefficient of real expansion of Mercury?



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32. Write the value of coefficient of real expansion of water?



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33. What is the value of coefficient of real expansion of alcohol?



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34. What is value of coefficient of real expansion of Benzene?



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35. What is the value of coefficient of real expansion of Paraffin oil?



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36. What is the value of coefficient of real expansion of Turpentine oil?



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37. Write one example of bad conductor of heat?



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38. Name the process of heat transfer in a solid.



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39. Which is a good conductor of heat: a metal or a non metal?



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40. Water is a very poor conductor of heat - Is this statement true?



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41. Name a liquid which is a good conductor of heat.



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42. Name a substance which is good insulator of heat.



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43. State the direction in which heat is transferred by way of convection.



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44. Write the mathematical formula of Boyle's law.



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45. Write the relationship between the pressure and density of a gas at a constant temperature.



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46. Write the mathematical formula Charle's law.



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47. Write the mathematical expression by which pressure coefficient of a gas represent.



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48. Write the mathematical expression by which the volume coefficient represents.



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49. Write the equality coefficients of pressure and volume



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50. Write the mathematical expression of thermal conductivity.



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51. Write the C.G.S. unit of thermal conductivity.



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52. Write the S.I. unit of thermal conductivity.



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53. Write the dimension of thermal conductivity



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54. Write the equation which is mathematically equivalent to ohm's law.



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55. Write the relation between thermal and electrical conductivities of metal.



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56. Write the value of electric constant.



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57. Define the coefficient of linear expansion of solid.





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58. How does you relate the coefficient of linear expansion of a rod with length and temperature?



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59. Define the coefficient of superficial exepansion.



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60. Define the coefficient of cubical expansion of solid.



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61. A brass disc fits tightly into the bore of steel palte. Should you apply heat in order to remove the disc from the bore?



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62. Define the apparent thermal expansion of liquids.



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63. Write do you mean by coefficient of real expansion of liquid?



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64. Write the relation between expansion coefficient of liquid.



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65. What is weight thermometer?



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66. Power supply lines or telephone line between two poles are not kept taught, but is

slightly sagged. Why?



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67. A breaker is filled up to the brain with water at $4^{\circ}C$. What will you notice if the temperature is decreased or increased? Give reasons for your answer.



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68. Write the relation between the pressure and density of a gas at a constant temperature.



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69. Define pressure coefficient of a gas.



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70. Write an equation of state of an ideal gas.



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71. Pressure of air in a car tyre increases during driving. Why?



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72. What is conduction of heat?



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73. What is good conductors and bad conductors of heat?



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74. Define thermal conductivity.



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75. What is thermometric conductivity.



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