



Choose the correct option for the following questions.

1 × 15 = 15

1. Heat energy always flows from –
 - a. Higher temperature region to lower temperature region
 - b. lower temperature region to higher temperature region
 - c. Higher heat region to lower heat region
 - d. lower heat region to higher heat region.

Ans: a. Higher temperature region to lower temperature region

2. During conduction –
 - a. Molecules of conducting material move from one end to the other end of conductor
 - b. Molecules remain absolutely static
 - c. Molecules vibrate about their mean position
 - d. None of these

Ans: c. Molecules vibrate about their mean position

3. Amount of flow of heat depends upon –
 - a. Nature of the conductor
 - b. Temperature difference between two ends of conductor
 - c. The length and area of cross section of the conducting material
 - d. All of the above

Ans: d. All of the above

4. The rate of flow of heat depends upon –
 - a. Length and area of cross section of the conducting material
 - b. Temperature difference between two ends of conductor
 - c. Conductivity of the material
 - d. All of these

Ans: d. All of these

5. The conductivity of any conductor depends on –
 - a. length and area of cross section of the conducting material
 - b. Temperature difference between two ends of conductor
 - c. The time duration of flow of heat
 - d. None of these

Ans: d. None of these

6. The C.G.S unit of heat is –
 - a. Joule
 - b. Cal
 - c. Watt

d. Erg

Ans: b. Cal

7. The SI unit of heat is –

a. Joule

b. Cal

c. Watt

d. Erg

Ans: a. Joule

8. The C.G.S unit of thermal conductivity of conductor is –

a. $J/cm - ^\circ C - sec$

b. $J/m - ^\circ C - sec$

c. $J/m - K - sec$

d. $Cal/cm - ^\circ C - sec$

Ans: d. $Cal/cm - ^\circ C - sec$

9. The SI unit of thermal conductivity of conductor is –

a. $Watt/m - K$

b. $J/m - ^\circ C - sec$

c. $J/m - K - sec$

d. Both a. and c.

Ans: d. Both a. and c.

10. Thermal resistivity is the –

a. Thermal resistance offered by a conductor

b. Thermal resistance offered by an insulator

c. Reciprocal of thermal conductivity

d. Reciprocal of thermal resistance

Ans: c. Reciprocal of thermal conductivity

11. Thermal resistance of a conducting slab –

a. Increases if area of cross section increases

b. Increases if length increases

c. Decreases if length increases

d. Does not depend on length and area of cross section

Ans: b. Increases if length increases

12. Thermal resistivity of a conducting slab –

a. Increases if area of cross section increases

b. Increases if length increases

c. Decreases if length increases

d. Does not depend on length and area of cross section

Ans: d. Does not depend on length and area of cross section

13. The SI unit of thermal resistance is –

a. $K/Watt$

b. $Watt/K$

c. $^\circ C/cal$

d. $Cal/^{\circ}C$

Ans: a. $K/Watt$

14. The C.G.S unit of thermal resistance is –

a. $K/Watt$

b. $Watt/K$

c. $^{\circ}C - sec/cal$

d. $Cal/^{\circ}C$

Ans: c. $^{\circ}C - sec/cal$

15. If a cylindrical (solid) metal wire is stretched to make its length three times that of initial previous length, then the thermal resistance will –

a. Remain unchanged

b. Become three times

c. Become $\frac{1}{3}$ rd

d. Become nine times.

Ans: d. Become nine times.

Name of the teacher – Soumitra Maity