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Heat

1. The unit of the coefficient of linear expansion is:
(a) m (b) /° C (c) m/ °C (d) °C
2. Coefficient of linear expansion always.....with the increase in temperature:
(a) increase (b) decrease
(c) remains (d) doubles itself
3. Choose the correct statements:
(a) $\alpha:\beta:\gamma :: 1:3:2$ (b) $\alpha:\beta:\gamma :: 3:2:1$
(c) $\alpha:\beta:\gamma :: 2:3:1$ (d) $\alpha:\beta:\gamma :: 1:2:3$
4. A graph is plotted taking C along the Y-axis and of long the X-axis. It is a/an:
(a) parabola (b) straight line
(c) ellipse (d) circle
5. A circular disc of copper has a symmetrical hole at its centre. The disc is uniformly heated. The diameter of the hole will:
(a) increase (b) decrease
(c) remain the same (d) none of these
6. If the temperature scale is changed from C° to F° the numerical value of specific heat will:
(a) increase (b) decrease (c) remain unchanged
(d) nothing can be said
7. Which of the following substances has greatest specific heat?
(a) Iron (b) Water (c) Copper (d) Mercury
8. When temperature is gradually decreased the specific heat of substances is:
(a) decreased (b) increased (c) remain unchanged (d) none of these
9. When lake starts breezing the formation of the ice will start first at the
(a) bottom (b) middle (c) top (d) none of these
10. Glaciers always melt at the
(a) top surface (b) sides (c) bottom (d) middle surface
11. The unit of latent heat is:
(a) cal-g (b) cal/ C (c) cal/g (d) none of these
12. If the thermal capacity of a body is infinity, then:
(a) heat can never be added to it
(b) heat can never be extracted from it
(c) the temperature of the body can not be altered by adding or extracting any amount of heat
(d) it has infinite amount of heat
13. Calorimeters are generally made of :
(a) copper (b) brass (c) aluminium (d) zinc
14. One joule is approximately equal to:
(a) 0.28 cal (b) 0.32 cal (c) 0.24 cal (d) 4.2 cal
15. If a substance contracts on heating its coefficient of linear expansion is:
(a) +ve (b) -ve (c) zero (d) infinity
16. The unit of RH are:
(a) kg-m (b) kg (c) kg-m (d) none of these
17. At dew point RH is :
(a) 100% (b) 50% (c) 25% (d) 0%
18. The most comfortable value for RH is :
(a) 10% (b) 30% (c) 50% (d) 100%
19. When air is saturated, it cannot hold:
(a) more water vapour (b) more air
(c) more CO² (d) More O²
20. If RH is high:
(a) we feel sultry
(b) we perspireless
(c) clothes do not dry easily
(d) all of above are correct
21. A fan produces a feeling of comfort during hot weather because:
(a) fan supplies cold water
(b) our perspiration evaporates rapidly
(c) our body radiates more heat in air
(d) conductivity of air increases
22. Device use to measure very high temperature is;
(a) pyrometer (b) thermometer
(c) bolometer (d) calorimeter
23. A solid metal ball has spherical cavity. If the ball is heated, the volume of the cavity will:
(a) increase (b) decrease (c) remain unaffected (d) none of these

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24. A metal sheet with circular hole is heated. The hole will:

- (a) contract
- (b) expand
- (c) remain unaffected
- (d) none of these

25. If a bimetallic strip is heated it will :

- (a) bend towards the metal with lower thermal expansion coefficient
- (b) bend towards the metal with higher thermal expansion coefficient
- (c) not bend at all
- (d) twist itself into helix

26. A bimetal made of copper and iron strips welded together is straight at room temperature. It is held vertically with iron strip towards left and copper strip towards right. If this bimetal is heated, it will:

- (a) remain straight
- (b) bend towards right
- (c) bend towards left
- (d) bend towards

27. A metal ball is being weighed in a liquid whose temperature is raised continuously. Then the apparent weight of the ball:

- (a) remain unchanged
- (b) increase
- (c) decrease
- (d) change erratically

28. When water is heated from 0°C to 10°C , its volume:

- (a) decrease
- (b) increase
- (c) remains unchanged
- (d) first decrease and then increase

29. A sealed container contains helium gas at 300K . If it is heated to 600K , the average kinetic energy of the helium atoms:

- (a) remains unchanged
- (b) is doubled
- (c) becomes $\sqrt{2}$ times
- (d) none of these

30. A gas is enclosed in a container which is then placed on a fast moving train. The temperature of the gas :

- (a) rises
- (b) falls
- (c) remain unchanged
- (d) become unsteady