1 Mark Questions

1.Why does ice float on water?

Ans:The density of ice is less than that of water.

2.Why do we get sweat while doing work?

Ans:When we do work, we spend our energy mostly in the form of heat energy from the body.As a result the temperature of the skin becomes higher and the water in the sweat glands starts evaporating.

3.What is Humidity? How does humidity forms in the atmosphere?

Ans:The amount of water vapour present in air is called humidity.

4.Give an example to explain that evaporation is a cooling process

Ans: Body gets cool when sweat evaporates from the body.

5. During winters, we will observe droplets of water in the cricket field, leaves and grass. How are these droplets formed?

Ans:During winter nights,the atmospheric temperature goes down.The air near them becomes saturated with vapour and condensation begins. The water droplets condensed on cricket field, leaves and grass.

6.The specific heat of Lead, Mercury and water are different. Why it is (the specific heat) the different for different materials?

Ans: Specific heat of a substance depends on its nature.

7. 1g of ice at 0^0C and 1g of water at 40^0C are mixed. What is resultant temperature?

Ans: 0^0C

Explanation: 1g of ice at 0^0C→ 1g of water at 0^0C (Q)=mL=1x80=80 cal

1g of water at 40^0C→ 1g of water at 0^0C (Q)=msΔT=1x1x40=40cal

Heats are not equal,So some ice present in the mixer. Resultant temperature is 0^0C

8. The temperature of a furnace is 2000^0C. What is the temperature on the Kelvin scale?

Ans: $C=2000^0C$

$K=C+273=2000+273=2273K$

9. Which has highest specific heat capacity water (or) sand?

Ans: Water

10. write a formulae for specific heat and explain terms in it.

Ans: $S=Q/m\Delta T$

S=Specific heat, Q=heat,

m=mass of the substance, ΔT=Raise in temperature

11. What happened to kinetic energy of particles if we increase the Temperature ?

Ans: Kinetic energy of particles increases with increases of temperature

12. while drinking water, Ramesh spilled some water on the floor. After sometime, the water disappeared from the floor. What happened to the water?

Ans: Evaporation takes place

13. Define Latent heat of Fusion.

Ans: The heat energy required to convert 1 gm of solid completely into liquid at a constant temperature is called Latest heat of fusion

14. 4 kg of water is 100^0C temperature how much heat energy is required for whole water to evaporate?

Ans: m=4 kg=4000 g

L=540 cal

$Q=mL=4000x540=216x10^4cal$

15. The specific heat capacity of copper is 0.1cal g^{-1} C^{-1}.Find its value in JKg^{-1} K^{-1}

Ans: We know that 1 cal/g- $^0C=4.186x10^3$ J/kg-K

0.1 cal/g- $^0C=0.4186x10^3$ J/kg-K

16. Convert 546^0C into Kelvin Scale.

Ans: We know that K=C+273

=546+273

=819K

17. Take a piece of wood and a piece of metal are keep them in a fridge or ice box. After 15 minutes, take them out and ask your friend to touch them . Which is colder? Why?

Ans: Metal piece. Because the degree of coldness of the metal piece is greater than that of the wooden piece

18. Why does transfer of heat energy take place between objects (system) ?

Ans: To obtain thermal equilibrium

19.Pour a few drops of spirit on your palm. Why does your skin becomes colder?

Ans: Due to Evaporation. It is cooling process

20.Why do we feel much comfortable when we sit under a moving fan especially when our body is sweating ?

Ans: Evaporation occurred

21. Why does evaporation always produces cooling?

Ans: The temperature of a system falls during evaporation, So evaporation always produces cooling

22. What is latent heat of vaporization?

Ans: The heat energy required to change 1 gm of liquid to gas at constant temperature is called Latent heat of Vaporization

23. Place two test tubes containing 50 gm of water, 50 gm of oil in boiling water for same time.

a) In which material does the temperature rise quickly ? Are the amount of heat given to the water and oil same ?

Ans: Oil. Yes,same amount of heat energy given

24. Are the volumes of water and ice formed with same amount of water equal?

Ans: No, the volume of ice is greater than volume of water

25. Does the reverse process of evaporation take place? When and how does it take place?

Ans: Yes, Condensation

Heat is taken by the system and condensation takes place