

11) Why does bubbles appear when a liq. is heated?

ans → When the liq. is heated, formation of vapour takes place which appears in the form of bubbles.

12) What is the change in Avg. K.E of molecules during boiling at its boiling point?

ans → The Avg. K.E is the measure of the temp. of the body. When the temp. of the body increases the avg. K.E increases and when Avg. K.E decreases there is a decrease in body temp. and hence at boiling point Avg. K.E increases.

14) Name two ways of changing liquid state into vapour state and distinguish them.

ans →	<u>Boiling</u>	<u>Evaporation</u>
*	Heat is supplied.	Heat is absorbed.
*	Fast process	Slow process
*	Sound is produced	Silent process
*	Starts from bottom	Starts from surface
*	Heating effect	Cooling effect
*	Takes place at fixed temp.	Take place at all temp.

15) What do you understand by thermal expansion of a substance?

ans → The expansion of a substance on heating is called Thermal expansion.

18) State three factors on which depend the linear expansion of a metal rod on heating.

ans → The three factors are -

- \* Length of rod
- \* Temp. of the rod
- \* Nature of material of rod.

19) Two iron rods - one 10m long and the other 5m long, are heated to the same rise in temperature. Which will expand more?

ans → Rod with 10m length will expand more as the rod having greater length will expand more when rods are heated to the same temp.

20) ~~Two identical rods of copper are heated to diff. temp.~~



21) One rod of copper and another identical rod of iron are heated to the same rise in temp. Which will expand more? Give reason.

ans → When two identical rods are of diff. material and heated to the same rise in temp., the copper rod will expand more than iron because coefficient of linear expansion of copper ( $17 \times 10^{-6}$ ) is greater than that of iron ( $13 \times 10^{-6}$ ).

24) Explain the following.

a) The telephone wires break in winters.

ans → ~~They~~ Telephone wires ~~are~~ contract ~~in~~ ~~the~~ winter season (cooling). Therefore, they become tight and hence sometimes break or come out of the poles. For that reason, those wires are kept loose for facing this situation in winters.

b) Iron rims are heated before they are fixed on the wooden wheels.

ans → Initially, the iron rims are made slightly smaller in diameter than that of the wooden wheel. When the

little

rim is heated, it expands and gets its diameter <sup>little</sup> greater than that of wooden wheel. Then, the expanded rim is slipped over the wooden wheel and then cooled to contract which makes a tight fit over the wooden wheel.

c) Gaps are left between the successive rails on a railway track.

ans → In summer due to considerable rise in temp., the rail tracks expands as they are made of iron. So, gaps are left between successive rail tracks to allow for the expansion of rails otherwise the rail will bend sideways.

27) A cubical metal solid block is heated. How will its vol<sup>m</sup> change?

ans → When a metal cube solid block is heated, it expands in all dimensions. Thus, the vol<sup>m</sup> of the solid will also increase.

32) Which of the following will expand more when heated to the same temp a) solid b) liq or gas

ans → gas will expand more ~~as the ir~~.