

Lesson no 8

THERMAL PROPERTIES OF MATTER

Q1- Encircle the correct answer from the given choices.

Answers:

(i)	c	(ii)	c	(iii)	d	(iv)	c
(v)	a	(vi)	b	(vii)	d	(viii)	d

Q2- Why does heat flow from hot body to cold body?

Ans) The body at higher temp has molecule of greater kinetic energy than the molecules of colder body. Therefore fast moving molecules give their energy. We say that heat energy flows hot to cold body.

Q3- Define the terms heat and temperature?

Ans) Heat ^{is} the energy possessed by molecules and the temperature is degree of hotness or coldness, and is proportional to average K.E. of molecules.

Q4 - What is meant by internal energy of a body?

Ans) The internal energy of a body is equal to total K.E and potential energy of all the molecules of the body.

Q5 - How does heating affect the motion of molecules of a gas?

Ans) On heating a gas, its molecules begin to move faster. So that internal energy of gas increases.

Q6 - What is a thermometer? Why mercury is preferred as a thermometric substance?

Ans) The device to used to measure temp is called thermometer. Mercury is used as the thermometric substance in thermometers because it is:

- (i) opaque
- (ii) has low heat capacity
- (iii) good conductor
- (iv) does not wet the walls of tube.
- (v) having very low freezing point and very high boiling point.

Q7 - Explain the volumetric thermal expansion.

Ans) The change in volume per unit volume per Kelvin change of temp is called

co-efficient of volume expansion - It is due to expansion of a body in three dimensions on heating.

Q8- Define specific heat - How would you find the specific heat of a solid?

Ans) The heat required to raise temp. of unit mass of substance through one Kelvin is called "specific heat" - The method of mixture is used to find specific heat of a solid.

Q9- Define and explain latent heat of fusion.

Ans) The heat required to melt unit mass of a solid without change of its temp. (melting point) is called "latent heat of fusion".

Q10- Define latent heat of vaporization.

Ans) The heat required to vaporize unit mass of a liquid without increase in its temp. is called the latent heat vaporization.

Q11 - What is meant by evaporation? On what factors the evaporation of a liquid depends? Explain how cooling is produced by evaporation.

Ans) The conversion of a liquid into vapour state is called vaporization - It can be place at any temp of liquid - The following factors increase the sped of vaporization,

- (i) surface area of liquid
- (ii) Wind blowing near the liquid surface.
- (iii) Temp of liquid

Due to vaporization, the fast moving molecules of liquid escape and therefore average K.E of the molecules in remaining liquid, decrease. It is the reason that temps. lowest and cooling is produced due to vaporization.