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TENDER HEART HIGH SCHOOL, SEC-33B, CHD.

Sub:- PHYSICS
Teacher:- Charanjit Kaur

CLASS-VII (Chapter-heat) Continue

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Q18 :→ Why a thick glass tumbler breaks when hot liquid is poured into it?

Ans :→ Due to direct contact with hot liquid, the inner surface of the glass expands. As the glass is a poor conductor of heat so, the outer surface does not expand that much. So unequal expansion causes the glass to break.

Q19 :→ Why is a cement floor laid in small pieces with gaps in between?

Ans :→ because it would crack due to expansion in summer and contraction in winter. It is laid in small pieces with gaps in between to allow for the expansion during summer.

Q20 :→ Why are gaps left between successive rails on a railway track?

Ans Railway tracks are made of iron. During summer, heat and friction between the tracks cause iron to expand. So, the gaps provide the iron tracks space for the expansion.

Q21 :→ What are effects of heat on a substance?

Ans

- (a) Change in temperature.
- (b) Change in shape or size.
- (c) Change in state.

Q22 :→ Define melting or fusion?

Ans When a solid is heated, it changes into its liquid at fixed temperature. This process is called melting or fusion.

Q23 :→ Define Condensation?

Ans :→ When vapour is cooled, it condenses into liquid at the same temperature. This process is called Condensation.

Q24:→ What are the three modes of transfer of heat?

Ans:— There are:—

(a) Conduction (b) Convection (c) Radiation.

Q25:→ Define Conduction.

Ans:— It is the process of heat transfer from hot end to cold end from a molecule to molecule of the medium. Thus a medium is required for the transfer of heat by conduction.

Q26:→ What are conductors and insulators of heat given examples.

Ans (a) Conductors:→ The materials which allow the heat to pass through them are called conductors. For e.g. iron and steel are good conductors of heat.

(b) Insulators:→ The materials which do not allow the heat to pass through them are called insulators. For e.g. wood, plastic, rubber and ceramics are poor conductors or insulators of heat.

Q27:→ Select good and bad conductors of heat from:—

Copper, mercury, wood, iron, air, water, ~~silver~~, plastic, wool, aluminium.

Ans → Copper, mercury, iron, silver, aluminium are good conductors of heat.

→ wood, air, plastic, water and wool are bad conductors of heat.

Q28:→ state which expands more, when heated to the same temperature: Solid, liquid or gas?

Ans Gases expand much more than liquids and solids when heated to same temperature.

Q29:-> Why do we use cooking utensils made up of Copper?

Ans:-> Copper is a metal and is a good conductor of heat so it heats up rapidly.

Q30:-> Why is a tea Kettle provided with a ebonite handle?

Ans:-> Ebonite is a bad conductor of heat or an insulator. It does not pass the heat from the utensils to our hand.

Q31:-> Give reason:->

(a) We wear woollen clothes in winter. Why?

(b) Ice is kept wrapped in a gunny bag in summer why?

Ans:- (a) Wool is warm in winter as the fibres in wool trap air, which is a bad conductor of heat and keeps us warm so, we wear woollen clothes in winter.

(b) In Summers, ice is wrapped in a gunny bag because gunny bags have small holes that trap air in them. Since air is a bad conductor of heat, it does not allow heat to enter the gunny bag.

Q32:-> Why are quilts filled with fluffy cotton?

Ans:-> Air is trapped in the fine pores of cotton. Cotton and air are insulators of heat. They prevent heat from our body to escape and thus keep us warm.

Q33:-> Define Convection.

Ans It is the process of heat transfer by the actual movement of the molecules of the medium. Liquids and gases are heated mainly by Convection.

Q34:-> State the direction of heat transfer by the way of Convection.

Ans:-> By Convection, heat transfer is always vertically upwards.