

## CHAPTER 4

### HEAT

#### Short Answer type questions

Question 1

Name two good conductors of heat?

Solution: Iron, Aluminum, Silver

Question 2

What is the lowest range of an ordinary laboratory thermometer?

Solution: -10 degree Celsius.

Question 3

Why is the bulb of the thermometer made of thin glass?

Solution:

As glass is a poor conductor of heat, the wall of the bulb is kept thin so that transfer of heat between the Mercury and its surrounding can take place easily.

Question 4

Write the similarities between clinical and laboratory thermometer

Solution

Similarities:

- (i) Both consists a long, narrow, uniform glass tube.
- (ii) Both have a bulb at one end.
- (iii) Both contain mercury in the bulb.
- (iv) Both contain Celsius scale on the glass tube.

Question 5

Why wearing more layers of clothing during winter keeps us warmer than wearing just one thick piece of clothing.

Answer:

During winters, wearing more layers of clothing keeps us warmer more than compared to wearing just one thick piece of clothing because air gets trapped in between the layers of various clothes and as being a bad conductor of heat, air prevents heat loss from our body.

Because of that, wearing more layers of clothing during winter keeps us warmer than wearing just one thick piece of clothing.

### Question 6

In places of hot climate it is advised that the outer walls of houses be painted white. Explain.

Answer:

In places of hot climate, it is advised that the outer walls of houses be painted white because white is a light colour and because of that it reflects back most of the heat that falls on it and a very less amount of heat is absorbed by the walls.

Therefore, a light colour tends to keep the house cool.

### Question 7

Why wearing more layers of clothing during winter keeps us warmer than wearing just one thick piece of clothing.

Answer

During winters, wearing more layers of clothing keeps us warmer more than compared to wearing just one thick piece of clothing because air gets trapped in between the layers of various clothes and as being a bad conductor of heat, air prevents heat loss from our body.

Because of that, wearing more layers of clothing during winter keeps us warmer than wearing just one thick piece of clothing.

### Question 8

What is thermometer?

Answer

Temperature is measured by a device called thermometer.

### Question 9

What is clinical thermometer?

The thermometer that measures our body temperature is called a clinical thermometer.

### Question 10

What is conduction?

Answer

The process by which heat is transferred from the hotter end to the colder end of an object is known as conduction.

Question 11

What are conductors of heat?

Answer

The materials which allow heat to pass through them easily are conductors of heat.

Question 12

What are insulators?

Answer

The materials which do not allow heat to pass through them easily are poor conductors of heat such as plastic and wood. Poor conductors are known as insulators.

Question 13

What is kink?

Answer

The knot like part found inside the mercury tube in clinical thermometer which prevents the flow of mercury below the kink is called kink.

Question 14

What is temperature?

Answer

A reliable measure of the hotness of an object is its temperature.

Question 15

What is Digital thermometer?

Answer

An instrument that measures and displays the temperature of an object in digital readout is called digital thermometer. Digital thermometer works with the help of heat sensing diodes.

## Question 16

What is infrared thermometer?

Answer

Instrument that focuses and detects the infrared radiations emitted by an object in order to determine the temperature of that object is called as infrared thermometer.

## Question 17

What is radiation?

Answer

Radiation is the mechanism in which heat energy got transmitted without any physical contact between objects. (Without any mediums). i.e., solid liquid or gas.

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