

Q. 1. State similarities and differences between the laboratory thermometer and clinical thermometer.

Ans. Similarities :

- (i) Both of them use celsius scale on the glass tube.
- (ii) Both of them have a long narrow uniform glass tube.
- (iii) Both have a bulb at one end that contains mercury.

Differences :

(i) Clinical thermometer is used to measure temperature of human body whereas laboratory thermometer is used to measure temperature of other objects.

(ii) Clinical thermometer has a kink near the bulb that does not let the mercury fall on its own. This kink is absent in laboratory thermometer.

(iii) Clinical thermometer reads temperature in the range 35°C to 42°C while the range of

laboratory thermometer is 10°C to 110°C .

Q. 2. Give two examples each of conductors and insulators of heat.

Ans. Conductor—aluminium, iron

Insulator—plastic, wood.

Q. 3. Fill in the blanks.

(a) The hotness of an object is determined by the

(b) Temperature of boiling water cannot be measured by a thermometer.

(c) Temperature is measured in degree

(d) No medium is required for transfer of heat by the process of

(e) A cold steel spoon is dipped in a cup of hot milk. It transfers heat to its other end by the process of

(f) Clothes of colours absorb heat better than clothes of light colours.

Ans (a) temperature (b) clinical (c) celsius (d) radiation (e) conduction (f) dark.

Q. 4. Match the following :

(i) Land breeze blows during (a) Summer

(ii) Sea breeze blows during (b) Winter

(iii) Dark coloured clothes are preferred during (c) day

(iv) Light coloured clothes are preferred during (d) night

Ans.

(i) Land breeze blows during (d) night

(ii) Sea breeze blows during (c) day

(iii) Dark coloured clothes are preferred during (a) Winter

(iv) Light coloured clothes are preferred during (a) Summer

Q. 5. Discuss why wearing more layers of clothing during winter keeps us warmer

than wearing just one thick piece of clothing.

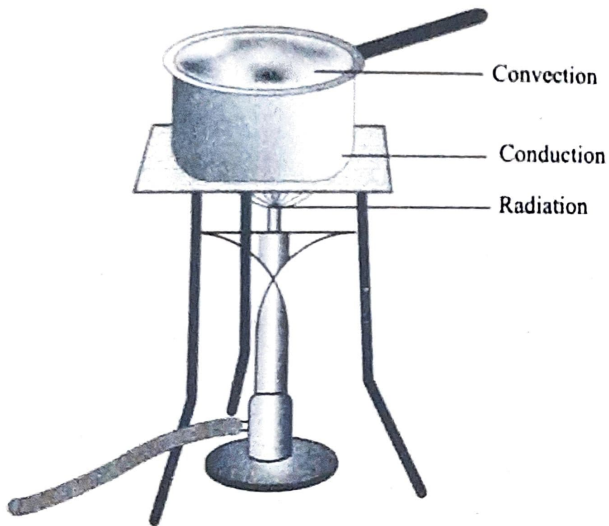
Ans. Many layers of clothing have spaces between them where the air is trapped. As air is bad conductor of heat, it does not allow the body heat to escape out. Thus, the layers of clothing keeps us warm in winter.

Q. 6. Look at Fig. 4.5, Mark where the heat is being transferred by conduction, by convection and by radiation.



Fig. 4.5

Ans.



Q. 7. In places of hot climate it is advised that the outer walls of houses be painted white. Explain.

Ans. As white colour reflects the maximum heat falling on it so it is advised to paint outer walls of the houses white in hot climate to avoid excessive heating.

Q. 8. One litre of water at 30°C is mixed with one litre of water at 50°C . The temperature of the mixture will be

(a) 80°C

(b) more than 50°C but less than 80°C

(c) 20°C

Ans. (d) between 30°C and 50°C

Q. 9. An iron ball at 40°C is dropped in a mug containing water at 40°C . The heat will.

(a) flow from iron ball to water.

(b) not flow from iron ball to water or from water to iron ball.

(c) flow from water to iron ball.

(d) increase the temperature of both.

Ans. (b) not flow from iron ball to water or from water to iron ball.

Q. 10. A wooden spoon is dipped in a cup of ice cream. Its other end

(a) becomes cold by the process of conduction

(b) becomes cold by the process of convection

(c) becomes cold by the process of radiation

(d) does not become cold.

Ans. (d) does not become cold.

Q. 11. Stainless steel pans are usually provided with copper bottoms. The reason for this could be that.

(a) copper bottom makes the pan more durable.

(b) such pans appear colourful.

(c) copper is a better conductor of heat than the stainless steel.

(d) copper is easier to clean than the stainless steel.

Ans. (c) copper is a better conductor of heat than the stainless steel.