

Class-VII (CHAPTER-04) HEAT

Questions

1. State similarities and differences between the laboratory thermometer and the clinical thermometer.
 2. Give two examples each of conductors and insulators of heat.
 3. Fill in the blanks:
 - (a) The hotness of an object is determined by its -----.
 - (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 absorbs heat better than clothes of light colours.
 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 |
 5. Discuss why wearing more layers of clothing during winter keeps us warmer than wearing just one thick piece of clothing?
 6. Look at Fig. 4.2. Mark where the heat is being transferred by conduction, by convection and by radiation.
 7. In places of hot climate, it is advised that the outer walls of houses be painted white. Explain.
 8. One litre of water at 30°C is mixed with one litres of water at 50°C . The temperature of the mixture will be
 - (a) 80°C
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- (b) More than 50°C
 - (c) 20°C
 - (d) Between 30°C and 50°C
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.
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.
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 better conductor of heat than the stainless steel.
 - (d) copper is a better conductor of heat than the stainless steel.
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Answers

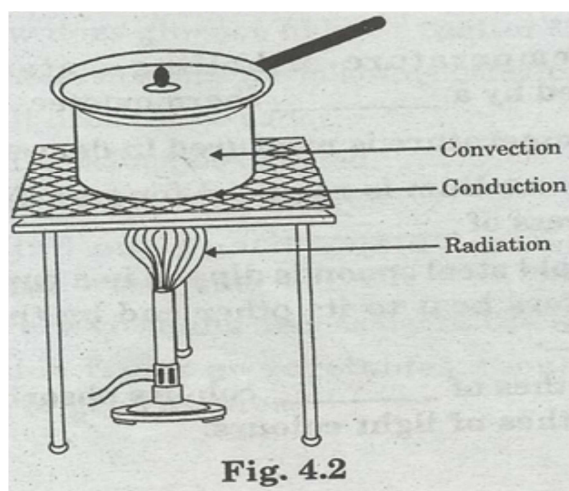
1. Similarities- Both use mercury and both measure temperature.
Differences – The clinical thermometer have kink to prevent the falling of temperature itself but laboratory thermometer, kink is absent. The range of laboratory thermometer is very high in comparison of clinical thermometer.

2.

| Conductors | Insulators |
|------------|------------|
| Steel | Wood |
| Copper | Plastic |

3. (a) The hotness of an object is determined by its **temperature**.
(b) Temperature of boiling water cannot be measured by a **clinical** thermometer.
(c) Temperature is measured in degree **Celsius**.
(d) No medium is required for transfer of heat by the process of **radiation**.
(e) A cold steel spoon is dipped in a cup of hot milk. It transfers heat to its other end by the process of **conduction**.
(f) Clothes of **black** colours absorb heat better than clothes of light colours.
4. (i) (d)
(ii) (c)
(iii) (b)
(iv) (a)
5. If there is more than one layer of clothes, air would be trapped in between them. Air is a poor conductor of heat. This increases the insulation and thus becomes more comfort to us.
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6.



7. Objects with white surface reflect more heat and absorb less. So, less heat from outside would enter the house.
8. (d) between 30°C .
9. (b) Not flow from iron ball to water or from water to iron ball.
10. (d) does not become cold.
11. (c) Copper is better conductor of heat than the stainless steel.
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