



KALPAVRUKSHA MODEL SCHOOL

Answers of Assignment-5

Class: VII

Sub: Physics

Date: 05.8.2021

Topic: TEMPERATURE AND HEAT

I. Answers:

1. What are the different modes of transfer of heat?

ANS: Three modes transfer of heat:

- a. Conduction
- b. Convection
- c. Radiation

2. State similarities between the laboratory thermometer and the clinical thermometer.

ANS: Similarities between the laboratory thermometer and the clinical thermometer are

1. They consist of a long, narrow, uniform glass tube.
2. They have a bulb containing mercury at the end of the tube.
3. They are marked with Celsius scale on the glass tube.

3. What are the different thermometer scales?

ANS: Different thermometer scales

- (a) The centigrade or Celsius scale
- (b) The Fahrenheit scale
- (c) Absolute scale or Kelvin scale

4. Differentiate between conductors and insulators.

ANS:

CONDUCTOR	INSULATORS
1) Substances that conduct heat easily are called conductors.	1) Substances that do not conduct heat very well are called insulators.
Ex: mercury, aluminum, iron, copper, silver	Ex: plastic, wood, cotton, saw-dust, cloth, wool, rubber

5. Why is water not used as a thermometric liquid?

ANS: Mercury is used in thermometer because of following reasons:

- i) It does not stick to the walls of the capillary tube.
- ii) Its silvery shines (opaque) and helps us to see temperature accurately and easily.
- iii) Its expansion is uniform.
- iv) It does not vaporize easily.
- v) It can measure a wide range of temperature (-39°C to 357°C)

6. Some models of room heaters have a fan blowing air, instead of having just a heating coil and a reflector. Do you think this could be an advantage? What mode of heat transfer is being used while blowing in the above heater?

ANS: Room heaters having a fan blowing air uses a fan to push air over the heating coils and into the room. They operate in much the same way as a home's central furnace. They rely on a large surface area to transfer its heat to the air. Fan-forced heaters are often smaller in size than the others. This can be an advantage if the heater is moved frequently. Fan-forced heaters can deliver a constant flow of hot air.

Convection is the mode of heat transfer taking place in such a condition.

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

ANS: In places of hot climate it is advised that the outer walls of houses be painted white because light colours absorb very less radiant heat and we feel comfortable inside such houses due to lower temperature inside the house.

8. How will you measure temperature using a clinical thermometer?

ANS: 1) First shake the thermometer a few times so that the mercury (the silvery grey line) goes below the normal (body temperature) mark.

2) Place the thermometer in the armpit or under the tongue of the person whose temperature is to be taken. Wait for two minutes.

3) Take out the thermometer and read the temperature at which the silver line (of mercury) ends. Keep the thermometer level with your eye for an accurate reading.

9. What is the process by which the heat of the sun is able to reach us?

ANS: Radiation is the process by which heat of sun is able to reach us

