

## **ADDITIONAL QUESTIONS AND ANSWERS**

### **CHAPTER-4 HEAT**

**1)How does radiation differ from conduction?**

**Ans.**

<b>Conduction</b>	<b>Radiation</b>
<b>Heat transfer without actual movement of particles.</b>	<b>No particle is required</b>
<b>Occurs in solid only</b>	<b>Occurs in solid, liquid and gases</b>
<b>It requires a medium to transfer heat</b>	<b>No medium is required</b>
<b>May follow any path</b>	<b>In all directions, but in straight line</b>
<b>The process is slow</b>	<b>It is fast</b>

**2)List the conditions needed for transfer of heat by conduction.**

**Ans.**The conditions needed for transfer of heat by conduction:

- The two bodies should be in contact
- The two bodies should be at different temperatures.

**3) Define conduction, convection and radiation.**

**Ans.**Conduction–The transfer of heat from a hot object to a less hot object when they are in contact is called conduction of heat.

**Convection –** The process by which heat is transmitted in liquids and gases by the actual movement of molecules is called convection of heat.

**Radiation-** The transfer of heat from one body to another, which doesn't require any material medium is called radiation of heat.

**4) How does constriction near the bulb in a clinical Thermometer help in measuring body temperature accurately?**

**Ans.Clinical Thermometer has a kink or constriction in the glass tube to prevent back flow of mercury.**

**When the Thermometer is taken out of the mouth, the mercury in the bulb contracts as temperature outside our body is normally less, and the mercury column breaks at the link. Thus, the level of mercury remains constant even after taking the Thermometer out of the mouth.**

**5) State differences between the laboratory and the clinical Thermometer.**

**Ans.**

<b>Clinical Thermometer</b>	<b>Laboratory Thermometer</b>
<b>It has a very narrow temperature range from 35°C-42°C.</b>	<b>It has a large temperature range from -10°C-110°C</b>
<b>It has a kink to prevent the back flow of mercury.</b>	<b>It has no kink.</b>
<b>It is used to measure temperature of human body only.</b>	<b>It is used to measure the temperature of various hot objects.</b>