KALPAVRUKSHA MODEL SCHOOL

Answers of Assignments-3

Class: VII **Sub: Physics** **Date: 24.7.2021**

Topic: TEMPERATURE AND HEAT

I. Answers:

1) Give the formula to convert degree Celsius to Fahrenheit.
ANS: F=(C x 9/5) + 32.

2) Give the formula to convert Fahrenheit to degree Celsius.
ANS: C=5/9(F-32).

3) What is the melting point and boiling point of mercury?
ANS: Melting point of mercury= (-38.87) ºC and boiling point of mercury= 356.58 ºC.

4) What is the range of temperature in a laboratory thermometer?
ANS: The range of temperature in a laboratory thermometer is -10 ºC to 110 ºC.

5) What is the normal body temperature?
ANS: Normal body temperature is 37^{o}C or 98.6^{o}F.

6) List the characteristic feature in a mercury clinical thermometer.
ANS: (a) There is a little arrow (at 98.4 or 98.6 °F) showing the normal body temperature. (b) There is a constriction or kink in the tube near the bulb. This kink has been made to ensure that the mercury in the thermometer doesn't flow back before the temperature has been read.

7) What is the use of 'kink' in clinical thermometer?
ANS: Kink' is provided in the clinical thermometer which does not allow the mercury to come down on its own and we can note the measured temperature even after some time.

8) Why does the clinical thermometer range between 35^{o}C to 42^{o}C?
ANS: Clinical thermometer ranges between 35^{o}C to 42^{o}C because the normal temperature of human body is 37°C.The temperature of human body normally does not go below 35^{o}C or above 42^{o}C.

II 1. On the cold winter day, the temperature was 23°F.What would this temperature be in degree Celsius?

Soln: the temperature in Fahrenheit's=23°F

The temperature in Celsius=?

$$C=\frac{5\,(F-32)}{9}=$$

$$=\frac{5(23-32)}{9}=$$

$$=\frac{5\times(-9)}{9}=(-5)$$

23°F= -5°C

2. On the top of the mountain, water boils at 95°C .Express this temperature on the Fahrenheit scale.

Solution: the temperature in Celsius=95°C

The temperature in Fahrenheit's= ?

$$F=\left(C\times\frac{9}{5}\right)+32$$

$$=\left(95\times\frac{9}{5}\right)+32$$

$$=(19\times9)+32$$

$$=171+32=203$$

95°C=203°F