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परमाणु ऊर्जा शिक्षण संस्था, मुंबई

Atomic Energy Education Society

Session: 2023 – 24

CLASS- **VII** SUBJECT : **SCIENCE**

WORKSHEET No. – **3**

Name of the Chapter: **Heat**

I. Choose the correct option:- (1 x 10= 10M)

1. Heat is

a. A form of energy b. A type of matter

c. Neither energy nor matter d. None of these

2. The device which is used to measure the degree of coldness or hotness of an object.

a. Manometer b. Barometer c. Thermometer d. Voltmeter

3. Convection may occur through

a. Solids, liquids b. Liquids, gases c. Solids, gases d. Solids, liquids, gases

4. Which one of the following is a poor conductor of heat?

a. Silver b. Aluminium c. Wood d. Brass

5. If a metal spoon is used to prepare vegetable curry, it _____

a. Becomes hot due to conduction b. Becomes hot due to convection

c. Does not become hot d. Both a and b

6. The range of a clinical thermometer is

a. 35 ℃ to 42 ℃ b. -10 ℃ to 110 ℃ c. 10 ℃ to 110 ℃ d. -35 ℃ to 42 ℃

7. Cooking utensils are made of metals because they are

a. Durable b. Malleable c. Good conductors of heat d. bend on heating

8. Heat from sun reaches us by

a. Conduction b. Radiation c. Convection d. All of these

9. Heat always flows.

a. From hotter body to a colder body b. From colder body to a hotter body

c. In both the directions d. Never flows from one body to other

10. A beggar wrapped himself with a few layers of newspaper on a cold winter night. This helped him to keep himself warm because.

a. Friction between the layers of newspaper produces heat.

b. Air trapped between the layers to newspaper is a bad conductor of heat.

c. Newspaper is a conductor of heat.

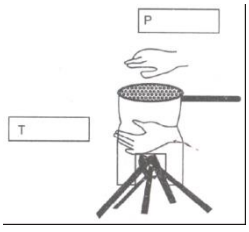
d. Newspaper is at a higher temperature than the temperature of the surrounding.

II. Answer in one sentence.(1 x 10 = 10M)

1. Why can a clinical thermometer not be used to measure high temperatures?
2. Why does the mercury not fall or rise in a clinical thermometer when taken out of the mouth?
3. What is the range of laboratory thermometer?
4. What are the various methods of transfer of heat?
5. What is sea breeze?
6. What is land breeze?
7. Why is it advised not to hold the thermometer by its bulb while reading it?
8. Why can you not use a clinical thermometer to measure the temperature of a candle flame?
9. Which will cool faster-water kept in a black pot or kept in silver pot?
10. In places of hot climate it is advised that the outer walls of house be painted which explain.

III Answer in two to three sentences. (2 x 10 =20M)

1. Why does the level of mercury change when the bulb of the thermometer is brought in contact with another object?
2. Why is it more comfortable to wear white or light-coloured clothes in summer and dark-coloured clothes in winter?
3. What is maximum minimum thermometer? Where is it used?
4. What do you mean by conduction mode of transfer of heat energy?
5. Why is the handle of a metallic kettle covered with strips of cane?
6. How do woollen clothes keep us warm in the winter?
7. Why is convection not possible in solids?
8. Why are a few sharp jerks given to clinical thermometer before using it?
9. Observe the following Figure: Water is being boiled in a pan of wide base.
   1. Which position P or T will feel warmer?
   2. Fill up the boxes P and T to indicate the mode of flow of heat to the hand.
10. Distinguish between convection and conduction.



III Answer in three to four sentences. (3 x 5 = 15M)

1. Differentiate between laboratory and clinical thermometer.
2. What is laboratory thermometer? Explain with a diagram.
3. What are the precautions needed while reading a laboratory thermometer?
4. How does the heat come towards us from the sun?
5. Why is sense of touch not a reliable technique to measure hotness or coldness? Explain with an activity.

III Answer the following. (5 x 5 = 25M)

1. (a) Why mercury is used as an indicator in thermometers ?

(b) Why are handles of most utensils made up of plastic and wood?

2. (a) What is clinical thermometer? Explain with diagram.

(b)What is the limitation of clinical thermometer?

3. Explain the process of convection with a neat labelled diagram.

4. Enumerate the precautions to be taken while reading a clinical thermometer.

5. Explain the sea breeze and land breeze.