Temperature

A. Choose the correct answer:

1. What is the SI unit of temperature?

a) Kelvin
b) Celsius
c) Fahrenheit
d) Joule

2. Which of the following instruments is used to measure temperature?

a) Barometer
b) Thermometer
c) Hygrometer
d) Anemometer

3. At what temperature does pure water boil at standard atmospheric pressure?

a) 0°C
b) 100°C
c) 37°C
d) 212°F

B. Fill in the Blanks:

1. The freezing point of pure water at sea level is _____.
2. The temperature at which a substance changes from a liquid to a gas is called its _____.
3. The human body's normal temperature is approximately _____ degrees Celsius.

C. Case Study:

A scientist, Dr. Mehta, conducted an experiment to observe how different materials respond to temperature changes. He placed three different objects—a metal rod, a wooden block, and a plastic sheet—under direct sunlight for two hours. After measuring their temperatures, he found the following:

- The metal rod became very hot.
- The wooden block became warm but not as much as the metal rod.
- The plastic sheet remained relatively cooler compared to the other two materials.

Questions & Answers:

1. What was Dr. Mehta trying to analyze through his experiment?
2. Why did the metal rod heat up more than the wooden block and plastic sheet?
3. What does this experiment indicate about the heat absorption of different materials?
4. How can this knowledge be applied in designing buildings in hot climates?

D. Short Answer Questions:

1. What is temperature, and how is it measured?
2. How does temperature affect the state of matter?
3. What is the difference between heat and temperature?

E. Long Answer Questions:

1. Explain the different temperature scales used worldwide and their conversions.
2. Describe how temperature affects weather patterns and climate.
3. Discuss the applications of temperature control in industries, healthcare, and daily life.