Flame

b) Middle zone

A. Choose the Correct Answer:

1. Which part of the candle flame is the hottest?

- a) Innermost zone
- c) Outermost zone

2. The blue flame indicates:

b) Presence of unburnt fuel

d) None of the above

- a) Incomplete combustionc) Complete combustion
- d) Presence of smoke

3. Which zone of the flame is least hot?

- a) Luminous zone
- b) Non-luminous zone
- c) Innermost dark zone
- d) Blue zone

B. Fill in the Blanks:

- 1. The ______ zone of a flame is blue and indicates complete combustion.
- 2. The yellow part of a candle flame is called the _____ zone.
- 3. The innermost zone of a flame contains ______ vapors.

C. Case Study:

During a lab experiment, Riya lit a candle and observed the different parts of the flame. She held a metal rod in each zone. The rod turned black in the yellow zone and remained clean in the blue zone. Her teacher explained that this happens due to the difference in combustion.

Case Study Questions:

- 1. What did Riya observe when she placed a metal rod in the yellow part of the flame?
- 2. Why did the rod remain clean in the blue zone?
- 3. What does the yellow zone of a flame indicate about combustion?
- 4. What can we conclude about the different zones of a flame?

D. Short Answer Questions:

- 1. What is a flame?
- 2. Name the three main zones of a flame.
- 3. Why does the yellow zone produce soot?

E. Long Answer Questions:

- 1. Describe the structure of a candle flame with the functions of each zone.
- 2. Explain the difference between complete and incomplete combustion using flame zones.
- 3. Why is the blue flame considered ideal for cooking in gas stoves?