St. Andrews Scots Sr. Sec. School

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Session: 2025-2026 – Answer Key

Class: VIII **Subject: Science** **Chapter: Combustion and Flame**

CHECK POINT 1

1. non-combustible

2. oxygen

3. combustible

4. ignition

CHECK POINT 2

1.(F) 2. (T) 3. (F) 4. (T) 5. (T)

CHECK POINT 3

1. flames

2. 1200°C

3. nonluminous

4. Melting

PRACTICE TIME

A. Tick (✓) the correct answer:

1. (c) 2. (a) 3. (d) 4. (a) 5. (c) 6. (a)

B. Assertion-Reason Type Questions:

1. (d) 2. (b) 3. (a) 4. (c) 5. (a)

C. Match the Columns:

1. (d) 2. (e) 3. (a) 4. (b) 5. (c)

D. Very Short Answer Type Questions:

1. Spontaneous combustion.

2. Non-combustible substances.

3. Carbon monoxide is released by burning coal.

4. Rapid combustion.

5. Blue zone–Nonluminous zone

Yellow zone–Luminous zone

E. Short Answer Type Questions:

1. I will prefer dry leaves because these have lower ignition temperature.

2. (a) Incomplete combustion of a fuel produces yellow flame having a low temperature and leaves behind a black soot. It also produces harmful gases like carbon monoxide, nitrogen dioxide, etc.

(b) Carbon dioxide is a non-supporter of burning. It displaces or takes away oxygen from the surrounding area by preventing the supply of oxygen to the combustible substance. This extinguishes the fire.

3. All substances do not produce flame on burning because only those substances which vaporise during burning give off flames. For example, candle burns with a flame.

4. The characteristics of middle zone of a candle flame are:

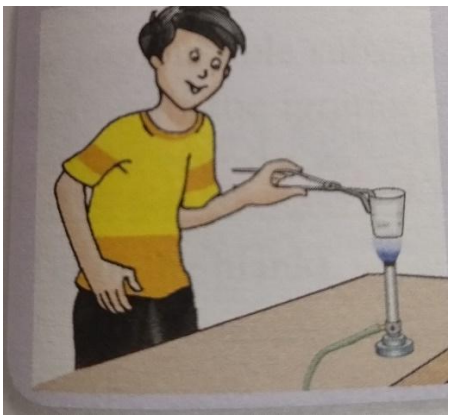
(a) The flame of this zone is luminous (yellowish in colour).

(b) The temperature of this zone is about 1200°C.

F. Long Answer Type Questions:

1. 'Water controls the fire' can be shown experimentally as follows:

Take some water in a paper cup and heat it over a flame. The paper cup does not catch fire because the water in the cup takes the heat and keeps the temperature of the paper below its ignition temperature.



Water controls the fire

2. (a) The substances that vaporise during the process of burning, give off flames, e.g., a candle and a magnesium ribbon burn with a flame, etc.

(b) When wax vapour does not burn completely as oxygen is not available in plenty, the flame produced is luminous. On the other hand, when oxygen is available in plenty, the flame produced is nonluminous.

3. The quantity of heat produced by the complete combustion of 1 kg of a fuel is called its calorific value. It is expressed in kilojoule per kilogram (kJ/kg).

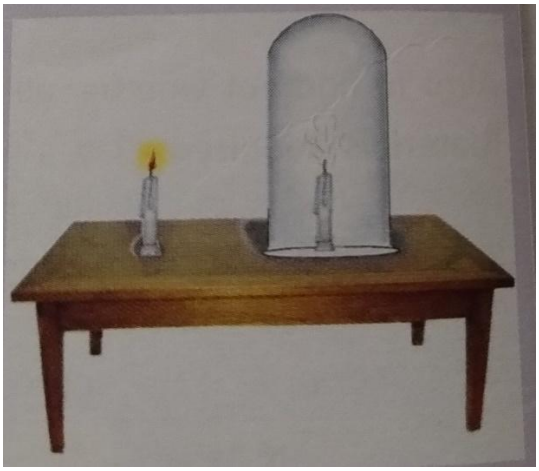
4. Burning of fuels affects the environment in many ways. So, we should try to use some alternative sources of energy such as wind energy, solar energy, cleaner fuels like biogas and CNG.

5. Air is necessary for combustion to take place. It can be proved by following activity:

• Procedure: Fix two candles on a table and light them with the help of a burning matchstick. Cover one of them with a glass jar and watch for some time.

• Observation: The candle covered with the glass jar gets extinguished after some time while the uncovered candle continues to burn.

• Conclusion: The uncovered candle continues to burn as it gets sufficient supply of air (oxygen). On the other hand, the candle covered with the glass jar keeps on burning as long as it gets air. When the air present inside the jar is used up, the candle goes off. Hence, it shows that air is necessary for combustion to take place. If enough oxygen is not present for a fuel to burn, the process of combustion remains incomplete. As a result, the fuel gives out a yellow flame having a low temperature and leaves behind a black soot.



Air is necessary for combustion

G. HOTS Questions:

1. Water is a good conductor of electricity. As a result, the person putting out fire with water, caused by electric wiring, gets shock. So, we are advised not to use water to put out fire caused by electric wiring.

2. Air contains oxygen and oxygen supports the process of burning. That is why she is blowing air around the coal or wood to burn it.

3. The paper cone having no water in it will burn easily. It is because water filled in paper cone keeps the paper below its ignition temperature, and hence, paper cone containing water does not burn easily.