

Class 8. Chapter- 6  
Combustion and flame  
Exercises

Q1. List the conditions under which combustion can take place.

Ans- the three important requirement for combustion to take place are:

1. Presence of a supporter of combustion that is Oxygen.
- 2 presence of combustible substance.
3. Heat supplied to attain the ignition temperature of the combustible substance.

Q3. Explain how the use of CNG in automobiles has reduced pollution in our cities.

Ans-CNG compressed natural gas is a clean gas fuel. It has high calorific value. It burns completely in air and does not produce any harmful gases. It does not leave any residue after burning. So , pollution is reduced by the use of CNG in automobiles in our cities.

Q4. compare LPG and wood as fuel.

Ans- LPG

- a) It is in the gaseous state.
- b) It burns easily with blue flame.
- c) It has low ignition temperature.
- d) It does not produce smoke on burning.
- e) It has high calorific value.

Wood

- a) It is in solid state.
- b) It does not burn easily.
- c) It has high ignition temperature.
- d) It release a lot of smoke on burning.
- e) It has low calorific value.

Q5.a) water is not used to control fire involving electric equipments.

Ans- water is not used to control fire involving electrical equipments because water is a good conductor of electricity. Thus, it can cause the electrocution .

b) LPG is better domestic fuel than wood.

Ans-LPG is better domestic fuel than wood because it is a cleaner fuel than wood it neither produces smoke nor does it leave any residue after burning. it has high calorific value . While wood produces a lot of smoke on burning and leaves behind ashes on burning fullstop wood has low calorific value.

c) paper by itself catches fire easily whereas a piece of paper wrapped around an aluminium pipe does not.

Ans- when paper wrapped around an aluminium pipe is brought near a flame, it does not burn because the heat given to the paper gets transferred to the aluminium pipe and the ignition temperature of the paper is not attained.

Q6. Make a labelled diagram of candle flame.

Ans-draw a diagram from the test book.

Q7. Name the unit in which the calorific value of fuel is expressed.

Ans-the unit in which the calorific value of fuel is expressed in kilojoule per kilogram (kj/kg).

Q8. Explain how CO<sub>2</sub> is able to control fires.

Ans-carbon dioxide is heavier than oxygen and covers the combustible substance like a blanket. Thus, Carbon dioxide cuts off the contact between the combustible substance and air. This extinguish the fire.

Q9. It is difficult to burn a heap of green leaves but dry leaves catches fire easily explain?

Ans-Green leaves have a lot of moisture in them which increases their ignition temperature. The dry leaves do not contain moisture and. Thus, their ignition temperature is low. Therefore, a heap of Green leaves do not burn easily but the dry leaves catches fire easily.

Q10. Which zone of the flame a goldsmith used for melting gold and silver and why?

Ans- goldsmith usually use the outermost layer that is non luminous zone of the flame for melting gold and silver because it is the hottest part of the flame.

Q11. in an experiment 4.5 kg of a fuel was completely burnt. The heat produced was measured to be 180000 kj. Calculate the calorific value of the fuel.

Ans- Mass of the fuel =4.5 kg

Heat produced =180,000 kj

We know, calorific value= heat produced by burning 1 kg of the fuel

Therefore, calorific value=180,000

$$\frac{180,000}{4.5 \text{ kg}} \\ =40000 \text{ kj/kg}$$

Q12. Can the process of rusting be called combustion? discuss.

Ans-yes, the process of rusting can be called combustion.

combustion is the chemical process in which substance react with oxygen and give off heat and light.rusting of iron is also a chemical process in which iron react with oxygen at a very low rate and give off heat. So, rusting can be termed as a slow combustion process.