MM. – 30 **Time: 1 hr**

Q1. What is ignition temperature? Give one example of a substance having low ignition temperature. 1

Q2. Fill in the blanks: 1
a) The hottest zone of the flame is the _____ zone.
b) Calorific value of kerosene is approximately _____ kJ/kg.

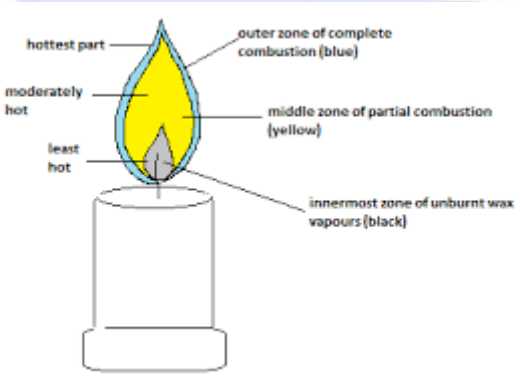
Q3. State whether the following statements are True or False: 1
a) Incomplete combustion of fuels produces carbon dioxide.
b) Water can be used to extinguish fire caused by petrol.

Q4. Choose the correct option: 1
Which gas is responsible for causing acid rain due to burning of fossil fuels?
a) Carbon dioxide
b) Nitrogen
c) Sulphur dioxide
d) Hydrogen

Q5. Give two reasons why LPG is considered a cleaner fuel than coal. 2

Q6. Why do forest fires occur naturally during hot summers? 2

Q7. Observe the diagram of a candle flame given below and answer the following questions: 2



a) Which zone is responsible for complete combustion?
b) Which zone is luminous and why?
c) Which zone is the least hot?

Q8. Assertion (A): Phosphorus catches fire on its own when kept in open air.
Reason (R): Phosphorus has a low ignition temperature.
Choose the correct option: 1
a) Both A and R are true and R is the correct explanation of A
b) Both A and R are true but R is not the correct explanation of A
c) A is true but R is false
d) A is false but R is true

Q9. Define combustion. List any two conditions necessary for combustion to take place. 2

Q10. A student burns 2 kg of a fuel and measures that 48000 kJ of heat is released.

Calculate the calorific value of the fuel. 2

Q11. What precautions should be taken while using a kerosene stove at home?

Give any three. 3

Q12. Read the passage and answer the following: 3
Ravi was heating a substance over a candle flame in the lab. He held a metal rod in the different parts of the flame and observed that the rod became red hot in the outermost zone. He also noticed black soot deposited on the rod when placed in the middle zone.

a) What does the red-hot rod in the outer zone indicate?
b) Why did soot form in the middle zone?
c) Which zone of the flame should be used for heating substances and why?

Q13. Differentiate between rapid combustion and spontaneous combustion with

one example each. 2

Q14. Give one example each of: 1
a) A fuel that is solid at room temperature
b) A gaseous fuel used in vehicles
c) A situation where explosion occurs due to combustion

Q15. Why is carbon monoxide considered a deadly gas? How is it produced

during combustion? 2