Name: _____ Date: _____

Combustion and Flame

Q1. Why some substances burn with a flame while as some burn without a flame?

Ans. _____

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Q2. In an experiment 4.5 kg of a fuel was completely burnt. The heat produced was measured to be 180,000 kJ. Calculate the calorific value of the fuel.

Ans. _____

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Q3. List conditions under which combustion can take place.

Ans. _____

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Q4. Why do we cover a burning person in the blanket as a first aid?

Ans. _____

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Combustion and Flame

Q1. Why some substances burn with a flame while as some burn without a flame?

Ans. The substances which vapourise during burning, give flames. For example, kerosene oil and molten wax rise through the wick and are vapourised during burning and form flames. Charcoal, on the other hand, does not vapourise and so does not produce a flame.

Q2. In an experiment 4.5 kg of a fuel was completely burnt. The heat produced was measured to be 180,000 kJ. Calculate the calorific value of the fuel.

Ans. The amount of heat energy produced on complete combustion of 1 kg of a fuel is called its calorific value.

Heat produced from 4.5 kg of a fuel = 180,000 kJ

Heat produced from 1 kg of a fuel = 180,000 kJ ÷ 4.5 kg = 40000 kJ/kg

Q3. List conditions under which combustion can take place.

Ans. There are three conditions which are necessary for combustion to take place. These are:

i. Presence of a combustible substance (fuel)

ii. Presence of air or oxygen

iii. Heating the combustible substance to its ignition temperature

Q4. Why do we cover a burning person in the blanket as a first aid?

Ans. When the clothes of a person catch fire the person is covered with a blanket to extinguish fire because when the burning clothes of a person are covered with a blanket, the supply of air to the burning clothes is cut off and hence the burning stops.