

## Experiment-4

### Determination of Ash

#### **Principle:**

The sample is ignited to 550-600°C to burn off all organic matter. The inorganic matter does not volatilize at the temperature is termed as ash.

#### **Apparatus:**

1. Muffle furnace
2. Crucibles
3. Desiccator
4. Weighing balance
5. Bunsen burner

#### **Procedure:**

- Measure 10 g sample in a dry and pre-weighed silica crucible and heat it at 100 ±5°C using a Bunsen burner until the samples become completely dry
- Transfer the crucibles containing charred samples into muffle furnace held at a temperature of 600 ±5°C and incinerated until white ash obtained (about 5-6 hour)
- Cool the crucible at room temperature and transferred to desiccators
- Take the final weight and the percentage of ash may be calculated based on the initial weight of the sample

#### **Calculation:**

$$\text{Crude ash (\%,)} = \frac{W_2 - W}{W_1 - W} \times 100$$

Where;

W = weight (g) of the empty dish

W<sub>1</sub> = weight (g) of the dish with the dried material taken for the determination of ash.

W2 = weight (g) of the dish with ash