## CLASS XI
### PAPER CHROMATOGRAPHY

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**Experiment Number:_____**
**Date: ___/___/**

**Aim:** To separate coloured compounds from the given mixture (containing red and blue inks) by ascending paper chromatography and compare the Rf values of the components present.

**Requirements:** Chromatography paper, gas jar, capillary tube, ruler, pencil, mixture of inks, distilled water etc.

**Theory:** The coloured components present in the ink mixture can be separated placing 1-2 drops of the mixture on one end of the chromatography paper and eluting it using distilled water as the mobile phase. The Rf value is calculated as follows:

$$R_f = \frac{\text{Distance travelled by the coloured component}}{\text{Distance travelled by the elute (Distilled water)}}$$

**Procedure:**

1. Take a chromatographic paper (Quantitative filter paper) and draw a reference line 1 inch away from one end of the paper using a pencil and ruler.
2. Cut the end of the paper like a wedge.
3. Using a capillary tube place 1-2 drops of the ink mixture at the centre of the reference line drawn. This process is called spotting.
4. The paper is then fixed over a gas jar in which distilled water is taken in such a way that the tip of the chromatography paper just touches the water.
5. After about 20-30 minutes, the chromatography paper is removed. Pencil mark is made to note the distance travelled by elute (Water).
6. Dry the chromatography paper and calculate Rf values.

**Precautions**:

1. A fine capillary tube should be used so that the diameter of the spot is small.
2. The gas jar should not be disturbed.
3. The chromatography paper should not touch the sides of the gas jar.
4. The ink spot should lie above the level of elute in the gas jar.

**Result:**

1. **The Rf value of the red component =_____**
2. **The Rf value of the blue component = _____**

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