

## EXPERIMENT NO: 06

### **DETERMINATION OF PLASMOLYSIS AND DEPLASMOLYSIS**

#### **PRINCIPLE**

In normal condition the protoplasm is highly pressed against the cell wall. If this plant cell or tissue is placed in hypertonic solution, water comes out from the cell sap into the outer solution due to ex-osmosis and the protoplasm begins to contract from the cell wall. The process is called as plasmolysis and the cell or tissue is referred as plasmolysed cell or tissue respectively. On the other hand if a plasmolysed cell is placed in water the process of endosmosis takes place and the protoplasm again assumes its normal shape and position. This phenomenon is called as Deplasmolysis. In the present experiment, plasmolysis and deplasmolysis were demonstrated with the help of Rhoeo discolor leaf tissue particularly from the lower surface of the leaf, where cell sap is purple in colour due to presence of anthocyanin pigment.

#### **MATERIALS REQUIRED**

Rhoeo-discolor leaf, Watch glass, slide and cover slip, forceps, 0.5M sucrose solution, distilled water, scale, pencil and rubber.

#### **PROCEDURE**

**Phase-1:** Peel the lower surface of Rhoeo discolor leaf which was taken in a watch glass. The leaf peel was mounted over a glass slide added distilled water then cover with cover slip and watched under microscope.

**Phase-2:** The leaf peel was then immersed in 0.5M sucrose solution taken in a watch glass for 15 min to allow plasmolysis. After which the peel was taken over a glass slide, add 0.5M sucrose solution and observed under microscope.

**Phase-3:** The plasmolysed leaf peel was then immersed in distilled water taken in a separate watch glass for 15 min to allow deplasmolysis, the leaf was then mounted over a glass slide added distilled water this time, covered with cover slip as per normal practice and observed under microscope.

**OBSERVATION**

**RESULT**

**CONCLUSION**