ACTIVITY 13

DETERMINATION OF MEAN SOLUTE POTENTIAL OF CELL SAP USING METHOD OF INCEPIENT PLASMOLYSIS

Requirements:

(i) Solutions of different concentration, such as 0.3M, 0.4M, 0.5M, 0.6M and 1M.

(ii) Microscope

(iii) Petridishes or watch glass

(iv) Slides and cover slips

(v) Brush, scissors, forceps

Theory:

The **potential of solute** to attract water is called **solute potential**

or

The **quantity of solute** in a solution which can draw water from other solution, separated by a differentially permeable membrane is called **solute potential.**

Solute potential can be observed by **plasmolysis** in a living cell especially by **incepient plasmolysis.** it is the just beginning of plasmolysis by the influence of solution which contains almost same osmotic pressure as the cell sap.

All cells of a tissue do not show equal solute potential. All cells of a tissue ae plasmolysed 50% or more than 50%, so solute potential obtained as a **mean** of these cells is called mean solute potential.

Procedure:

(i) Take epidermis of onion and cut pieces of 4mm slides.

(ii) Take sugar solution of different concentrations in Petri dishes **0.3M, 0.4M, 0.5M, 0.6M** and **1M.**

(iii) Place one piece of onion epidermis in each petri dish for about 20 minutes.

(iv) After that remove the piece from solutions and prepared the slide of each and observed under microscope.