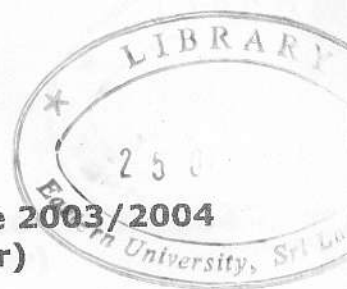


Eastern University, Sri Lanka

First Year First Semester Examination in Science 2003/2004
(November/December, 2004) (Proper)

BT 101, Cell Physiology



Answer All Questions

Time: 01 hr

1. (a) Define the terms "Chemical potential" and "Water potential" of a solvent.
(b) What are the components of water potential.
(c) List all the methods that may be used to measure the components of water potential.
(d) A typical flaccid plant cell is placed in a 0.11 M sucrose solution which has an osmotic potential of -0.25 MPa. What are the Ψ_p , Ψ_w and Ψ_s of that cell after equilibrium, if that flaccid cell had an osmotic potential of -0.73 MPa.

2. (i) Distinguish the following:
 - (a) Diffusion and Imbibition
 - (b) Isotonic solution and Hypertonic solution
 - (c) Anomocytic type and Anisocytic type of stomata

- (ii) Briefly describe one of the methods of measuring stomatal size and list its advantages and limitations.