



Eastern University, Sri Lanka
External Degree Programme
First Year Examination in Science-1996/97
(June/August, 2004)(Repeat)

EXTBT 101, Plant Physiology

Answer any **Four** questions

Time: 2 hrs

- 1) a) Explain "Water Potential"
b) What is root pressure? Explain the method available to determine this.
c) What do you mean by differentially permeable membrane? Explain.
- 2) a) List the components of the xylem tissue?
b) Explain how apoplastic and symplastic pathways take place in plants roots?
- 3) Compare the following:
a) Transpiration and Guttation.
b) Phloem loading and Phloem unloading.
c) Plasmolysis and deplasmolysis cells.
- 4) a) Describe briefly the different cell types making up the stomatal apparatus of the leaf.
b) Discuss the factors that affect the opening and closing of the stomata and their significance in plant life.
- 5) Explain the following statements:
a) "Biological membranes are semi-permeable membranes"
b) "Water in the xylem vessel is under tension, during high transpiration"
c) "Debarking may kill a plant"
d) "Zig-zag water movement pathway is necessary"
- 6) Write briefly on **any two** of the following:
a) CAM plants.
b) Photorespiration.
c) Photosynthetic pigments.