



(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017 ACADEMIC YEAR

THIRD YEAR THIRD SEMESTER SPECIAL/SUPPLEMENTARY EXAMINATION

FOR THE DEGREE OF BACHELOR OF SCIENCE AGRICULTURE

COURSE CODE: SBT 324

COURSE TITLE: PLANT ECOPHYSIOLOGY

DATE: 26/09/2017

TIME: 8:00 -10:00 A.M

INSTRUCTIONS TO CANDIDATES

Answer Question one (1) and any other two (2) Questions. Question one is compulsory and carries 30 marks, the other Questions carry 20 marks each.

TIME: 2 Hours

This paper consists of 2 printed pages. Please Turn Over



KIBU observes ZERO tolerance to examination cheating

1. (a) (i) Briefly explain the effect of the Casparian strip on water flow within the endodermis (3 Marks)
(ii) Outline the classification of soil water based on the availability of the soil water to plants (4 marks)
(iii) Explain how the Velamen layer enhances water uptake in the Orchids (3 marks)
- (b) (i) Explain accumulation of compatible solutes in plants during water deficit (4 Marks)
(ii) Outline the THREE classification of plants on the basis of their response to available water (3 Marks)
(iii) Briefly describe desiccation tolerance in lichens (3 Marks)
- (c) (i) Outline the reasons as to why the xylem is the chief avenue for the upward transport of water in the xylem (3 Mark)
(ii) Explain why the vital force theory has been discredited (4 marks)
(iii) Explain the lateral movement of water in the stems (3 marks)
2. Discuss high temperature injury in plants (20 Marks)
3. Describe pathways of water movement in roots using well labelled diagram (20 Marks)
4. Discuss the deleterious effects of salinity on plant growth (20 Marks)
5. Discuss factors affecting mineral salts absorption from the soil (20 Marks)