



(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS 2017/2018 ACADEMIC YEAR

THIRD YEAR THIRD SEMESTER SPECIAL/SUPPLEMENTARY EXAMINATION

**FOR THE DEGREE OF BACHELOR OF SCIENCE AGRICULTURAL
BIOTECHNOLOGY**

COURSE CODE: SBT 324

COURSE TITLE: PLANT ECOPHYSIOLOGY

DATE: 16th October, 2018

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) Define the Velamen layer. (1 Marks)
(ii) Explain water absorption in algae. (2 Marks)
(iii) Differentiate between water absorption in liverworts and in Moss. (4 Marks)
(iv) Explain how the epiphytes are able to obtain water from the atmosphere (3 marks)
- (b) (i) Define ionophores. (1 Marks)
(ii) Explain the effect of the Casparian strip on the sap movement across the root. (4 Marks)
(iii) Briefly describe Donnan effect and equilibrium in mineral salts absorption. (5 Marks)
- (c) (i) Explain the mechanism of reduced photosynthesis in glycophytes. (2 Marks)
(ii) Differentiate between halophytes and glycophytes. (4 Marks)
(iii) Describe osmoregulation in glycophytes. (4 Marks)
2. Describe the adaptations of the hydrophytes to their environment. (20 Marks)
3. Discuss high temperature injury in plants. (20 Marks)
4. Discuss the mechanisms of passive absorption of mineral nutrients from the soil (20 Marks)
5. Discuss factors affecting water absorption from the soil (20 Marks)