



*(Knowledge for Development)*

# **KIBABII UNIVERSITY**

## **UNIVERSITY EXAMINATIONS 2020/2021 ACADEMIC YEAR**

### **SECOND YEAR FIRST SEMESTER SPECIAL/SUPPLEMENTARY EXAMINATIONS**

**FOR THE DEGREE OF BACHELOR OF (SCIENCE OF AGRICULTURE  
AND BIOTECHNOLOGY)**

**COURSE CODE: SBT 324**

**COURSE TITLE: PLANT ECOPHYSIOLOGY**

**DATE: 11<sup>TH</sup> JANUARY 2022      TIME: 11.00 – 1.00 PM**

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#### **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 3 printed pages. Please Turn Over



KIBU observes ZERO tolerance to examination cheating

### QUESTION 1.

- a). Explain the following aspects of soil water content. (3marks)  
Field capacity, Wilting point, Available water content.
- b). State four differences between imbibition and diffusion. (4 marks)
- c). Describe three pathways of water movement through the root. (6marks)
- d). Outline the role of root pressure in water movement in plants. (3 marks).
- e). Discuss the two processes of osmosis. (4 marks)
- f). List four factors affecting imbibition. (4marks).
- g). Describe the three pathways of water movement in plants. (6 marks).
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2. Describe the role of macronutrients in plant growth. (20 marks).
3. Describe the uptake of mineral nutrients in plants. (20 marks).
4. Describe water absorption by roots. (20 marks).
5. Describe the metabolism of mineral nutrients by plants. (20 marks)