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KIBABII UNIVERSITY

**UNIVERSITY EXAMINATIONS
2017/2018 ACADEMIC YEAR**

**SECOND YEAR SECOND SEMESTER EXAMINATIONS
FOR THE DEGREE OF BACHELOR OF EDUCATION
SCIENCE/ BACHELOR OF SCIENCE IN BIOLOGY**

COURSE CODE: SBT 222

COURSE TITLE: PLANT STRUCTURE AND FUNCTION

DATE: Thursday 8th August, 2018.

TIME: 2:00 – 4:00 p.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

KIBU observes ZERO tolerance to examination cheating

This Paper Consists of 2 Printed Pages. Please Turn Over. ►

QUESTION ONE (30MKS)

- a) State any **FIVE** functions of a cell wall (5 marks)
- b) Briefly describe the various types of vascular bundles (5 marks)
- c) Highlight **FIVE** specialised epidermal structures (5 marks)
- d) When a plant matures, the cell wall undergoes some modifications. Explain (5 marks)
- e) Briefly describe the process of water transport in plants from the soil to the leaves (5 marks)
- f) Explain the function of the following structures in plants (5 marks)
- (i) Leucoplast
 - (ii) Sieve tubes
 - (iii) Peroxisomes
 - (iv) Tracheids
 - (v) Bundle sheath

QUESTION TWO

The ground tissue system is heterogeneous in nature and composed of different types of cells performing different functions. Discuss (20 marks)

QUESTION THREE

Using relevant examples, discuss the ecological and anatomical adaptations of plants to their environment (20 marks)

QUESTION FOUR

Using a well labelled diagrams, describe the differences in structure and function between a dicot and a monocot root (20 marks)

QUESTION FIVE

The state in which viable seeds will not germinate and the process by which the embryo grows and develops, eventually becoming a fully mature plant is dependent on both internal and external environmental conditions. Discuss (20 marks)