



KIBABII UNIVERSITY

SPECIAL/SUPPLEMENTARY EXAM

**UNIVERSITY EXAMINATIONS
2017/2018 ACADEMIC YEAR**

**THIRD YEAR FIRST SEMESTER EXAMINATIONS
FOR THE DEGREE
OF
BACHELOR OF EDUCATION SCIENCE/BACHELOR OF
SCIENCE IN BIO/BAB/BBC**

COURSE CODE: SBT 312

COURSE TITLE: PLANT PHYSIOLOGY

DATE: 1ST OCTOBER, 2018

TIME: 8:00 -10:00 a.m.

INSTRUCTIONS TO CANDIDATES

Answer Question One **compulsory (30mks)** and any other Two Questions (**20mks**) each.

TIME: 2 Hours

KIBABII observes ZERO tolerance to examination cheating

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

SBT 312: PLANT PHYSIOLOGY

QUESTION ONE (30 MKS)

- a) Explain the following terms
- (i) Active transport
 - (ii) Calvin cycle
 - (iii) Root pressure
 - (iv) Turgor pressure
 - (v) Transgenic plant
- (5 marks)
- b) State and explain the significance of photosynthesis in plants (5 marks)
- c) Briefly explain how photorespiration limit photosynthesis in C3 plants? (5 marks)
- d) Briefly describe the process of phloem unloading (5 marks)
- e) Give ways in which scientists might use greenhouses and genetic modification of plants to enhance crop production. (5 marks)
- f) State the functions of any **FIVE** endogenous plant hormones (5 marks)

QUESTION TWO

Describe the process of photosynthesis in plants (20 marks)

QUESTION THREE

Discuss the differences in the C3, C4 and CAM photosynthesis and photorespiration processes.

(20 marks)

QUESTION FOUR

Describe any **FIVE** secondary plant metabolites. In each case, identify the site of synthesis and

function (20 marks)

QUESTION FIVE

Describe what goes in the matrix of the mitochondria during the Krebs cycle in plants.

(20 marks)