



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF
SCIENCE AND BACHELOR OF EDUCATION (SCIENCE)

SBT403: ECOPHYSIOLOGY

DATE: Thursday 5th April 2012

TIME: 4.30p.m – 6.30p.m

INSTRUCTIONS

Answer **ALL** questions in Section A and **ANY ONE** in Section B. Answers in Section A must be concise and written in the spaces provided in the question paper.

SECTION A: Short answer questions (5 marks each).

1. With the aid of a diagram describe the major reactions of photorespiration.

2. a) What is volumetric water content?

b) Describe how it is measured.

3. Describe two fundamental forces that act on soil water.

- 4: a) What is leaf area index?

- b) Describe how it affects light flux through leaf canopies.

5. Discuss the morphological consequences of the crassulacean acid metabolism (CAM) pathway of photosynthesis.

6. Describe the major characteristics that distinguish the C_3 and C_4 photosynthesis.

7. Transpiration exhibits a diurnal periodicity closely correlated with stomatal movement.
Discuss

8. Distinguish between production rate and production yield of dry matter.

Section B: Essay (30 marks each)

1. Discuss the types of utilization of organic carbon exhibited by plants.
2. Describe the mechanisms of drought resistance exhibited by plants in xeric environments.
3. Write an essay on the energy balance of a leaf.

