



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2016/2017

**SECOND YEAR SECOND SEMESTER EXAMINATIONS FOR
THE DEGREE OF MASTER OF SCIENCE IN PLANT
BREEDING**

MAIN CAMPUS

AAG 822: CROP PHYSIOLOGY

Date: 12th April, 2017

Time: 9.00 - 12.00pm

INSTRUCTIONS:

- The paper has two sections (A & B)
- Attempt **ALL** questions in section A and any two (2) in section B

MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

FIRST YEAR FIRST SEMESTER EXAMINATIONS FOR THE
DEGREE OF MASTER OF SCIENCE IN GENETICS AND PLANT
BREEDING

AAG 822: CROP PHYSIOLOGY

Instructions:

- *The paper has two sections (A & B)*
- *Attempt ALL questions in section A and any two (2) in section B*

Section A (30 marks)

Q1.

- a) Photosynthesis is considered fundamental to life process on earth. Highlight the importance of photosynthesis to life on earth. **(4 marks)**
- b) Highlight the role(s) of 'light scattering' characteristics of leaf tissue to the overall photosynthetic light absorption by leaves. **(4 marks)**
- c) Understanding of plant physiology is important in facilitating crop improvement. One way in which such physiological knowledge may be used in breeding programmes is to have it inform the choice of the environment for conducting the breeding trials. Explain. **(7 marks)**

Q2. Besides cellular organization, the other defining feature of living organisms is liquid water.

- a) Explain the importance of cell-water-related turgidity to the cell-expansive growth of plants. **(7 marks)**
- b) By outlining the typical leaf water potential of mesophytic crop species (maize), highlight the potential water loss from maize crops under dry subhumid climates with a typical relative humidity of 60%. **(8 marks)**

