

CHUKA

UNIVERSITY



UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE OF MASTER OF SCIENCE  
IN AGRICULTURAL EDUCATION AND EXTENSION, DRY LAND FARMING,  
CROP PROTECTION**

**AGRI 811: CROP PHYSIOLOGY**

**STREAMS: MSc. (Y1S1)**

**TIME: 3 HOURS**

**DAY/DATE: MONDAY 14/04/2025**

**2.30 P.M. – 5.30 P.M.**

**INSTRUCTIONS**

- Answer **ALL** questions in **Section A** and any other **Two** questions in **Section B**

**SECTION A (TOTAL 20 marks)**

- 1.a. Describe the two photosystems and highlight areas where electrons are generated. (10 marks)
- b. Discuss how crop physiology can be used to increase yields. (10 marks)

**SECTION B (TOTAL 40 marks)**

2. a) Describe the hormonal changes that occur during seed development, maturation, and germination. (10 marks)
  - (b) Discuss the physiological responses regulated by ethylene. (10 marks)
- 3.(a) Discuss the key processes involved in membrane transport across plant cells. (10 marks)
  - (b) Elaborate on mechanisms of nutrient ion absorption. (10 marks)
- 4.a) Discuss the effect of light on plant development, highlighting key processes that occur. (10 marks)
  - (b) Elaborate on how modelling can be used to produce crops tolerant to stress. (10 marks)