

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE OF MASTER OF SCIENCE IN
PLANT BREEDING**

AGRI 811: CROP PHYSIOLOGY

STREAMS: MSC

TIME: 3 HOURS

DAY/DATE: THURSDAY 05/12/2019

11.30 A.M. – 2.30 P.M.

SECTION A (30 MARKS) ANSWER ALL QUESTIONS

1. Explain why it is vital to understand the root system structure of a crop plant. (4 marks)
2. Explain osmosis versus active transport in a plant cell. (6 marks)
3. Explain the major role of a plant's circadian clock. (5 marks)
4. Explain the term signal transduction in plant cells and its importance. (5 marks)

SECTION B (40 MARKS): ANSWER ANY TWO QUESTIONS

5. (a) Explain the phytohormone signaling role of auxin in plants. (8 marks)
(b) Explain the physiological changes that occur during the germination of a castor bean seed. (12 marks)
 6. (a) Describe how the geometry of a plant cell wall contributes to growth. (10 marks)
(b) Discuss stress reaction in plants at cellular and molecular level. (10 marks)
 7. (a) Briefly discuss the light reaction in plant photosynthesis. (7 marks)
(b) Discuss crop roots development under drought conditions. (13 marks)
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