



2ND SEMESTER 2008/2009

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UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

**PROGRAMMES: BACHELOR OF SCIENCE IN AGRICULTURAL
EDUCATION, YEAR 2
BACHELOR OF SCIENCE IN AGRONOMY, YEAR 2
BACHELOR OF SCIENCE IN HORTICULTURE, YEAR 2**

COURSE CODE: CP 205

TITLE OF PAPER: CROP PHYSIOLOGY

TIME ALLOWED: TWO (2) HOURS

**INSTRUCTION: ANSWER A TOTAL OF FOUR [4] QUESTIONS. ALL
QUESTIONS CARRY EQUAL MARKS.**

**DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN GRANTED
BY THE INVIGILATOR.**

INSTRUCTIONS: ANSWER ANY FOUR [4] QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

QUESTION 1

- a. Discuss six advantages of the practice of flower induction in a named industry in Swaziland. (6 marks)
- b. Discuss four disadvantages of the practice of flower induction in a named industry in Swaziland. (4 marks)
- c. Name five flower-inducing agents that are used in the industry named in 1(a) above. (10 marks)
- d. Explain the morphological modification of the pineapple plant after flower induction. (5 marks)
- [25 marks]**

QUESTION 2

- a. Of what importance are viability tests? (5 marks).
- b. Describe two methods of carrying out viability tests in maize. (16 marks).
- c. Name four factors that are needed in seed germination. (4 marks)
- [25 marks]**

QUESTION 3

- a. What is guttation? (5 marks)
- b. What is the name of the avenue through which guttation occurs? (2 marks)
- c. What is transpiration? (5 marks)
- d. Discuss the dilemma of terrestrial plants. (3 marks)
- e. What is the significance of transpiration in agriculture? (5 marks)
- f. Name five biological factors that affect the rate of transpiration in a plant. (5 marks)
- [25 marks]**

INSTRUCTIONS: ANSWER ANY FOUR [4] QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

QUESTION 4

- a. Briefly, explain what a C₃ plant is. (3 marks)
- b. Discuss photosynthesis in C₃ plants. (5 marks)
- c. Briefly, explain what a C₄ plant is. (3 marks)
- d. Discuss photosynthesis in C₄ plants. (5 marks)
- e. Explain what CAM photosynthesis is. (5 marks)
- f. Name two plants that use CAM photosynthesis. (4 marks)

[25 marks]

QUESTION 5

Discuss the following, and give specific examples in your discussion:

- a. Nastic movements (5 marks)
- b. Phototropisms (10 marks)
- c. Abuse of plant-growth substances (5 marks)
- d. Dormancy (5 marks)

[25 marks]