

2ND SEMESTER 2011/2012



UNIVERSITY OF SWAZILAND
SUPPLEMENTARY EXAMINATION PAPER

PROGRAMME: **B.Sc. IN AGRICULTURAL EDUCATION YEAR 3**
 B.Sc. IN AGRONOMY YEAR 3
 B.Sc. IN HORTICULTURE YEAR 3

COURSE CODE: **CP 305**

TITLE OF PAPER: **CROP PHYSIOLOGY**

TIME ALLOWED: **TWO (2) HOURS**

INSTRUCTIONS: **ANSWER ANY FOUR QUESTIONS**

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THE CHIEF INVIGILATOR**

COURSE CODE: CP 305 (S) 2011/2012

QUESTION 1

- A. Briefly describe the processes that take place during germination. (5 marks)
- B. What do you understand by the term, “seed dormancy” (5 marks)
- C. Explain the significance of dormancy in crop plants, citing specific examples. (5 marks)
- D. List four external factors that cause seed dormancy. (5 marks)
- E. List four internal factors that cause seed dormancy. (5 marks)

[25 Marks]

QUESTION 2

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

[25 Marks]

QUESTION 3

- A. Outline three general areas in which growth regulators may exert their effects and give an example of how each may affect plant growth and development. (15 Marks)
- B. Describe how temperature and pH may affect the anticipated results in each area given above. (15 Marks)

[25 Marks]

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QUESTION 4

Discuss six advantages of the practice of flower induction in a named industry in Swaziland.

(6 marks)

Discuss four advantages of the practice of flower induction in a named industry in Swaziland.

(4 marks)

Name five flower-inducing agents that are used in the industry named in 1 above.

(10 marks)

Explain the morphological modification of the pineapple plant after flower induction.

(5 marks)

[25 Marks]

QUESTION 5

A. What do you understand by the “light” and “dark” reactions in photosynthesis? (10 Marks)

B. Distinguish between C3, C4 and CAM plants? (15 Marks)

[25 Marks]