



## FACULTY OF SCIENCE

### DEPARTMENT OF BOTANY AND PLANT BIOTECHNOLOGY

**MODULE**      **BOT2B10 PLANT PHYSIOLOGY**

**CAMPUS**      **APK**

**EXAM**      **NOVEMBER 2014**

**DATE: 15 NOVEMBER 2014**

**SESSION: 08:30 - 10:30**

**ASSESSOR:**

**PROF CS WHITEHEAD**

**INTERNAL MODERATOR:**

**MRS L O'REILLY**

**DURATION: 2 HOURS**

**MARKS: 100**

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**NUMBER OF PAGES: 2 PAGES**

**INSTRUCTIONS: ANSWER ALL THE QUESTIONS.**

**REQUIREMENTS: EXAM BOOK**

**QUESTION 1**

Discuss the nature, synthesis, and functions of ethylene in plant growth and development.

(20)

**QUESTION 2**

Discuss the role of  $K^+$  in the process of stomatal opening.

(10)

**QUESTION 3**

Draw a diagram to illustrate the dark phase of photosynthesis in C4-plants.

(15)

**QUESTION 4**

Draw a diagram to illustrate the metabolism of acetyl-CoA and production of NADH and FADH in the TCA (Krebs) cycle during respiration.

(15)

**QUESTION 5**

Explain the uploading, downloading and transport of photoassimilates in the phloem.

(20)

**QUESTION 6**

Write an essay to explain the role of photoperiodism in flowering.

(20)

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