

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER 2007/2008

COURSE CODE : B402
TITLE OF PAPER : PLANT PHYSIOLOGY
TIME ALLOWED : THREE (3) HOURS
INSTRUCTIONS :
1. ANSWER ANY FOUR (4) QUESTIONS
2. EACH QUESTION CARRIES 25 MARKS.
3. ILLUSTRATE YOUR ANSWERS WITH LARGE AND CLEARLY LABELLED DIAGRAMS WHERE APPROPRIATE

SPECIAL REQUIREMENTS :

CANDIDATES MAY BRING THEIR CALCULATORS. GRAPH PAPER MAY BE PROVIDED ON REQUEST.

THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR(S).

QUESTION 1.

Give a critical description of the C_3 pathway of photosynthesis.

[25 Marks]

QUESTION 2.

Discuss the possible functions of Potassium [K^+] in the nutrition of plants.

[25 Marks]

QUESTION 3.

Explain how biological Nitrogen fixation may occur.

[25 Marks]

QUESTION 4.

Give an account of the functions of auxins in plants.

[25 Marks]

QUESTION 5.

Discuss the transport mechanisms that may be used for the mobilization of photo-assimilates within the leaves of plants.

[25 Marks]

QUESTION 6.

Critically discuss the significance of water potential $\{\Psi\}$ in the uptake of water and mineral nutrients from the soil environment into and through the higher plant.

[25 Marks]

[TOTAL MARKS: 100]