

UNIVERSITY OF SWAZILAND

FINAL (MAIN) EXAMINATION PAPER 2017/2018

- COURSE CODE : B402
- TITLE OF PAPER : PLANT PHYSIOLOGY
- TIME ALLOWED : THREE (3) HOURS
- INSTRUCTIONS :
1. ANSWER ANY FOUR (4) QUESTIONS
 2. EACH QUESTION COUNTS 25 MARKS.
 3. USE CLEARLY LABELLED DIAGRAMS WHERE NECESSARY

SPECIAL REQUIREMENTS:

CANDIDATES MAY BRING THEIR OWN 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.

Explain the role of micro-organisms in providing nitrogen in the soil for plant nutrition.

[25 Marks]

QUESTION 2.

Describe the possible source and regulatory effects of gibberellins on plant growth and development.

[25 Marks]

QUESTION 3.

[a]. Discuss the significance of phosphorus and calcium in plants.

[18 Marks]

[b]. Compare the deficiency symptoms of the TWO mineral nutrients and patterns of their development in plants.

[7 Marks]

QUESTION 4.

Discuss the role of potassium in phloem loading and phloem unloading in higher plants.

[25 Marks]

QUESTION 5.

[a]. Explain the significance of essential elements in plants.

[10 Marks]

[b]. Discuss the functional value of magnesium in higher plants.

[15 Marks]

[Total Marks 25]

QUESTION 6

What are the similarities and differences of surface and sprinkler irrigation.

[25 Marks]

[TOTAL MARKS: 100]