

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER 2016/2017

- COURSE CODE : BIO272
/ B202
- TITLE OF PAPER : INTRODUCTORY PLANT PHYSIOLOGY
/ PLANT MORPHOLOGY
- 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 :

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 descriptive and illustrated account of the venation in monocotyledonous higher plant leaves, and consider the physiological significance of the veins.

[25 Marks]

QUESTION 2.

Discuss the physiological developments that take place when a typical dicotyledonous seed germinates.

[25 Marks]

QUESTION 3.

Seed germination is a significant process in the life cycle of higher plants. Explain how the external environmental factors may influence the germination process.

[25 Marks]

QUESTION 4.

Describe the underground stem modifications and highlight their functional significance.

[25 Marks]

QUESTION 5.

Give a descriptive and illustrated account of the three tissue systems found in higher plant roots, stems and leaves, noting associated functions.

[25 Marks]

QUESTION 6.

A.] List ten (10) of the thirteen essential elements in the physiology of higher plants.

[5 Marks]

B.] Give an illustrated account of the symplastic transport of the mineral nutrients in the typical root cross section.

[20 Marks]

[Total 25 Marks]

[TOTAL MARKS: 100]