

UNIVERSITY OF SWAZILAND

RESIT [SUPPLEMENTARY] 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 leaf venation in dicotyledonous higher plants, and consider the physiological significance of the veins.

[25 Marks]

QUESTION 2.

Describe the sub-aerial stem modifications and highlight their functional significance.

[25 Marks]

QUESTION 3.

Discuss the physiological processes that take place when a typical monocotyledonous seed germinates.

[25 Marks]

QUESTION 4.

Describe phylotaxy and explain how the pattern development may support the physiological needs of the higher plant.

[25 Marks]

QUESTION 5.

Explain the significance of essential mineral nutrients in higher plants and briefly consider observations on three mineral nutrient examples of your choice.

[25 Marks]

QUESTION 6.

Comparatively discuss and illustrate the pathways involved in the process of water absorption on a typical higher plant root cross-section.

[25 Marks]

[TOTAL MARKS: 100]