

UNIVERSITY OF ESWATINI

FINAL EXAMINATION PAPER 2019/2020

COURSE CODE : BIO442/B402 /BIO272

TITLE OF PAPER : PLANT PHYSIOLOGY

TIME ALLOWED : THREE (3) HOURS

INSTRUCTIONS :

1. ANSWER ANY THREE (3) 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.

How do soil microbes contribute in the provision of Nitrogen in soils.
[25 Marks]

QUESTION 2.

[a]. Describe the apoplast in the higher plant root and explain its possible role in mineral nutrient transport.
[10 Marks]

[b]. Give an analytic review of the benefits of Sulphur in the physiology of higher plants.
[15 Marks]

QUESTION 3.

Give an analysis of the C₃ pathway of photosynthesis and explain how it operates universally in higher plants.
[25 Marks]

QUESTION 4

Discuss the functional significance of Magnesium in the nutrition of higher plants.
[25 Marks]

QUESTION 5.

Give a functional analysis on the significance of light in plant growth and development.
[25 Marks]

[TOTAL MARKS: 75]