

UNIVERSITY OF SWAZILAND

SUPPLEMENTARY EXAMINATION PAPER: JULY 2012

TITLE OF PAPER: PLANT MORPHOLOGY

COURSE CODE: B202

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: NONE.

THIS PAPER SHOULD NOT BE OPENED UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATORS.

QUESTION 1.

Give a detailed description of the Gymnosperm lifecycle and provide appropriate illustrations. [25 Marks]

QUESTION 2.

- [a]. Describe venation in both simple and compound leaves. [10 Marks]
[b]. Give an illustrated account of the possible patterns that may be associated with stipules. [15 Marks]
[Total 25 Marks]

QUESTION 3.

Describe the possible functional morphological modifications in an adventitious root system. [25 Marks]

QUESTION 4.

Give an illustrated account of phyllotaxy in higher plants. [Total 25 Marks]

QUESTION 5.

Describe the Gymnospermic female cone (mega-strobilus) of *Pinus* spp. and show post fertilization development of ovules. [Total 25 Marks]

QUESTION 6.

Floral morphology may be summarised by means of a floral formula. Suppose the avocado (*Persea americana*) flowers may be summarised in a floral formulae as given below. Describe the *Persea americana* flowers fully and illustrate them. Describe the fruit and illustrate it as well.

$K_3 C_3 A_{6+3} \underline{G}_1$ [25 Marks]

[TOTAL MARKS: 100]