

UNIVERSITY OF SWAZILAND

FINAL (MAIN) EXAMINATION PAPER 2015/2016

- COURSE CODE : B202
- TITLE OF PAPER : 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 : NONE

THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR(S).

**QUESTION 1.**

Consider and explain what is meant by aestivation in Angiosperms and comment on the contribution of this feature to plant taxonomy.

[25 Marks]

**QUESTION 2.**

Describe the possible fruit types in Angiosperms, giving at least ONE illustrated example of each of the fruit types.

[25 Marks]

**QUESTION 3.**

Describe the possible function related/based morphological modifications of the tap root system.

**QUESTION 4.**

Describe the Gymnospermic female cone (mega-strobilus) of a pine tree (*Pinus* spp.) and extend your description to the Life Cycle of the pine tree.

[25 Marks]

**QUESTION 5.**

Floral morphology may be summarised by means of a floral formula. Suppose the guava (*Psidium guajava*) flowers may be summarised in a floral formula as given below.

Describe the *Psidium guajava* 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]

**QUESTION 6.**

The Angiosperm lifecycle has a sporophyte as well as a megagametophyte and a microgametophyte. Discuss megagametophyte development in Angiosperms.

[25 Marks]

[TOTAL MARKS: 100 ]