

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER 2009/2010

- 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.

Describe the possible functional morphological modifications in an adventitious root system.

[25 Marks]

QUESTION 2.

Describe and illustrate the morphology in the following fruits:-

[a]. Tomato (*Lycopersicon esculentum*). [8 Marks]

[b]. Rice (*Oryza sativa*). [8 Marks]

[c]. Maize (*Zea mays*). [9 Marks]

[Total 25 Marks]

QUESTION 3.

Give a comparative description of the male reproductive structures (strobilli) from the following Gymnosperms:-

[a]. *Pinus* spp. [9 Marks]

[b]. *Zamia* spp. [8 Marks]

[c]. *Cycas* spp. [8 Marks]

[Total 25 Marks]

QUESTION 4.

Give an illustrated description of aestivation forms of the Angiosperm corolla.

[Total 25 Marks]

QUESTION 5.

Seed development is preceded by embryo sac development and fertilization in Angiosperms.

[a]. Explain how the embryo develops. [15 Marks]

[b]. Discuss fruit and seed dispersal noting the role of morphology in the process.

[10 Marks]

[Total 25 Marks]

QUESTION 6.

[i]. Explain how germination might occur in Angiosperms. [15 Marks]

[ii]. Describe the castor bean *Ricinus communis* seed as an example of a dicotyledonous seed.

[10 Marks]

[Total 25 Marks]

[TOTAL MARKS: 100]